

# Belrap report 2017

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on behalf of The College of Physicians



# What is new as of 2017?

- Further focus on taking into account “freeze all “ cycles (10% of cycles)
- Cumulative live birth (2014-2017) is compared to 2009-2012
- Cumulative live birth (2014-2017) is calculated for the reference group (<36 years) *quality report to the centers*
- Non-IVF report is split into IUI-H, IUI-D and ovulation induction

IVF- ART



# General overview of ART activity

Type of cycle*	Statistic	All Centres		
		Total (N=37125)	With social security (N=31327)	Without social security (N=5798)
Own fresh cycle	n (%)	19714 ( 53.10%)	16778 ( 53.56%)	2936 ( 50.64%)
Own embryo cryo cycle	n (%)	14223 ( 38.31%)	12163 ( 38.83%)	2060 ( 35.53%)
Other cycle\$	n (%)	3188 ( 8.59%)	2386 ( 7.62%)	802 ( 13.83%)

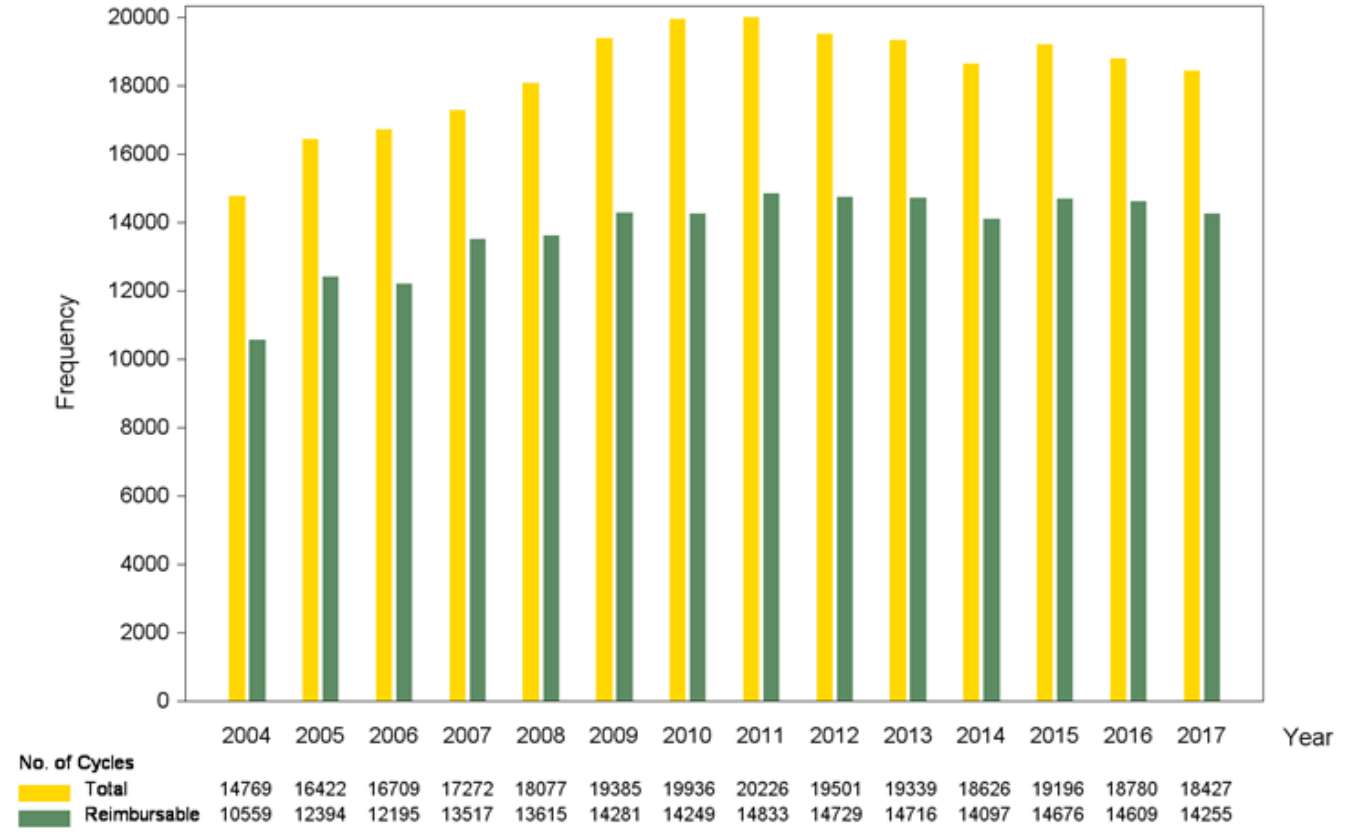
\*: Definitions of the different type of cycles can be found in Appendix Table 8.1.

\$: Other type of cycles are explained in Table 1.2.

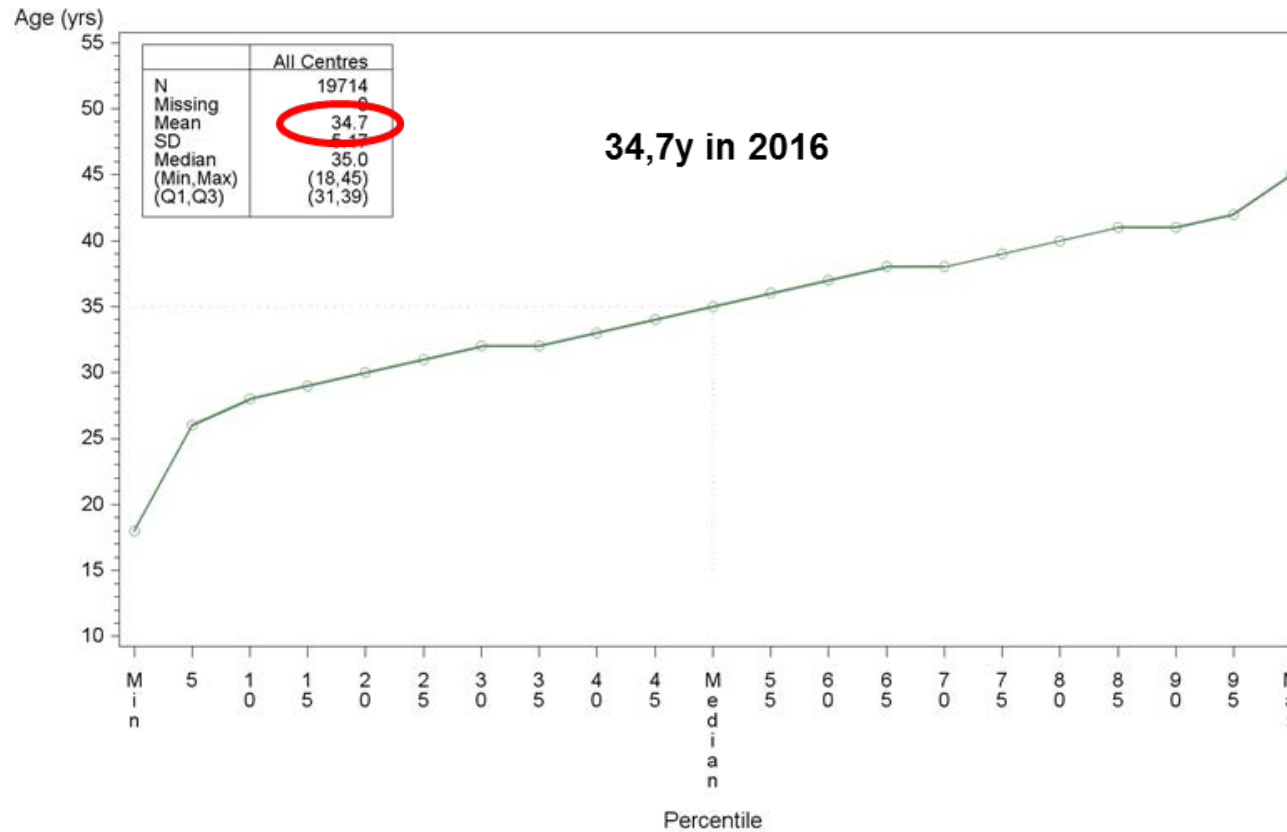
In-vitro maturation (IVM) cycles are included in other cycles.

Type of other cycle*	Statistic	All Centres		
		Total (N=3188)	With social security (N=2386)	Without social security (N=802)
Fresh oocyte donor cycle	n (%)	762 ( 2.05%)	606 ( 1.93%)	156 ( 2.69%)
Cryo embryo recipient – donor egg	n (%)	738 ( 1.99%)	522 ( 1.67%)	216 ( 3.73%)
Fresh oocyte recipient cycle	n (%)	671 ( 1.81%)	436 ( 1.39%)	235 ( 4.05%)
Own oocyte freezing cycle	n (%)	474 ( 1.28%)	357 ( 1.14%)	117 ( 2.02%)
Thawed oocyte recipient cycle	n (%)	175 ( 0.47%)	170 ( 0.54%)	5 ( 0.09%)
All IVM cycles	n (%)	171 ( 0.46%)	147 ( 0.47%)	24 ( 0.41%)
Own thawed oocyte cycle	n (%)	83 ( 0.22%)	58 ( 0.19%)	25 ( 0.43%)
Cryo embryo recipient – donor embryo	n (%)	70 ( 0.19%)	55 ( 0.18%)	15 ( 0.26%)
Thawed surrogate carrier cycle	n (%)	22 ( 0.06%)	19 ( 0.06%)	3 ( 0.05%)
Mixed (fresh + thawed) cycle	n (%)	16 ( 0.04%)	12 ( 0.04%)	4 ( 0.07%)
Fresh surrogate carrier cycle	n (%)	5 ( 0.01%)	3 ( 0.01%)	2 ( 0.03%)

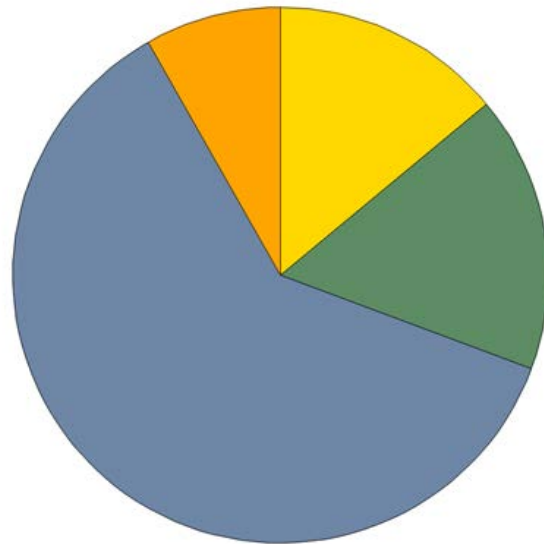
# Evolution of fresh cycles (own & recipient)



# Female age distribution (own fresh)

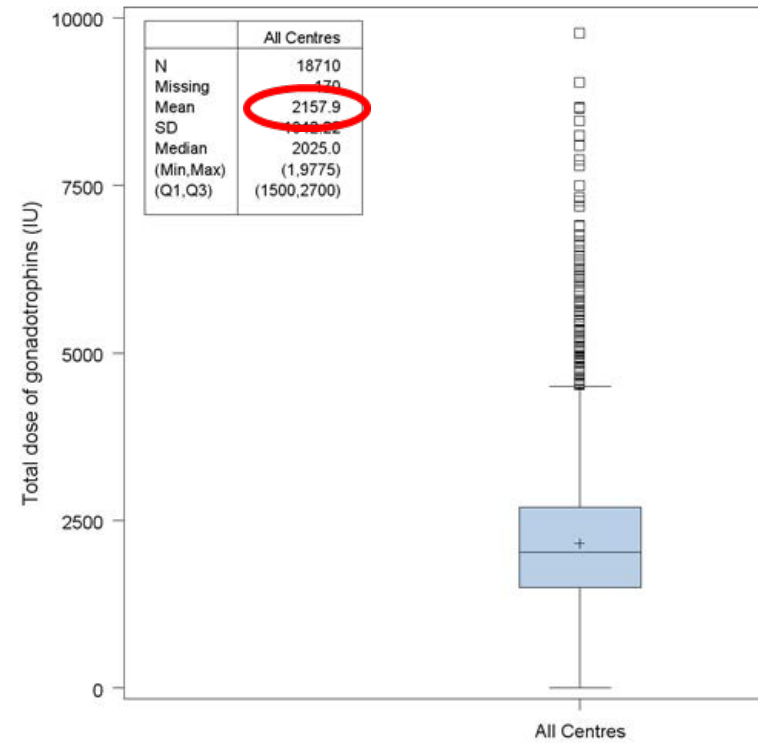


# Pituitary inhibition & total dose of gonadotrophins (own fresh)

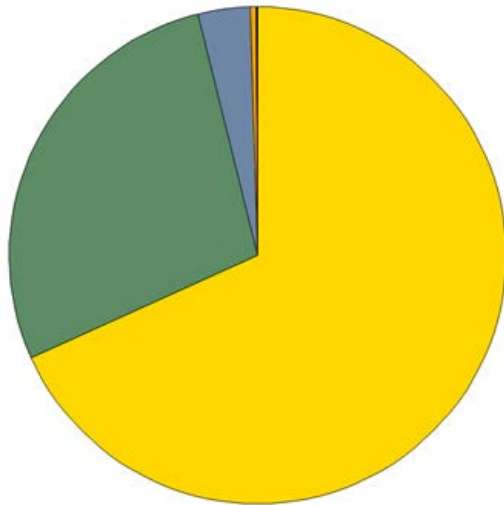


Pituitary Inhibition

Agonist - long : n (%) = 2752 ( 13.97%)  
Agonist - short : n (%) = 3289 ( 16.70%)  
Antagonist : n (%) = 12037 ( 61.10%)  
None : n (%) = 1621 ( 8.23%)

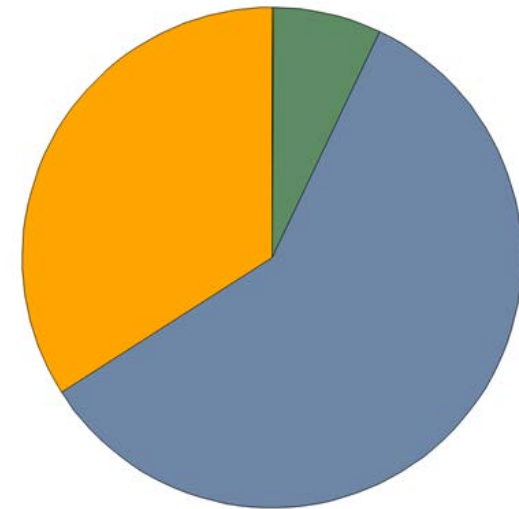


# Number and day of embryo transfer (own fresh)



Number of embryos transferred

1 embryo	n (%) = 8530 (68.22%)
2 embryos	n (%) = 3491 (27.92%)
3 embryos	n (%) = 423 (3.38%)
4 embryos	n (%) = 48 (0.38%)
5 embryos	n (%) = 5 (0.04%)
6 embryos	n (%) = 6 (0.05%)
7 embryos	n (%) = 1 (0.01%)



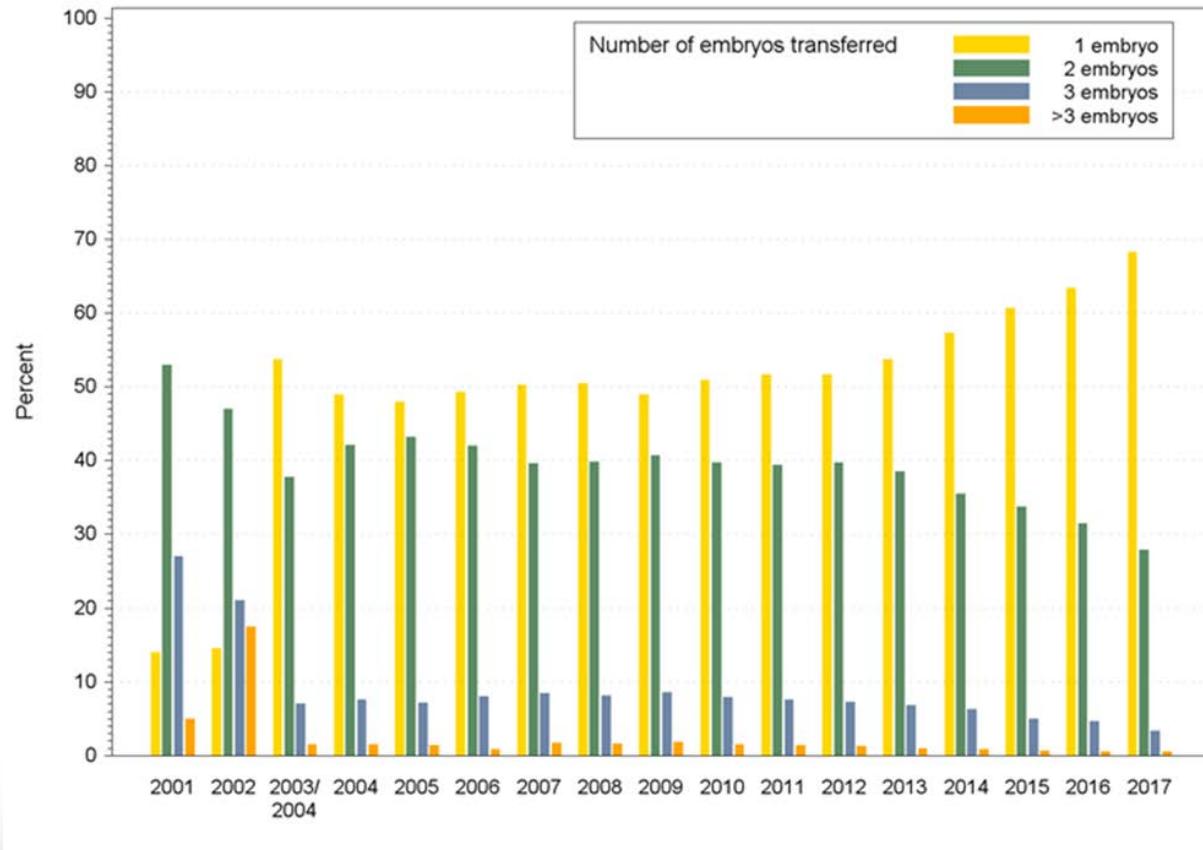
Day of Embryo Transfer

Day 1	n (%) = 10 (0.08%)
Day 2	n (%) = 878 (7.02%)
Day 3	n (%) = 7356 (58.85%)
Day 4-5-6-7	n (%) = 4256 (34.05%)



# Evolution of number of embryos for transfer

(own fresh)



# Outcome of own fresh cycles

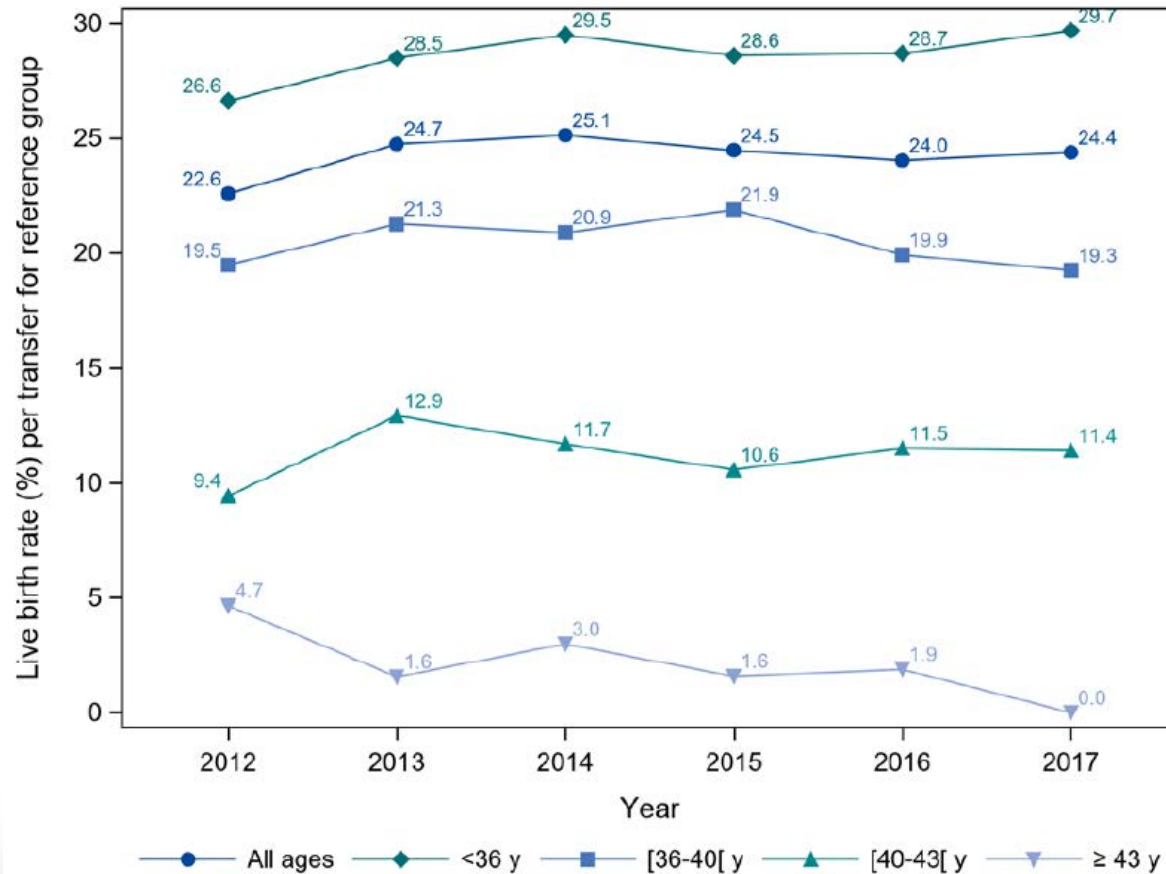
	<36	36-39	40-42	≥43	Total
<b>Fresh Embryos from Nondonor Eggs</b>					
<u>Number of cycles</u>	10345	4829	4116	424	19714
Percentage of <u>cancellations</u>	6.7	12.0	14.3	15.6	9.7
Percentage of cycles with freeze-all	14.2	7.3	3.5	3.5	10.0
Average number of embryos transferred	1.2	1.4	1.7	1.9	1.4
Percentage of embryos transferred resulting in <u>clinical implantation<sup>c</sup></u>	27.2	15.9	8.5	3.6	19.3
Percentage of single embryo transfer	79.8	60.2	48.0	42.1	68.2
<b><u>Outcomes per Cycle</u></b>					
Percentage of cycles resulting in clinical pregnancy	23.8	16.6	10.1	6.5	18.8
Percentage of cycles resulting in live birth	18.6	11.2	5.7	1.9	13.7
<b><u>Outcomes per Cycle excluding freeze-all cycles</u></b>					
Percentage of cycles resulting in clinical pregnancy	27.9	17.9	10.4	6.7	20.9
Percentage of cycles resulting in live birth	21.8	12.1	6.0	2.0	15.3
<b><u>Outcomes per Transfer</u></b>					
<u>Number of transfers</u>	6857	2989	2436	235	12517
Percentage of transfers resulting in clinical pregnancy	36.5	27.3	17.2	11.8	30.0
Percentage of transfers resulting in live birth	28.6	18.4	9.8	3.5	22.0

# Outcome of deliveries

2017	FRESH OWN	CRYO OWN	FRESH DONOR oocyte	THAWED DONOR oocyte	CRYO - DONOR oocyte
N cycles	19714	14223	671	175	708
Age (woman)	34.7		38.5	36.4	
CPR (+FHB)	26.9	25.0	24.0	26.8	21.9
DR	22.1	20.9	19.9	23.6	20.9
CPR (+FHB)/ <u>transferred embryo</u>	19	20	13	19	14
DR/ <u>transferred embryo</u>	17	18	13	18	14
%SET	68.2	80.3	55.9	76.6	64.4
% <u>twins</u>	7.40	6.3	16.4	6.67	7.81

CPR= clinical pregnancy rate ; FHB= fetal heart beat ; DR= delivery rate ; SET = single embryo transfer

# Evolution of outcome for a reference group\*

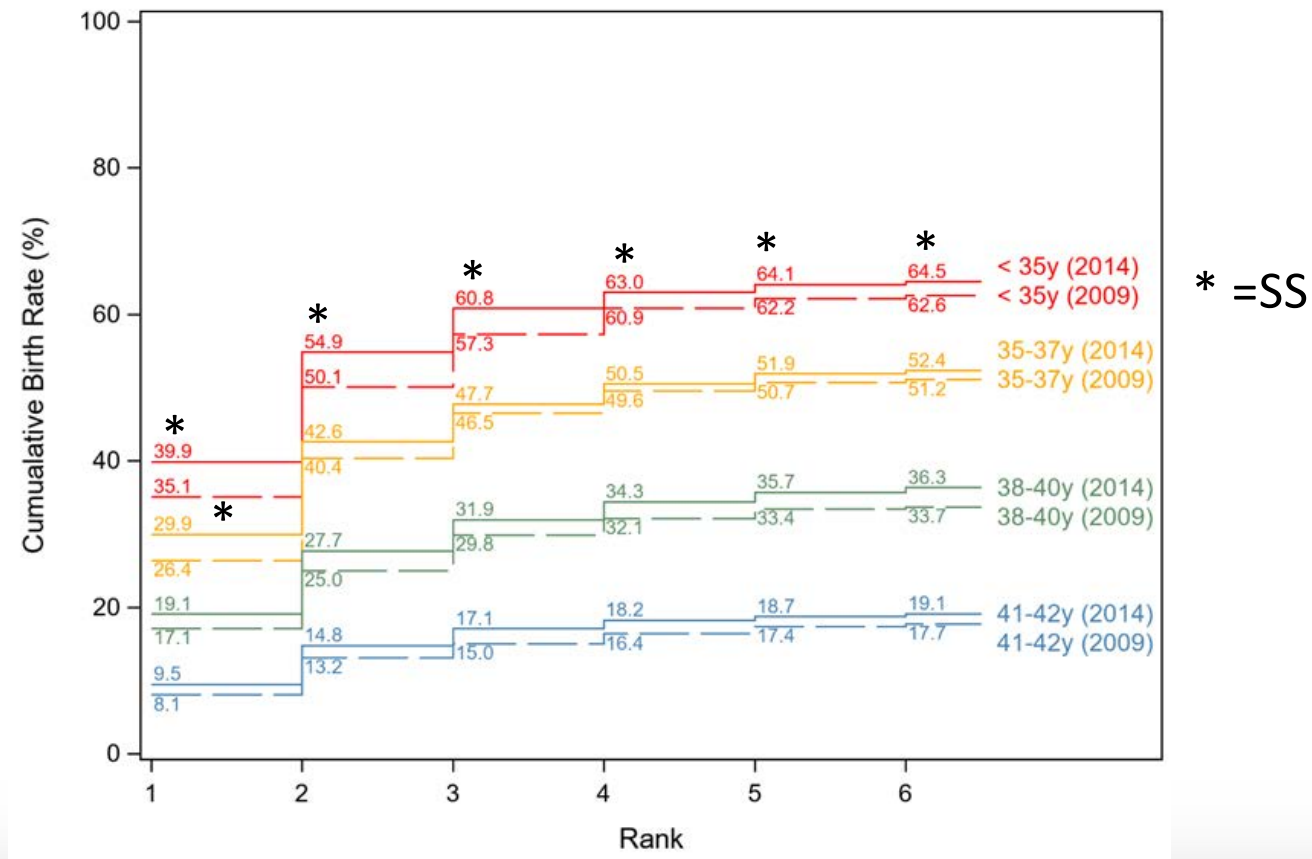


- \*
- *first cycles*
  - *Fresh*
  - *own*
  - *no PGT*

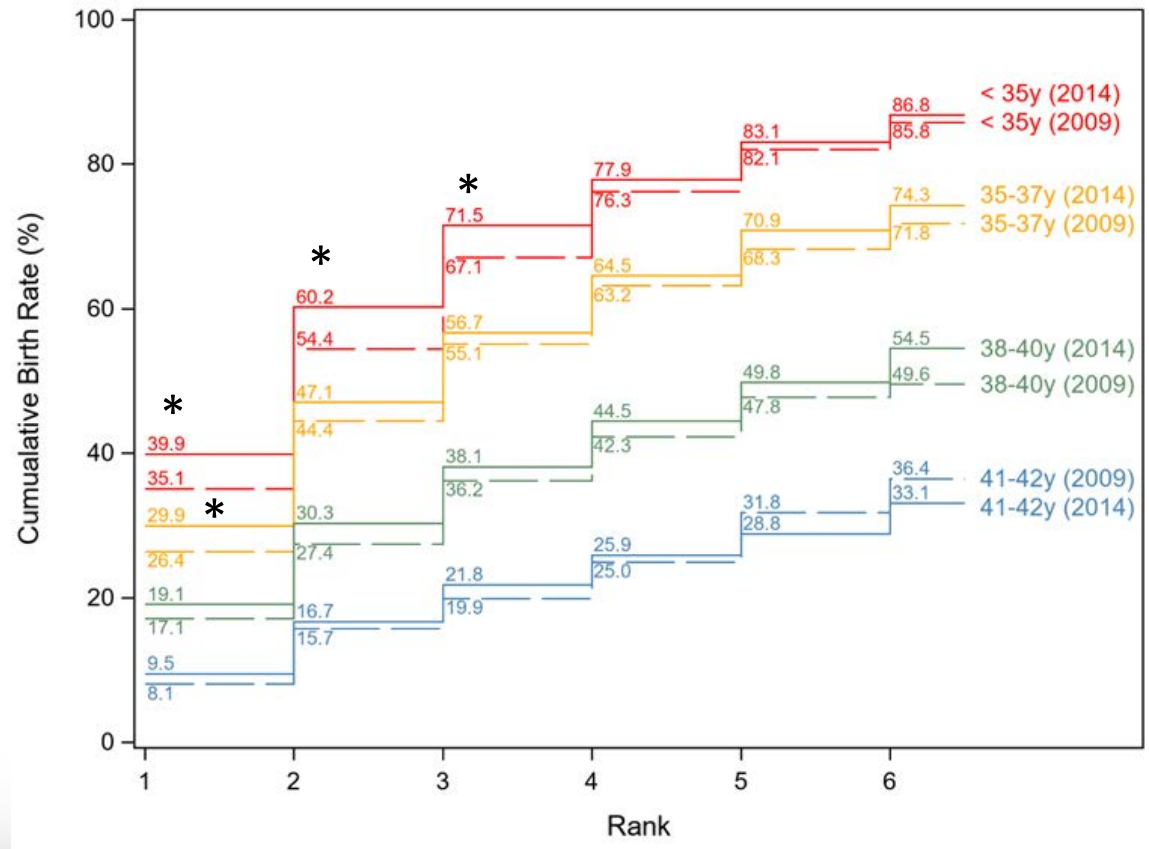
# Cumulative live birth rates 2014-2017

- Female age <43 years: Age categories: <35; 35-37; 38-40; 41-42 years
- First cycles with own oocytes
- Non-cancelled cycles (fresh and cryo cycles)
- Exclusion: PGT cycles, cycles after a live birth, more than 6 fresh IVF cycles
- Conservative and optimal approach
- Compared this to 2009-2012 (Hum Reprod 2016; 31: 93-99)

# Cumulative live birth rates –conservative approach

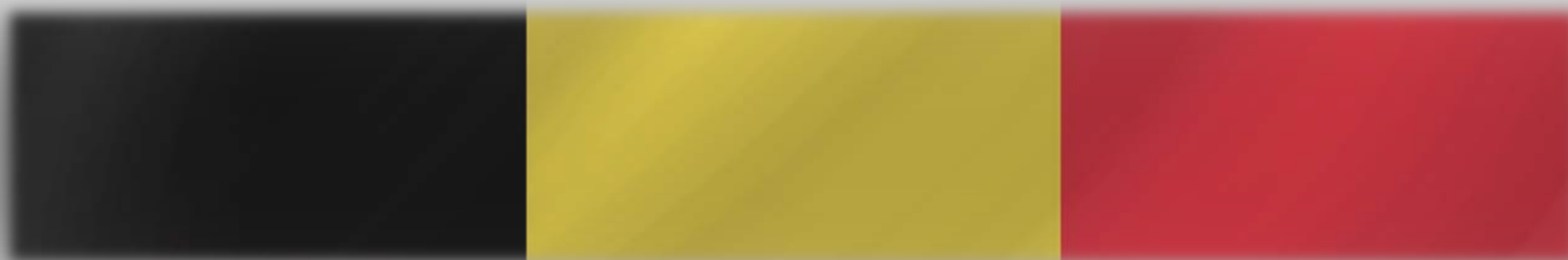


# Cumulative live birth rates –optimal approach



\* =SS

Non-IVF



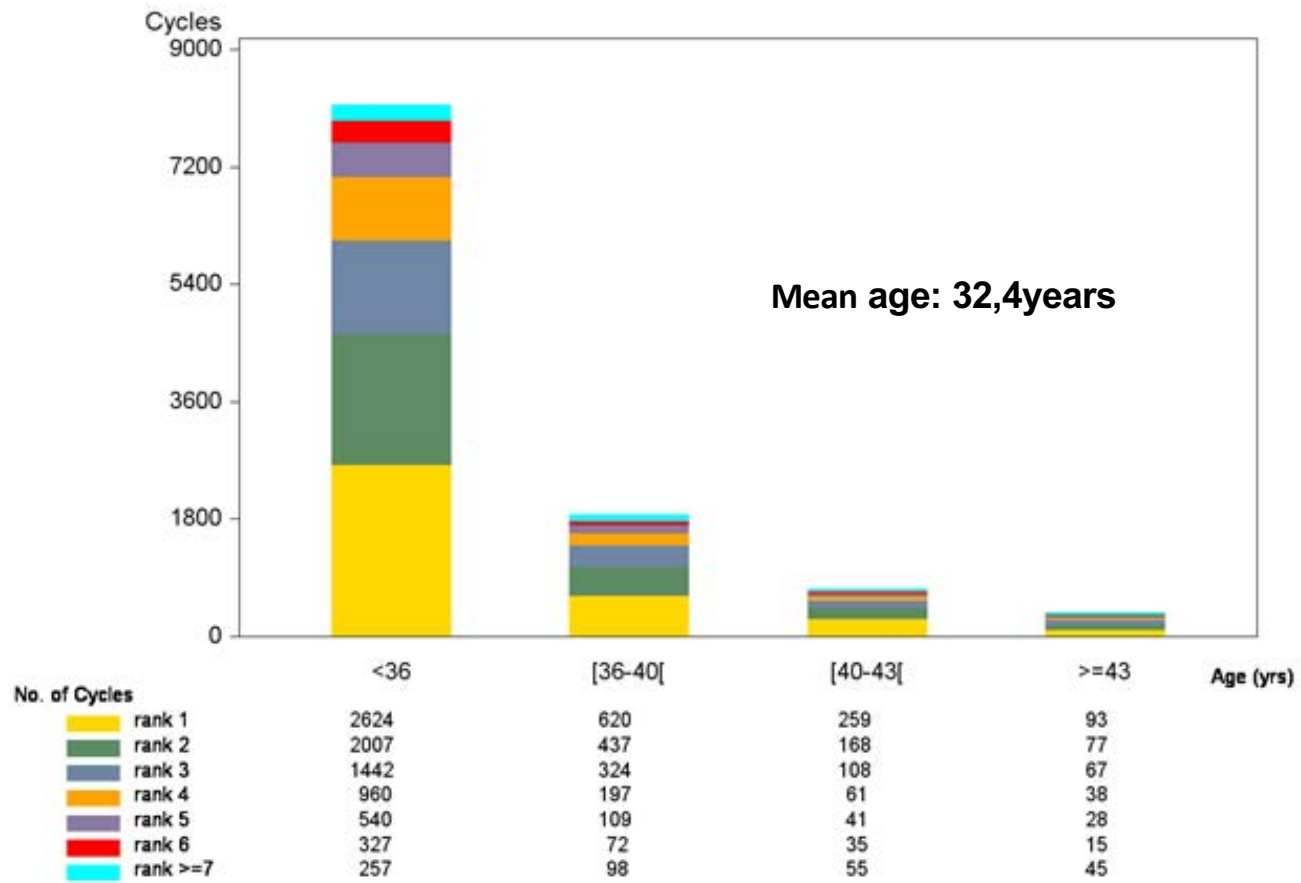


	Statistic	All Centres (N=23239, Missing=0)
<b>Type of cycle</b>		
<b>IUI</b>	n/N (%)	21607/23239 ( 92.98%)
<b>With sperm from partner</b>	n/N (%)	11892/21607 ( 55.04%)
+ Gonadotrophins	n/N (%)	2772/11610 ( 23.88%)
+ Clomiphene citrate only	n/N (%)	4336/11610 ( 37.35%)
+ Other	n/N (%)	58/11610 ( 0.50%)
+ None	n/N (%)	4444/11610 ( 38.28%)
<b>With sperm from donor</b>	n/N (%)	8756/21607 ( 40.52%)
+ Gonadotrophins	n/N (%)	1905/8557 ( 22.26%)
+ Clomiphene citrate only	n/N (%)	1897/8557 ( 22.17%)
+ Other	n/N (%)	19/8557 ( 0.22%)
+ None	n/N (%)	4736/8557 ( 55.35%)
<b>With origin of sperm unknown</b>	n/N (%)	959/21607 ( 4.44%)
<b>Ovulation Induction</b>	n/N (%)	1632/23239 ( 7.02%)

Cycles in which the patient received gonadotrophins in combination with something else are counted in the group gonadotrophins.

IUI-H





# Number of deliveries according to age

Age (yrs)	< 36	[36-40[	[40-43[	>=43	All ages
<b>All Centres (N=11892, Missing=0)</b>					
Initiated cycles	8686	2007	789	410	11892
IUI	8157	1856	727	363	11103
Deliveries per initiated cycle	658/8170 (8.1%) (7.6% - 13.5%)	105/1915 (5.5%) (5.2% - 9.8%)	15/760 (2.0%) (1.9% - 5.6%)	2/379 (0.5%) (0.5% - 8.0%)	780/11224 (6.9%) (6.6% - 12.2%)
Deliveries per IUI	658/7641 (8.6%) (8.1% - 14.4%)	105/1764 (6.0%) (5.7% - 10.6%)	15/698 (2.1%) (2.1% - 6.1%)	2/332 (0.6%) (0.6% - 9.1%)	780/10435 (7.5%) (7.0% - 13.0%)

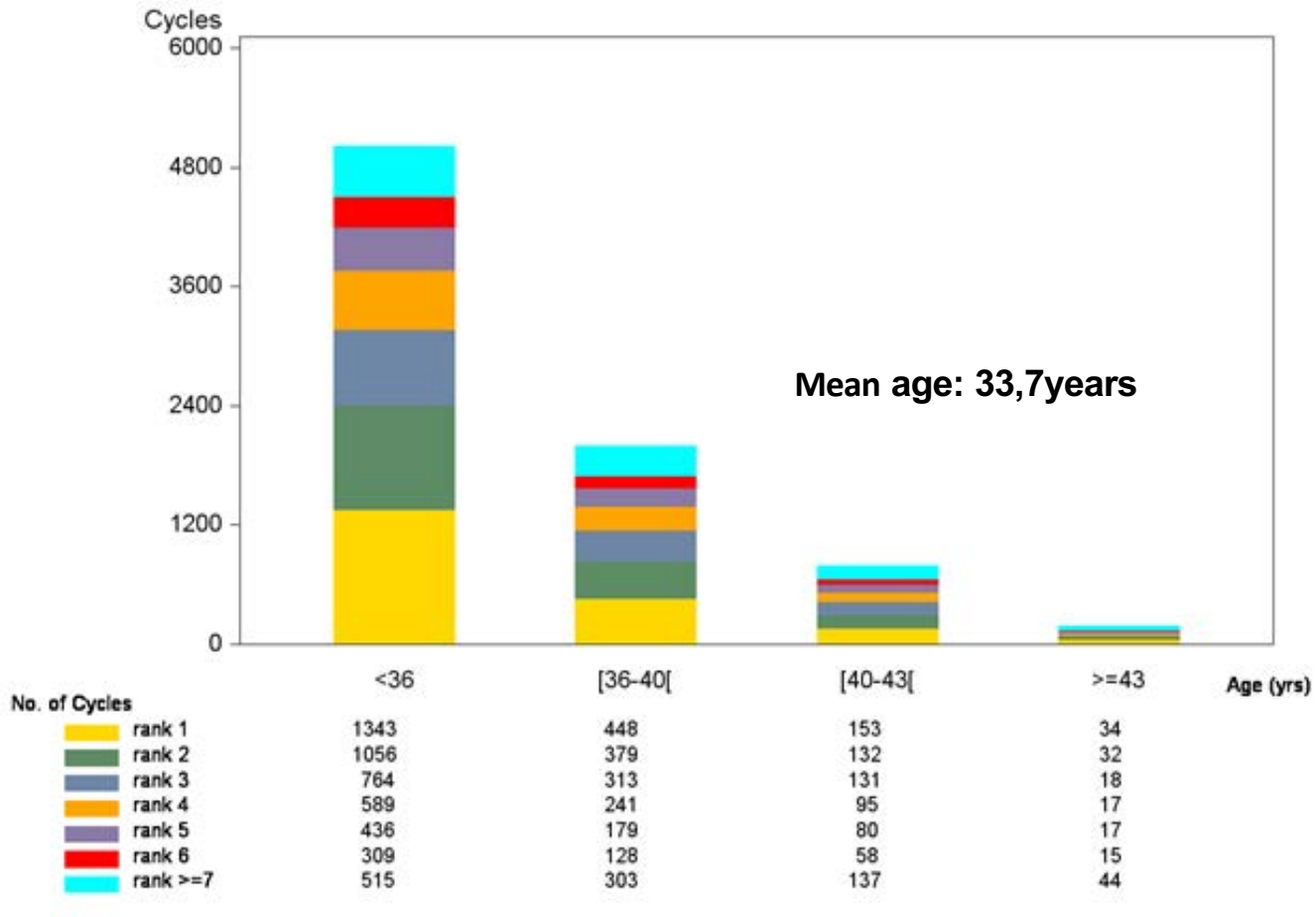
NA=no cycles with data available.

In the calculation of the ratios, only cycles with available data are considered. In the line underneath, the range expresses the minimum and maximum possible rates when accounting for missing data by considering missing deliveries results as negative and positive, respectively.

With gonadotrophins: 11%  
Without gonadotrophins: 6,4%

IUI-D





# Number of deliveries according to age

Age (yrs)	< 36	[36-40[	[40-43[	>=43	All ages
<b>All Centres (N=8756, Missing=0)</b>					
Initiated cycles	5448	2216	900	192	8756
IUI	5012	1991	786	177	7966
Deliveries per initiated cycle	663/5088 (13.0%) (12.2% - 18.8%)	196/2106 (9.3%) (8.8% - 13.8%)	43/878 (4.9%) (4.8% - 7.2%)	0/185 (0.0%) (0.0% - 3.6%)	902/8257 (10.9%) (10.3% - 16.0%)
Deliveries per IUI	663/4652 (14.3%) (13.2% - 20.4%)	196/1881 (10.4%) (9.8% - 15.4%)	43/764 (5.6%) (5.5% - 8.3%)	0/170 (0.0%) (0.0% - 4.0%)	902/7467 (12.1%) (11.3% - 17.6%)

NA=no cycles with data available.

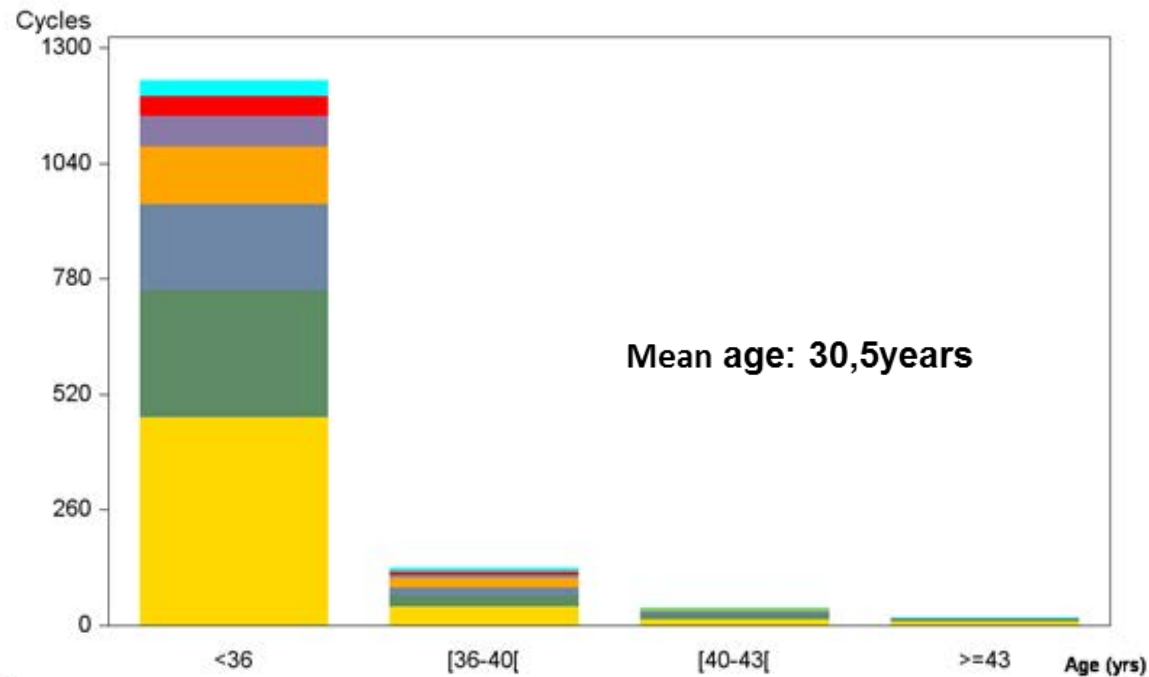
In the calculation of the ratios, only cycles with available data are considered. In the line underneath, the range expresses the minimum and maximum possible rates when accounting for missing data by considering missing deliveries results as negative and positive, respectively.

With gonadotrophins: 13,3%  
Without gonadotrophins: 11,8%

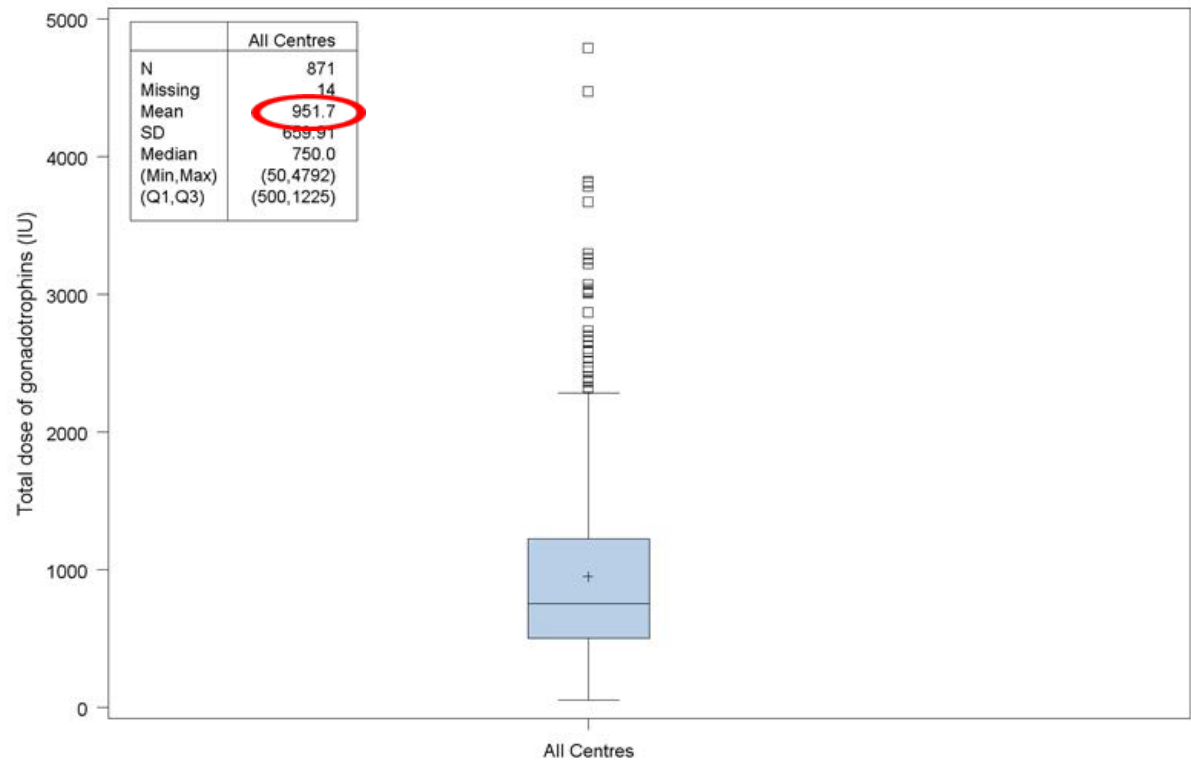
# Ovulation induction







No. of Cycles	<36	[36-40[	[40-43[	>=43	Age (yrs)
rank 1	467	41	13	9	
rank 2	286	25	11	4	
rank 3	194	19	6	3	
rank 4	131	21	5	0	
rank 5	69	8	2	0	
rank 6	43	6	1	0	
rank >=7	37	9	2	1	



Box plot shows median and interquartile range. Whiskers are drawn at  $(Q3+1.5*IQR, Q1-1.5*IQR)$ . Q1, Q3 = 1st and 3rd quartile, IQR =  $Q3 - Q1$ . +sign indicates mean value.

# Number of deliveries according to age

Age (yrs)	< 36	[36-40[	[40-43[	>=43	All ages
<b>All Centres (N=1632, Missing=0)</b>					
Initiated cycles	1425	142	45	20	1632
Timed intercourse	1227	129	40	17	1413
Deliveries per initiated cycle	183/1360 (13.5%) (12.8% - 17.4%)	9/134 (6.7%) (6.3% - 12.0%)	0/40 (0.0%) (0.0% - 11.1%)	0/19 (0.0%) (0.0% - 5.0%)	192/1553 (12.4%) (11.8% - 16.6%)
Deliveries per timed intercourse	183/1162 (15.7%) (14.9% - 20.2%)	9/121 (7.4%) (7.0% - 13.2%)	0/35 (0.0%) (0.0% - 12.5%)	0/16 (0.0%) (0.0% - 5.9%)	192/1334 (14.4%) (13.6% - 19.2%)

NA=no cycles with data available.

In the calculation of the ratios, only cycles with available data are considered. In the line underneath, the range expresses the minimum and maximum possible rates when accounting for missing data by considering missing deliveries results as negative and positive, respectively.

# Outcome of deliveries

2017		Overall		<u>Gn</u>	Without <u>Gn</u>
IUI – H	1	95 %		93,4 %	96 %
	2	4,9 %		6,3 %	4 %
	3	1,1 %		0,4 %	-
IUI – D	1	96,1 %		89,3 %	98,1 %
	2	3,8 %		10,7 %	1,8 %
	3	0,1 %		-	1,1 %
OI	<u>Gn</u>	1	93,1 %	CC	96,1 %
		2	6,9%		2 %
		3	-		2 %

# What are we expecting in 2020?

- Transition of registration with Belrap (webbased) to Healthdata
  - Privacy commission
  - Consultation of the cycle rank data
- Registry of Oncofreezing through Healthdata
- Coupling of reimbursement of IUI to registration in Healthdata

**Assisted Reproductive Technology  
National Summary Report  
Belgium 2017**



**College van Geneesheren Reproductieve Geneeskunde  
Collège de Médecins Médecine de la Reproduction  
College of Physicians Reproductive Medicine**

15 October 2019