

## World collaborative report on in vitro fertilization, 2000

*International Committee for Monitoring Assisted Reproductive Technology (ICMART):*

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The International Committee for Monitoring Assisted Reproductive Technology's 7th World Report for the year 2000 analyzes wide variations in live and multiple birth rates from 49 countries and six regions by type of assisted reproductive technology, age, number of embryos transferred, and multiple births. More than 460,157 procedures resulted in delivery rate per aspiration for conventional in vitro fertilization (IVF) of 18.6%; for intracytoplasmic sperm injection (ICSI), 20.4%; for egg donation, 32.3% per transfer; and for frozen ET, 12.0% per transfer. Conventional IVF and ICSI twin rates were 26.9% and 26.2%, respectively, and triplet rates were 2.8% and 2.9%, respectively, for an estimated total of approximately 197,000 to 220,000 babies worldwide. (Fertil Steril® 2006; 85:1586–622. ©2006 by American Society for Reproductive Medicine.)

**Key Words:** ICMART world report, register, IVF, in vitro fertilization, ICSI, ART, multiple pregnancy, IVF children, efficacy, safety

Since 1999, an international organization has collected worldwide data on assisted reproductive technology (ART) so that information on this treatment can be provided to health professionals, health authorities, and the public to enable international comparisons on availability, efficacy, and safety. The present report is the seventh world report on the outcome of ART. The first report was presented at the 7th World Congress on IVF, in Paris, France (1991), covering cycles performed during 1989. Since then, the International Working Group for Registers on Assisted Reproduction (IWGROAR) has presented world reports at the 8th World Congress on IVF in Kyoto, Japan in September 1993 (1991 data); at the 15th International Federation of Fertility Societies (IFFS) World Congress in Montpellier, France in September 1995 (1993 data); at the 9th World Congress on IVF

in Vancouver, Canada, in May 1997 (1995 data); at the 16th IFFS World Congress in San Francisco in October 1998 (1996 data); and at the 17th IFFS World Congress in Melbourne, Australia in September 2001 (1998 data) (1–6). In 2001, IWGROAR changed its name to the International Committee for Monitoring Assisted Reproductive Technology (ICMART). This is the first world report published in a scientific journal.

### MATERIALS AND METHODS

When ICMART was formed in 2001, it reorganized the reporting of the world data from being country based to being regionally based. Five regions of the world currently are organized to collect national data and report them in a regional register: [1] Europe, [2] North America (United States and Canada, reporting separately), [3] Latin America, [4] Australia and New Zealand, and more recently, [5] the Middle East. In these regions, the ICMART forms were completed by those responsible for those regional registers. For Latin America and the Middle East, data came directly from individual clinics to the regional register. For the other regions, the data came from clinics to national registers and then to the regional register. For Asia, where such regional organization is not operational, data were obtained directly from national registries when available. No data were obtained from the contacted African countries. All data were

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**TABLE 1**
**Total number of clinics, clinic size by percentage distribution of number of cycles per year, and percentage of all clinics reporting to ICMART, by country and region.**

Country	Clinics, total (n)	% of centers performing No. of cycles per year					Participating clinics	
		<100	100–199	200–499	500–999	>1,000	n	%
Asia	>677	54	20	21	3	2	287	<42
Japan	513	62	15	18	3	2	157	31
Korea	92	71	5	14	3	7	58	63
Taiwan <sup>a</sup>	72	22	43	33	1	0	72	100
Australia and New Zealand	41	10	20	34	15	22	41	100
Australia <sup>a</sup>	34	6	18	35	15	26	34	100
New Zealand <sup>a</sup>	7	29	29	29	14	0	7	100
Europe	>832	15	18	29	26	11	569	<68
Belgium	27	8	24	40	20	8	25	93
Czech Republic	16	14	14	43	29	0	7	44
Denmark <sup>a</sup>	16	6	6	25	56	6	16	100
Finland	18	12	6	53	18	12	17	94
France <sup>a</sup>	93	6	7	32	41	15	88	95
Germany	103	16	11	28	24	21	103	100
Greece	46	0	38	38	13	13	8	17
Hungary	8	29	14	43	14	0	7	88
Iceland <sup>a</sup>	1	0	0	100	0	0	1	100
Ireland	5	0	33	33	33	0	3	60
Italy	115	33	32	16	16	3	75	65
Netherlands <sup>a</sup>	13	0	8	0	46	46	13	100
Norway <sup>a</sup>	8	0	0	63	38	0	8	100
Poland	15	33	25	25	17	0	12	80
Portugal	16	27	36	27	9	0	11	69
Russia	30	24	38	24	14	0	21	70
Slovenia <sup>a</sup>	3	0	0	33	33	33	3	100
Spain	182	11	25	39	17	8	36	20
Sweden <sup>a</sup>	15	13	0	20	47	20	15	100
Switzerland <sup>a</sup>	17	24	35	24	12	6	17	100
United Kingdom <sup>a</sup>	75	9	23	27	32	9	75	100
Ukraine	10	50	25	25	0	0	8	80
Latin America	>103	48	29	16	6	1	98	<95
Argentina	23	45	25	15	15	0	20	87
Bolivia <sup>a</sup>	2	100	0	0	0	0	2	100
Brasil <sup>a</sup>	38	45	29	18	5	3	38	100
Chile <sup>a</sup>	8	75	13	13	0	0	8	100
Colombia <sup>a</sup>	7	43	43	14	0	0	7	100
Ecuador <sup>a</sup>	2	100	0	0	0	0	2	100
Guatemala <sup>a</sup>	1	100	0	0	0	0	1	100
Mexico <sup>a</sup>	11	45	18	36	0	0	11	100
Peru	4	0	100	0	0	0	2	50
Uruguay <sup>a</sup>	2	50	50	0	0	0	2	100
Venezuela <sup>a</sup>	5	20	60	0	20	0	5	100
Middle East	>35	13	28	28	22	9	<32	NA
Anonymous <sup>b</sup>	≥1	0	100	0	0	0	1	NA
Bahrain	≥1	0	100	0	0	0	1	NA

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**TABLE 1**

Continued.

Country	Clinics, total (n)	% of centers performing No. of cycles per year					Participating clinics	
		<100	100–199	200–499	500–999	>1,000	n	%
Egypt	>18	17	28	39	11	6	18	>NA
Israel	NA	NA	NA	NA	NA	NA	NA	NA
Jordan	≥2	0	0	0	50	50	2	NA
Lebanon	≥2	0	50	50	0	0	2	NA
Saudi Arabia	≥5	0	20	20	40	20	5	NA
Tunisia	5	0	0	0	100	0	2	40
United Arab Emirates	≥1	100	0	0	0	0	1	NA
North America	>430	35	26	28	8	4	402	<93
Canada	22	16	5	53	26	0	19	86
United States	408	36	27	27	7	4	383	94
Total	>2,118	30	22	26	15	7	1,429	<67

Note: NA = not available.

<sup>a</sup> Countries in which >95% of the centers reported to the national register.

<sup>b</sup> One center sent a form without indicating its name, country, and address.

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provided voluntarily by the countries and regions; that is, there are no regulations or statutes requiring reporting to ICMART. Therefore, the data do not represent every patient who underwent ART treatments, every clinic providing ART, nor every country in which ART was performed in the year 2000. Institutional review board approval was not obtained because no individual data were obtained; because no data that would allow identification of any individual were obtained; because the data were provided by countries and regions that would be responsible for institutional review board approval, if necessary, in their respective country or region; and because great variability in the perceived need for an institutional review board for this type of study exists around the world, making effective institutional review board approval not possible for this type of report. There were no perceived significant conflicts of interest among those collecting, analyzing, and publishing the data.

The forms for data collection were developed by ICMART and were sent to the co-coordinator of each country or regional IVF register. There are six different forms. Form 1 describes the organization of each country register. Form 2 gives the overall results by women's age category for initiated cycles, aspirations, transfers, clinical pregnancies, deliveries (total and according to the number of babies per delivery), and induced reduction. A clinical pregnancy has been defined according to the ICMART glossary developed by ICMART and endorsed by the World Health Organization as evidence of pregnancy by clinical or ultrasound parameters (ultrasound visualization of a gestational sac) (7). It includes ectopic

pregnancy. Multiple gestational sacs in one patient are counted as one clinical pregnancy. Although this is the definition requested for a clinical pregnancy, it is not clear that all reporting centers in all countries used this definition. The results are reported for the total of all patients and according to the number of transferred embryos.

Form 2 has six separate reporting categories, one for each procedure: [1] in vitro fertilization (IVF), [2] intracytoplasmic sperm injection (ICSI), [3] frozen ET after IVF, [4] frozen ET after ICSI, [5] oocyte donation, and [6] gamete intrafallopian transfer. Form 3 gives the gestational age distribution according to the pregnancy order (singleton, twin, triplet, quadruplet or more) for each type of ART procedure. Form 4 gives, for the same categories, the neonates' outcome: stillbirths, live births, neonatal deaths, number of congenital anomalies among newborns, spontaneous and induced fetal losses. Form 5 gives the distribution of indications for aspiration cycles (IVF, ICSI, and gamete intrafallopian transfer) and the major complications. Finally, form 6 collects data on neonatal malformations.

The report period covered ART treatments initiated during the year 2000 and included information on outcomes during 2000 and 2001. Aggregate country data were provided for collation into a world data set. No individual patient data were available. No individual data were validated by ICMART because the data came from national and regional registries. However, major inconsistencies were reviewed, and questions were addressed to the registries' managers. Data validation was undertaken by national and

**TABLE 2****Number of procedures by type of procedure.**

Country	Nondonation cycles								
	Initiated cycles total (n)	Fresh cycles				Frozen ET cycles		Fresh and frozen ET cycles total	Oocyte donation transfer cycles total
		Aspiration cycles				Thaw cycles total	Transfer cycles total		
		Total	IVF	ICSI	GIFT				
Asia	NA	29,957	16,901	12,946	110	NA	NA	NA	230
Japan	NA	16,803	8,666	8,128	9	NA	NA	NA	NA
Korea	NA	13,154	8,235	4,818	101	NA	NA	NA	230
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	NA	16,981	7,269	8,895	817	9,117	NA	NA	NA
Australia	NA	15,873	6,709	8,348	816	8,626	NA	NA	NA
New Zealand	NA	1,108	560	547	1	491	NA	NA	NA
Europe	226,937	207,004	112,708	94,296	NA	NA	40,154	NA	5,964
Belgium	8,983	8,262	2,944	5,318	NA	2,340	1,879	11,323	359
Czech Republic	2,165	2,089	1,395	694	NA	507	464	2,672	50
Denmark	8,282	7,883	4,999	2,884	NA	1,242	970	9,524	132
Finland	4,323	4,184	2,546	1,638	NA	2,876	2,488	7,199	290
France	46,575	41,434	20,513	20,921	NA	10,036	8,753	56,611	214
Germany	52,276	46,794	30,353	16,441	NA	10,729	9,546	63,005	0
Greece	5,385	5,085	2,138	2,947	NA	259	247	5,644	223
Hungary	2,127	2,027	699	1,328	NA	12	8	2,139	16
Iceland	256	256	153	103	NA	85	83	341	20
Ireland	1,309	1,204	725	479	NA	261	219	1,570	0
Italy	16,295	14,733	6,061	8,672	NA	2,734	2,368	19,029	722
Netherlands	13,725	12,266	8,426	3,840	NA	NA	1,337	NA	NA
Norway	4,029	3,796	2,463	1,333	NA	311	225	4,340	0
Poland	2,877	2,784	1,022	1,762	NA	816	697	3,693	35
Portugal	1,959	1,773	807	966	NA	120	107	2,079	0
Russia	5,595	5,191	3,793	1,398	NA	316	279	5,911	422
Slovenia	2,003	1,897	902	995	NA	371	340	2,374	0
Spain	10,619	9,639	3,406	6,233	NA	2,323	1,872	12,942	1,416
Sweden	7,797	7,212	3,699	3,513	NA	1,408	1,208	9,205	0
Switzerland	2,964	2,818	871	1,947	NA	1,680	1,487	4,644	0
United Kingdom	26,339	24,652	14,015	10,637	NA	6,160	5,569	32,499	1,982
Ukraine	1,054	1,025	778	247	NA	8	8	1,062	83

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TABLE 2

Continued.

Country	Nondonation cycles								
	Initiated cycles total (n)	Fresh cycles				Frozen ET cycles		Fresh and frozen ET cycles total	Oocyte donation transfer cycles total
		Aspiration cycles				Thaw cycles total	Transfer cycles total		
		Total	IVF	ICSI	GIFT				
Latin America	13,513	12,286	3,694	8,590	2	NA	1,288	NA	1,470
Argentina	3,203	2,959	918	2,041	0	NA	207	NA	286
Bolivia	66	50	22	28	NA	NA	22	NA	8
Brasil	6,276	5,865	1,278	4,587	NA	NA	637	NA	621
Chile	699	533	220	312	1	NA	87	NA	85
Colombia	683	585	289	296	0	NA	30	NA	144
Ecuador	64	60	46	14	NA	NA	4	NA	13
Guatemala	29	29	29	0	NA	NA	NA	NA	NA
Mexico	1,181	1,060	405	654	1	NA	201	NA	189
Peru	333	313	144	169	0	NA	15	NA	49
Uruguay	193	186	55	131	NA	NA	NA	NA	3
Venezuela	786	646	288	358	NA	NA	85	NA	72
Middle East	NA	33,249	19,671	13,533	45	1,030	772	NA	15
Anonymous <sup>a</sup>	107	100	20	80	0	0	0	107	0
Bahrain	195	195	93	102	0	47	47	242	0
Egypt	7,129	6,508	553	5,955	0	479	295	7,608	0
Israel <sup>b</sup>	NA	18,011	18,011	NA	NA	NA	NA	NA	NA
Jordan	3,891	3,663	70	3,593	0	103	80	3,994	0
Lebanon	528	512	114	398	0	46	33	574	15
Saudi Arabia	3,171	2,969	444	2,480	45	168	142	NA	0
Tunisia	1,284	1,211	366	845	0	187	175	1,471	0
United Arab Emirates	80	80	0	80	0	0	0	80	0
North America	79,463	68,254	30,866	36,887	501	NA	1,544	NA	7,208
Canada	4,962	4,393	1,926	2,457	10	NA	1,544	NA	267
United States	74,501	63,861	28,940	34,430	491	NA	NA	NA	6,941
Total	>401,247	367,731	191,109	175,147	1,475	>58,910	52,877	>460,157	14,887

Note: NA = not available.

<sup>a</sup> One center sent a form without indicating its name, country, and address.

<sup>b</sup> Includes both IVF and ICSI cycles.

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**TABLE 3****IVF cycles: results.**

Country	Aspirations	Transfers	No. of transferred embryos (%)					Efficacy			
			1	2	3	≥4	Average	PR per aspiration (%)	Delivery per aspiration (%)	Babies total (n)	Babies per aspiration (%)
Asia	16,901	NA	NA	NA	NA	NA	NA	24.3	14.0	3,026	17.9
Japan	8,666	NA	NA	NA	NA	NA	NA	22.6	15.7	1,728	19.9
Korea	8,235	NA	NA	NA	NA	NA	NA	26.2	12.1	1,298	15.8
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	7,269	NA	NA	NA	NA	NA	NA	22.5	17.6	1,605	22.1
Australia	6,709	NA	NA	NA	NA	NA	NA	21.6	16.8	1,413	21.1
New Zealand	560	NA	NA	NA	NA	NA	NA	33.0	26.8	192	34.3
Europe	112,708	98,215	12.9	48.2	32.8	6.0	2.3	24.7	16.4	23,771	22.9
Belgium	2,944	2,708	13.6	54.3	26.0	6.2	2.2	26.3	21.0	NA	NA
Czech Republic	1,395	1,166	NA	NA	NA	NA	NA	25.6	16.6	NA	NA
Denmark	4,999	4,418	14.5	76.6	8.9	0.0	1.9	27.9	21.9	1,391	27.8
Finland	2,546	2,254	29.5	64.5	5.9	0.1	1.8	26.4	20.8	630	24.7
France	20,513	17,433	15.5	47.9	31.4	5.2	2.3	22.7	17.1	4,645	22.6
Germany	30,353	25,327	13.0	45.3	41.7	0.0	2.3	22.5	14.8	5,791	19.1
Greece	2,138	1,929	9.0	15.4	33.4	42.1	3.1	30.2	22.8	660	30.9
Hungary	699	630	7.8	19.2	48.1	24.9	2.9	26.2	19.6	186	26.6
Iceland	153	138	11.6	71.7	16.7	0.0	2.1	41.2	34.6	74	48.4
Ireland	725	682	7.3	40.3	50.7	1.6	2.5	22.9	18.6	182	25.1
Italy	6,061	5,235	13.7	33.3	40.6	12.4	2.5	23.4	18.2	1,441	23.8
Netherlands	8,426	7,294	NA	NA	NA	NA	NA	28.2	NA	NA	NA
Norway	2,463	2,229	NA	NA	NA	NA	NA	26.6	22.3	713	28.9
Poland	1,022	898	16.3	51.4	27.1	5.2	2.2	17.9	13.6	175	17.1
Portugal	807	725	10.1	29.9	55.4	4.6	2.5	22.1	15.5	182	22.6
Russia	3,793	3,637	10.4	18.6	31.7	39.3	3.0	29.0	16.6	824	21.7
Slovenia	902	789	19.5	65.5	15.0	0.0	2.0	28.4	22.1	247	27.4
Spain	3,406	3,032	9.9	21.7	43.9	24.5	2.8	28.8	17.6	809	23.8
Sweden	3,699	3,392	12.3	84.5	3.2	0.0	1.9	31.0	24.0	1,099	29.7
Switzerland	871	769	14.4	52.0	32.0	1.6	2.2	20.2	16.1	132	15.2
United Kingdom	14,015	12,794	7.8	59.6	32.6	0.0	2.2	24.9	19.4	3,561	25.4
Ukraine	778	736	9.8	19.0	31.0	40.2	3.0	23.3	16.5	178	22.9

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TABLE 3

Continued.

Country	Aspirations	Transfers	No. of transferred embryos (%)					Efficacy			
			1	2	3	≥4	Average	PR per aspiration (%)	Delivery per aspiration (%)	Babies total (n)	Babies per aspiration (%)
Latin America	3,694	3,249	10.6	17.5	29.6	42.4	3.2	24.4	19.4	979	26.5
Argentina	918	833	11.2	17.8	33.3	37.8	3.1	22.8	18.2	233	25.4
Bolivia	22	20	10.0	0.0	25.0	65.0	3.8	18.2	13.6	5	22.7
Brasil	1,278	1,064	11.5	18.3	27.2	43.0	3.1	24.3	19.4	327	25.6
Chile	220	212	6.6	17.0	37.7	38.7	3.2	40.5	33.2	105	47.7
Colombia	289	249	14.1	14.5	26.5	45.0	3.2	23.9	17.3	59	20.4
Ecuador	46	45	11.1	28.9	33.3	26.7	2.8	28.3	19.6	15	32.6
Guatemala	29	27	3.7	22.2	18.5	55.6	3.3	27.6	27.6	10	34.5
Mexico	405	353	9.3	12.5	21.8	56.4	3.5	18.8	15.8	90	22.2
Peru	144	121	14.9	19.8	38.0	27.3	2.9	16.7	11.1	20	13.9
Uruguay	55	52	5.8	21.2	19.2	53.8	3.4	30.9	23.6	19	34.5
Venezuela	288	273	6.2	19.8	34.1	39.9	3.2	27.8	22.2	96	33.3
Middle East	19,671	17,774	7.8	35.9	33.3	22.9	2.8	24.1	16.3	3,415	37.4
Anonymous <sup>a</sup>	20	19	10.5	26.3	31.6	31.6	3.0	30.0	30.0	8	40.0
Bahrain	93	93	12.9	11.8	15.1	60.2	3.6	26.9	24.7	28	30.1
Egypt	553	517	6.2	39.5	26.5	27.9	2.9	33.6	35.1	307	55.5
Israel <sup>b</sup>	18,011	16,230	NA	NA	NA	NA	NA	23.4	15.5	NA	NA
Jordan	70	63	7.9	17.5	25.4	49.2	3.3	22.9	17.1	21	30.0
Lebanon	114	111	14.4	46.8	27.9	10.8	2.4	28.9	25.4	36	31.6
Saudi Arabia	444	402	9.2	32.8	46.0	11.9	2.6	31.1	9.9	75	16.9
Tunisia	366	339	5.0	41.3	36.9	16.8	2.7	33.1	30.3	146	39.9
United Arab Emirates	0	0	—	—	—	—	—	—	—	0	—
North America	30,866	28,687	5.7	28.8	34.5	30.9	3.0	37.9	30.6	13,303	43.1
Canada	1,926	1,782	7.8	43.9	31.8	16.6	2.6	30.2	24.0	630	32.7
United States	28,940	26,905	5.6	27.8	34.7	31.9	3.0	38.5	31.0	12,673	43.8
Total	191,109	147,925	11.1	42.7	33.1	13.1	2.5	26.7	18.6	46,099	26.5

Note: NA = not available.

<sup>a</sup> One center sent a form without indicating its name, country, and address.

<sup>b</sup> Includes both IVF and ICSI cycles.

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**TABLE 4****ICSI cycles: results.**

Country	Aspirations	Transfers	No. of transferred embryos (%)					Efficacy			
			1	2	3	≥4	Average	PR per aspiration (%)	Delivery per aspiration (%)	Babies total (n)	Babies per aspiration (%)
Asia	12,946	NA	NA	NA	NA	NA	NA	21.3	13.7	2,259	17.4
Japan	8,128	NA	NA	NA	NA	NA	NA	18.4	13.1	1,325	16.3
Korea	4,818	NA	NA	NA	NA	NA	NA	26.2	14.7	934	19.4
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	8,895	NA	NA	NA	NA	NA	NA	21.3	16.7	1,874	21.1
Australia	8,348	NA	NA	NA	NA	NA	NA	20.6	16.1	1,695	20.3
New Zealand	547	NA	NA	NA	NA	NA	NA	30.7	26.3	179	32.7
Europe	94,296	87,486	11.5	46.4	34.6	7.5	2.4	26.6	18.8	22,131	24.7
Belgium	5,318	5,046	12.6	50.1	30.2	7.1	2.3	27.1	22.0	NA	NA
Czech Republic	694	617	NA	NA	NA	NA	NA	21.0	14.6	NA	NA
Denmark	2,884	2,635	13.3	79.4	7.3	0.0	1.9	29.3	23.8	869	30.1
Finland	1,638	1,517	23.1	70.6	6.1	0.1	1.8	25.5	19.7	390	23.8
France	20,921	18,973	13.2	48.3	33.9	4.6	2.3	25.9	19.5	5,084	24.3
Germany	16,441	15,601	9.0	42.8	48.2	0.0	2.4	25.4	17.1	3,533	21.5
Greece	2,947	2,784	9.3	17.5	30.6	42.6	3.1	31.5	22.8	888	30.1
Hungary	1,328	1,223	7.5	19.1	47.6	25.8	2.9	26.4	18.2	340	25.6
Iceland	103	97	6.2	67.0	26.8	0.0	2.2	41.7	34.0	47	45.6
Ireland	479	462	6.7	40.5	50.2	2.6	2.5	23.6	18.8	115	24.0
Italy	8,672	7,915	13.0	33.5	36.5	17.0	2.6	24.0	20.0	2,189	25.2
Netherlands	3,840	3,579	NA	NA	NA	NA	NA	33.0	NA	NA	NA
Norway	1,333	1,226	NA	NA	NA	NA	NA	24.5	20.6	338	25.4
Poland	1,762	1,692	17.1	59.7	17.7	5.6	2.1	30.5	23.7	524	29.7
Portugal	966	900	11.4	39.1	42.3	7.1	2.5	22.5	16.0	193	20.0
Russia	1,398	1,390	11.5	22.8	38.2	27.5	2.8	28.2	16.0	293	21.0
Slovenia	995	811	21.3	64.7	13.9	0.0	1.9	25.6	20.4	253	25.4
Spain	6,233	5,833	9.1	22.3	44.7	23.9	2.8	32.1	20.1	1,720	27.6
Sweden	3,513	3,194	12.9	82.7	4.4	0.0	1.9	28.1	21.9	935	26.6
Switzerland	1,947	1,768	13.0	60.4	24.9	1.8	2.2	23.4	17.3	322	16.5
United Kingdom	10,637	9,989	8.2	56.5	35.3	0.0	2.3	25.1	20.1	2,773	26.1
Ukraine	247	234	7.3	16.2	23.1	53.4	3.2	19.4	13.4	52	21.1

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TABLE 4

Continued.

Country	Aspirations	Transfers	No. of transferred embryos (%)					Efficacy			
			1	2	3	≥4	Average	PR per aspiration (%)	Delivery per aspiration (%)	Babies total (n)	Babies per aspiration (%)
Latin America	8,590	7,934	11.0	19.0	26.6	43.4	3.2	25.5	20.0	2,409	28.0
Argentina	2,041	1,925	16.3	23.3	31.0	29.4	2.8	25.5	20.8	596	29.2
Bolivia	28	28	7.1	10.7	35.7	46.4	3.5	32.1	14.3	6	21.4
Brasil	4,587	4,200	8.6	17.7	23.5	50.2	3.3	25.7	20.1	1,316	28.7
Chile	312	299	14.4	16.1	41.5	28.1	2.9	39.5	34.0	147	47.2
Colombia	296	269	13.0	22.3	24.2	40.5	3.1	23.3	18.3	78	26.4
Ecuador	14	12	8.3	8.3	58.3	25.0	3.0	21.0	21.0	3	21.0
Guatemala	0	0	—	—	—	—	—	—	—	0	—
Mexico	654	585	10.6	16.8	23.9	48.7	3.3	18.5	14.7	122	18.7
Peru	169	150	12.0	21.3	34.0	32.7	2.9	18.3	7.7	15	8.9
Uruguay	131	118	12.7	20.3	22.0	44.9	3.2	24.4	19.8	33	25.1
Venezuela	358	348	6.3	13.5	29.6	50.6	3.4	28.8	19.0	93	26.0
Middle East	13,533	12,660	10.5	22.9	41.3	25.3	2.9	27.4	19.3	3,576	26.4
Anonymous <sup>a</sup>	80	75	13.3	25.3	38.7	22.7	2.8	27.5	27.5	31	38.8
Bahrain	102	102	8.8	14.7	15.7	60.8	3.8	19.6	17.6	20	19.6
Egypt	5,955	5,705	8.6	16.3	43.6	31.5	3.1	28.9	23.4	1,970	33.1
Israel <sup>b</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jordan	3,593	3,232	15.6	20.2	45.2	18.9	2.7	22.9	16.5	787	21.9
Lebanon	398	391	5.4	26.9	51.7	16.1	2.9	36.2	30.4	145	36.4
Saudi Arabia	2,480	2,297	9.3	34.3	33.8	22.6	2.8	27.8	8.8	301	12.1
Tunisia	845	782	8.6	48.6	29.3	13.6	2.5	32.3	28.4	322	38.1
United Arab Emirates	80	76	14.5	17.1	30.3	38.2	3.0	23.8	0.0	0	0.0
North America	36,887	34,836	5.9	26.0	35.4	32.7	3.1	34.6	28.2	14,359	38.9
Canada	2,457	2,315	6.6	41.5	34.9	17.0	2.7	26.7	21.5	717	29.2
United States	34,430	32,521	5.9	24.8	35.4	33.8	3.1	35.2	28.6	13,642	39.6
Total	175,147	142,916	9.9	37.5	35.0	17.6	2.6	27.7	20.4	46,608	27.4

Note: NA = not available.

<sup>a</sup> One center sent a form without indicating its name, country, and address.

<sup>b</sup> ICSI reported combined with IVF in Table 3.

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**TABLE 5****Frozen ET and oocyte donation transfer cycles: results.**

Country	Frozen embryo transfers								Oocyte donation			
	Cycles		Pregnancies (%)		Deliveries (%)		Babies		Transfers (N)	Pregnancies (% per transfer)	Deliveries (% per transfer)	Babies (n)
	Thaws	Transfers	Per thaw	Per transfer	Per thaw	Per transfer	Total (n)	% per thaw				
Asia	NA	NA	NA	NA	NA	NA	680	NA	230	NA	17.0	56
Japan	NA	NA	NA	NA	NA	NA	680	NA	NA	NA	NA	NA
Korea	NA	NA	NA	NA	NA	NA	NA	NA	230	NA	17.0	56
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	9,117	NA	18.7	NA	14.4	NA	1,518	16.7	NA	NA	NA	209
Australia	8,626	NA	18.7	NA	14.3	NA	1,424	16.5	NA	NA	NA	182
New Zealand	491	NA	19.1	NA	16.3	NA	94	19.1	NA	NA	NA	27
Europe	44,594	40,156	14.9	16.6	10.2	11.7	5,230	11.9	5,964	32.7	21.5	1,577
Belgium	2,340	1,879	11.2	14.0	8.8	11.0	NA	NA	359	24.0	19.5	NA
Czech Republic	507	464	8.9	9.7	3.9	4.3	24	4.7	50	14.0	2.0	NA
Denmark	1,242	970	13.1	16.8	10.9	13.9	163	13.1	132	35.6	19.7	34
Finland	2,876	2,488	15.6	18.0	11.5	13.3	373	13.0	290	31.4	21.0	NA
France	10,036	8,753	12.8	14.7	9.4	10.7	1,078	10.7	214	19.2	NA	NA
Germany	10,729	9,546	14.4	16.1	8.7	9.8	1,095	10.2	0	—	—	NA
Greece	259	247	29.3	30.8	19.7	20.6	65	25.1	223	31.8	14.8	43
Hungary	12	8	25.0	37.5	0.0	0.0	NA	NA	16	37.5	0.0	0
Iceland	85	83	24.7	25.3	16.5	16.9	17	20.0	20	45.0	40.0	8
Ireland	261	219	16.5	19.6	13.0	15.5	45	17.2	0	—	—	NA
Italy	2,734	2,368	16.9	19.5	12.8	14.8	390	14.3	722	29.6	22.3	202
Netherlands	NA	1,337	NA	20.2	NA	NA	NA	NA	NA	NA	NA	NA
Norway	311	225	13.8	19.1	11.6	16.0	46	14.8	0	—	—	NA
Poland	816	698	11.5	13.5	9.3	10.9	86	10.5	35	31.4	31.4	11
Portugal	120	107	15.8	17.8	5.8	6.5	7	5.8	0	—	—	NA
Russia	316	280	15.8	17.9	10.4	11.8	37	11.7	422	32.5	21.3	115
Slovenia	371	340	13.7	15.0	10.2	11.2	38	10.2	0	—	—	0
Spain	2,323	1,872	15.8	19.6	10.5	13.1	297	12.8	1,416	46.8	25.2	495
Sweden	1,408	1,208	18.4	21.4	13.8	16.1	219	15.6	0	—	—	NA
Switzerland	1,680	1,487	14.6	16.5	11.0	12.4	212	12.6	0	—	—	NA
United Kingdom	6,160	5,569	14.8	16.4	11.3	12.5	830	13.5	1,982	27.7	20.3	517
Ukraine	8	8	25.0	25.0	12.5	12.5	1	12.5	83	24.1	18.1	20

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TABLE 5

Continued.

Country	Frozen embryo transfers								Oocyte donation			
	Cycles		Pregnancies (%)		Deliveries (%)		Babies		Transfers (N)	Pregnancies (% per transfer)	Deliveries (% per transfer)	Babies (n)
	Thaws	Transfers	Per thaw	Per transfer	Per thaw	Per transfer	Total (n)	% per thaw				
Latin America	NA	1,288	NA	15.0	NA	11.2	180	NA	1,470	32.7	25.0	526
Argentina	NA	207	NA	16.9	NA	13.0	34	NA	286	33.6	25.2	105
Bolivia	NA	22	NA	22.7	NA	18.2	6	NA	8	25.0	25.0	3
Brasil	NA	637	NA	14.6	NA	11.3	87	NA	621	32.2	25.0	226
Chile	NA	87	NA	18.4	NA	11.5	14	NA	85	41.2	36.5	46
Colombia	NA	30	NA	16.7	NA	6.7	2	NA	144	33.3	22.2	50
Ecuador	NA	4	NA	0.0	NA	0.0	0	NA	13	46.2	30.8	5
Guatemala	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	0
Mexico	NA	201	NA	12.9	NA	9.5	26	NA	189	25.4	19.6	49
Peru	NA	15	NA	13.3	NA	6.7	1	NA	49	26.5	16.3	11
Uruguay	NA	NA	NA	NA	NA	NA	0	NA	3	0.0	0.0	0
Venezuela	NA	85	NA	12.9	NA	10.6	10	NA	72	44.4	36.1	31
Middle East	1,030	772	15.0	19.9	13.5	18.0	165	16.0	15	60.0	60.0	14
Anonymous <sup>a</sup>	0	0	—	—	—	—	0	—	0	—	—	0
Bahrain	47	47	25.5	25.5	21.3	21.3	10	21.3	0	—	—	0
Egypt	479	295	9.0	14.6	11.9	19.3	76	15.9	0	—	—	0
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jordan	103	80	19.4	25.0	14.6	18.8	19	18.4	0	—	—	0
Lebanon	46	33	8.7	12.1	6.5	9.1	3	6.5	15	60.0	60.0	14
Saudi Arabia	168	142	14.9	17.6	3.6	4.2	9	5.4	0	—	—	0
Tunisia	187	175	26.7	28.6	25.7	27.4	48	25.7	0	—	—	0
United Arab Emirates	0	0	—	—	—	—	0	—	0	—	—	0
North America	NA	1,544	NA	21.1	NA	16.8	330	NA	7,208	51.1	42.9	4,457
Canada	NA	1,544	NA	21.1	NA	16.8	330	NA	267	36.3	27.3	97
United States	NA	NA	NA	NA	NA	NA	NA	NA	6,941	51.7	43.5	4,360
Total	54,741	43,760	14.3	16.6	10.8	12.0	8,103	18.2	14,887	41.8	32.3	6,839

Note: NA = not available.

<sup>a</sup> One center sent a form without indicating its name, country, and address.

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**TABLE 6**

**Efficacy and multiplicity in relation to the mean number of transferred embryos:  
IVF and ICSI combined.**

Country	Transfers	Embryos transferred	Efficacy per aspiration (%)		Multiplicity (%)	
			Pregnancy	Delivery	Twins	Triplets <sup>a</sup>
Asia	NA	NA	23.0	13.8	26.3	0.8
Japan	NA	NA	20.6	14.5	23.5	1.2
Korea	NA	NA	26.2	13.0	30.4	0.4
Taiwan	NA	NA	NA	NA	NA	NA
Australia and New Zealand	NA	NA	21.8	17.1	24.0	0.9
Australia	NA	NA	21.1	16.4	23.9	0.9
New Zealand	NA	NA	31.9	26.6	24.8	0.7
Europe	185,637	2.3	25.6	17.5	24.0	2.0
Belgium	7,754	2.3	26.8	21.7	NA	NA
Czech Republic	1,783	NA	24.1	15.9	NA	NA
Denmark	7,053	1.9	28.4	22.6	26.4	0.2
Finland	3,756	1.8	26.0	20.4	19.1	0.2
France	36,406	2.3	24.3	18.3	23.1	1.1
Germany	40,928	2.3	23.5	15.6	23.0	2.4
Greece	4,713	3.1	30.9	22.8	29.9	1.8
Hungary	1,853	2.9	26.3	18.7	28.2	5.3
Iceland	235	2.1	41.4	34.4	35.2	1.1
Ireland	1,144	2.5	23.2	18.7	24.9	3.6
Italy	13,150	2.6	23.8	19.3	20.1	3.7
Netherlands	10,873	NA	29.7	NA	NA	NA
Norway	3,455	NA	25.8	21.7	26.6	0.5
Poland	2,563	2.2	25.9	20.0	22.8	1.4
Portugal	1,625	2.5	22.3	15.8	23.6	5.4
Russia	5,005	2.9	28.8	16.0	23.6	3.6
Slovenia	1,600	1.9	26.9	21.2	22.9	0.7
Spain	8,865	2.8	31.0	19.2	28.4	4.0
Sweden	6,586	1.9	29.6	23.0	21.8	0.4
Switzerland	2,537	2.2	22.4	16.9	22.7	1.4
United Kingdom	22,783	2.3	25.0	19.7	25.9	2.3
Ukraine	970	3.1	22.3	15.7	35.4	3.7
Latin America	11,183	3.2	25.2	19.8	25.7	6.6
Argentina	2,758	2.9	24.7	20.0	27.6	6.3
Bolivia	48	3.6	26.0	14.0	28.6	14.3
Brasil	5,264	3.3	25.4	19.9	26.1	7.0
Chile	511	3.0	39.9	33.7	29.6	5.0
Colombia	518	3.1	23.6	17.8	24.0	3.8
Ecuador	57	2.8	26.5	19.9	8.3	16.7
Guatemala	27	3.3	27.6	27.6	25.0	0.0
Mexico	938	3.4	18.6	15.1	20.0	6.3
Peru	271	2.9	17.6	9.3	20.7	0.0
Uruguay	170	3.2	26.3	20.9	17.9	7.7
Venezuela	621	3.3	28.3	20.4	22.0	9.8
Middle East	30,434	2.9	25.5	17.5	30.4	6.4
Anonymous <sup>b</sup>	94	2.8	28.0	28.0	32.1	3.6
Bahrain	195	3.7	23.1	21.0	12.2	2.4
Egypt	6,222	3.1	29.3	24.4	33.9	4.8

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**TABLE 6**

Continued.

Country	Transfers	Embryos transferred	Efficacy per aspiration (%)		Multiplicity (%)	
			Pregnancy	Delivery	Twins	Triplets <sup>a</sup>
Israel	NA	NA	NA	NA	NA	NA
Jordan	3,295	2.7	22.9	16.5	22.8	5.3
Lebanon	502	2.8	34.6	29.3	14.0	3.3
Saudi Arabia	2,699	2.8	28.3	9.0	22.4	10.3
Tunisia	1,121	2.5	32.5	29.0	23.1	5.1
United Arab Emirates	76	3.0	23.8	0.0	NA	NA
North America	63,523	3.0	36.1	29.3	31.1	4.2
Canada	4,097	2.6	28.2	22.6	30.3	2.8
United States	59,426	3.1	36.7	29.7	31.1	4.3
Total	290,777	2.6	27.1	19.4	26.5	2.9

Note: NA = not available.

<sup>a</sup> Triplets or more.

<sup>b</sup> One center sent a form without indicating its name, country and address. World and regional percentages are computed on countries with complete data.

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regional registers for some of the data sets by highly varied methodologies. Details of validation methods were not collected for this report.

As in previous reports, the inclusion criteria for registers varied, with some national registers having coverage and ascertainment of all active centers providing ART services in that specific country. In several other countries, national registers are based on voluntary participation and therefore generally do not include all active centers. This becomes apparent in Table 1, in which the total number of clinics in a country is listed and also the number of reporting centers. Of the 49 countries reporting IVF data for 2000, only 20 countries (41%) have complete coverage and report from all centers, whereas 4 (8%) had coverage between 90% and 100%; 5 (10%), between 80% and 90%; 6 (12%), between 50% and 80%; 3 (6%), between 25% and 50%; 2 (4%), <25%; and in 9 (18%), the total number of clinics was not reported, mostly in the Middle East. Information on the coverage rate could not be compared with previous reports because this was a new question on the 2000 world report forms.

One of the most difficult challenges in compiling and analyzing the data for this report was data heterogeneity. Of course, data are heterogeneous by their nature, because they summarize, for each country, data coming from a heterogeneous activity across the various clinics. Moreover, heterogeneity was increased by the differences in completing the ICMART forms among countries and regions. The ICMART forms had been designed not only to describe differences of practice and results from around the world but also to ana-

lyze some specific questions, particularly concerning the risk of multiple deliveries according to the number of transferred embryos, controlling for maternal age and the risk of malformation. The poor response rate from some regions and countries may have been the result of the specificity of the ICMART forms. The utility of the world report will improve with increased standardization of the data collection instruments and the introduction of biennial reporting. It is likely that there always will be a tension between the need for standardization of reporting and the pragmatic aspects involved in any international data collection.

As in previous world reports, the quality of the data varies from country to country. Multiple confounding variables complicate the data. Therefore, comparisons among countries and regions should be made with some caution. The data are presented in the tables by country and by region.

Table 2 presents general data on distribution of procedures for fresh ET and frozen ET for nondonor cycles and also oocyte donation cycles. Tables 3 to 5 report for three different ART procedures (IVF, ICSI, and frozen ET) three different efficacy rates: [1] proportions of clinical pregnancies; [2] deliveries per aspiration; and [3] number of babies born per aspiration, in which babies coming from the same aspiration are counted once for a singleton pregnancy, twice for a twin pregnancy, three times for a triplet pregnancy, and so on in the numerator but are counted only once in the denominator. The delivery rate (DR) is a better marker than the clinical pregnancy rate (PR) because couples are treated to obtain a baby, not a pregnancy. However, to minimize potential misclassification bias of loss to follow-up, PR is the

main outcome indicator. Table 6 reports multiplicity or multiple-birth frequency along with number of embryos transferred for IVF and ICSI. Table 7 presents multiplicity for frozen ETs and oocyte donation. Table 8 presents the distribution by age of women undergoing IVF and ICSI.

## RESULTS

### Number and Size of Clinics

In the present report, data were collected from a total of 1,429 clinics in 49 countries, representing 5 countries more but 75 clinics fewer than in 1998. (Table 1; contributors are listed in Appendix 1.) This decrease in clinics was mainly a result of a poor coverage in Japan, with only 157 clinics of a total of 513 reporting to ICMART, compared with 425 of 442 in the previous report. There also were some differences among the participating countries, with five fewer in Asia (Hong Kong, India, Kazakhstan, Singapore, Philippines), three more in Europe (Ireland, Poland, Slovenia), one less (Costa Rica) and one more (Guatemala) in Latin America, and eight more (Anonymous, Bahrain, Israel, Jordan, Lebanon, Saudi Arabia, Tunisia, United Arab Emirates) and one less (Turkey) in the Middle East.

The total number of clinics in the countries included in this report can be estimated to be approximately 2,200, indicating that approximately two thirds of the clinics in the world are included in this report. This participation rate varies considerably among the countries, from 17% to 100%. The total number of clinics has increased approximately 20% in most regions since 1998. The mean centers' activity (number of cycles per year) is very different according to the countries and to the regions. For example, there are many small centers with fewer than 100 cycles in Latin America (48%) and North America (35%), compared with Europe (15%) and Australia (6%), whereas for the centers with more than 500 cycles, those regions' percentages are, respectively, 7%, 12%, 37%, and 41%.

### Number and Type of ART Procedures

The present report covers a total of more than 475,044 procedures, an increase of 10% since the previous report on 1998 data (Table 2). The distribution by procedure was as follows: IVF aspirations, 191,109 (+5.5%); ICSI aspirations, 175,147 (+17%); thawed transfers, 52,875 (+4%); and oocyte donation transfers, 14,848 (+28%). Only gamete intrafallopian transfer cycles decreased, from 3,482 to 1,475. Several countries reported aspiration cycles but not the initiated cycles. Therefore, the number of reported initiated cycles (336,253) is less than the total nondonation aspiration cycles (367,731). When selecting countries that reported both, the cancellation rate could be estimated to be 10%. This rate is almost certainly an underestimate because this rate was unusually low in several countries and there are known difficulties with many clinics in obtaining information on initiated cycles.

The increase in the number of cycles is substantial but still underreported. The numbers correspond to the data sent to ICMART, which are not complete for all the participating countries. For example, Japan reported 16,803 aspirations and no frozen ET, compared with 51,848 and 7,144, respectively, in 1998; the United States did not report frozen ET cycles because they did not have a breakdown between IVF and ICSI frozen ET cycles, whereas they represented 10,070 cycles in the previous report. The same was true for Korea, which had 1,530 frozen ET in 1998 and none in 2000. Thus, if we select the countries in which 1998 and 2000 reports both were submitted, the increase was 14.1% for aspirations (35 countries and 314,095 aspirations in 2000) and 15.9% for frozen ET (28 countries, 36,033 transfers in 2000).

The United States reported the largest number of aspirations, with 63,861, followed by Germany, with 46,794, and by France, with 41,434. For frozen ET, the largest number was reported by Germany, with 9,546, followed by France, with 8,753, and by Australia, with 8,626. However, the Japanese report was incomplete, and frozen ET were not reported by the United States. On average, the countries reporting all aspirations and frozen ET showed a proportion of frozen ET of 20.7% per aspiration. However, in some countries, this rate was very high; for example, Finland (59.3%), Australia (54.3%), Switzerland (52.8%), and New Zealand (44.4%). Intracytoplasmic sperm injection represented 47.6% of all aspirations, a slight increase since 1998 (44.7%). This rate was very different according to the individual country, from <30% in Ecuador, Ukraine, and Russia to >80% in Saudi Arabia, Egypt, Lebanon, and the United Arab Emirates. By region, the percentage of ICSI was highest in the Middle East, at 88.8%, followed by Latin America, at 69.9%; North America, at 54.0%; Australia and New Zealand, at 52.4%; Europe, at 45.6%; and Asia, at 43.2%.

By region, Europe represents by far the largest activity, contributing 207,004 aspirations of the total of 367,731 and 40,154 frozen ET of the total of 52,875. The proportion of aspirations performed by region was as follows: Asia, 8.1%; Australia and New Zealand, 4.6%; Europe, 56.3%; Latin America, 3.3%; the Middle East, 9.0%; and North America, 18.6%. However, reporting in Europe is much more complete than that in some other regions, so Europe's proportion of the total world cycles undoubtedly is somewhat lower than it appears. The highest per capita utilization is in Israel.

### In Vitro Fertilization

In conventional IVF (Table 3), on average, PR and DR per aspiration were 26.7% and 18.6%, respectively, and there were 26.5 babies produced per 100 aspirations. These rates showed large variations according to the countries. The pregnancy rate was <20% in Peru, Poland, Bolivia, and Mexico, whereas it was >35% in the United States, Chile, and Iceland. By region, North American delivery per aspiration was much higher, at 30.6%, than that in any other region, compared with the lowest region, Asia, at 14.0%. In



TABLE 7

Efficacy and multiplicity in relation to the mean number of transferred embryos: FET and oocyte donation cycles.

Country	Frozen embryo transfers						Oocyte donation					
	Transfers		Efficacy per transfer		Multiplicity (%)		Transfers		Efficacy per transfer		Multiplicity (%)	
	Cycles	Embryos	Pregnancy	Delivery	Twins	Triplets	Cycles	Embryos	Pregnancy	Delivery	Twins	Triplets
Asia	NA	NA	NA	NA	23.0	1.7	230	NA	NA	17.0	43.6	0.0
Japan	NA	NA	NA	NA	23.0	1.7	NA	NA	NA	NA	NA	NA
Korea	NA	NA	NA	NA	NA	NA	230	NA	NA	17.0	43.6	0.0
Taiwan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Australia and New Zealand	NA	NA	NA	NA	14.1	0.8	NA	NA	NA	NA	17.3	1.7
Australia	NA	NA	NA	NA	14.0	0.7	NA	NA	NA	NA	17.1	1.3
New Zealand	NA	NA	NA	NA	15.0	1.3	NA	NA	NA	NA	19.0	4.8
Europe	40,154	2.1	16.6	11.7	14.4	0.9	5,925	2.6	32.9	21.7	27.3	1.8
Belgium	1,879	NA	14.0	11.0	NA	NA	359	2.7	24.0	19.5	NA	NA
Czech Republic	464	NA	9.7	4.3	20.0	0.0	50	NA	14.0	2.0	NA	NA
Denmark	970	2.2	16.8	13.9	20.7	0.0	132	1.9	35.6	19.7	30.8	0.0
Finland	2,488	1.7	18.0	13.3	11.5	0.6	290	NA	31.4	21.0	NA	NA
France	8,753	NA	14.7	10.7	13.8	0.4	214	NA	19.2	NA	NA	NA
Germany	9,546	NA	16.1	9.8	14.6	1.1	0	—	—	—	NA	NA
Greece	247	2.8	30.8	20.6	27.5	0.0	223	2.3	31.8	14.8	30.3	0.0
Hungary	8	2.0	37.5	0.0	NA	NA	16	2.7	37.5	NA	—	—
Iceland	83	2.2	25.3	16.9	21.4	0.0	20	2.1	45.0	40.0	0.0	0.0
Ireland	219	2.1	19.6	15.5	20.6	5.9	0	—	—	—	NA	NA
Italy	2,368	2.3	19.5	14.8	9.7	0.9	722	2.2	29.6	22.3	25.5	0.0
Netherlands	1,337	NA	20.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	225	NA	19.1	16.0	27.8	0.0	0	—	—	—	NA	NA
Poland	697	2.0	13.5	10.8	10.5	1.3	35	2.3	31.4	31.4	0.0	0.0
Portugal	107	2.4	17.8	6.5	0.0	0.0	0	—	—	—	NA	NA
Russia	279	3.0	17.9	11.8	12.1	0.0	383	2.6	35.8	23.2	25.6	1.1
Slovenia	340	2.0	15.0	11.2	0.0	0.0	0	—	—	—	—	—
Spain	1,872	NA	19.6	13.1	18.8	1.2	1,416	3.0	46.8	25.2	31.4	3.6
Sweden	1,208	1.8	21.4	16.1	12.9	0.0	0	—	—	—	NA	NA
Switzerland	1,487	1.9	16.5	12.4	14.1	0.5	0	—	—	—	NA	NA
United Kingdom	5,569	2.3	16.4	12.5	15.5	1.7	1,982	2.4	27.7	20.3	25.8	1.2
Ukraine	8	NA	25.0	12.5	0.0	0.0	83	3.5	24.1	18.1	20.0	6.7

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TABLE 7

Continued.

Country	Frozen embryo transfers						Oocyte donation					
	Transfers		Efficacy per transfer		Multiplicity (%)		Transfers		Efficacy per transfer		Multiplicity (%)	
	Cycles	Embryos	Pregnancy	Delivery	Twins	Triplets	Cycles	Embryos	Pregnancy	Delivery	Twins	Triplets
Latin America	1,288	3.0	15.0	11.2	14.6	4.9	1,470	3.3	32.7	25.0	26.2	7.6
Argentina	207	3.1	16.9	13.0	11.1	7.4	286	2.7	33.6	25.2	22.2	11.1
Bolivia	22	3.4	22.7	18.2	0.0	25.0	8	4.1	25.0	25.0	50.0	0.0
Brasil	637	3.1	14.6	11.3	12.5	4.2	621	3.7	32.2	25.0	26.5	7.7
Chile	87	2.8	18.4	11.5	40.0	0.0	85	3.0	41.2	36.5	29.0	9.7
Colombia	30	3.0	16.7	6.7	0.0	0.0	144	3.4	33.3	22.2	43.8	6.3
Ecuador	4	3.0	0.0	0.0	—	—	13	2.3	46.2	30.8	25.0	0.0
Guatemala	NA	NA	NA	NA	—	—	NA	NA	NA	NA	—	—
Mexico	201	2.8	12.9	9.5	21.1	5.3	189	2.6	25.4	19.6	16.2	8.1
Peru	15	2.9	13.3	6.7	0.0	0.0	49	3.1	26.5	16.3	37.5	0.0
Uruguay	NA	NA	NA	NA	—	—	3	2.0	0.0	0.0	—	—
Venezuela	85	3.0	12.9	10.6	11.1	0.0	72	3.7	44.4	36.1	19.2	0.0
Middle East	772	NA	19.9	18.0	11.5	3.6	15	NA	60.0	60.0	33.3	11.1
Anonymous <sup>a</sup>	0	—	—	—	—	—	0	—	—	—	—	—
Bahrain	47	NA	25.5	21.3	0.0	0.0	0	—	—	—	—	—
Egypt	295	NA	>19.3	19.3	22.8	5.3	0	—	—	—	—	—
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jordan	80	NA	25.0	18.8	13.3	6.7	0	—	—	—	—	—
Lebanon	33	NA	12.1	9.1	0.0	0.0	15	NA	60.0	60.0	33.3	11.1
Saudi Arabia	142	NA	17.6	4.2	16.7	16.7	0	—	—	—	—	—
Tunisia	175	NA	28.6	27.4	0.0	0.0	0	—	—	—	—	—
United Arab Emirates	0	—	—	—	—	—	0	—	—	—	—	—
North America	1,544	2.7	21.1	16.8	21.5	2.7	7,208	2.9	51.1	42.9	36.8	3.6
Canada	1,544	2.7	21.1	16.8	21.5	2.7	267	3.0	36.3	27.3	30.1	1.4
United States	NA	NA	NA	NA	NA	NA	6,941	2.9	51.7	43.5	37.0	3.7
Total	43,758	2.2	16.8	12.0	15.2	1.1	14,848	2.8	41.9	32.5	33.1	3.4

Note: Triplets include higher order multiple pregnancies. World and regional percentages are computed on countries with complete data. NA = not available.

<sup>a</sup> One center sent a form without indicating its name and address.

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**TABLE 8****Distribution of women's age at oocyte retrieval, IVF and ICSI cycles combined.**

Country	All women	Age ≤34 y	Age 35–39 y	Age ≥40 y
Asia	29,847	52.1	32.9	15.0
Japan	16,794	47.2	36.2	16.5
Korea	13,053	58.4	28.7	12.9
Taiwan	15,057	48.5	33.1	18.4
Australia and New Zealand	16,164	48.7	33.4	17.9
Australia	1,107	51.2	37.5	11.3
New Zealand	8,262	60.5	26.5	13.1
Europe	147,419	53.1	34.0	12.9
Belgium	7,883	61.3	32.2	6.5
Czech Republic	4,184	51.3	29.4	19.3
Denmark	46,575	56.3	31.2	12.5
Finland	46,794	56.1	32.7	11.1
France	5,085	45.8	38.9	15.3
Germany	2,027	64.5	24.8	10.7
Greece	16,794	47.2	36.2	16.5
Hungary	13,053	58.4	28.7	12.9
Iceland	256	51.6	39.5	9.0
Ireland	1,204	38.5	46.5	15.0
Italy	14,733	47.7	35.7	16.6
Netherlands	2,784	57.8	27.4	14.8
Norway	1,773	60.9	33.1	6.1
Poland	5,191	54.3	29.3	16.4
Portugal	1,897	55.5	31.1	13.3
Russia	9,639	49.3	38.1	12.6
Slovenia	7,212	50.7	36.1	13.2
Spain	2,818	48.1	36.4	15.4
Sweden	24,652	47.8	38.3	13.9
Switzerland	256	51.6	39.5	9.0
United Kingdom	1,204	38.5	46.5	15.0
Ukraine	1,025	70.4	22.5	7.1
Latin America	12,284	50.4	34.1	15.5
Argentina	2,959	51.1	32.4	16.6
Bolivia	50	68.0	16.0	16.0
Brasil	5,865	47.7	35.5	16.8
Chile	532	60.2	31.4	8.5
Colombia	585	47.7	37.7	14.6
Ecuador	60	47.5	37.0	15.5
Guatemala	29	44.8	44.8	10.3
Mexico	1,059	59.7	30.7	9.6
Peru	313	40.6	41.0	18.4
Uruguay	186	56.6	30.5	12.9
Venezuela	646	53.0	32.7	14.3
Middle East	15,193	61.2	26.7	11.5
Anonymous <sup>a</sup>	100	73.7	23.1	3.2
Bahrain	195	51.3	27.7	21.0
Egypt	6,508	59.2	29.0	11.8
Israel	NA	NA	NA	NA
Jordan	3,663	60.7	26.2	13.1
Lebanon	512	64.4	24.1	11.5

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**TABLE 8**

Continued.

Country	All women	Age ≤34 y	Age 35–39 y	Age ≥40 y
Saudi Arabia	2,924	65.1	25.4	9.6
Tunisia	1,211	67.9	22.5	9.6
United Arab Emirates	80	65.0	25.0	10.0
North America	67,753	46.8	36.6	16.6
Canada	4,383	42.2	39.8	18.0
United States	63,370	47.1	36.4	16.5
Total	288,660	51.6	34.1	14.3

Note: World and regional percentages are computed on countries with complete data. NA = not available.

<sup>a</sup> One center sent a form without indicating its name and address.

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total, 46,099 babies were reported. Compared with the previous world report for 1998 treatment, the 2000 delivery rate per aspiration was similar for IVF (18.6% vs. 19.1% in 1998).

The pregnancy loss rate (computed by dividing the difference between the number of pregnancies less the number of deliveries by the number of pregnancies, when both numbers were available) was, on average, 26.5% in IVF. However, there were huge differences by country, because the rate was <10% in 5 countries and was >30% in 10 countries, reaching 43% in Russia, 54% in Korea, and 68% in Saudi Arabia. In all those countries, it is unknown whether there was a high number lost to follow-up between the diagnosis of pregnancy and delivery or whether the definition of a clinical pregnancy was the same as in other countries. Information on preterm birth, birth weight, and congenital abnormalities was available from only a few countries that reported data, and therefore it is not presented in this world report. This needs to be developed in further reports.

### Intracytoplasmic Sperm Injection

In ICSI (Table 4), on average, PR and DR per aspiration were 27.7% and 20.4%, respectively, and there were 27.4 babies produced per 100 aspirations, which was slightly higher than the case with IVF. The countries with low results (Peru, Japan, Mexico, Ukraine, and Bahrain) or high results (the United States, Jordan, Chile, and Iceland) were similar to those with high and low results for IVF. By region, again, the North American delivery rate per aspiration was much higher than that of any other region, at 28.2%, compared with the lowest region, Asia, at 13.7%. The total number of reported babies born from ICSI was 46,608. Compared with the previous world report for 1998 treatment, the 2000 delivery rate per aspiration was slightly higher for ICSI (20.4% vs. 18.9% in 1998).

For ICSI, the mean pregnancy loss rate was 26.3%, with three countries having a rate of <10% and 12 countries

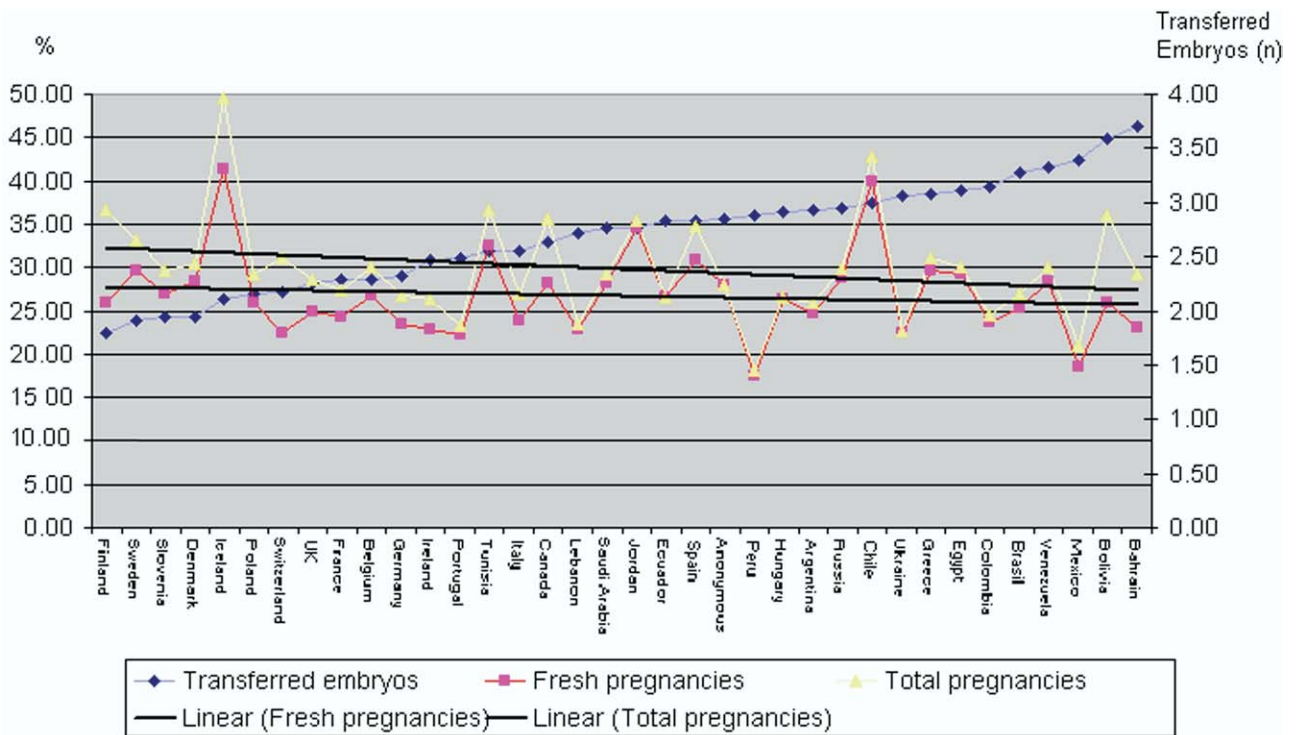
having a rate of >30%, mostly the same countries in each case as those for IVF. The same problems with loss to follow-up and definition of clinical pregnancy that affect the accuracy of these data for IVF also pertain to ICSI. As with IVF, information on preterm birth, birth weight, and congenital abnormalities was available from only a few countries that reported data and therefore is not presented in this world report and will need to be developed in further reports.

### Frozen ETs and Oocyte Donation

For frozen–thawed ETs, thaw cycles were not reported in several countries (Table 5). When selecting only countries with complete data, the cancellation rate between thaw and transfer was 13.2%. In addition, many countries do not report according to embryo origin from IVF or ICSI but only report both categories together. Pregnancy and delivery rates are much lower than corresponding rates in fresh cycles, at 16.6% and 12.0% per transfer, respectively. To understand better each country's results, it would be useful to add pregnancies resulting from frozen ET cycles to pregnancies obtained from the initial aspiration cycles and divide them by the number of aspiration cycles to determine an overall efficacy of IVF and ICSI. It would be even more preferable to be able to do this for each patient. This is not feasible in an annual report because the frozen ETs include cycles in which embryos were frozen in a previous year, and many thawed embryos of the current year will be transferred in a subsequent year. The only practical approach is to sum the frozen-ET pregnancies of the year 2000 to the aspiration pregnancies of the same year for the countries from which the necessary data were available, even though this is not entirely mathematically correct (Fig. 1). It appears that the difference between the total pregnancy rate and the fresh-embryo pregnancy rate is larger when the mean number of transferred embryos is low. The regression lines show that on average, countries that transfer more embryos do not have higher fresh pregnancy rates or higher total pregnancy rates.

**FIGURE 1**

Clinical pregnancy rate per aspiration cycle with or without including frozen ET pregnancies according to number of embryos transferred.



The cumulative pregnancy rate was not calculated for several countries with incomplete data, including USA

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United States data are not included in Figure 1 because the frozen ET data were not submitted to this report; they were not subdivided into frozen ET after standard IVF or ICSI. “Anonymous” is a clinic that reported from the Middle East without identifying itself.

Oocyte donation was associated with a high pregnancy and delivery rate per transfer (41.8% and 32.3%). The results were the highest in United States, with a delivery rate per transfer of 43.5%. Many countries did not report oocyte donation cycles without indicating whether oocyte donation was not performed or only was not reported, and the results for the Middle East have to be considered cautiously, because they rely only on one country (Jordan), with few cycles.

### Efficacy and Multiplicity in Relation to the Number of Transferred Embryos for IVF and ICSI

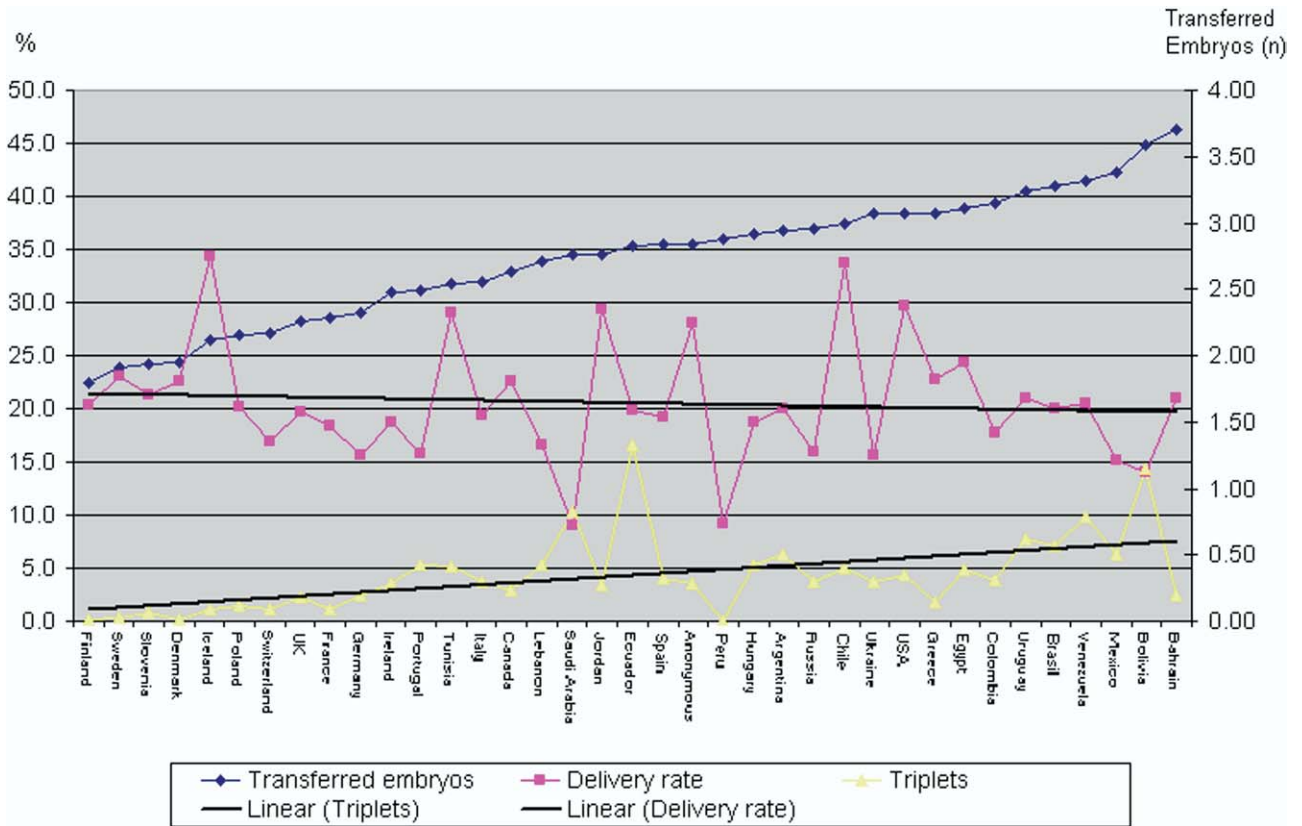
The mean number of embryos transferred at each procedure (Table 6) has decreased since 1998, from 2.83 in IVF and 2.80 in ICSI to 2.51 and 2.65, respectively. Moreover, the percentage of transfers involving four or more embryos has decreased, from 21.7% in IVF and 22.2% in ICSI to 13.1%

and 17.6%. Conversely, the percentage of two-embryo transfers has increased from 30.8% and 31.8% to 42.7% and 37.5% for IVF and ICSI, respectively. These percentages vary among the countries, and transfers of four or more embryos still were frequent in the United States (31.9% for IVF and 33.8% for ICSI) and in Latin America (42.4% for IVF and 43.4% for ICSI), compared with in Europe (6.0% and 7.5%, respectively), where they have decreased from >20% in 1998. Considering the United States, the decrease was more visible for the mean number of transferred embryos (from 3.46 for IVF and 3.41 for ICSI in 1998 to 3.04 for IVF and 3.09 for ICSI in 2000). The decrease was small in Latin America. It is interesting to note that the US decrease in the number of transferred embryos was not accompanied by a decrease in the delivery rate (30.0% for IVF and 28.1% for ICSI in 1998 vs. 31.0% and 28.6%, respectively, in 2000). Sweden reported the highest proportion of two-embryo transfers (84.5% in IVF and 82.7% in ICSI), but several European countries had proportions of >60%.

Overall, the proportion of twin pregnancies was at the same level as in the previous report (26.9% for IVF and 26.2% for ICSI, vs. 27.3% and 25.3% in 1998), and the same

**FIGURE 2**

Delivery rate per aspiration cycle and triplet rate according to number of embryos transferred.



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is true for triplet (or more) pregnancies (2.8% for IVF and 2.9% for ICSI, vs. 3.2% and 2.1%), whereas the mean number of transferred embryos has decreased from 2.83 for IVF and 2.89 for ICSI to 2.51 and 2.65, respectively. The multiple-pregnancy rate also varied markedly among countries. For example, the triplet rate was very low in Australia and New Zealand (0.9%) and in many European countries, for example, Iceland (0.0%), Denmark (0.22%), Finland (0.23%), and Sweden (0.36%), but was high on average in the United States (4.29%) and in many Latin American countries (6.63% on average) and in the Middle East (5.29%), reaching >10% in several countries. The data demonstrating efficacy and multiplicity for IVF and ICSI combined are presented in Table 6.

The triplet rate was closely associated with the number of transferred embryos (Tables 6 and 7). Because a higher number of embryos usually are transferred to increase pregnancy rates, we analyzed the pregnancy rate according to the number of embryos transferred (Fig. 2). However, with the exception of a few countries (e.g. United States, Chile), the mean number of transferred embryos, analyzed by country, was not correlated with level of the delivery rate, but only with the level of triplet rate. This result

raises important questions that could be analyzed better with individual and more clinically detailed data that were not available. Moreover, in many countries, induced fetal reduction is made available to patients in case of multiple pregnancy. Thus, the impact of multiple ET on the multiple birth rate is affected by fetal reductions and affects analysis of the data. This information was requested in the forms sent to countries. However, only three countries provided information on induced fetal reduction, with the remainder not indicating whether the procedure was performed or reported in the country.

### Efficacy and Multiplicity in Relation to Number of Transferred Embryos for Frozen ET and Oocyte Donation

Most of the frozen ET data came from Europe. For frozen ET, an average of 2.23 embryos were transferred, with 6.1% of cycles having four or more transferred (Table 7). This is fewer embryos than are transferred in fresh cycles. In countries in which the mean number of transferred embryos is low, there often are well-developed frozen ET programs. For the countries reporting the number of embryos transferred, the pregnancy rate and delivery rate per transfer, respectively, was 16.8% and 12.0%. The twins rate (15.2%) and triplets rate (1.1%)



appears lower than that occurring with fresh transfers for IVF (26.9% and 2.8%, respectively) or for ICSI (26.2% and 2.9%, respectively).

For oocyte donation, the mean number of transferred embryos was 2.81 (Table 7), still higher in Latin America (3.27) than in North America (2.89) and Europe (2.56). For countries reporting the number of embryos transferred, pregnancy rate and delivery rate per transfer were 41.9% and 32.5%, respectively. Oocyte donation was also associated with relatively high multiple-pregnancy rates of 33.1% for twins and 3.4% for triplets.

### Distribution of Women's Age

On a world basis, IVF was performed on women older than 35 years of age in almost half of the cases (49.4%) and on women older than 39 years of age in 14.4%. For ICSI, the figures were 47.4% and 14.2%, respectively. There were important differences among the countries, with the proportion of women older than 39 years of age undergoing IVF ranging from 4.9% in Portugal to 23.6% in Peru, with 18.9% in Australia, 18.0% in the United States, and 12.8% in Europe. The proportion of women older than 39 years of age who were undergoing ICSI ranged from 4.1% in Denmark to 21.6% in Bahrain, with 18% in Australia, 15.5% in the United States, and 12.9% in Europe. On average, women were the oldest in North America and the youngest in the Middle East. The distribution of women's age at oocyte retrieval for IVF and ICSI combined is presented in Table 8.

### Estimation of the World Activity

The total number of children reported for the 2000 world cohort is 107,910, an increase of 28% since the 1998 report, which reported 84,594 children. This is an underestimate of the true number of live births because of variability in coverage and reporting of national registers, with a number of countries including Belgium, Czech Republic, Netherlands, and Israel not reporting any births. If we estimate the number of babies born in these countries by taking the average number of babies born in the countries with complete reporting, the number of babies increases by 11,807. In addition, to take into account the 33% of clinics not reporting in the countries that did report, if we assume similar results in the nonreporting clinics, the total number of babies born from IVF in the countries participating in the report can be estimated to be 177,439. Finally, if we extrapolate that the countries not participating in the report, mostly in Asia, Africa, Oceania, and West Indies, are responsible for between 10% and 20% of the world activity in ART, the estimated total number of babies born through ART ranges between 197,000 and 220,000 in the year 2000.

## DISCUSSION

This article summarizes the results of ART from all the clinics and countries in the world that could be contacted and

that agreed to provide data for the year 2000. It includes more countries than in 1998 (49 vs. 44). It also shows a larger number of procedures, now over 460,000, an increase of 10% compared with the previous report for 1998. Intracytoplasmic sperm injection represented almost half the aspirations in 2000. The number of embryos transferred at each procedure varied greatly among countries but decreased in almost all countries and regions except Latin America. Pregnancy rates and multiple-pregnancy rates showed large variations among countries. The average number of embryos transferred per procedure by country was only weakly negatively related to pregnancy rate but was strongly related to triplet-pregnancy risk.

For IVF and ICSI, the average pregnancy rate reported per aspiration (26.7% and 27.7%, respectively) was similar to that in the 1998 report, whereas the number of transferred embryos decreased from 2.83 to 2.51 in IVF and from 2.80 to 2.65 in ICSI. The corresponding delivery rates per aspiration for IVF and ICSI were 18.6% and 20.4%, respectively, with a small apparent increase in that for ICSI, which was 19.1% in 1998.

Multiple birth rates were, on average, approximately the same as in the 1998 report. However, they have declined in many countries, particularly the United States, in which the triplet rate declined from 6.5% in 1998 to 3.7% in 2000 without a decrease in the delivery rate. The triplet rate remained high in Latin America and the Middle East. Clearly, the triplet delivery rate does not reflect the real multiple-pregnancy implantation rate because spontaneous reduction and multifetal induced reduction were not well reported, and also, the latter was not available in all countries. In Latin America, the observed percentage of twin and triplet deliveries (25.8% and 6.6%, respectively) resulted in a much higher percentage of babies that were multiples; 37.0% of all babies were twins, and 14.3% of all babies were triplets. The same was true for the Middle East, where 30.6% of deliveries were twins and 42.5% of all babies were twins, and where 6.5% of deliveries were triplets and 13.4% of all babies were triplets. This means that in Latin America, only 48.7%, and in the Middle East, only 44.1%, of the newborns were singleton babies. With the exception of the United States and some Latin American countries, the pregnancy rate per country was not related to the mean number of transferred embryos.

Reporting of such data has been criticized in the past because the data clearly suffer from major deficiencies (8). There is no internationally agreed set of standard data definitions or clinical or data collection practices. However, the endorsement and development of the ICMART-World Health Organization glossary by the European Society for Human Reproduction and Embryology, the American Society for Reproductive Medicine, and the Latin American Network for Reproductive Medicine since the last report is a significant first step in achieving international data standardization (7). This glossary will soon be published in both

*Fertility and Sterility and Human Reproduction.* Major limitations also include lack of standardization of data definitions across countries; variability in structure, coverage, and validity of data collection systems; incomplete patient, clinic, country, and regional data; different treatment populations and protocols; different regulations, policies, and guidelines; varying cultures and religions; ascertainment bias and loss to follow-up; and numerous other known and unknown factors.

Moreover, even in the participating countries, the coverage is not perfect. It is estimated that approximately two thirds of the ART cycles in the world are reported from 49 countries, including IVF, ICSI, frozen ET, and oocyte donor-initiated cycles, aspiration cycles, number of embryos transferred, pregnancy rates, delivery rates, multiple-birth rates, and number of babies born. In addition, it is not possible yet to report data on birth defects, preimplantation genetic diagnosis, elective single ET, maternal and fetal morbidity and mortality, and other outcomes of interest. Efforts currently are being made to improve data collection and reporting on these variables in the future. This is being done by working with the national and regional (when available) registries on standardization of forms, definitions, and data quality. Several meetings have been organized and completed in different parts of the world, and a contributors' meeting now is held twice a year at the annual meeting of the European Society for Human Reproduction and Embryology and the American Society for Reproductive Medicine. These efforts are expected to increase the number of contributors, the infrastructure for reporting, the expertise of the contributors, the quality of the data collection forms, and the sophistication of data analysis and presentation. Additional recognition, cooperation, and funding also is being obtained from national, regional, and international professional organizations.

Despite these limitations, the investigators and many others recognize the value in undertaking such a difficult task (9). Analysis of the data for numerous outcomes of interest can be performed. Comparisons among countries and regions can be made, although extreme caution must be exercised because of the noted limitations of study design, data collection, and analysis. Nevertheless, large differences in procedures performed, pregnancy rates, multiple-birth rates, and numbers of embryos transferred have been identified. For the first time, analysis of worldwide data is being reported that begins to answer some important questions regarding numbers of embryos to transfer and efficacy and safety. The data provided in this report will be improved upon with subsequent reports and will assist in the design of other studies that can answer important clinical questions. In addition, physicians, patients, and policy makers should find this report useful in better understanding the role of ART in managing infertility. Most important, the very act of observing ART by collecting, analyzing, and reporting the data should improve the quality of ART around the world (10). It is ICMART's intention to continue with a world report every 2

years, thereby enabling analysis of trends in ART also. Additional emphasis will be placed on identifying ART practices that ensure both efficacy and safety.

These data suggest that the access, practice, and uptake of ART in countries reflect dynamic cultural, social, economic, and country-specific factors that vary markedly throughout the world. Pregnancy rates have plateaued or continued to rise despite international variability in practice over the number of embryos to transfer. There has been a marked trend to replace fewer embryos so that the high-order (triplet and more) pregnancies can be reduced almost to the point of elimination. This strategy is working; the triplet pregnancy rate is being reduced in countries that replace fewer embryos. Europe and Australia and New Zealand continue to lead the way in reduction of multiples, with triplet rates approximately half those of the United States, whereas the United States continues to have the highest pregnancy rates, almost twice those of Europe, despite having an older population. The importance of frozen ET is increasing as the trend toward replacement of fewer embryos continues. The optimum balance between efficacy and safety is still to be determined, and the data in this report will assist in that dialogue. Further analysis of cumulative live-birth rates for fresh-cycle transfer plus frozen ET will be important in the future. It would be interesting to analyze the impact of legislation on the number of embryos transferred, and its relationship to the multiple-pregnancy rate, by comparing legal requirements in different countries. This could not be performed in this report because this information was not collected, but it would be an interesting topic for future reports.

In conclusion, this world report from ICMART includes 49 countries, compared with 44 in 1998, and reports on over 460,000 ART cycles, which is 10% more than in 1998. Even with its noted limitations, this report provides the most comprehensive and accurate perspective on the practice and results of ART in the world in 2000 and allows for some general international comparisons. From this report, the total number of babies conceived through ART in the year 2000 may be estimated to be between 197,000 and 220,000. One of the key issues recognized by ICMART is the need to improve the comprehensiveness and quality of the collected data. The International Committee for Monitoring Assisted Reproductive Technology is actively pursuing several different strategies to achieve this goal.

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## APPENDIX 1: ART CENTERS PARTICIPATING IN ICMART'S 2000 WORLD REPORT

### Asia

Japan: 157 centers.

Korea: Areum Hospital; Asan Medical Center; Cho-jae-dong Obstetrics and Gynecology Clinic; Chonnam National University Hospital; Chunbuk National University Hospital; Chungang Jomo Hospital; Donga University Medical Center; Dr. Cha's Obstetrics and Gynecology Clinic; Eulji General Hospital; Eun Hospital; Ewha Womans University Mok-dong Hospital; Fraumedi Hospital; Gachon Medical School Gil Medical Center; Gangnam Cha General Hospital; Gaya-jamo Hospital; Good Moonhwa Hospital; Grace Hospital; Green Medi Women's Hospital; Gyeongsang National University Hospital; Halla General Hospital; Hallym Medical Center; Hamchoon Women's Clinic; Hana Hospital; Hanna Women's Clinic; Hyundai Hospital; Ilsin Christian Hospital; Inje University Sanggye Paik Hospital; Inje University Seoul Paik Hospital; Jeil Obstetrics and Gynecology Clinic; Keimyung University Dongsan Medical Center; Korea University Anam Hospital; Kwangju Christian Hospital; Kyunghee Medical Center; Kyungpook National University Hospital; Lee-doh-geun Women's Clinic; Lee-du-ryong Obstetrics and Gynecology Clinic; Maria Infertility Hospital, Daegu; Maria Infertility Hospital, Incheon; Maria Infertility Hospital, Kwangju; Maria Infertility Hospital, Seoul; Masan Samsung Medical Center; Mizmedi Hospital, Kangnam; Mok Hospital; P and L Obstetrics and Gynecology Clinic; Park Women's Clinic; Primo Women's Clinic; Pusan National University Hospital; Samsung Cheil Hospital; Samsung Medical Center; Seoul National University Hospital; Seoul Yale Women's Hospital; Sewha Hospital; Shina Women's Clinic; Soonahn Hospital; Wonju Christian Hospital; Wonkwang University Hospital; Yeungnam University Medical Center; and Yonsei University Medical Center.

Taiwan: 72 centers.

### Australia and New Zealand

#### Australia

Australian Capital Territory: Canberra Fertility Centre, Deakin ACT.

New South Wales: Albury Reproductive Medicine Centre, Albury; Fertility First, Hurstville; IVF Australia-North Shore, Chatswood; IVF Australia-Central Coast, Gosford; IVF Australia-Western Sydney, Westmead; IVF Australia-South, Kogarah; IVFA South, Haymarket; IVF Australia-East, Randwick; IVF NSW, Bondi Junction; RPAH Sydney IVF, Camperdown; St. George Fertility Centre, Hurstville; Sydney IVF, Sydney, Coffs Harbour, Illawarra (Wollongong), Lismore, Orange, Tamworth; Sydney IVF Liverpool; Sydney IVF Newcastle, Merewether; and Westmead Fertility Centre, Westmead.

Queensland: Central Queensland IVF, Rockhampton; Coastal IVF Fertility Services, Maroochydore; IVF Queens-

land Sunshine Coast, Nambour; Monash IVF Gold Coast Fertility Centre, Southport; Monash IVF Queensland, Sunnybank Private Hospital; QFG Mackay, Mackay; QFG Toowoomba IVF; QFG Townsville, Hyde Park; QFG Cairns, Hyde Park; Queensland Fertility Group, Brisbane; QFG North West, Everton Park; QFG Gold Coast, Benowa; and The Wesley IVF Service, Auchenflower.

South Australia: Flinders Reproductive Medicine, Bedford Park; and REPROD, Dulwich.

Northern Territory: REPROD, Tiwi.

Tasmania: Tasmanian IVF, Hobart; and Launceston SIVF, Launceston.

Victoria: Ballarat IVF, Wendouree; Melbourne Assisted Conception Centre, East Melbourne; Melbourne IVF, East Melbourne; Mildura Reproductive Medicine Centre, Mildura; Monash IVF, Epworth Hospital, Richmond; Monash IVF, Monash Surgical Private Hospital, Clayton; Monash IVF Ballarat, Ballarat; Monash IVF Bendigo, Bendigo; Monash IVF Benalla, Benalla; Monash IVF Casterton, Casterton; Monash IVF Geelong, Geelong; Monash IVF Northern, Broadmeadows; Monash IVF Sale, Sale; and Monash IVF Shepparton, Shepparton Reproductive Services, Carlton.

Western Australia: Concept Fertility Centre, Subiaco; Hollywood Fertility Centre, Nedlands; Joondalup IVF, Joondalup; PIVET Medical Centre, Leederville; and The Keogh Institute for Medical Research, Nedlands.

### New Zealand

Fertility Associates, Auckland; Fertility Associates Hamilton, Hamilton; Fertility Associates Wellington, Wellington; Fertility PLUS, Auckland; The Fertility Centre, Christchurch; and The Otago Fertility Service, Dunedin.

### Europe

#### Belgium

Antwerpen: Algemeen ziekenhuis Middelheim; Universitair ziekenhuis Antwerpen; and AZ St.-Camillus/St.-Augustinus Wilrijk.

Brugge: Algemeen ziekenhuis Sint-Jan.

Brussels/Bruxelles: Institut médical Edith Cavell; Academisch ziekenhuis VUB; Hôpital universitaire St-Pierre; and Hôpital Erasme.

Charleroi: Clinique Notre-Dame.

Genk: St-Jansziekenhuis.

Gent: Universitair ziekenhuis Gent; Algemeen ziekenhuis Jan Palfijn; and Algemeen ziekenhuis St.-Lucas.

Kortrijk: Sint-Niklaaskliniek.

Leuven: Universitair ziekenhuis Gasthuisberg; and Leuven institute for fertility and embryology.

Liège: Clinique St Vincent Rocourt; and Hôpital de la Citadelle.

Mont-sur-Sambre: Centre de PMA Sainte Thérèse.

Namur: Centre Hospitalier régional de Namur.

Roeselare: Heilig Hartziekenhuis.

Vilvoorde: Van Helmontziekenhuis.

### **Bulgaria**

Sofia: ObGy Hospital “Dr.Shterev”.

Sofia: IVF Department, 1st ObGy Hospital “St.Sofia”.

Varna: Medical Centre “Olimed”.

### **Denmark**

Aalborg: Fertilitetsklinikken Aalborg.

Aarhus: Ciconia Vest; Fertilitetsklinikken Skejby Sygehus; and Maigaards Fertilitetsklinik.

Braedstrup: Fertilitetsklinikken Braedstrup Sygehus.

Copenhagen: Ciconia Øst; Dansk Fertilitetsklinik; Fertilitetsklinikken Helsehuset; Fertilitetsklinikken Herlev Sygehus; Fertilitetsklinikken Hvidovre Hospital; Fertilitetsklinikken Rigshospitalet; Fertilitetsklinikken Triangelen; Gentofte Fertilitetsklinik; and Speciallaege praksis, Lygten.

Holbaek: Fertilitetsklinikken Holbaek Sygehus.

Horsens: Horsens Fertilitetsklinik.

Odense: Fertilitetsklinikken Odense Universitetshospital; and Odense IVF-Klinik.

Skive: Fertilitetsklinikken Skive Sygehus; and Klinik for Kvindesygdomme og graviditet.

### **Finland**

Helsinki: Diacor; Eira Hospital; Family Federation of Finland Helsinki; Felicitas; Fertinova; and Helsinki University Central Hospital.

Joensuu: Northern Carelia Central Hospital.

Jyväskylä: In-Tiimi Jyväskylä.

Kuopio: In-Tiimi Kuopio; and Kuopio University Central Hospital.

Lappeenranta: Fermedi.

Oulu: Family Federation of Finland Oulu; and Oulu University Central Hospital.

Tampere: AVA Tampere; and Tampere University Central Hospital.

Turku: AVA Turku; Family Federation of Finland Turku; and Turku University Central Hospital.

### **France**

Amiens: Centre Picard; CHU; and CHR.

Aubervilliers: La Roseraie.

Avignon: Urbain V.

Bagnolet: La Dhuis.

Bayonne: Lafargue.

Besancon: CHU; and Franche-Comté.

Blanc Mesnil: Clinique.

Bois-Guillaume: Saint Antoine.

Bondy: Jean Verdier.

Bordeaux: Pellegrin Fédération.

Brest: CHU; Pasteur.

Bruges: Jean Villar.

Caen: CHRU.

Cayenne: CHG.

Chambray-Les-Tours: Parc Clinique.

Charleville-Mezieres: CH.

Clamart: Antoine Bécélère.

Clermont-Ferrand: CHU.

Cormeilles en Parisis: Clinique.

Courbevoie: CH-La Défense.

Dijon: CHR.

Dreux: CH.

Epinal: Arc en Ciel.

Equeudreville: Cotentin.

Grenoble: Belledonne; CHU.

Guilherand Granges: Pasteur.

Le Chesnay: Parly II.

Le Havre: CH.

Le Mans: Tertre Rouge.

Le Port: Jeanne d'Arc.

Lille: Polyclinique Du Bois; and Jeanne De Flandres.

Limoges: CHRU.

Lorient: CH.

Lyon Bron: Ste Marie-Thérèse.

Lyon: Edouard Herriot; Montplaisir; and Tonkin.

Marseille: Conception; Saint Joseph; and IMR.

Fort De France (Martinique): Sainte Marie.

Metz: Sainte Croix.

Montpellier: CHU; and Saint Roch.

Mulhouse: Diaconat.

Nancy: A Pinard; and Majorelle.

Nantes: CHU; N.D. De Grâce; and St Herblain/Atlantique.

Neuilly: Chérest; Hôpital Américain.

Nice: CHU; and Saint Georges.

Nimes: CHRU.

Paris: Bichat; Cochin; Diaconesses; Les Bluets; La Muette; Montsouris; Pitié Salpêtrière; Saint Vincent De Paul; and Tenon.

Pau: Lagrange.

Perigueux: Francheville.

Perpignan: Saint Pierre.

Poissy: CHI.

Poitiers: CHU.

Reims: CHU; and Courlancy.

Rennes: CHRU Sud; and La Sagesse.

Roanne: CH.

Rouen: CHU.

Saint Etienne: Michelet.

Saint-Jean: L'union et le Vaurais.

Saint-Saulve: Le Parc.

Schiltigheim: CMCO.

Sevres: J. Rostand.

Toulon: Saint Michel.

Toulouse: CHU.

Toulouse: Saint Jean Languedoc.

Tours: CHU.

Vitry Sur Seine: Les Noriets.

## Germany

Aachen: Frauenarztpraxis mit Schwerpunkt Gynäkologische Endokrinologie und Reproduktionsmedizin an der Itertalklinik; and Universitäts-Frauenklinik für Gynäkologische Endokrinologie und Reproduktionsmedizin, Medizinische Fakultät der RWTH Aachen.

Aalen: IVF-Zentrum Aalen.

Augsburg: VF-Zentrum Augsburg, Gemeinschaftspraxis.

Bad Münden: Zentrum für IVF und Reproduktionsmedizin, Deutsche Klinik Bad Münden.

Bayreuth: IVF-Zentrum Bayreuth im Klinikum Bayreuth, Gemeinschaftspraxis.

Bedburg/Erft: Facharzt für Frauenheilkunde und Geburtshilfe.

Berlin: Charité, Campus Virchow-Klinikum, Klinik für Frauenheilkunde und Geburtshilfe, Reproduktionsmedizin; Kinderwunsch-und Privatpraxis; Fertility Center Berlin.; Gemeinschaftspraxis; Gemeinschaftspraxis im Lützwow Center, Reproduktionsmedizinisches Zentrum; Praxisklinik für Fertilität; Praxis Dr. med. Reinhard Hannen; and Universitätsklinikum der Humboldt-Universität zu Berlin, Charité Campus Mitte, Klinik für Frauenheilkunde und Geburtshilfe, Abt. Reproduktionsmedizin und Endokrinologie.

Bielefeld: Bielefeld Fertility-Center; and BIF-Bielefelder Institut für Fortpflanzungsmedizin der Städtischen Kliniken Bielefeld-Rosenhöhe, Leitung.

Bonn: Abteilung für Gynäkologische Endokrinologie und Reproduktionsmedizin, Universitätsklinikum Bonn; and Praxisklinik für Gynäkologische Endokrinologie und Reproduktionsmedizin.

Bremen: Bremen Zentrum für Fortpflanzungsmedizin (BZF) in der Frauenklinik des Ev. Diakonie-Krankenhauses gGmbH; and Zentrum für Kinderwunschbehandlung Bremen.

Cottbus: Carl-Thiem-Klinikum Cottbus, Bereich Reproduktionsmedizin und Gynäkologische Endokrinologie.

Darmstadt: Reproduktionsmedizinisches und Endometriose Zentrum Darmstadt, Frauenklinik des Klinikum Darmstadt.

Deggendorf: Gemeinschaftspraxis Dres. Kroiss und Bernhardt.

Dortmund: Gemeinschaftspraxis Dres. med. S. Dieterle, A. Neuer.

Dresden: Praxis Dr. med. H. J. Held; and Universitätsklinikum Carl Gustav Carus, Klinik und Poliklinik für Frauenheilkunde und Geburtshilfe.

Düsseldorf: Gemeinschaftspraxis Dr. (B) Hugo Verhoveen, Dr. med. Michael Scholtes, Dipl.-med. Kersten Marx, Dr. med. Martina Behler, Dr. med. Manfred Schulte; Städt. Kliniken Düsseldorf gGmbH, Frauenklinik Benrath, Abteilung für Reproduktionsmedizin und Gynäkologische Endokrinologie; and Universitätsfrauenklinik der Heinrich-Heine-Universität-Düsseldorf.

Erlangen: Dr. J. van Uem; Gemeinschaftspraxis der Frauenärzte; and Universitätsfrauenklinik Erlangen.

Essen: Gemeinschaftspraxis Dr. med. Thomas Katzorke, Dr. med. Dirk Propping, and Dr. med. Susanne Wohlers.

Esslingen: IVF-Zentrum Esslingen.

Frankfurt/Main: IVF Zentrum Frankfurt, Schwerpunkt Gynäkologische Endokrinologie und Reproduktionsmedizin, Universitäts Frauenklinik; Krankenhaus Nordwest, Frauenklinik/Zentrum für Reproduktionsmedizin.

Freiburg: Frauenklinik der Albert-Ludwigs-Universität, PD Dr. med. C. Keck; and Gemeinschaftspraxis Dr. Weitzell, Dr. M. Thiemann, Prof. Dr. F. Geithövel.

Gelsenkirchen: Schwerpunkt Kinderwunschtherapie, Wissenschaftspark Gelsenkirchen.

Gießen: Arbeitsgruppe Endokrinologie, Fortpflanzungsmedizin und Mikrochirurgie der Justus-Liebig-Universität; Gesellschaft zur Förderung der In-Vitro-Fertilisation und Reproduktionsmedizin GbR.

Göttingen: Fachärztin für Frauenheilkunde und Geburtshilfe; Georg-August-Universität, Klinik für Gynäkologie und Geburtshilfe; and Gemeinschaftspraxis, Dr. Peter Böhm, Dr. Sabine Hübner, Dr. Rüdiger Moltrecht, Dr. Christine Noeldechen, and Dr. Stephanie Mittmann.

Greifswald: Ernst-Moritz-Arndt-Universität, Frauen- und Poliklinik.

Grevenbroich: Gemeinschaftspraxis Dr. Tigges, Dr. Kaiser, and Dr. Tüchel.

Haar: Gynäkologisch-Geburtshilfliche Abteilung Gynäkologische Endokrinologie/Reproduktionsmedizin, St. Josef Krankenhaus GmbH; Martin-Luther-Universität Halle-Wittenberg, Klinik und Poliklinik für Geburtshilfe und Reproduktionsmedizin.

Hamburg: Fertility Center Hamburg; Gemeinschaftspraxis Bispink; Praxisgemeinschaft Hinrichsen u. Partner GbR am Endokrinologikum Hamburg; Praxis BKS; Universitätsklinikum Hamburg-Eppendorf, Klinik und Poliklinik für Frauenheilkunde und Geburtshilfe, Abt. für gynäkologische Endokrinologie und Reproduktionsmedizin; and Zentrum für Fertilitätsmedizin Kocak und Kollegen.

Hannover: Frauenklinik der MHH am Oststadt Krankenhaus; and Gynäkologische Gemeinschaftspraxis.

Heidelberg: Kinderwunschzentrum Heidelberg; and Universitätsklinikum Heidelberg, Abt. Gynäkologische Endokrinologie und Fertilisationsstörungen, Kinderwunsch-Sprechstunde.

Hildesheim: Zentrum für Reproduktionsmedizin und Humangenetik Hildesheim.

Homburg: Universitätskliniken des Saarlandes, Frauenklinik und Poliklinik.

Jena: Klinikum der FSU Jena, Klinik für Frauenheilkunde und Geburtshilfe; and Gemeinschaftspraxis Fritzsche-Reiher-Hoffmann.

Karlsruhe: Karlsruher IVF-Programm.

Kiel: Universitäts-Frauenklinik der Christian-Albrechts-Universität Kiel.

Köln: Krankenhaus Porz am Rhein, Frauenklinik; PAN Klinik am Neumarkt; and Universitäts-Frauenklinik Köln.

Leipzig: Praxisklinik Reproduktionsmedizin und Gynäkologische Endokrinologie; and Universitätsfrauenklinik, Zentrum für Reproduktionsmedizin und Gynäkologische Endokrinologie.

Lübeck: Universitätsklinikum Lübeck, Klinik für Frauenheilkunde und Geburtshilfe.

Magdeburg: Klinik für Reproduktionsmedizin und Gynäkologische Endokrinologie, Otto-von-Guericke-Universität Magdeburg.

Marburg: Klinik für Gynäkologie, Gynäkologische Endokrinologie und Onkologie der Philipps-Universität Marburg.

Mannheim: Universitätsfrauenklinik, Klinikum Mannheim gGmbH.

Minden: Gemeinschaftspraxis Dr. med. Onno Buurman, Dr. med. Michael Dumschat, and Dr. (YU) Akram El Harake, Fachärzte für Frauenheilkunde.

Mönchengladbach: Gemeinschaftspraxis Dr. med. Georg Döhmen and Dr. med. Thomas Schalk.

Mühlheim an der Ruhr: Ev. Krankenhaus Mühlheim an der Ruhr, Frauenklinik und Zentrum für Reproduktionsmedizin.

München: Hormonzentrum München; Kinderwunsch Centrum München an der Frauenklinik Dr. Wilhelm Krüsmann, Gynäkologische Endokrinologie und Sterilitätsmedizin; Klinik und Poliklinik für Frauenheilkunde und Geburtshilfe, Klinikum der Universität München-Grosshadern; Prof. Dr. med. Dieter Berg and Dr. med. Bernd Lesoine; and Zentrum für Reproduktionsmedizin.

Münster: Gemeinschaftspraxis Dr. Dr. med. Lutz Belkien and PD Dr. med. Bernd Krause; Universitätsklinikum Münster, Klinik und Poliklinik für Frauenheilkunde und Geburtshilfe; and Institut für Reproduktionsmedizin.

Neubrandenburg: Dietrich Bonhoeffer Klinikum Neubrandenburg, Klinik für Frauenheilkunde und Geburtshilfe.

Neuwied: Gemeinschaftspraxis Dr. Beran and Dr. Müller.

Nürnberg: Reproduktionsmedizinische Praxis Dr. med. J. Neuwinger and Dr. med. B. Munzer-Neuwinger.

Oldenburg: Dr. med. Saif Jibril; and Tagesklinik Oldenburg.

Osnabrück: Kinderwunschzentrum Osnabrück.

Pforzheim: Zentrum für Reproduktionsmedizin in der Centralklinik.

Prien am Chiemsee: Priener Zentrum für Reproduktionsmedizin.

Regensburg: Zentrum für Gynäkologische Endokrinologie und Reproduktionsmedizin.

Remscheid: Gynäkologische Endokrinologie und Reproduktionsmedizin am Klinikum Remscheid.

Rostock: Universitäts-Frauenklinik Rostock, Reproduktionsmedizin.

Saarbrücken: Dr. med. Jens Happel, Dr. med. Michael Thaele, and Dr. med. Lars Happel.

Schwäbisch Gmünd; and Klinikum Schwäbisch Gmünd, Margariten Hospital, Geburtshilfe/Fortpflanzungsmedizin.

Schwerin: Medizinisches Zentrum der Landeshauptstadt Schwerin, Klinikum Schwerin.

Stuttgart: Dr. med. Fred Maleika; Praxis Dr. D. B. Mayer-Eichberger, IVF-Zentrum; and Univ.-Prof. Dr. med. Ute Fuchs.

Tübingen: Universitätsklinikum Tübingen, Frauenklinik, Schwerpunkt Gynäkologische Endokrinologie und Reproduktionsmedizin.

Ulm: IVF-Zentrum Ulm; Universitätsklinikum Ulm, Zentrum für Reproduktionsmedizin und Gynäkologische Endokrinologie.

Wiesbaden: Zentrum für Reproduktionsmedizin.

Würzburg: Dr. med. R. Mai, Dr. med. Wolfgang Schmitt; and Universitäts-Frauenklinik Würzburg.

### **Greece**

Athens: Fertility Institute, Center for Human Reproduction, Iatriki Erevna, IVF and Genetics, Neogenesis IVF Center, IVF Center Euromedica.

Thessaloniki: Infertility and IVF Center, Geniki Kliniki.

### **Hungary**

Budapest: 1st Department of Obstetrics and Gynecology, Semmelweis University of Medicine; Department of Obstetrics and Gynecology, “Jahn Ferenc” Hospital; Department of Obstetrics and Gynecology, “Nyiro Gyula” Hospital; and Department of Obstetrics and Gynecology, St. John’s Hospital, Kaali Institute, Devai Institute, Forgacs Institute.

Debrecen: Department of Obstetrics and Gynecology, Debrecen University of Medicine.

Győr: Kaali Institute.

Pécs: Department of Obstetrics and Gynecology, Pécs University of Medicine.

Szeged: Kaali Institute.

Tapolca: Pannon Institute for Reproduction.

### **Iceland**

Reykjavik: IVF Unit, Dept. Obstetrics and Gynecology, National University Hospital, Landspítali.

### **Ireland (Republic of)**

Clane: Assisted Conception Unit, Clane General Hospital.

Dublin: HARI Unit (Human Assisted Reproduction Ireland), Rotunda Hospital.

Galway: Galway Fertility Unit, University College Hospital.

### **Italy**

Abano Terme (PD): Casa di Cura Abano Terme-Centro Ripr. Assistita.

Ancona: Ospedale Salesi.

Bari: Clinica S. Maria; Studio Medico “San Luca”; Studio Associato CECOS; University of Bari.

Bergamo: Ospedali Riuniti.

Bologna: S.I.S.ME.R.; Tecnobios.

Bolzano: Ospedale di Bolzano.

Brescia: Istituto Brescia.

Bressanone (BZ): Ospedale di Bressanone.

Brunico (BZ): Ospedale di Brunico.

Cagliari: Ospedale Regionale Microcitemie; Università di Cagliari.

Caserta: Centro Genesis.

Castellana Grotte: I.R.C.C.S.

Catania: C.R.A.

Fermo (AP): Istituto Palmatea.

Firenze: Università di Firenze.

Fossano (CN): Ospedale di Fossano.

Genova: Università di Genova.

Lecce: Centro Studi Riproduzione Umana.

Messina: Centro di Riproduzione Umana.

Mestre (VE): ARC-STER.

Milano: Fondazione S. Raffaele del Monte Tabor; Polo Universitario S. Paolo; and Centro Cerva.

Modena: Università di Modena e Reggio Emilia.

Monza (MI): Centro di Medicina della Riproduzione “Biogenesi”.

Motta di Livenza (TV): Ospedale di Motta di Livenza.

Napoli: Centro Mediterraneo di Fecondazione Assistita; B.D.R.

Nardo’ (LE): Tecnomed.

Padova: Studio “Gemma”; Euganea Medica.

Palermo: Centro “Andros”; Centro di Biologia della Riproduzione.

Parma: C.I.R. Università di Parma.

Pesaro: Centro Salus.

Pescara: Villa Serena.

Pieve di Cadore (BL): Ospedale Civile.

Pisa: Casa di Cura S. Rossore; and Università di Pisa.

Pordenone: Ospedale S.M. degli Angeli.



Roma: European Hospital; Centro R.A.P.R.U.I.; Università 'La Sapienza'; and C.I.P.A.

Rozzano (MI): Istituto Clinico Humanitas.

Salerno: C.M.R.

Sassari: Università di Sassari.

Sora (FR): Centro S.T.S.

Torino: Centro LIVET; Ospedale S. Anna; A.R.T.E.S.; and Centro Diagnosi e Cura dell'Infertilità di Coppia

Varese: Centro Diagnostico Varesino.

Verona: Policlinico Borgoroma.

## Latvia

Riga: EGV, clinics and reproductive health centre.

## Netherlands

Amsterdam: Academisch Medisch Centrum, Vrije Universiteit Medisch Centrum.

Eindhoven: Catharina Ziekenhuis.

Groningen: Academisch Ziekenhuis Groningen.

Leiden: Leids Universitair Medisch Centrum, Stichting Medisch Centrum voor Geboorteregeling.

Maastricht: Academisch Ziekenhuis Maastricht.

Nijmegen: Universitair Medisch Centrum St Radboud

Rotterdam: Academisch Ziekenhuis Rotterdam.

Tilburg: St. Elisabeth Ziekenhuis.

Utrecht: Universitair Medisch Centrum.

Voorburg: Reiner de Graaf Groep.

Zwolle: Isala Klinieken.

## Norway

Bergen: Kvinneklivikken Helse-Bergen, Haukeland Sykehus.

Haugesund: Haugesund Sjukehus Helse Fonna.

Oslo: Fertilitetssenteret Omnia; Rikshospitalet; Ullevål Universitetssykehus; and Volvat Medisinske Senter.

Trondheim: St Olavs Hospital HF.

Tromsø: Universitetssykehuset I Nord-Norge HF.

## Poland

Bialystok: Department of Gynecology, Medical Academy of Bialystok; and Center for Reproductive Medicine "Kriobank".

Bytom: 1st Chair&Clin. Obstetrics and Gynecology, Silesian Medical Academy.

Lodz: "Gameta" Fertility Center.

Lublin: "AB OVO," NZOZ Centrum Zdrowia Rodziny.

Poznan: Division of Infertility and Reproductive Endocrinology, Poznan University of Medical Sciences; and Clinic of Infertility "Intermedica".

Szczecin: Clinic for Reproduction and Gynecology, Pomeranian Medical University.

Warsaw: 1st Department of Gynecology and Obstetrics, University Hospital Warsaw; Private Infertility Clinic "Novum"; and Private Gynaecological Clinic of Reproduction "Germen".

## Portugal

Guimarães: Hospital N. S. da Oliveira.

Lisboa: Ava Clinic; CLINDIGO; Hospital de Santa Maria; and Maternidade Dr. Alfredo da Costa.

Oporto: Centro de Genética Prof. Alberto Barros; CETI; and Maternidade Júlio Dinis.

Vila Nova de Gaia: Centro Hospitalar.

## Russia

Astrakhan: Center for Family Planning and Reproduction.

Voroneg: Region Center for Family Planning and Reproduction, IVF Department.

Vladivostok: Medical Center for IVF "Santa Maria".

Vladikavkaz: Region Center for Family Planning and Reproduction.

Ekaterinburg: Center of Family medicine, Center for rehabilitation of infringements of reproductive function.

Krasnoyarsk: Center for Reproductive Medicine.

Moscow: IVF Department of Sechenov Medical Academia; Medical Center for ART; Medical Center "The Medicine;" Center for Family Planning and Reproduction, IVF Department; Center for Infertility Treatment "IVF;" Center "Lera;" Medical clinic of reproduction "MAMA;" Clinic of reproduction "Test tube baby;" Medical Center for Infertility Treatment "Embryon".

Nignekamsk: Center for Family Planning and Reproduction, IVF Department.

Nigny Novgorod: Center for Family Planning and Reproduction.

Novokuzneck: Zone center of perinatology.

Novosibirsk: Medical Center "Avicenna."

Rostov-Don: Center of Human Reproduction and IVF.

Samara: Medical Company "IDK."

Saratov: Region Center for Family Planning and Reproduction.

St. Petersburg: International Center for Reproductive Medicine, Ob/Gyn Ott Institute, Center for Family Planning, Pushkinsky District, Russian Finnish Medical Center "AVA-Peter," Baltic Institute of Human Reproductology.

Tomsk: The Siberian institute of Human reproduction.

Tumen: Center for Reproductive Medicine "Mercury," Medical Center "Malyshev".

Cheboksary: Republican Center for Family Planning and Reproduction, Ministry of Health Chuvashia Republic.

### **Slovenia**

Ljubljana: Department of Obstetrics and Gynecology, Medical Centre Ljubljana.

Maribor: Department of Reproductive Medicine and Gynecologic Endocrinology, Hospital Maribor.

Postojna: Centre for Infertility Treatment, Hospital Postojna.

### **Spain**

Albacete: Complejo Hospitalario de Albacete.

Alicante: Clínica Vista Hermosa de Alicante; Instituto Bernabeu.

America: IVI Almería.

Badajoz: IERA (Clínica Ginecológica González Carrera).

Barcelona: CIRH (Centro de Infertilidad y Reproducción Humana, Dr. Brassesco); Cetre Medic Fuster; FECUNMED; Hospital Clínico; Instituto Dexeus.

Canarias: Centro FIV Ángela Palumbo.

Cordoba: Clinica BAU.

Granada: Hospital Virgen de las Nieves; Clínica Sanabria.

Guipuzcoa: Policlínica de Gipuzkoa.

La Rioja: Hospital San Millán-San Pedro de Logroño; Centro Ginecológico Manzanera.

Madrid: Fundación Jiménez Díaz; Hospital Maternal de La Paz; IVI Madrid; GINEFIV Madrid; FIV Madrid; Clínica Tambre; URH García del Real; Centro de Reproducción Humana; Centro Ginecológico Sojo; Hospital Madrid-Montepíncipe; Inst. Ginec. Y Med Reprod; Dres Ordás y Palomo; Hospital Santa Cristina.

Malaga: Centro de Reproducción Asistida de Marbella.

Mallorca: Instituto Balear de Infertilidad, Fundación Hospital de Manacor.

Menorca: Hospital Verge del Toro.

Murcia: IVI Murcia.

Toledo: Hospital Virgen de la Salud.

Oviedo: CEFIVA; Hospital Central de Asturias.

Valencia: IVI Valencia; Hospital La Fe; IMER.

Vizcaya: Hospital de Cruces de Barakaldo; Hospital de Galdakao; Clinica Euskalduna.

Zaragoza: Hospital Miguel Servet; Clínica Quirón; Clínica Montpellier.

### **Sweden**

Falun: IVF unit, Falun Hospital.

Göteborg: Fertility center, Carlanderska Hospital, Sahlgrenska University Hospital.

Linköping: IVF unit, Linköping University Hospital.

Malmö: Curakliniken, Öresundskliniken

Stockholm: IVF Stockholm; St. Görans Hospital; IVF unit, Huddinge University Hospital; IVF unit, Sophiahemmet; Lucinakliniken; and Reproductive Medicine Center, Karolinska University Hospital.

Umeå: IVF unit, Norrlands Universitetssjukhus.

Uppsala: Carl von Linne Kliniken; and Reproduktionscentrum, Academic Hospital.

Örebro: IVF unit, Örebro University Hospital.

### **Switzerland**

Baden: Reproduktionsmedizinisches Zentrum Kantonsspital.

Basel: IVF-ICSI Zenter Institut Dr. Viollier; and Universitäts-Frauenklinik, Abt. für gynäkologische Endokrinologie und Reproduktionsmedizin.

Bellinzona: ProCrea, Centro Fertilità della Svizzera Italiana.

Bern: Lindenhofspital, IVF-Labor; and Universitäts-frauenklinik, Abt. für Gynäkologie, IVF und Reproduktionsmedizin, Inselspital.

Frauenfeld-Kreuzlingen: IVF Zenter ILAMED.

Genève: Centre Privé de Procréation Médicalement assistée de la Clinique de Champel Elysée; and Hôpital Universitaire, Clinique et Polyclinique de Stérilité et d'Endocrinologie Gynécologique.

Lausanne: CHUV, Unité de Médecine de la Reproduction et d'Endocrinologie Gynécologique; Centre Vanderlick-Montchoisi; and Centre de Procréation Médicalement Assistée: Dr. J. Dequesne.

Locarno: Centro Cantonale di Infertilità, Servizio di Endocrinologia Ginecologica

Luzern: Kantonsspital, Sterilitätssprechstunde Frauenklinik, IVF-ICSI Labor.

Schaffhausen-Zürich: Zentrum für Reproduktionsmedizin, Dr. P Fehr, Dr. Singer.

Winterthur: Dr. R. Köppel.

Zollikerberg: IVF Zürich.

Zürich: Universitätsspital, Klinik für Endocrinologie.



## Ukraine

Donetsk: Donetsk Regional Centre for Maternity and Child Care; Isida-Don IVF; and Ukrainian-french medical Centre of human reproductive function.

Kharkyv: Center for Reproductive Medicine “Implant”.

Kyiv: Institute Genetics Reproduction; Institute of Reproductive Medicine; and Isida IVF.

Odessa: Center for Reproductive Medicine REMEDI.

Simferopol: Regional Center for Family Planning and Human Reproduction.

## United Kingdom

Aberdeen: University of Aberdeen.

Airdrie: Lanarkshire Acute Hospital NHS Trust.

Aldridge: Midland Fertility Services.

Bath: Bath Assisted Conception Clinic.

Belfast: Regional Fertility Centre, Belfast.

Birmingham: Birmingham Women’s Hospital; and BMI Priory Hospital.

Bishop Auckland: Bishop Auckland General Hospital.

Brentwood: Brentwood Fertility Centre.

Bristol: BUPA Hospital Bristol (now closed); Centre for Reproductive Medicine, University of Bristol; New Life Centre; Obstetrics and Gynaecology (Clinical Science at South Bristol); and Southmead Hospital.

Buckhurst Hill: Essex Fertility Centre.

Burton Upon Trent: Burton Hospitals NHS Trust.

Cambridge: Bourn Hall Clinic; and The Rosie Hospital.

Canterbury: BMI The Chaucer Hospital.

Cardiff: Cardiff Assisted Reproduction Unit.

Colchester: Isis Fertility Centre.

Coventry: Centre for Reproductive Medicine, Coventry.

Darlington: Cromwell IVF and Fertility Centre, Darlington.

Derby: Derby City General Hospital.

Dorchester: The Winterbourne Hospital.

Dundee: Ninewells Hospital.

Eastbourne: Esperance Private Hospital.

Edinburgh: Edinburgh Assisted Conception Unit; Edinburgh Assisted Conception Unit; and Western General Hospital NHS Trust (now closed).

Exeter: Peninsular Centre for Reproductive Medicine.

Gateshead: Centre for Assisted Reproduction, Gateshead.

Glasgow: BMI Ross Hall Hospital (now closed); Glasgow Nuffield Hospital, Glasgow Royal Infirmary.

Goreleston on Sea: Subfertility Unit, James Paget Healthcare NHS Trust.

Great Missenden: The Chiltern Hospital Fertility Services Unit

Hartlepool: Hartlepool General Hospital.

Hull: Hull IVF Unit.

Ilford: North East London Fertility Services.

Isleworth: West Middlesex University Hospital (now closed).

Leeds: Assisted Conception Unit, St James’ University Hospital–Leeds; and Clarendon Wing–Leeds.

Leicester: Leicester Royal Infirmary; and Middle England Fertility Centre (now closed).

Liverpool: Hewitt Centre for Reproductive Medicine; and University Hospital Aintree (now closed).

London: Assisted Conception Unit, King’s College Hospital; Assisted Reproduction and Gynaecology Centre; Barts and the London Fertility Centre; Chelsea and Westminster Hospital; Cromwell IVF and Fertility Centre, London; Diana, Princess of Wales Centre for Reproductive Medicine (now closed); Guys Hospital; Homerton University Hospital; London Female And Male Fertility Centre; London Fertility Centre; London Women’s Clinic/Hallam Medical Centre; Louis Hughes; Newham General; Reproductive Medicine Unit–UCL Hospitals NHS Trust; Seymour Clinic (now closed); Shirley Oaks Hospital; The Bridge Centre; The Hammersmith Hospital; The Harley Street Fertility Centre; The Lister Fertility Clinic; The Portland Hospital Fertility Unit (now closed); and University College Hospital London.

Maidstone: Maidstone Fertility Centre (now closed).

Manchester: CARE Manchester; Manchester Fertility Services LTD; Salford Royal IVF and Fertility Centre (now closed); St Mary’s Hospital.

Middlesbrough: Cleveland Gynaecology and Fertility Centre; and The James Cook University Hospital.

Neath: Neath General Hospital.

Newcastle under Lyme: ACU, Lifestyle Sandy Lane Clinic.

Newcastle Upon Tyne: Newcastle Fertility Centre at Life.

Northampton: CARE Northampton.

Nottingham: CARE Nottingham; NURTURE; and Queens Medical Centre Fertility Unit.

Orpington: BMI Chelsfield Park ACU.

Oxford: Oxford Fertility Unit.

Peterborough: The Fertility Unit, Peterborough District Hospital.

Plymouth: South West Centre for Reproductive Medicine.

Sheffield: CARE at The Sheffield Fertility Centre; and Centre for Reproductive Medicine and Fertility, Sheffield.

Shrewsbury: Shropshire and Mid-Wales Fertility Centre.

Southampton: The Princess Anne Hospital Fertility Unit; and Wessex Fertility Limited.

Sunderland: Sunderland Fertility Centre.

Swansea: Cromwell IVF and Fertility Centre, Swansea.

Watford: Watford General Hospital.

Wexham: Willow Suite, Thames Valley Nuffield Hospital.

Wigan: Billinge Hospital.

Wirral: CARE Wirral.

Woking: The Woking Nuffield Hospital.

Wolverhampton: St. Jude's Clinic for Fertility and Gynaecology; and Wolverhampton Assisted Conception Unit (now closed).

## Latin America

### Argentina

Bahía Blanca: FERTISUR-CEGYR Bahía Blanca.

Buenos Aires: Centro de Estudios en Ginecología y Reproducción (CEGYR); Centro de Investigaciones en Medicina Reproductiva (CIMER); Centro de Reproducción, Servicio de Ginecología de Hospital Italiano; Centro de Salud Reproductiva (CER); FECUNDITAS–Instituto Médico Integral de Fertilidad; FERILAB; GENS–Centro Especializado en tratamientos para la mujer; Halitus Instituto Médico; Instituto IMAGEN; PROCREARTE; and Unidad de Fertilidad San Isidro.

Córdoba: Centro Integral de Ginecología, Obstetricia y Reproducción (CIGOR); and Servicio de Ginecología y Biología de la Reproducción, Hospital Italiano de Córdoba.

La Plata: Centro de Reproducción y Planificación Familiar–FERTILEQUIP.

Mendoza: Instituto de Medicina Reproductiva.

Rosario: Centro para la Fertilidad de la Pareja (CEFEP); and Programa de Asistencia Reproductiva (PROAR).

Salta: Centro de Infertilidad, Reproducción y Endocrinología de Salta (CIRES); and Salud Reproductiva Salta (SARESA).

### Bolivia

Santa Cruz: Instituto de Salud Reproductiva; Clínica Bioginecológica Montalvo (previously, Centro de Fertilización, Santa Cruz).

## Brasil

Belém, Pará: Clínica REPRO.

Belo Horizonte, Minas Gerais: Clínica ORIGEN; Clínica Pro-criar Hospital Materdei; Instituto de Saúde da Mulher; and Laboratorio de Reprodução do HC–UFMG.

Brasília, Distrito Federal: Centro de Endoscopia e Assistência a Fertilidade (CENAFERT); GÉNESIS–Centro de Assistência em Reprodução Humana Ltda.; and Setor de Reprodução Humana do Hospital Materno Infantil de Brasília.

Campinas, SP: Centro de Reprodução Humana de Campinas.

Curitiba, Paraná: ANDROLAB–Clínica e Laboratorio de Andrología.

Fortaleza, Ceará: CONCEPTUS–Centro de Reprodução Humana do Ceará.

Goiânia, Goiás: CRAF–Centro de Reprodução Assistida Fêmea Maternidade; and Fértil Diagnósticos–Reprodução Humana.

Londrina, Paraná: CEDILON–Laboratorio de Reprodução Humana.

Passo Fundo, Rio Grande do Sul: GÉNESIS–Clínica de Reprodução Humana.

Porto Alegre: FERTILITAT–Centro de Medicina Reprodutiva; GERAR–Centro de Reprodução Assistida; Hospital das Clínicas de Porto Alegre, Universidade Federal do Rio Grande do Sul; and SEGIR–Serviço de Ecografia, Genética e Reprodução Humana.

Recife, Pernambuco: CIGO–Centro de Fertilização In Vitro.

Ribeirão Preto, SP: Centro Reprodução Humana. Fundação Maternidade de “Sinhá Junqueira” (CRH); and Hospital das Clínicas de Ribeirão Preto.

Rio de Janeiro, RJ: Centro de Medicina da Reprodução Ltda.; and G and O Ginecologia e Obstetricia da Barra.

Salvador, Bahia; and GENESE Reprodução Humana.

Santos, SP: CLINIMATER.

São José do Rio Preto, SP: Centro de Reprodução Humana do São José do Rio Preto; and IMR–Instituto de Medicina Reprodutiva.

São Paulo, SP: CEPERH–Centro de Endoscopia Pelvica e Reprodução Humana; Clínica e Centro de Pesquisa em Reprodução Humana R. Abdelmassih; Centro de Reprodução Assistida, Hospital Pérola Byington (CRSMNADI); Diagnóstico Sonográfico, Divisão de Fertilização Assistida (DIASON); FERTICLIN–Clínica de Fertilização Humana; FERTILITY–Centro de Fertilização Assistida; HUNTINGTON–Centro de Medicina Reprodutiva; PROFERT–Programa de Reprodução Assistida; Unidade de Reprodução Humana do Hospital Israelita Albert Einstein; and UNIFERT–Clínica de Fertilidade Conjugal.

## Chile

Concepción: Centro de Fertilidad y Medicina Reproductiva, Concepción S.A.

Santiago: Programa de Fertilización Asistida, Instituto de Investigaciones Materno Infantil (IDIMI), Universidad de Chile. Hospital Clínico San Borja Arriarán; Centro de Estudios Reproductivos (CER); Clínica Los Domínicos; Unidad de Medicina Reproductiva, Clínica Alemana; Unidad de Medicina Reproductiva, Clínica las Condes; and Unidad de Medicina Reproductiva, Clínica las Nieves.

Viña del Mar: Unidad de Medicina Reproductiva, Clínica Reñaca.

## Colombia

Barranquilla: Instituto de Reproducción Humana PRO-CREAR Ltda.

Bogotá: MEDI FÉRTIL; Unidad de Fertilidad, Procreación Médicamente Asistida Ltda.; and Unidad de Fertilidad del Country Ltda. (CONCEPTUM).

Cali: Centro FECUNDAR Cali; and Centro Médico Imbanaco.

Medellín: IN SER–Instituto Antioqueño de Reproducción.

## Ecuador

Quito: Centro Médico de Fertilidad y Esterilidad (CEMEFES); and CONCEBIR–Unidad de Fertilidad y Esterilidad.

## Guatemala

Ciudad de Guatemala: Centro de Reproducción Humana “CER”.

## Mexico

Ciudad Juárez, Chihuahua: Instituto de Reproducción Humana y Genética.

Guadalajara, Jalisco: Instituto de Ciencias en Reproducción Humana–VIDA (previously, Instituto de Medicina Reproductiva del Occidente); and Centro de Reproducción Asistida del Occidente.

León, Guanajuato: Instituto de Medicina Reproductiva del Bajío (IMER).

Matamoros: Instituto de Ciencias en Reproducción Humana–VIDA.

México, D. F.: Centro Especializado para la atención de la mujer; and Grupo de Reproducción y Genética AGN y Asociados.

Monterrey: CREASIS; and Instituto para el Estudio de la Concepción Humana.

San Luis de Potosí: OBGIN S.C., SLP.

Veracruz: Centro de Diagnóstico Ginecológico.

## Peru

Lima: Clínica Miraflores–Instituto de Ginecología y Fertilidad; and Grupo PRANOR–Instituto de Ginecología y Reproducción.

## Uruguay

Montevideo: Centro de Esterilidad Montevideo (CEM), Clínica del Parque.

Salto: Centro de Reproducción Humana del Interior (CERHIN).

## Venezuela

Caracas: Centro Médico Docente La Trinidad; EMBRIOS, Centro de Fertilidad y Reproducción Humana, Hospital de Clínica Caracas; “GÉNESIS” Unidad de Fertilidad y Reproducción; FERTILAB, Clínica el Avila; and UNIFERTES, Clínica el Avila.

## Middle East

Bahrain: Bahrain Defense Force Hospital

Egypt: Adam International Hospital; Alex Sydney Kiel Center; Alexandria ICSI Center; Assaf Fertility Center; Cairo Fertility Center; Egypt Air Hospital; El-Rowad Alexandria Center; Faris Medical Center; Hawa Mansoura Center; International Fertility Center; International Fertility IVF Center; Mansoura Integrated Fertility Center; Miami Medical Center for IVF and ICSI; Mohsen khairy Center; Nile Badrawy Hospital; Nozha International Hospital; The Egyptian IVF-ET Center; and The Egyptian/German Center for IVF/ICSI.

Jordan: Al-Amal Maternity Hospital; and Farah IVF.

Lebanon: Centre Belego libanaise D’infertilite (CBLI); and Hammoud Hospital.

Saudi Arabia: Bakhsh Hospital; Dr. Samir Abbas Medical Center; King Fahd National Guard Hospital (NGHA); King Faisal Specialist Hospital and Research Centre; and Shorouk Al Hada.

Tunisia: Centre de Medecine de la Reproduction et de Diagnostic Prenatal (CMRCP); and IVF Center Aziza Othmana Hospital.

United Arab Emirates: Abu Dhabi Gyn., Fertility and Genetics Centre.

## North America

### Canada

Alberta: Foothills Regional Fertility Program, Calgary.

British Columbia: University of British Columbia IVF Program, Vancouver; and Genesis Fertility Center, Vancouver.

Manitoba: Heartland Fertility Clinic, Winnipeg.

New Brunswick: Conceptia Clinic, Moncton.

Nova Scotia: Reproductive Endocrine Center, Halifax.

Ontario: London Health Sciences Center, London; Hamilton Health Sciences Center for Reproductive Care, Hamilton; ISIS Regional Fertility Center, Mississauga; Sunnybrook Women’s College Hospital Fertility Center, Toronto; Suc-

cess Through Assisted Reproductive Technology (START), Toronto; Toronto Fertility and Sterility Institute, Toronto; Mt. Sinai Reproductive Biology Unit, Toronto; Toronto Center for Advanced Reproductive Technology (TCART), Toronto; LIFE Program, Toronto; IVF Canada, Scarborough; Markham Fertility Center, Markham; and The Fertility Center at the Ottawa Hospital, Ottawa.

Saskatchewan: Assisted Reproductive Technology at University of Saskatchewan (ARTUS), Saskatoon.

## United States

Alabama: ART Program of Alabama, Birmingham; University of Alabama at Birmingham; Center for Reproductive Medicine, Mobile; and University of South Alabama IVF and ART Program, Mobile.

Arizona: Fertility Treatment Center, Chandler; West Valley Fertility Center, Glendale; Arizona Reproductive Medicine Specialists, Phoenix; Southwest Fertility Center, Phoenix; Arizona Center for Fertility Studies, Scottsdale; Mayo Clinic Scottsdale Center for Reproductive Medicine, Scottsdale; and ART Laboratory, University Physicians, Inc., The University of Arizona, Tucson.

Arkansas: Intravaginal Culture Fertilization Program of Arkansas, Little Rock; and University of Arkansas for Medical Sciences IVF, Little Rock.

California: Garfield Fertility Center, Alhambra; Gil N. Mileikowsky, M.D., Bel Air; Alta Bates In Vitro Fertilization Program, Berkeley; Southern California Reproductive Center, Beverly Hills; West Coast Infertility Medical Clinic, Inc., Beverly Hills; Zouves Fertility Center, Daly City; West Coast Fertility Centers, Fountain Valley; Marin Fertility Medical Group, Greenbrae; Coastal Fertility Medical Center, Inc., Irvine; La Jolla IVF, La Jolla; Reproductive Partners—San Diego, La Jolla; Reproductive Sciences Center, La Jolla; Scripps Clinic Fertility Center, La Jolla; Jane L. Frederick, M.D., Inc., Laguna Hills; Loma Linda University Center for Fertility and IVF, Loma Linda; Reproductive Partners—Long Beach, Long Beach; University of California—Los Angeles, Fertility Center, Los Angeles; University of Southern California, Reproductive Endocrinology and Infertility, Los Angeles; Reproductive Specialty Medical Center, Newport Beach; Southern California Center for Reproductive Medicine, Newport Beach; Northridge Center for Reproductive Medicine, Northridge; IVF—Orange, Orange; Susan P. Willman, M.D., Orinda; Nova In Vitro Fertilization, Palo Alto; Huntington Reproductive Center, Pasadena; Reproductive Partners—Redondo Beach, Redondo Beach; Northern California Fertility Medical Center, Roseville; University of California—Davis, Assisted Reproductive, Sacramento; The Fertility and Gynecology Center, Salinas; Advanced Fertility Institute, San Diego; Fertility Specialists Medical Group, San Diego; IGO Medical Group of San Diego, San Diego; Infertility Clinic, Naval Medical Center, San Diego; Minh N. Ho, M.D., F.A.C.O.G., XPert Fertility Care of California,

San Diego; San Diego Fertility Center, San Diego; ASTARTE Fertility Center, San Francisco; Fertility Associates of the Bay Area, San Francisco; Simon R. Henderson, M.D., San Francisco; San Francisco Fertility Centers, Pacific Fertility Center/San Francisco Center for Reproductive Medicine, San Francisco; University of California—San Francisco, In Vitro Fertilization Program, San Francisco; Fertility Physicians of Northern California, San Jose; Carmelo S. Sgarlata, M.D., San Jose; Reproductive Science Center of the San Francisco Bay Area, San Ramon; Center for Assisted Reproductive Medicine/CFP, Santa Monica; Parker—Rosenman—Rodi GYN and Infertility Medical Group, Santa Monica; Issa M. Shamonki, M.D., Fertility Clinic, Santa Monica; North Bay Fertility Center, Inc., Santa Rosa; Valley Center for Reproductive Health, Sherman Oaks; Stanford University IVF—ART Program, Stanford; The Center for Fertility and Gynecology Vermesh/Ben-Ozer Center for Fertility, Tarzana; The Fertility Institutes, Tarzana; Infertility and Gynecology Institute, Tarzana; Fertility and Surgical Associates of California, Thousand Oaks; Pacific Reproductive Center, Torrance; and San Antonio Fertility Center, Upland.

Colorado: Advanced Reproductive Medicine, Aurora; Colorado Springs Center for Reproductive Health, Colorado Springs; Reproductive Health, Colorado Springs; Reproductive Medicine and Fertility Center of Southern Colorado, Colorado Springs; Colorado Reproductive Endocrinology, Denver; Colorado Center for Reproductive Medicine, Englewood; Rocky Mountain Center for Reproductive Medicine, Fort Collins; and Conceptions Reproductive Associates, Littleton.

Connecticut: The Center for Advanced Reproductive Services, Farmington; Yale University School of Medicine, In Vitro Fertilization Program, New Haven; New England Fertility Institute, Stamford; and The Stamford Hospital, Stamford.

Delaware: Delaware Institute for Reproductive Medicine, P.A., Newark; and Reproductive Associates of Delaware, Newark.

District of Columbia: The A.R.T. Institute of Washington, Inc., Washington; Columbia Hospital for Women ART Program Columbia Fertility Associates, Washington; The George Washington University Medical Faculty Associates, IVF Program, Washington; and James A. Simon, M.D., P.C., Washington.

Florida: Boca Fertility, Boca Raton; Palm Beach Fertility Center, Boca Raton; Advanced Reproductive Care Center, P.A., Boynton Beach; Reproductive Health Associates, Clearwater; University Fertility Associates, Clearwater; F.I.R.S.T., Florida Institute for Reproductive Sciences and Technologies, Cooper City; Southwest Florida Fertility Center, P.A., Fort Myers; Specialists in Reproductive Medicine and Surgery, P.A., Fort Myers; University of Florida/Park Avenue Women's Center, Gainesville; Fertility Institute of Northwest Florida, Gulf Breeze; Assisted Fertility Program



of North Florida, Jacksonville; Florida Institute for Reproductive Medicine, Jacksonville; North Florida Gynecologic Specialists; North Florida Center for Reproductive Medicine, Jacksonville; IVF Florida, Memorial Advanced Fertility Treatment Center, Margate; Fertility and IVF Center of Miami, Inc., Miami; Palmetto Fertility Center of South Florida, Miami; South Florida Institute for Reproductive Medicine, Miami; Women's Healthcare Specialists, IVF Miami, Miami Beach; Center for Infertility and Reproductive Medicine, P.A., Orlando; Reproductive Health Institute, Orlando; Reproductive Medicine and Fertility Center, Orlando; Frank C. Riggall, M.D., P.A., Orlando; University of Florida–Pensacola, Pensacola; Center for Advanced Reproductive Endocrinology, P.A., Plantation; Fertility Institute of South Florida, Plantation; Fertility Center of Sarasota, P.A., Sarasota; Advanced Reproductive Technologies Program at University Community Hospital, Tampa; and Genetics and IVF Institute of Florida; Reproductive Medicine and Genetics, West Palm Beach.

Georgia: Emory Center for Reproductive Medicine and Fertility, Atlanta; Georgia Reproductive Specialists, Atlanta; Reproductive Biology Associates, Atlanta; Augusta Reproductive Biology Associates; Augusta Area Reproductive Associates, Augusta; and Atlanta Center for Reproductive Medicine, Woodstock.

Hawaii: Pacific In Vitro Fertilization Institute, Honolulu.

Idaho: Idaho Center for Reproductive Medicine, Boise.

Illinois: Advanced Institute of Fertility, Arlington Heights; Rush–Copley Center for Reproductive Health, Aurora; Life–Women's Health Center, Berwyn; IVF Lincoln Park, Chicago; Northwestern University, Chicago; Rush Center for Advanced Reproductive Care, Chicago; University of Chicago Hospitals, Chicago; University of Illinois at Chicago IVF Program, Chicago; WaterTower Women's Center, L.L.C., Chicago; Midwest Fertility Center, Downers Grove; Advanced Fertility Center of Chicago, Gurnee; Highland Park IVF Center, Highland Park; Hinsdale Center for Reproduction, Hinsdale; Center for Human Reproduction–Illinois, Hoffman Estates; Reproductive Health Specialists, Ltd., Joliet; Reena Jabamoni, M.D., S.C., Oak Brook; Oak Brook Fertility Center, Oak Brook; Advanced Reproductive Health Centers, Ltd. (ARHC), Orland Park; Lutheran General Hospital IVF Program, Park Ridge; University of Illinois College of Medicine at Peoria, Peoria; Advanced Reproductive Center, Ltd., Rockford; Reproductive Health and Fertility Center, Rockford; Reproductive Endocrinology Associates, S.C., Springfield; Southern Illinois University School of Medicine, Springfield; and Seth Levrant, M.D., P.C., Partners in Reproductive Health, Tinley Park.

Indiana: Associated Fertility and Gynecology, Fort Wayne; Advanced Fertility Group, Indianapolis; Family Beginnings, P.C., Indianapolis; Indiana University Hospital, Dept. of Obstetrics and Gynecology, Indianapolis; Midwest Reproductive Medicine, Indianapolis; Reproductive Endo-

crinology Associates, Indianapolis; Reproductive Surgery and Medicine, P.C., Indianapolis; Center for Assisted Reproduction, South Bend; and Reproductive Care of Indiana, Zionsville.

Iowa: McFarland Clinic, P.C., Assisted Reproduction, Ames; University of Iowa Hospitals and Clinics Center for Advanced Reproductive Care; Obstetrics and Gynecology, Iowa City; and Mid-Iowa Fertility, P.C., West Des Moines.

Kansas: University of Kansas Medical Center, Women's Reproductive Center, Kansas City; IVF Reproductive Services, Manhattan; Reproductive Resource Center of Greater Kansas City, Overland Park; Reproductive Medicine and Infertility, Shawnee Mission; and The Center for Reproductive Medicine, Wichita.

Kentucky: Fertility and Endocrine Associates, Lexington; University of Kentucky, Kentucky Women's Specialists Reproductive Endocrinology and Infertility, Lexington; and University Obstetrics and Gynecology Associates Fertility Center, Louisville.

Louisiana: Fertility and Laser Center, Baton Rouge; Woman's Center for Fertility and Advanced Reproductive Medicine, Baton Rouge; Fertility Clinic, Tulane University Hospital and Clinic, New Orleans; and Center for Fertility and Reproductive Health, Shreveport.

Maryland: Greater Baltimore Medical Center, Fertility Center, Baltimore; Helix Center for ART, Baltimore; University of Maryland Medical School, Center for Advanced Reproductive Technology, Baltimore; Mid Atlantic Fertility Centers, Bethesda; Johns Hopkins Fertility Center, Lutherville; Center for Reproductive Medicine, Rockville; Shady Grove Fertility Reproductive Science Center, Rockville; and Fertility Center of Maryland, Inc., Towson.

Massachusetts: Center for Assisted Reproduction Brigham and Women's Hospital, Boston; Massachusetts General Hospital Vincent IVF Unit, Boston; New England Fertility and Endocrinology Associates, Boston; Fertility Center of New England, Inc. New England Clinic of Reproductive Medicine, Reading; and Baystate IVF, Springfield; Boston IVF, Waltham; and Reproductive Science Center of Boston, Waltham.

Michigan: Women's Hospital, Ann Arbor; Center for Reproductive Medicine and Surgery, P.C., Birmingham; Center for Reproductive Medicine, Dearborn; The Center for Reproductive Medicine, Flint; Grand Rapids Fertility and IVF, P.C., Grand Rapids; Michigan Reproductive and IVF Center, P.C., Grand Rapids; West Michigan Reproductive Institute, P.C., Grand Rapids; Infertility and Gynecology Center of Lansing, P.C., Lansing; Michigan State University, Center for Assisted Reproductive Technology, Lansing; The Center for Reproductive Medicine at Rochester Hills, Rochester Hills; Fakih Institute of Reproductive Science and Technology, Rochester Hills; William Beaumont Fertility Center, Royal Oak; Hutzel Hospital/Wayne State University ART Program; University Women's Care/Wayne State University

ART Program, Southfield; Henry Ford Reproductive Medicine, Troy; Luana J. Kyselka, M.D., Troy; and Ann Arbor Reproductive Medicine Associates, P.C., Ypsilanti.

Minnesota: Center for Reproductive Medicine, Minneapolis; The Midwest Center for Reproductive Health, P.A., Minneapolis; Reproductive Medicine Center, Minneapolis; Mayo Clinic Assisted Reproductive Technologies, Rochester; and Reproductive Medicine and Infertility Associates, P.A., Woodbury.

Mississippi: University of Mississippi Medical Center IVF Program, Dept. of Obstetrics and Gynecology, Jackson; and Women's Specialty Center Mississippi Fertility Institute at Women's Specialty Center, Jackson.

Missouri: Advanced Reproductive Specialists, Chesterfield; Infertility Institute, Chesterfield; Mid-Missouri Center for Reproductive Health, Columbia; University of Missouri Hospital and Clinics, Columbia; Midwest Women's Healthcare, Kansas City; Infertility and IVF Center, St. Louis; The Infertility and Reproductive Medicine Center at Washington University School of Medicine and Barnes-Jewish Hospital, St. Louis; and Infertility Center of St. Louis, St. Louis.

Nebraska: Nebraska Methodist Hospital REI, Omaha.

Nevada: Fertility Center of Las Vegas, Las Vegas; Nevada Fertility C.A.R.E.S., University Institute for Fertility Reproductive; Endocrinology and Surgery, Las Vegas; Sher Institute for Reproductive Medicine, Las Vegas; and The Nevada Center for Reproductive Medicine, Reno.

New Hampshire: Dartmouth-Hitchcock Medical Center, Lebanon.

New Jersey: The Center for Reproductive Endocrinology, Bedminster; Shore Institute for Reproductive Medicine; Shore IVF and Reproductive Medicine, Brick Reproductive Gynecologists, P.C., Cherry Hill; IVF of North Jersey, P.A., Clifton; Center for Advanced Reproductive Medicine and Fertility, Edison; Women's Fertility Center, Englewood; North Hudson I.V.F., Center for Fertility and Gynecology, Englewood Cliffs; Center for Reproductive Medicine at Hackensack University Medical Center, Hasbrouck Heights; Delaware Valley Obstetrics and Gynecology and Infertility Group, Lawrenceville; Princeton Center for Infertility and Reproductive Medicine, Lawrenceville; East Coast Infertility and IVF, P.C., Little Silver; Institute for Reproductive Medicine and Science, Livingston; Cooper Center for In Vitro Fertilization, P.C., Marlton; Delaware Valley Institute of Fertility and Genetics, Marlton; South Jersey Fertility Center, P.A., Marlton; Diamond Institute for Infertility, Millburn; Reproductive Medicine Associates of New Jersey, Morristown; Robert Wood Johnson Medical School-IVF Program, New Brunswick; IVF New Jersey, Somerset; Dr. Louis R. Manara, Voorhees; and Fertility Institute of New Jersey, Westwood.

New Mexico: Center for Reproductive Medicine of New Mexico, Albuquerque; and Southwest Fertility Services, Albuquerque.

New York: Albany IVF, Fertility and Gynecology, Albany; Leading Institute for Fertility Enhancement (L.I.F.E.), Albany; Brooklyn IVF, Brooklyn; Genesis Fertility, Brooklyn; Montefiore Fertility and Hormone Center; Montefiore's Institute for Reproductive Medicine and Health, Dobbs Ferry; Garden City Center for Advanced Reproductive Technologies, Garden City; North Shore University Hospital, Center for Human Reproduction, Manhasset; Reproductive Science Associates, Mineola; Advanced Fertility Services, New York; Brooklyn Fertility Center, New York; Columbia Presbyterian Medical Center, Center for Women's Reproductive Care at Columbia University, New York; Nabil Husami, M.D., New York; Obstetrics and Gynecology Associates of St. Luke's Roosevelt Hospital, New York; MacLeod Laboratory, New York; Medical Offices for Human Reproduction Center for Human Reproduction (CHR), New York; Dr. Lillian D. Nash, New York; New York Fertility Institute, New York; Offices for Fertility and Reproductive Medicine, P.C., New York; Program for In Vitro Fertilization, Reproductive Surgery and Infertility, New York; University School of Medicine, New York; Weil Medical College of Cornell University, The Center for Reproductive Medicine and Infertility, New York; The Capital Region Genetics and IVF Center, Niskayun; Long Island IVF Associates, Port Jefferson; Institute for Reproductive Health and Infertility, Rochester; Strong Fertility and Reproductive Science Center, Rochester; Infertility and IVF Medical Associates of Western New York, Snyder; Health Science Center, State University of New York at Stony Brook, Stony Brook; CNY Fertility Center, Syracuse; Westchester Fertility and Reproductive Endocrinology, White Plains; and Reproductive Medicine/IVF, Williamsville.

North Carolina: North Carolina Center for Reproductive Medicine, The Talbert Fertility Institute, Cary; University of North Carolina A.R.T. Clinic, Chapel Hill; Institute for Assisted Reproduction, Charlotte; Program for Assisted Reproduction, Carolinas Medical Center, Charlotte; The Fertility Center at Northeast Medical Center, Concord; Duke University Medical Center, Division of Reproductive Endocrinology and Infertility, Dept. of Obstetrics and Gynecology, Durham; East Carolina University, Women's Physicians, Greenville; and Wake Forest University Program for Assisted Reproduction, Dept. of Obstetrics and Gynecology, Winston-Salem.

North Dakota: MeritCare Medical Group-Fertility Center, Fargo.

Ohio: Fertility Unlimited, Inc., Akron; Reproductive Gynecology, Akron; Bethesda Center for Reproductive Health and Fertility, Cincinnati; Center for Reproductive Health, Cincinnati; MetroHealth Medical Center, Fertility Clinic, Cleveland; Ohio Reproductive Medicine, Ohio State University, Columbus; Miami Valley Hospital Fertility Center, Dayton; Kettering Reproductive Medicine, Kettering; Fertility Center of Northwestern Ohio, Toledo; and The Reproductive Center, Youngstown.

Oklahoma: Center for Reproductive Health, P.C., Oklahoma City; Henry G. Bennett Jr., Fertility Institute, Oklahoma City; and Tulsa Center for Fertility and Women's Health, Tulsa.

Oregon: Northwest Fertility Center, Portland; Portland Center for Reproductive Medicine, Portland; and University Fertility Consultants, Portland.

Pennsylvania: Toll Center for Reproductive Sciences at Abington Memorial Hospital; Abington Reproductive Medicine, P.C., Abington; Infertility Solutions, P.C., Allentown; Reproductive Endocrinology and Infertility Specialists, Allentown; Reprotect, Inc., IVF Program, Allentown; Family Fertility Center, Bethlehem; IVF Marrero, Bridgeville; Main Line Fertility and Reproductive Medicine, Ltd., Bryn Mawr; Geisinger Medical Center Fertility Program, Danville; Milton S. Hershey Medical Center, Hershey; Jenkintown Reproductive Endocrine and Gynecology Associates, P.C., Jenkintown; Northern Fertility and Reproductive Associates, P.C., Meadowbrook; Pennsylvania Reproductive Associates Women's Institute for Fertility, Endocrinology and Menopause, Philadelphia; Thomas Jefferson IVF Program, Philadelphia; University of Pennsylvania, Philadelphia; Reproductive Health Specialists, Inc., Pittsburgh; University of Pittsburgh Physicians Magee Women's Hospital, Pittsburgh; Women's Clinic, Ltd., Reading; Reproductive Endocrinology and Fertility Center, Upland; Reproductive Science Institute of Suburban Philadelphia, Wayne; and Fertility and Gynecology Associates, Willow Grove.

Puerto Rico: Dr. Pedro J. Beauchamp, Dr. Arturo Cadilla, Bayamon; Centro De Fertilidad Del Caribe, Rio Piedras; and GREFI—Gynecology, Reproductive Endocrinology and Fertility Institute, Santurce.

Rhode Island: Women and Infants' IVF Program, Providence.

South Carolina: Reproductive Endocrinology and Infertility, Greenville; and Southeastern Fertility Center, P.A., Mount Pleasant.

South Dakota: University Physicians Fertility Specialists, Sioux Falls.

Tennessee: Center for Reproductive Medicine and Fertility, Chattanooga; Appalachian Fertility and Endocrinology Center, Kingsport; East Tennessee IVF, Fertility and Andrology Center, Knoxville; The Center for Reproductive Health, Nashville; and Nashville Fertility Center, Nashville.

Texas: Dr. Harold W. Brumley, Austin; Texas Fertility Center, Austin; Dr. Jeffrey Youngkin, Austin Fertility Center, Austin; Center for Assisted Reproduction, Bedford; Trinity In Vitro Fertilization Program, Carrollton; North Texas Reproductive Medicine, Coppell; Baylor Center for Reproductive Health, Dallas; National Fertility Center of Texas, P.A., Dallas; Presbyterian Hospital Arts Program, Dallas; University of Texas, Southwestern Fertility Associates, Dallas; The Women's Place, Dallas; Baylor Assisted

Reproductive Technology, Houston; Center for Women's Health, Houston; Cooper Institute for Advanced Reproductive Medicine, Houston; North Houston Center for Reproductive Medicine, P.A., Houston; Obstetrical and Gynecological Associates, Houston; Advanced Reproductive Care Center of Irving, Irving; Wilford Hall Medical Center, Lackland AFB; The Centre for Reproductive Medicine, Lubbock; Fertility Center of San Antonio, San Antonio; Fertility Concepts, San Antonio; Institute for Women's Health, Advanced Fertility Laboratory, San Antonio; South Texas Fertility Center, University of Texas Health Science Center, San Antonio; and Center of Reproductive Medicine, Webster.

Utah: Reproductive Care Center, Salt Lake City; and Utah Center for Reproductive Medicine, Salt Lake City.

Vermont: Vermont Center for Reproductive Medicine, University of Vermont—IVF Program, Burlington.

Virginia: Fertility and Reproductive Health Center, Anandale; Dominion Fertility and Endocrinology, Arlington; University of Virginia ART Program, Charlottesville; Jones Institute for Reproductive Medicine, Norfolk; Lifesource Fertility Center, Richmond; Medical College of Virginia, Virginia Commonwealth University IVF/GIFT; IVF/Assisted Reproduction Program, Richmond; The Richmond Center for Fertility and Endocrinology, Ltd., Richmond; and The New Hope Center for Reproductive Medicine, Virginia Beach.

Washington: Washington Center for Reproductive Medicine, Bellevue; Bellingham IVF, Bellingham; Olympia Women's Health, Olympia; Pacific Gynecology Specialists, Seattle; University of Washington, Fertility and Endocrine Center, Seattle; Virginia Mason Center for Fertility and Reproductive Endocrinology, Seattle; The Center for Reproductive Endocrinology and Fertility Northwest Obstetrics and Gynecology, Spokane; and GYFT Clinic, P.L.L.C., Tacoma.

West Virginia: Center for Reproductive Medicine, West Virginia, Charleston.

Wisconsin: Family Fertility Program, Appleton Medical Center, Appleton; Gundersen/Lutheran Medical Center Reproductive Endocrinology and Fertility Center, La Crosse; University of Wisconsin—Madison, Infertility and Women's Endocrine Service Women's Endocrine Clinic, Madison; Advanced Institute of Fertility, Milwaukee; Reproductive Specialty Center, IVF Columbia, Milwaukee; and Women's Health Care, S.C., Waukesha.

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2. International Working Group for Registers on Assisted Reproduction, prepared by Cohen J, de Mouzon J, Lancaster P. World collaborative report on in vitro fertilization, 1991. Presented at the 8<sup>th</sup> World Congress on In Vitro and Assisted Reproduction. Kyoto, Japan. September 12–15, 1993. Congress Booklet.



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