

# Assisted reproductive technology in Europe, 2004: results generated from European registers by ESHRE

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**BACKGROUND:** European results of assisted reproductive techniques from treatments initiated during 2004 are presented in this eighth report. **METHODS:** Data were mainly collected from existing national registers. From 29 countries, 785 clinics reported 367 066 treatment cycles including: IVF (114 672), ICSI (167 192), frozen embryo replacement (FER, 71 997), egg donation (ED, 10 334), preimplantation genetic diagnosis/screening (PGD/PGS, 2701) and *in vitro* maturation (IVM, 170). Overall, this represents only a marginal increase since 2003, due to a huge reduction in treatments in Germany. European data on intrauterine insemination using husband/partner's semen (IUI-H) and donor semen (IUI-D) were reported from 20 countries. A total of 115 980 cycles (IUI-H, 98 388; IUI-D, 17 592) were included. **RESULTS:** In 14 countries where all clinics reported to the IVF register, a total of 248 937 ART cycles were performed in a population of 261.6 million, corresponding to 1095 cycles per million inhabitants. For IVF, the clinical pregnancy rates per aspiration and per transfer were 26.6% and 30.1%, respectively. For ICSI, the corresponding rates were 27.1% and 29.8%. After IUI-H, the clinical pregnancy rate was 12.6% in women below 40. After IVF and ICSI, the distribution of transfer of 1, 2, 3 and 4 or more embryos was 19.2%, 55.3%, 22.1% and 3.3%, respectively. Compared with 2003, fewer embryos were transferred, but huge differences still existed between countries. The distribution of singleton, twin and triplet deliveries after IVF and ICSI combined was 77.2%, 21.7% and 1.0%, respectively. This gives a total multiple delivery rate of 22.7% compared with 23.1% in 2003 and 24.5% in 2002. After IUI-H in women below 40 years of age, 11.9% were twin and 1.3% triplet gestations. **CONCLUSIONS:** Compared with earlier years, the reported number of ART cycles in Europe increased and the pregnancy rates increased marginally, even though fewer embryos were transferred and the multiple delivery rates were reduced.

**Keywords:** European Society of Human Reproduction and Embryology; IVF; ICSI; intrauterine insemination; register data

## Introduction

This report is the eighth annual European Society of Human Reproduction and Embryology (ESHRE) publication on European data on assisted reproduction technology (ART). The seven previous reports, also published in *Human Reproduction* (ESHRE, 2001a,b, 2002, 2004, 2005, 2006, 2007), covered treatment cycles from 1997 to 2003.

Data have been collected from 29 European countries on ART covering IVF, ICSI, frozen embryo replacement (FERs), egg donation (EDs), *in vitro* maturation (IVM) and pooled data on preimplantation genetic diagnosis (PGD) and screening (PGS) during 2004. Data on intrauterine inseminations using husband/partner's semen (IUI-H; 19 countries)

and donor semen (IUI-D; 15 countries) were also included. According to the International Committee for Monitoring ART-World Health Organization (ICMART-WHO) definitions (World Health Organization, 2002; Zegers-Hochschild 2006a,b) IUI-H and IUI-D should not be classified as ART. However, the European IVF Monitoring (EIM) Consortium has decided to continue to include the IUI activity in the annual reports. The reasons for this are that IUI is common, contributes to fertility-related births and predisposes to risks such as multiple pregnancy. They also involve the use of donor gametes. Finally, accreditation of all clinics according to the new European Union Tissue and Cell Directive includes all clinics that perform IUI (Directive, 2004).

**Table I.** ART in European countries in 2004.

Country	IVF clinics in the country		Treatment cycles						
	Clinics	Clinics reporting	IVF	ICSI	FER	ED	IVM	PGD	All
Albania	2	1	51	72	0	0	0	0	123
Austria	25	25	1220	3284					4504
Belgium	18	18	4053	9741	4802	513		650	19 759
Bulgaria	14	7	488	440	53	22	0	0	1003
Denmark	21	21	5575	4023	1853	67			11 518
Finland	18	18	2926	1835	3434	872	96	41	9204
France	100	100	23 926	31 291	14 069	264		196	69 746
Germany	120	120	12 211	26 613	17 989				56 813
Greece	49	16	2793	5425	1115	381	0	96	9810
Hungary	11	6	688	1905	256	28	0	1	2878
Iceland	1	1	107	127	73	9	0	0	316
Ireland	7	6	1267	847	466	0	0		2580
Italy	218	133	7313	16 398	2388				26 099
Latvia	3	3	88	50	44	2	0	0	184
Lithuania	3	1	45	38		0	0	0	83
Macedonia	2	2	299	222	1	0	0	0	522
Norway	10	10	2799	2337	942	0	0	0	6078
Poland	24	16	578	3097	1278	104	2	0	5059
Portugal	19	17	848	1643	368	24	0	21	2904
Russia C.I.S.	44	40	8595	3457	1755	944	34	87	14 872
Serbia and Montenegro	12	1	27	154		2	4		187
Slovenia	3	3	695	1405	567	19	34	5	2725
Spain	182	84	5173	22 308	7312	4801		1362	40 956
Sweden	15	15	4887	4706	3205	73			12 871
Switzerland	20	19	664	2481	2573				5718
The Netherlands	13	13	9178	6119				69	15 366
Turkey	78	4	28	3444	67	0	0	36	3575
Ukraine	15	11	1078	427	38	59		30	1632
UK	74	74	17 072	13 303	7349	2150		107	39 981
All	1121	785	114 672	167 192	71 997	10 334	170	2701	367 066

For Austria, Belgium, Germany, Iceland, Lithuania and Portugal, 'treatment cycles' for IVF and ICSI refer to aspirations. FER refers to thawings, but for Latvia, it refers to transfers. ED refers to cycles where eggs were donated or to a cycle where donor eggs resulted in embryo transfer in a recipient. For Belgium, preimplantation genetic diagnosis (PGD) refers to transfers. IVM: *in vitro* maturation.

The annual meeting with the EIM Consortium was held at the ESHRE meeting in Lyon in July 2007 with representatives from the participating countries. The present and future reporting systems were discussed. The Czech Republic and Croatia were unable to provide data for 2004, but Albania and Turkey joined the consortium and provided data. The Turkish

data available are collected by the organization of private IVF centres and covered 4 out of 78 clinics. However, the Turkish Ministry of Health also has a register, and this may for the coming years contribute to the EIM programme. The consortium stressed that efforts should be made to have better coverage in the Balkan and Eastern European countries.

**Table II.** ART in those countries where all clinics reported to the national register in 2004.

Country	Cycles	Population	Females of reproductive age <sup>a</sup>	Cycles/million	Cycles/thousand females of reproductive age	ART deliveries	ART infants	National births	ART infants (%)
Austria	4504	8 174 762	1 968 000	551	2	233	304	72 755	0.4
Belgium	19 109	10 348 276	2 438 000	1847	8	2320	2596	109 588	2.4
Denmark	11 518	5 413 392	1 215 000	2128	9	2152	2616	62 741	4.2
Finland	9204	5 214 512	1 188 000	1765	8	1562	1589	55 065	2.9
France	69 746	60 424 213	14 306 000	1154	5	10 460	12 664	745 634	1.7
Germany	56 813	75 212 900	19 412 000	755	3	8458	10 270	643 822	1.6
Iceland	316	293 906	50 000	1075	6	64	81	4065	2.0
Latvia	184	2 306 306	564 000	80	0	27	33	20 457	0.2
Macedonia	522	2 071 210	510 000	252	1	59	78	27 216	0.3
Norway	6078	4 574 560	1 058 000	1329	6	1219	1512	54 392	2.8
Slovenia	2725	2 011 473	490 000	1355	6	522	611	17 902	3.4
Sweden	12 871	8 986 400	1 980 000	1432	7	2545	2711	93 998	2.9
The Netherlands	15 366	16 318 199	3 854 000	942	4			186 191	
UK	39 981	60 270 708	14 335 000	663	3	8338	10 301	655 745	1.6
All	248 937	261 620 817	63 368 000	1095	4			2 749 571	

Data refer to IVF, ICSI, FER and ED combined.

<sup>a</sup>Numbers of the year 2005.

**Table III.** Size of the IVF clinics reporting to the register in 2004.

Country	IVF clinics in the country				Size of clinics (cycles per year)							
	All	Reporting	<100	%	100–199	%	200–499	%	500–1000	%	>1000	%
Albania	2	1	0	0	1	100	0	0	0	0	0	0
Austria <sup>a</sup>	25	25										
Belgium	18	18	1	6	1	6	1	6	7	39	8	44
Bulgaria	14	7	3	43	2	29	2	29	0	0	0	0
Denmark	21	21	0	0	5	24	5	24	7	33	4	19
Finland	18	18	1	6	2	11	9	50	4	22	2	11
France	100	100	9	9	10	10	30	30	34	34	17	17
Germany	120	120	20	17	21	17	37	31	20	16	22	18
Greece	49	16	1	6	2	12	8	50	3	18	2	12
Hungary	11	6	0	0	0	0	5	83	1	16	0	0
Iceland	1	1	0	0	0	0	1	100	0	0	0	0
Ireland	7	6	2	33	0	0	2	33	1	17	1	17
Italy	218	133	53	40	34	26	36	27	7	5	3	2
Latvia	3	3	1	33	1	33	1	33	0	0	0	0
Lithuania	3	1	1	100	0	0	0	0	0	0	0	0
Macedonia	2	2	1	50	0	0	1	50	0	0	0	0
Norway	10	10	0	0	1	10	3	30	4	40	2	20
Poland	24	16	6	37	3	19	6	37	1	6	0	0
Portugal	19	17	5	29	7	41	4	23	1	6	0	0
Russia C.I.S.	44	40	9	22	8	20	10	25	10	25	3	7
Serbia and Montenegro	12	1	0	0	1	100	0	0	0	0	0	0
Slovenia	3	3	0	0	0	0	0	0	1	33	2	67
Spain	182	84	16	19	16	19	32	38	11	13	9	11
Sweden	15	15	1	7	0	0	4	27	6	40	4	27
Switzerland	20	19	4	21	5	26	6	32	3	16	1	5
The Netherlands	13	13	0	0	0	0	1	8	4	31	8	61
Turkey	78	4	0	0	0	0	1	25	1	25	2	50
Ukraine	15	11	5	45	3	27	3	27	0	0	0	0
UK	74	74	6	8	8	11	29	40	20	27	11	15
All	1096	760	145	19	131	17	237	31	146	19	101	13

<sup>a</sup>Data from Austria are not included in the total.

To that end an ESHRE–EIM workshop was held in Sofia during September 2007.

The consortium noted that the quality of data continues to vary between countries. In some large southern European countries, there was scope for improvement in terms of the proportion of clinics providing data: Spain (84/182, 46%), Greece (16/49, 33%) and Italy (133/218, 61%). In Italy, a mandatory national data collection programme is now established, and both Spain and Greece will follow soon.

In 2004, data collection systems, coverage, definitions and validation still differed between countries. However, since the ESHRE Consortium meeting in Madrid 2003, it was decided that in the coming years the EIM Consortium members should continue to adapt to the definitions listed by the ICMART as originally published in the WHO report (World Health Organization, 2002), and now in *Human Reproduction* (Zegers-Hochschild *et al.*, 2006a) and *Fertility and Sterility* (Zegers-Hochschild *et al.*, 2006b).

The Consortium decided to continue to present annual reports and to try to improve the quality of the reports.

## Materials and Methods

### Data collection

The present report summarizes data from ART treatments, including IVF, ICSI, ED, FER, PGD/PGS, IVM and IUI-H and IUI-D started between the 1st of January 2004 and the 31st of December 2004.

Follow-up data on pregnancies and deliveries are cohort data. For IUI only pregnancies, and not deliveries, were recorded. The number of clinics reporting IUI data may differ from the number of clinics presenting data on the *in vitro* techniques.

As it is evident from the tables, registers from a number of countries have been unable to provide some of the data.

The reporting principle used for 2004 data is basically similar to the preceding years (ESHRE, 2001a,b, 2002, 2004, 2005, 2006, 2007).

As the data presented here are incomplete and generated through different methods using different definitions in different countries, interpretation of the data must be done with some caution.

## Results

### Number of treatment cycles

Table I shows the number of all treatment cycles recorded in each country, the number of clinics in the country and the number of clinics reporting to the register. The cycles are subdivided into treatment modalities such as IVF, ICSI, FER, ED, IVM and PDG/PGS. In Austria, Belgium, Germany, Iceland, Lithuania and Portugal, the number of oocyte recoveries was used, as the number of initiated cycles was not available. Totally, 785 clinics from 29 countries reported 367 066 cycles.

The proportion of IVF (114 672) and ICSI (167 192) cycles was 40.7% IVF versus 59.3% ICSI. The proportion of FER cycles compared with 'fresh' cycles were 71 997/281 864 (25.5%).

**Table IV.** Age distribution (years) of women treated with IVF and ICSI in 2004.

Country	IVF (%)					ICSI (%)				
	≤29	30–34	35–39	40–44	≥45	≤29	30–34	35–39	40–44	≥45
Albania	31.4	27.5	33.3	7.8	0.0	29.2	27.8	30.6	9.7	2.8
Austria										
Belgium	22.0	37.5	27.7	12.5	0.4	25.4	35.6	27.4	11.2	0.5
Bulgaria	26.1	42.0	21.8	8.4	1.6	26.9	40.4	26.7	5.5	0.5
Denmark	20.6	36.2	30.6	11.9	0.8	25.2	39.4	26.9	8.0	0.5
Finland	22.8	31.6	32.0	13.7	0.0	24.2	35.1	31.1	9.1	0.4
France	14.3	36.3	33.9	15.2	0.3	22.0	39.5	27.9	10.4	0.2
Germany	14.7	32.4	40.6	11.6	0.7	17.6	34.6	37.3	9.9	0.6
Greece	13.1	26.7	39.3	17.5	3.5	12.0	29.0	37.2	17.4	4.4
Hungary	21.2	39.5	24.9	13.1	1.4	29.6	33.3	26.8	8.9	1.3
Iceland	19.6	31.8	34.6	14.0	0.0	21.3	33.1	30.7	15.0	0.0
Ireland	5.3	23.9	48.1	22.0	0.6	12.9	30.2	43.5	13.2	0.2
Italy	9.5	29.5	40.0	18.6	2.4	11.9	29.1	37.5	18.5	2.9
Latvia	22.7	31.8	25.0	18.2	2.3	16.0	46.0	32.0	4.0	2.0
Lithuania	11.1	37.8	26.7	17.8	6.7	23.7	36.8	28.9	7.9	2.6
Macedonia	18.9	31.3	35.6	12.1	2.1	23.3	28.8	30.4	16.3	1.3
Norway	17.4	42.9	31.4	8.3	0.0	21.3	41.0	31.0	6.7	0.0
Poland	22.0	46.5	24.6	6.4	0.5	22.9	41.7	24.2	10.1	1.1
Portugal	15.1	44.8	33.5	6.5	0.1	19.6	40.7	30.0	8.9	0.7
Russia C.I.S.	26.0	39.4	23.9	8.7	1.9	28.0	35.7	22.5	11.3	2.5
Serbia and Montenegro	9.5	14.3	28.6	47.6	0.0	9.1	26.6	41.6	16.9	5.8
Slovenia	19.6	36.5	32.2	11.7	0.0	17.7	35.6	29.1	17.4	0.1
Spain	7.6	34.5	45.2	12.2	0.7	9.6	36.4	42.6	10.7	0.6
Sweden	12.8	35.0	37.8	14.4	0.0	16.5	35.3	36.8	11.4	0.0
Switzerland	8.6	31.0	44.1	15.2	1.2	13.5	32.1	40.2	13.7	0.6
The Netherlands										
Turkey	10.7	60.7	25.0	3.6	0.0	31.8	33.2	24.7	9.7	0.6
Ukraine	29.1	36.9	27.5	6.4	0.1	37.9	33.5	18.5	9.6	0.5
UK	10.8	31.8	40.9	15.5	1.0	14.4	34.6	37.7	12.7	0.6
All	17.1	35.2	32.9	13.7	1.0	20.9	35.0	31.6	11.3	1.2

Austria and The Netherlands: no data available. For Finland in eight women, the age was missing. Data for women aged 45 years or more are included in the age group of 40–44 years. For France, it was estimated from the Fivnat register. For Germany, data were missing in two cycles. For Italy, the age was not reported in 503 IVF cycles and 383 ICSI cycles. For Russia, the age was missing in 403 IVF, 146 ICSI and 13 egg donation cycles. For the UK, data were missing in 17 IVF cycles, 20 ICSI cycles and 1 egg donation cycle. The age distribution of women receiving ED was known in 59 548 cases (<29 years 16.5%, 30–34 years 34.4%, 35–39 years 30.2%, 40–44 years 16.0% and >45 years 2.8%).

Table II shows data from those 14 countries where all clinics have reported to the register. The number of cycles is related to the total population in the country as well as to the number of females of reproductive age (15–49 years). Additionally, the number of infants born after ART is expressed as a percentage of the total number of live-born in the country. Overall, 248 937 cycles were undertaken in a population of 261.6 million, giving a mean of 1095 cycles per million. On average, 4 cycles per 1000 women of reproductive age were done. The proportion of infants born after ART in the 14 countries ranged from 0.2% to 4.2%.

#### Size of the clinics

Table III shows the size distribution of the 785 reporting clinics. The size of a clinic (or unit) is based on all cycles performed per year.

The distribution of clinics according to the number of cycles varies considerably among the countries. Among the larger countries, it could be noted that in Italy 40% of the clinics provided fewer than 100 cycles annually, whereas in Belgium 44% of the clinics performed more than 1000 cycles a year.

To what extent these variations may influence results cannot be estimated from the present report.

#### Age distribution

Table IV shows the age distribution of those women treated with IVF or ICSI in various countries.

#### Number of embryos transferred

Table V shows the number of embryos transferred after IVF and ICSI combined. The total number of single embryo transfers (SETs) was 43 219 (19.2%), dual embryo transfers (DETs) 124 797 (55.3%), triple embryo transfers 49 843 (22.1%) and four or more embryo transfers 7511 (3.3%). As indicated in this table, major differences were seen between countries. In 2004, several countries reported an increase of SETs. The highest levels were found in Finland (47%), Belgium (49%) and Sweden (67%). The proportion of triple embryo transfers was 0.1% in Sweden to 50% in Lithuania. Transfer of four or more embryos ranged from zero in several countries to 33.2% in Turkey.

#### Pregnancies and deliveries after treatment

Tables VI–IX show the number of pregnancies and deliveries in relation to the number of initiated cycles, aspirations and transfers, for IVF (Table VI), ICSI (Table VIII), FER (Table VIII) and ED (Table IX).

**Table V.** Number of embryos transferred after IVF and ICSI in 2004.

Country	All transfers	1 embryo	%	2 embryos	%	3 embryos	%	4+ embryos	%
Albania	102	10	9.8	22	21.6	22	21.6	48	47.1
Austria	4315	632	14.6	2743	63.6	878	20.3	62	1.4
Belgium	12 787	6247	48.9	5379	42.1	972	7.6	189	1.5
Bulgaria	855	64	7.5	240	28.1	419	49.0	132	15.4
Denmark	7795	2134	27.4	5259	67.5	402	5.2	0	0.0
Finland	4176	1953	46.8	2191	52.5	11	0.3	0	0.0
France	43 821	7689	17.5	25 917	59.1	8176	18.7	2039	4.7
Germany	35 951	4176	11.6	22 029	61.3	9746	27.1	0	0.0
Greece	6953	1005	14.5	1640	23.6	2788	40.1	1520	21.9
Hungary	2334	175	7.5	651	27.9	1055	45.2	453	19.4
Iceland	199	42	21.1	132	66.3	25	12.6	0	0.0
Ireland (Rep.)	1705	134	7.9	1330	78.0	218	12.8	23	1.3
Italy	18 521	3382	18.3	5989	32.3	8983	48.5	167	0.9
Latvia	120	23	19.2	64	53.3	33	27.5	0	0.0
Lithuania	76	9	11.8	13	17.1	38	50.0	16	21.1
Macedonia	407	86	21.1	124	30.5	151	37.1	46	11.3
Norway	4554	1161	25.5	3377	74.2	16	0.4	0	0.0
Poland	3344	433	12.9	2170	64.9	661	19.8	80	2.4
Portugal	2257	335	14.9	1272	56.5	600	26.7	43	1.9
Russia C.I.S.	10 904	1436	13.2	5194	47.6	3049	28.0	1214	11.1
Serbia and Montenegro	126	29	23.0	18	14.3	32	25.4	47	37.3
Slovenia	1787	474	26.5	1090	61.0	223	12.5	0	0.0
Spain	21 085	2798	13.3	10 500	49.8	7787	36.9	0	0.0
Sweden	8135	5486	67.4	2642	32.5	7	0.1	0	0.0
Switzerland	2752	344	12.5	1782	64.8	525	19.1	3	0.1
The Netherlands <sup>a</sup>	12 474								
Turkey	3015	277	9.2	551	18.3	1185	39.3	1002	33.2
Ukraine	1339	233	17.4	283	21.1	396	29.6	427	31.9
UK	26 092	2452	9.4	22 195	85.1	1445	5.5	0	0.0
All	225507	43 219	19.2	124797	55.3	49 843	22.1	7511	3.3

Data restricted to those transfers where the number of embryos transferred is known. Finland: no data available for 16 IVF cycles and 5 ICSI cycles. Portugal: no data available for 7 ICSI cycles. Russia: no data available for 7 IVF cycles and 4 ICSI cycles, Switzerland: no data available for 5 IVF cycles and 93 ICSI cycles.

<sup>a</sup>Total excludes transfers from The Netherlands and Norway as the number of embryos transferred is not known for these countries.

Table VI shows that after IVF, 27 845 pregnancies resulted from 104 739 aspirations and 92 355 embryo transfers. Thus, the mean clinical pregnancy rate was 26.6% per aspiration and 30.1% per embryo transfer.

Table VII shows that after ICSI, 42 040 pregnancies resulted from 154 857 aspirations and 141 276 transfers. Thus, the mean clinical pregnancy rate was 27.1% per aspiration and 29.8% per embryo transfer.

Table VIII shows that after FER, 12 275 pregnancies resulted from 64 147 transfers. Thus, the mean clinical pregnancy rate per embryo transfer after FER was 19.1%.

Table IX shows that after ED, 3707 clinical pregnancies resulted from 9296 embryo transfers, giving a clinical pregnancy rate per transfer of 39.8%.

In Tables VI, VII, VIII and IX, the delivery rates per embryo transfer have not been summarized due to incomplete or absence of follow-up of pregnancies in many countries.

#### **Preimplantation genetic diagnosis/screening**

PGD/PGS activity was recorded from 12 countries, as indicated in Table I: totally it involved two thousand seven hundred and one cycles, 1691 aspirations, 1849 embryo transfers, 789 pregnancies (42.7% per transfer) and 331 deliveries.

#### ***In vitro maturation***

IVM was recorded in five countries: Finland (96 cycles), Poland (2 cycles), Russia (34 cycles), Serbia and Montenegro (4 cycles) and Slovenia (34 cycles). The 170 cycles resulted in 17 (10%) pregnancies.

#### ***Singleton, twin, triplet and quadruplet deliveries***

Table X shows the deliveries after IVF and ICSI in relation to singleton, twin and triplet deliveries. The distribution of the deliveries was: singleton 34 846 (77.2%), twin 9 790 (21.7%) and triplet 438 (1.0%).

Table XI shows deliveries after FER in relation to singleton, twin and triplet deliveries. It is seen that the distribution of the deliveries was: singleton 6625 (84.8%), twin 1142 (14.6%) and triplet 36 (0.5%).

#### ***Risks and fetal reductions***

Table XII presents the incidence of ovarian hyperstimulation syndrome (OHSS) recorded from registers in 25 of the 29 countries. It is seen that 2858 cases of OHSS were recorded. The number of IVF and ICSI cycles in those 25 countries were 242 472, corresponding to a risk of OHSS of 1.2% of all stimulated cycles. Other complications are seen in the table.

Table XII also gives data on the number of recorded fetal reductions. In total, 526 fetal reductions were recorded.

**Table VI.** Pregnancies and deliveries after IVF in 2004.

Country	Cycles	Aspirations	Transfers	Clinical pregnancies	Deliveries	Pregnancies per cycle (%)	Pregnancies per aspiration (%)	Pregnancies per transfer (%)	Deliveries per cycle (%)	Deliveries per aspiration (%)	Deliveries per transfer (%)
Albania	51	51	45	11	4	21.6	21.6	24.4	7.8	7.8	8.9
Austria		1220		367	233		30.1			19.1	
Belgium		4053	3707	870	549		21.5	23.5		13.5	14.8
Bulgaria	488	467	443	108	76	22.1	23.1	24.4	15.6	16.3	17.2
Denmark	5575	5299	4466	1479	1144	26.5	27.9	33.1	20.5	21.6	25.6
Finland	2926	2849	2530	676	530	23.1	23.7	26.7	18.1	18.6	20.9
France	23 926	21 749	18 365	4938	3756	20.6	22.7	26.9	15.7	17.3	20.5
Germany		12 211	10 920	3139	2003		25.7	28.7		16.4	18.3
Greece	2793	2662	2391	862	416	30.9	32.4	36.1	14.9	15.6	17.4
Hungary	688	639	609	201	145	29.2	31.5	33.0	21.1	22.7	23.8
Iceland		107	89	28	23		26.2	31.5		21.5	25.8
Ireland (Rep.)	1267	1079	979	298	233	23.5	27.6	30.4	18.4	21.6	23.8
Italy	7313	6233	5372	1396	866	19.1	22.4	26.0	11.8	13.9	16.1
Latvia	88	85	76	31	14	35.2	36.5	40.8	15.9	16.5	18.4
Lithuania		45	39	11	5		24.4	28.2		11.1	12.8
Macedonia	299	283	229	75	46	25.1	26.5	32.8	15.4	16.3	20.1
Norway	2799	2692	2452	790	655	28.2	29.3	32.2	23.4	24.3	26.7
Poland	578	550	494	182	94	31.5	33.1	36.8	16.3	17.1	19.0
Portugal		848	763	246	168		29.0	32.2		19.8	22.0
Russia C.I.S.	8595	8281	7700	2641	1524	30.7	31.9	34.3	17.7	18.4	19.8
Serbia/Montenegro	27	11	2	2		7.4	18.2	100.0			
Slovenia	695	656	582	181	142	26.0	27.6	31.1	20.4	21.6	24.4
Spain	5173	4537	3599	1441	657	27.9	31.8	40.0	12.7	14.5	18.3
Sweden	4887	4490	4050	1355	1069	27.7	30.2	33.5	21.9	23.8	26.4
Switzerland	664	645	605	169	124	25.5	26.2	27.9	18.7	19.2	20.5
The Netherlands	9178	8273	7258	2450		26.7	29.6	33.8			
Turkey	28	23	21	11	11	39.3	47.8	52.4	39.3	47.8	52.4
Ukraine	1078	1023	947	261	205	24.2	25.5	27.6	19.0	20.0	21.6
UK	17 072	14 898	13 622	3993	3500	23.4	26.8	29.3	20.5	23.5	25.7
All		104 739 <sup>a</sup>	92 355	27 845 <sup>a</sup>			26.6	30.1			

The recording of deliveries is incomplete, see Table X. Data on initiated cycles not available for Austria, Belgium, Germany, Iceland, Lithuania and Portugal. Data on transfers are not available for Austria. Data on deliveries are not available for Serbia and Montenegro and The Netherlands. For Greece in 140 pregnancies, no further data were available. For Russia in 611 pregnancies, no further data were available.

<sup>a</sup>Total excludes aspirations and clinical pregnancies from Austria, as the set of data was incomplete. Note that the recording of deliveries is incomplete due to loss of follow-up in several countries.

### *Intrauterine inseminations*

Table XIII gives data on IUI-H divided in female age groups below 40 years (upper panel) and 40 years or more (lower panel). For France, no stratification for age was available, and the overall results are included in the group below 40 years of age.

In women below 40 years of age, 94 100 treatments resulted in 11 866 pregnancies giving a pregnancy rate per procedure of 12.6%. In women at 40 years or above, the corresponding figures were 4288%, 350% and 8.2%.

In women below 40, singleton, twin and triplet pregnancies accounted for 86.6%, 11.9% and 1.3% of the pregnancies, respectively, whereas in women above 40 the corresponding figures were 89.3%, 10.4% and 0.3%.

Table XIV gives data on IUI-D divided in female age groups below 40 years (upper panel) and 40 years or more (lower panel). For France, no stratification for age was available, and the overall results are included in the group below 40 years of age.

In women below 40 years of age, 15 882 treatments resulted in 2965 pregnancies giving a pregnancy rate per insemination of 18.7%. In women at 40 years or above, the corresponding figures were 1710%, 143% and 8.4%.

In women below 40, singleton, twin and triplet pregnancies accounted for 88.0%, 11.1% and 0.8% of the pregnancies, respectively, whereas in women above 40, the corresponding figures were 91.4%, 7.1% and 1.4%.

### *Cumulative delivery rates*

Table XV gives an estimation of the cumulative delivery rates per initiated fresh stimulated cycle. This is not the real cumulative delivery rate per couple, but shows the number of deliveries obtained from the FER cycles added to the deliveries from the stimulated cycles during the same year. Additionally, the table shows the rate of multiple deliveries after FER and stimulated cycles combined.

### *Comments*

The present report is the eighth consecutive, annual European report on ART data. Together, these reports cover treatment cycles from 1997 to 2004. It can be argued that as long as data are incomplete, generated through different methods of data collection and still using partly different definitions, the data should not be summarized, as it occurs in this report.

**Table VII.** Pregnancies and deliveries after ICSI in 2004.

Country	Cycles	Aspirations	Transfers	Clinical pregnancies	Deliveries	Pregnancies per cycle (%)	Pregnancies per aspiration (%)	Pregnancies per transfer (%)	Deliveries per cycle (%)	Deliveries per aspiration (%)	Deliveries per transfer (%)
Albania	72	59	57	14	6	19.4	23.7	24.6	8.3	10.2	10.5
Austria		3284		953			29.0				
Belgium		9741	9045	1944	1253		20.0	21.5		12.9	13.9
Bulgaria	440	318	412	148	135	33.6	46.5	35.9	30.7	42.5	32.8
Denmark	4023	3915	3329	1084	836	26.9	27.7	32.6	20.8	21.4	25.1
Finland	1835	1798	1646	457	356	24.9	25.4	27.8	19.4	19.8	21.6
France	31 291	28 443	25 456	6758	5205	21.6	23.8	26.5	16.6	18.3	20.4
Germany		26 613	25 031	7113	4696		26.7	28.4		17.6	18.8
Greece	5425	5189	4562	1664	818	30.7	32.1	36.5	15.1	15.8	17.9
Hungary	1905	1859	1725	594	459	31.2	32.0	34.4	24.1	24.7	26.6
Iceland		127	110	35	30		27.6	31.8		23.6	27.3
Ireland (Rep.)	847	758	726	211	161	24.9	27.8	29.1	19.0	21.2	22.2
Italy	16 398	14 735	13 149	3430	2140	20.9	23.3	26.1	13.1	14.5	16.3
Latvia	50	49	44	20	8	40.0	40.8	45.5	16.0	16.3	18.2
Lithuania		38	37	10	5		26.3	27.0		13.2	13.5
Macedonia	222	206	178	26	13	11.7	12.6	14.6	5.9	6.3	7.3
Norway	2337	2260	2102	568	446	24.3	25.1	27.0	19.1	19.7	21.2
Poland	3097	3042	2850	1005	748	32.5	33.0	35.3	24.2	24.6	26.2
Portugal		1643	1494	405	309		24.7	27.1		18.8	20.7
Russia C.I.S.	3457	3375	3204	1057	585	30.6	31.3	33.0	16.9	17.3	18.3
Serbia/Montenegro	154	149	124	44		28.6	29.5	35.5			
Slovenia	1405	1360	1205	372	302	26.5	27.4	30.9	21.5	22.2	25.1
Spain	22 308	19 778	17 486	6425	3161	28.8	32.5	36.7	14.2	16.0	18.1
Sweden	4706	4492	4085	1211	958	25.7	27.0	29.6	20.4	21.3	23.5
Switzerland	2481	2279	2147	563	404	22.7	24.7	26.2	16.3	17.7	18.8
The Netherlands	6119	5686	5216	1801		29.4	31.7	34.5	0.0	0.0	0.0
Turkey	3444	3254	2994	1327	559	38.5	40.8	44.3	16.2	17.2	18.7
Ukraine	427	416	392	114	99	26.7	27.4	29.1	23.2	23.8	25.3
UK	13 303	13 275	12 470	3640	3247	27.4	27.4	29.2	24.4	24.5	26.0
All		154 857	141 276	42 040			27.1	29.8			

The recording of deliveries is incomplete, see Table X. Data on initiated cycles not available for Austria, Belgium, Germany, Iceland and Lithuania and Portugal. Data on transfers are not available for Austria. Data on deliveries are not available for Austria, Serbia and Montenegro and The Netherlands. For Greece in 227 pregnancies, no further data were available. For Russia in 282 pregnancies, no further data were available. Note that the recording of deliveries is incomplete due to loss of follow-up in several countries.

Therefore, the focus should primarily be on specific country data rather than on summary data.

In 2004, the number of countries reporting to ESHRE's EIM Consortium increased to 29 countries covering the whole of Western Europe. In Eastern and South Eastern Europe, no data were available from countries such as Bosnia, Croatia, the Czech Republic, Romania and Slovakia.

Compared with 2003, the number of cycles in Germany showed a dramatic fall from 102 426 to only 56 813. This occurred following a more restrictive re-imburement policy, introduced in January 2004, providing strong evidence that the re-imburement policy for ART has a major impact on the accessibility and use of these treatments. Data from the German register ([www.deutsches-ivf-register.de](http://www.deutsches-ivf-register.de)) include 2005, and show that this decline was not reversible, as the number of ART treatments remained much lower in 2005 than in 2002 and 2003.

Despite the declining activity in Germany, the number of reported cycles reached 367 066 in 2004, marginally more than the 365 103 cycles recorded in 2003. Additionally, the present report includes 116 000 IUI cycles.

Within Europe, the largest number of cycles from a single country were reported from France (70 000), Germany (57 000), Spain (41 000) and the UK (40 000). In comparison,

the American Society for Reproductive Medicine/Society for Assisted Reproductive Technology registry reported close to 128 000 cycles from the USA in 2004 (Wright *et al.*, 2007).

We still do not have a complete European set of data, as the present report only includes around 70% of all centres in the reporting countries. However, we believe that those clinics that do not report are likely to be smaller in size than those that do report. In southern Europe, a number of countries still in 2004 had a low coverage among the clinics (Greece 33%; Spain 46% and Italy 61%). In Italy, reporting became mandatory in 2004, but this was not fully implemented. In Greece, a statutory IVF register is going to be established, and the number of reporting clinics from Spain is growing.

The average number of treatment cycles per million inhabitants was 1095 with a range from 80 in Latvia to 2128 in Denmark (Table II). Another way to define the availability of ART is that four treatment cycles were done per 1000 women of reproductive age (15–49 years).

The proportion of ICSI versus standard IVF procedures continues to increase (49% in 2001; 52% in 2002; 55% in 2003 and 59% in 2004). A similar increase has been observed in the USA where the percentage of ICSI cycles reached 57.5% in 2004 (Jain and Gupta, 2007). Interestingly, the percentage of diagnosis of infertility attributed to male-factor conditions remained

**Table VIII.** Pregnancies and deliveries after FER (IVF and ICSI combined) in 2004.

Country	Thawings	Transfers	Clinical pregnancies	Deliveries	Pregnancies per thawing (%)	Pregnancies per transfer (%)	Deliveries per thawing (%)	Deliveries per transfer (%)
Albania	0	0	0	0				
Austria								
Belgium	4802	3825	510	394	10.6	13.3	8.2	10.3
Bulgaria	53	45	8	4	15.1	17.8	7.5	8.9
Denmark	1853	1384	256	158	13.8	18.5	8.5	11.4
Finland	3434	3037	715	518	20.8	23.5	15.1	17.1
France	14 069	12 072	1983	1424	14.1	16.4	10.1	11.8
Germany	17 989	17 043	2947	1759	16.4	17.3	9.8	10.3
Greece	1115	1081	334	182	30.0	30.9	16.3	16.8
Hungary	256	248	78	58	30.5	31.5	22.7	23.4
Iceland	73	73	17	9	23.3	23.3	12.3	12.3
Ireland (Rep.)	466	406	105	71	22.5	25.9	15.2	17.5
Italy	2388	2201	407	260	17.0	18.5	10.9	11.8
Latvia	44	44	7	5	15.9	15.9	11.4	11.4
Lithuania		7	1	0		14.3		0.0
Macedonia	1	1	0		0.0			
Norway	942	829	164	124	17.4	19.8	13.2	15.0
Poland	1278	1166	209	111	16.4	17.9	8.7	9.5
Portugal	368	330	58	29	15.8	17.6	7.9	8.8
Russia C.I.S.	1755	1564	337	194	19.2	21.5	11.1	12.4
Serbia/Montenegro								
Slovenia	567	532	92	76	16.2	17.3	13.4	14.3
Spain	7312	4475	1229	537	16.8	27.5	7.3	12.0
Sweden	3205	2696	686	498	21.4	25.4	15.5	18.5
Switzerland	2573	2408	446	317	17.3	18.5	12.3	13.2
The Netherlands		2023	425			21.0		
Turkey	67	65	6	2	9.0	9.2	3.0	3.1
Ukraine	38	29	11	11	28.9	37.9	28.9	37.9
UK	7349	6563	1244	1072	16.9	19.0	14.6	16.3
All		64 147	12 275			19.1		

The recording of deliveries is incomplete, see Table XI. Data on the number of thawings are not available for Austria, Lithuania, Serbia and Montenegro and The Netherlands. Data on transfers and pregnancies are not available for Austria and The Netherlands. Data on deliveries are not available for Austria, Macedonia, Serbia and Montenegro and The Netherlands. For Greece in 21 pregnancies, no further data were available. For Russia in 66 pregnancies, no further data were available.

Note that the recording of deliveries is incomplete due to loss of follow-up in several countries.

stable in the USA, but a high use of ICSI was related to states with insurance coverage. Also in Europe, there is a marked variation between countries. The possible explanations for the increased use of ICSI and the variability between countries should be further analysed.

The number of embryos transferred in IVF and ICSI cycles differed substantially between countries, also in this report, but there is a clear trend during the years of observation towards transfers with fewer embryos. The mean percentage of SETs increased from 12.0% in 2001 to 13.7% in 2002, to 15.7% in 2003 and to 19.1% in 2004. The proportion of DETs has been stable during the last 3 years, but the proportion of three (22.1%) and four (3.3%) embryo transfers continued to decrease in 2004. In conclusion, the reduction in the number of embryos transferred continued in 2004.

This report is unable to define the number of elective SET (eSET) versus SET, but the rise in the number of transfers of one embryo is undoubtedly due to a rise in eSET. As seen in Table V, there were six countries that reported transfer of a single embryo in more than 25% of all transfers. The highest rates were in Finland (47%), Belgium (49%) and Sweden (67%).

The consistent trend towards transfer of fewer embryos is also reflected in the overall occurrence of multiple deliveries after IVF and ICSI. In 2000, the average multiple delivery

rate was 26.9%, declining to 25.5% in 2001, to 24.5% in 2002, to 23.1% in 2003 and to 22.7% in 2004. During the 8 year period of EIM reporting the most remarkable finding regarding multiples has been the reduction in triplet deliveries from 3.6% in 1997, to 2.3% in 1998, 2.3% in 1999, 1.9% in 2000, 1.5% in 2001, 1.3% in 2002, 1.1% in 2003 and 1.0% in 2004. Still, however, huge differences in triplet rates exist between countries.

When analysing the range of multiple delivery rates in different countries, the number of fetal reductions should also be considered. A total of 526 procedures were reported, the largest numbers coming from France (106), the UK (92), Greece (84) and Spain (83). For 2004, the German data were not available. Without this intervention, the proportion of triplet deliveries would certainly have been higher, considering that a number of countries did not report on fetal reductions, and the fact that the number reported is higher than the number of recorded triplet deliveries that was 438 after IVF/ICSI and 36 after FER.

Pregnancy rates for IVF, ICSI and FER were marginally increased compared with 2003. For IVF, the mean pregnancy rate per transfer was 30.1% compared with 29.6% in 2003. For ICSI, the mean pregnancy rate was 29.8% compared with 28.7% in 2003. For FER, it was 19.1% compared with



**Table IX.** Pregnancies and deliveries after ED in 2004.

Country	Donation	Transfers	Clinical pregnancies	Deliveries	Pregnancies per donation (%)	Pregnancies per transfer (%)	Deliveries per donation (%)	Deliveries per transfer (%)
Albania	0	0	0	0				
Austria								
Belgium	513	477	81	73	15.8	17.0	14.2	15.3
Bulgaria	22	21	4	3	18.2	19.0	13.6	14.3
Denmark	67	58	22	14	32.8	37.9	20.9	24.1
Finland	872	820	216	152	24.8	26.3	17.4	18.5
France	264	231	67	48	25.4	29.0	18.2	20.8
Germany								
Greece	381	269	107	83	28.1	39.8	21.8	30.9
Hungary	28	28	10	9	35.7	35.7	32.1	32.1
Iceland	9	8	2	2	22.2	25.0	22.2	25.0
Ireland (Rep.)	0	0	0	0				
Italy								
Latvia	2	2	1	0	50.0	50.0	0.0	0.0
Lithuania	0	0	0	0				
Macedonia	0	0	0	0				
Norway	0	0	0	0				
Poland	104	100	33	17	31.7	33.0	16.3	17.0
Portugal	24	21	12	8	50.0	57.1	33.3	38.1
Russia C.I.S.	944	910	322	205	34.1	35.4	21.7	22.5
Serbia/Montenegro	2	2	0	0	0.0	0.0	0.0	0.0
Slovenia	19	17	3	2	15.8	17.6	10.5	11.8
Spain	4801	4219	2190	1151	45.6	51.9	24.0	27.3
Sweden	73	97	28	20	38.4	28.9	27.4	20.6
Switzerland								
The Netherlands								
Turkey	0	0	0	0				
Ukraine	59	57	27	23	45.8	47.4	39.0	40.4
UK	2150	1959	582	502	27.1	29.7	23.3	25.6
All	10 334	9296	3707	2312	35.6	39.6		

The recording of deliveries is incomplete. For Greece in 2 pregnancies, no further data were available. For Russia in 56 pregnancies, no further data were available.

Note that the recording of deliveries is incomplete due to loss of follow-up in several countries.

18.6% in 2003. The figures from Europe remain lower than in the USA where 41.5% (fresh embryos) and 35.1% (FER transfers) of ART transfers resulted in a pregnancy (Wright *et al.*, 2007). However, the multiple birth rates in the USA were also considerably higher at 34% after fresh transfers and 28% after FER transfers.

With a noticeable decline in the number of embryos transferred, the cumulative delivery rate per started cycle may be a most relevant end-point for ART. Table XV gives a calculation of cumulative delivery rates, but it should be stressed that this does not represent the true cumulative delivery rate per cycle and per couple, but only gives an estimation based on fresh and FER cycles done during the same year. In a steady-state situation, this calculation will give a rather good estimate of the true cumulative delivery rate. An example of expressing outcomes in this manner is data from Finland where the delivery rate per fresh cycle was 18.6%, the cumulative delivery rate after frozen replacement of embryos reached 29.5%, with an overall multiple delivery rate of 12.3%. For Sweden, the delivery rate increased from 21.1% to 26.3% per started cycle, with only 6.5% multiple deliveries. In the UK, the corresponding rates for live births were 22.2% and 25.7%, and the multiple delivery rates were 23.1%. In conclusion, the FER cycles add a considerable number of deliveries in some countries.

PGD/PGS activity was recorded from 12 countries, as indicated in Table I: totally it involved 2051 cycles, 1691 aspirations, 1849 embryo transfers, 789 pregnancies (42.7% per transfer) and 331 deliveries.

Altogether, 2051 cycles with PGD/PGS were reported, compared with 1956 in 2003. ESHRE has a specially focused and more comprehensive reporting on PGD by the sixth ESHRE PGD Consortium report, which included a total of 2984 cycles in 2003. The two reporting systems are different, as the PGD Consortium bases their reports on detailed data from individual clinics. A comparison indicates that the number of PGD cycles reported to the National registers, only include around two thirds of the total activity (Sermon *et al.*, 2007).

Regarding direct risks of ART, OHSS was recorded in 1.2% of cycles, and during 2004 a total of four maternal deaths were recorded. We do not have data regarding the causes of these tragic events.

For the third consecutive year, the present report includes European data on treatments with IUI-H (98 388 cycles) and IUI-D (17 592 cycles). The coverage of IUI activities by the national registers is much less comprehensive than for the *in vitro* techniques. In women below 40 years of age, the pregnancy rate was 12.6% for IUI-H and 18.7% for IUI-D. In women at 40 years or above, the corresponding figures were 8.2% and 8.4%.

**Table X.** Singleton, twin, triplet and quadruplet deliveries after IVF and ICSI in 2004.

Country	All deliveries	Clinical pregnancies	Documented pregnancy loss	Lost to follow-up	Singleton deliveries	%	Twin deliveries	%	Triplet deliveries	%
Albania	10	25	15	0	7	70.0	3	30.0	0	0.0
Austria	233	1349			165	70.8	65	27.9	3	1.3
Belgium	1802	2814			1614	89.6	184	10.2	4	0.2
Bulgaria	210	256	36	9	149	71.0	54	25.7	7	3.3
Denmark	1980	2563	338	245	1557	78.6	416	21.0	7	0.4
Finland	886	1133	245	2	768	86.7	114	12.9	4	0.5
France <sup>a</sup>	8961	11 696	2735	36 <sup>a</sup>	6911	77.1	1966	21.9	48	0.5
Germany	6699	10 252	2422	1131	5239	78.2	1386	20.7	74	1.1
Greece	1234	2526	280	1012	837	67.8	378	30.6	19	1.5
Hungary	604	795	160	31	386	63.9	199	32.9	19	3.1
Iceland	53	63	10	0	41	77.4	10	18.9	2	3.8
Ireland (Rep.)	393	509	110	5	302	76.8	89	22.6	2	0.5
Italy	3006	4826	945	875	2305	76.7	640	21.3	61	2.0
Latvia	22	34	7	5	16	72.7	6	27.3	0	0.0
Lithuania	10	21	6	5	6	60.0	3	30.0	1	10.0
Macedonia	59	84	24	1	42	71.2	15	25.4	2	3.4
Norway	1100	1358	246	25	828	75.3	255	23.2	3	0.3
Poland	842	1187	142	203	650	77.2	181	21.5	11	1.3
Portugal	477	651	142	32	358	75.1	113	23.7	6	1.3
Russia C.I.S.	2109	3698	603	986	1542	73.1	525	24.9	42	2.0
Serbia/Montenegro										
Slovenia	444	553	100	13	360	81.1	77	17.3	3	0.7
Spain	3818	7866	1283	2765	2790	73.1	959	25.1	69	1.8
Sweden	2027	2566	526		1912	94.3	114	5.6	1	0.0
Switzerland	528	732	155	49	410	77.7	112	21.2	6	1.1
The Netherlands										
Turkey	570	1337	166	602	346	60.7	207	36.3	17	3.0
Ukraine	304	375	69	2	193	63.5	106	34.9	5	1.6
UK	6747	7633	779	107	5112	75.8	1613	23.9	22	0.3
All	45 128	66 902			34 846	77.2	9790	21.7	438	1.0

A total of three quadruplet deliveries were recorded. These were not included in the table or in the total number of deliveries. Deliveries refer to those deliveries with documented number of infants. For Austria and Belgium, no numbers on pregnancy loss and loss for follow-up were reported. No data are available for Serbia and Montenegro and The Netherlands.

<sup>a</sup>France: for all 'lost to follow up' cases there was delivery, but no details could be reported.

After IUI-H in women below 40 years of age, twin pregnancies occurred in 11.9% and triplet pregnancies in 1.3%. The data suggest that the twinning rates are only half of what is found with the *in vitro* techniques, but triplet rates are marginally higher.

In summary, the present eighth ESHRE report on ART for Europe in 2004 shows a continuing expansion of numbers of participating clinics, countries and treatment cycles reported. Pregnancy rates after IVF, ICSI and FER were all marginally increased compared with 2003, but fewer embryos were transferred and multiple delivery rates continued to decline accounting for 21.7% of all deliveries after IVF and ICSI. eSET had a considerable impact in Belgium, Finland and Sweden and several other countries transferred a single embryo in more than 25% of cycles. This transfer policy is now documented, on a national basis, to reduce multiple delivery rates after transfer of fresh embryos. The multiple delivery rates after IVF and ICSI were 5.6% in Sweden, 10.4% in Belgium and 13.3% in Finland. Twin gestations seem to be much less frequent after IUI-H and IUI-D compared with IVF and ICSI.

### Supplementary Data

Supplementary data, listing all clinics providing data, are available at <http://humrep.oxfordjournals.org/>.

### Appendix

EIM Committee: Chairman, A. Nyboe Andersen; Chairman elect, J. de Mouzon; Past chairman K. G. Nygren; members, S. Bhattacharya, R. Felberbaum, A. P. Ferraretti, V. Goossens is scientific officer at ESHRE Central Office, Brussels. See below for contact persons representing the data collection programmes in the participating European countries and Supplementary data for contributing centres. Contact persons representing data collection programmes in participating European countries, 2004.

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**Table XI.** Singleton, twin, triplet and quadruplet deliveries after FER in 2004.

Country	All deliveries	Clinical pregnancies	Documented pregnancy loss	Lost to follow-up	Singleton deliveries	%	Twin deliveries	%	Triplet deliveries	%
Albania										
Austria										
Belgium	394	510			336	85.3	57	14.5	1	0.3
Bulgaria	4	8	4	0	3	75.0	1	25.0	0	0.0
Denmark	158	256	60	38	127	80.4	29	18.4	2	1.3
Finland	518	715	191	6	463	89.4	54	10.4	1	0.2
France <sup>a</sup>	1424	1983	559	10 <sup>a</sup>	1212	85.1	197	13.8	5	0.4
Germany	1759	2947	818	370	1494	84.9	252	14.3	13	0.7
Greece	182	334	45	107	147	80.8	34	18.7	1	0.5
Hungary	58	78	20	0	44	75.9	14	24.1	0	0.0
Iceland	9	17	8	0	7	77.8	2	22.2	0	0.0
Ireland (Rep.)	71	105	29	5	60	84.5	11	15.5	0	0.0
Italy	260	407	98	49	226	86.9	32	12.3	2	0.8
Latvia	5	8	1	2	5	100.0	0	0.0	0	0.0
Lithuania	0	1	1	0	0		0		0	
Macedonia	0	0								
Norway	124	164	40	0	97	78.2	26	21.0	1	0.8
Poland	111	209	44	54	98	88.3	12	10.8	1	0.9
Portugal	29	58	20	9	19	65.5	10	34.5	0	0.0
Russia C.I.S.	194	337	72	71	157	80.9	36	18.6	1	0.5
Serbia/Montenegro										
Slovenia	76	92	14	2	70	92.1	6	7.9	0	0.0
Spain	537	1229	291	401	430	80.1	101	18.8	6	1.1
Sweden	498	686	187		450	90.4	47	9.4	1	0.2
Switzerland	317	446	105	24	269	84.9	48	15.1	0	0.0
The Netherlands										
Turkey	2	6	3	1	0	0.0	2	100.0	0	0.0
Ukraine	11	11	0	0	11	100.0	0	0.0	0	0.0
UK	1072	1244	146	26	900	84.0	171	16.0	1	0.1
All	7813	11 851			6625	84.8	1142	14.6	36	0.5

Deliveries refer to those deliveries with documented number of infants. For Austria and Belgium no numbers on pregnancy loss and loss for follow up were reported. No data are available for Albania, Austria, Serbia and Montenegro and The Netherlands.

<sup>a</sup>France: for all 'lost to follow up' cases there was delivery, but no details could be reported.

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**Table XII.** Complications and fetal reductions in 2004.

Country	OHSS	All complications to oocyte retrieval	Bleeding	Infection	Maternal death	Fetal reduction
Albania	2	0	0	0	0	0
Austria						
Belgium	175	232	19	27	1	
Bulgaria	22	9	8	1	0	2
Denmark						
Finland	49	21	5	13	1	0
France	297	309	10	299	0	106
Germany	232	273	271	2	0	<sup>a</sup> NA
Greece	43	0	3	0	0	84
Hungary	29	6	6	0	0	15
Iceland	3	0	0	0	0	0
Ireland (Rep.)	10	0	0	0	0	
Italy	170	90	87	3	1	
Latvia	5	2	2	0	0	0
Lithuania	1	0	0	0	0	0
Macedonia	9	3	3	0	0	6
Norway	53	8	5	3	0	
Poland	62	10	10	0	0	0
Portugal	19	3	1	2	0	
Russia C.I.S.	700	42	40	2	0	47
Serbia and Montenegro	4					3
Slovenia	16	2	1	1	0	2
Spain	276	26	43	8	1	83
Sweden						0
Switzerland	11	0	0	0	0	0
The Netherlands						
Turkey	10	4	4	0	0	77
Ukraine	29	0	0	0	0	9
UK	631	85	2	1		92
All	2858	1125	520	362	4	526

<sup>a</sup>For 2004 the German data on fetal reductions are uncertain for technical reasons, and therefore not reported. OHSS: ovarian hyperstimulation syndrome.

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**Table XIII.** Intrauterine insemination with husband semen in 2004.

Country	Cycles	Pregnancies	Pregnant (%)	Singleton	%	Twin	%	Triplet	%
Women <40 years									
Albania	28	3	10.7	3	100.0	0	0.0	0	0.0
Austria									
Belgium									
Bulgaria	465	69	14.8	65	94.2	4	5.8	0	0.0
Denmark	7774	1173	15.1	936	79.8	149	12.7	28	2.4
Finland									
France	48 513	5679	11.7	4994	87.9	653	11.5	32	0.6
Germany									
Greece	969	176	18.2	147	83.5	24	13.6	2	1.1
Hungary	1578	204	12.9	176	86.3	26	12.7	2	1.0
Iceland									
Ireland (Rep.)	688	88	12.8	65	73.9	10	11.4	2	2.3
Italy	9621	1128	11.7	946	83.9	149	13.2	33	2.9
Latvia	76	6	7.9	5	83.3	1	16.7	0	0.0
Lithuania	190	12	6.3	11	91.7	0	0.0	0	0.0
Macedonia	493	33	6.7	29	87.9	3	9.1	1	3.0
Norway	409	46	11.2	32	69.6	4	8.7	0	0.0
Poland	1736	273	15.7	228	83.5	44	16.1	1	0.4
Portugal	961	126	13.1	72	57.1	10	7.9	3	2.4
Russia C.I.S.									
Serbia and Montenegro	107	12	11.2	12	100.0		0.0		0.0
Slovenia	465	40	8.6	38	95.0	2	5.0	0	0.0
Spain	18 469	2518	13.6	2173	86.3	298	11.8	41	1.6
Sweden									
Switzerland									
The Netherlands									
Turkey	332	44	13.3	27	61.4	13	29.5	4	9.1
Ukraine	1226	236	19.2	230	97.5	6	2.5	0	0.0
UK									
All	94 100	11 866	12.6	10 189	86.8	1396	11.9	149	1.3
Women >40 years									
Albania	4	0	0.0	0		0		0	
Austria									
Belgium									
Bulgaria	41	2	4.9	2	100.0	0	0.0	0	0
Denmark	390	25	6.4	22	88.0	3	12.0	0	0
Finland									
France									
Germany									
Greece	128	8	6.3	8	100.0	0	0.0	0	0
Hungary	79	5	6.3	5	100.0	0	0.0	0	0
Iceland									
Ireland (Rep.)	116	8	6.9	6	75.0	2	25.0	0	0
Italy	2246	180	8.0	160	88.9	20	11.1	0	0
Latvia	4	0	0.0	0		0		0	
Lithuania	0	0		0		0		0	
Macedonia	42	3	7.1	2	66.7	1	33.3	0	0
Norway									
Poland	105	8	7.6	8	100.0	0	0.0	0	0
Portugal	57	5	8.8	2	40.0	0	0.0	0	0
Russia C.I.S.									
Serbia and Montenegro	42	1	2.4	1	100.0		0.0		0
Slovenia	4	0	0.0	0		0		0	
Spain	998	104	10.4	93	89.4	10	9.6	1	1.0
Sweden									
Switzerland									
The Netherlands									
Turkey	0	0		0		0		0	
Ukraine	32	1	3.1	1	100.0	0	0.0	0	0
UK									
All	4288	350	8.2	310	89.3	36	10.4	1	0.3

For France all treatments are classified as being in women <40 years, because of lack of age stratification. Distribution of singleton versus multiple gestations is based on deliveries.

**Table XIV.** Intrauterine insemination with donor semen in 2004.

Country	Cycles	Pregnancies	Pregnant (%)	Singleton	%	Twin	%	Triplet	%
Women <40 years									
Albania	0	0		0		0		0	
Austria									
Belgium									
Bulgaria	231	31	13.4	28	90.3	3	9.7	0	0.0
Denmark	1433	257	17.9	223	86.8	32	12.5	2	0.8
Finland									
France	3349	621	18.5	534	86.0	85	13.7	2	0.3
Germany									
Greece	171	46	26.9	37	80.4	9	19.6	0	0.0
Hungary	116	27	23.3	22	81.5	5	18.5	0	0.0
Iceland									
Ireland (Rep.)	130	30	23.1	24	80.0	2	6.7	0	0.0
Italy									
Latvia	76	10	13.2	8	80.0	2	20.0	0	0.0
Lithuania	0	0		0		0		0	
Macedonia	0								
Norway	457	80	17.5	58	72.5	10	12.5	0	0.0
Poland	434	90	20.7	78	86.7	12	13.3	0	0.0
Portugal	194	46	23.7	28	60.9	4	8.7	0	0.0
Russia C.I.S.									
Serbia and Montenegro									
Slovenia	18	4	22.2	2	50.0	1	25.0	0	0.0
Spain	4292	928	21.6	795	85.7	117	12.6	14	1.5
Sweden	371	82	22.1	55	67.1	7	8.5	0	0.0
Switzerland									
The Netherlands									
Turkey	0	0		0		0		0	
Ukraine	330	96	29.1	94	97.9	2	2.1	0	0.0
UK	4280	617	14.4	572	92.7	33	5.3	6	1.0
All	15 882	2965	18.7	2558	88.0	324	11.1	24	0.8
Women >40 years									
Albania	0	0		0		0		0	
Austria									
Belgium									
Bulgaria	6	1	16.7	1	100.0	0	0.0	0	0
Denmark	143	10	7.0	10	100.0	0	0.0	0	0
Finland									
France									
Germany									
Greece	26	8	30.8	6	75.0	0	0.0	0	0
Hungary	3	0	0.0	0		0		0	
Iceland									
Ireland (Rep.)	18	1	5.6	0	0.0	0	0.0	0	0
Italy									
Latvia	0	0		0		0		0	
Lithuania	0	0		0		0		0	
Macedonia	0	0		0		0		0	
Norway									
Poland	35	4	11.4	4	100.0	0	0.0	0	0
Portugal	2	1	50.0	0	0.0	0	0.0	0	0
Russia C.I.S.									
Serbia and Montenegro									
Slovenia									
Spain	570	70	12.3	63	90.0	5	7.1	2	2.9
Sweden	23		0.0	1		0		0	
Switzerland									
The Netherlands									
Turkey	0	0		0		0		0	
Ukraine	3	0	0.0	0		0		0	
UK	881	48	5.4	43	89.6	5	10.4	0	0
All	1710	143	8.4	128	91.4	10	7.1	2	1.4

For France all treatments are classified as being in women <40 years, because of lack of age stratification. Distribution of singleton versus multiple gestations is based on deliveries.

**Table XV.** The cumulative delivery rates in fresh and frozen cycles in 2004.

Country	Cycles IVF and ICSI	Deliveries fresh cycles	Multiple deliveries fresh cycles	Thawings FER	Deliveries FER	Multiple deliveries FER	Deliveries fresh cycles per initiated cycle (%)	Deliveries fresh and FER per initiated cycle (%)	Multiple deliveries Fresh and FER per total delivery (%)
Albania	123	10	3	0	0	0	8.1	8.1	30.0
Austria	4504	233	68				5.2		
Belgium	13 794	1802	188	4802	394	58	13.1	15.9	11.2
Bulgaria	928	210	62	53	4	1	22.6	23.1	29.4
Denmark	9598	1980	423	1853	158	31	20.6	22.3	21.2
Finland	4761	886	118	3434	518	55	18.6	29.5	12.3
France	55 217	8961	2014	14 069	1424	202	16.2	18.8	21.3
Germany	38 824	6699	1460	17 989	1759	265	17.3	21.8	20.4
Greece	8218	1234	397	1115	182	35	15.0	17.2	30.5
Hungary	2593	604	218	256	58	14	23.3	25.5	35.0
Iceland	234	53	12	73	9	2	22.6	26.5	22.6
Ireland (Rep.)	2114	410	92	466	71	11	19.4	22.8	21.4
Italy	23 711	3006	701	2388	260	34	12.7	13.8	22.5
Latvia	138	22	6	44	5	0	15.9	19.6	22.2
Lithuania	83	10	4				12.0		
Macedonia	521	59	17	1			11.3		
Norway	5136	1100	259	942	124	27	21.4	23.8	23.4
Poland	3675	842	192	1278	111	13	22.9	25.9	21.5
Portugal	2491	477	119	368	29	10	19.1	20.3	25.5
Russia C.I.S.	12 052	2109	567	1755	194	37	17.5	19.1	26.2
Serbia and Montenegro	181								
Slovenia	2100	444	80	567	76	6	21.1	24.8	16.5
Spain	27 481	3818	1028	7312	537	107	13.9	15.8	26.1
Sweden	9593	2027	115	3205	498	48	21.1	26.3	6.5
Switzerland	3145	528	118	2573	317	48	16.8	26.9	19.6
The Netherlands	15 297								
Turkey	3472	570	224	67	2	2	16.4	16.5	39.5
Ukraine	1505	304	111	38	11	0	20.2	20.9	35.2
UK	30 375	6747	1635	7349	1072	172	22.2	25.7	23.1
All	281 864	45 145	10 231		7813	1178	16.0	18.8	21.5

For Austria, Belgium, Germany, Iceland, Lithuania and Portugal 'fresh cycles' for IVF and ICSI refer to aspirations. Note that the recording of deliveries is incomplete due to loss of follow-up in several countries.

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