

Reproductive Medicine Act monitoring

Key results 2017/2018

Bern, 17 February 2020

1 Introduction: Reproductive Medicine Act monitoring

The Reproductive Medicine Act (RMA) specifies the conditions under which, in Switzerland, techniques of medically assisted reproduction may be used in humans. The purpose of the regulations is to protect human dignity, privacy and the family. On 1 September 2017, a partial revision of the RMA came into force, involving in particular the legalisation of preimplantation diagnosis.

1.1 Basis and purpose of monitoring

Also included in the revised Act are provisions concerning evaluation (Art. 14a RMA). Whether the Act fulfils its purpose is to be determined by a review of its effectiveness.¹ As part of this review, the Federal Office of Public Health (FOPH) is also conducting a monitoring programme. This programme systematically collects data on reproductive medicine in Switzerland, thus creating transparency. Büro Vatter was requested to carry out data collection and processing for this monitoring. The most important results are published online by the FOPH.²

1.2 Sources used for monitoring

The first data collected for monitoring relates to 2017 and 2018. Any exceptions are mentioned below.

Monitoring is based on the following data sources:

- *FIVNAT*: Fécondation In Vitro National (FIVNAT) is a committee of the Swiss Society for Reproductive Medicine (SGRM) which collects in vitro fertilisation (IVF) data. Some of this data is also published by the Swiss Federal Statistical Office; for this reason, some IVF statistics go back as far as 2007.
- *Physicians with a licence*: These are physicians who use assisted reproductive techniques, preserve reproductive cells or arrange the supply of sperm cells and therefore require a licence under Article 8 RMA. For monitoring purposes, they are directly surveyed, inter alia, on insemination using preserved sperm cells, on the precautionary preservation of reproductive material by individuals, and on donated sperm cells stored by them. Information is thus collected on activities requiring a licence which are not directly connected with IVF treatment.

¹ <https://www.bag.admin.ch/bag/de/home/medizin-und-forschung/fortpflanzungsmedizin/wirksamkeitspruefung-fmedg.html> (accessed 15 January 2020)

² <https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin.html#contact> (accessed 15 January 2020)

- *Cantonal licensing authorities*: Responsibility for enforcement of the RMA lies with the cantonal licensing authorities, who are surveyed for monitoring purposes. They provide, inter alia, information on licence holders.
- *EAZW*: The Federal Office for Civil Registration (EAZW) manages data in accordance with the RMA on sperm donors and children conceived through sperm donation. The first data available for monitoring relates to 2018.
- *SFSO*: The SFSO criminal justice statistics cover offences against the criminal provisions of the RMA. Up to 2018, however, no convictions based on these provisions are recorded.
- *FOPH*: The FOPH grants licences to laboratories which perform genetic testing on reproductive cells or embryos. These laboratories require authorisation under Article 8 of the Federal Act on Human Genetic Testing (HGTA). For monitoring, data on these laboratories is obtained from the FOPH.

1.3 Contents of this brief report

The annual brief report submitted to the FOPH summarises key results of monitoring and discusses, in particular, changes over time.

Thematically, the report is structured in accordance with the FOPH web page. No figures or tables are included, and, for each section, reference is made to the analyses published online by the FOPH on the page: “Reproductive medicine: facts & figures” (available in French/German/Italian). This also applies to explanations of technical terms or data collection methods, and to the citation of data sources.

2 Medical practice in the area of reproductive medicine

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/medizinische-praxis-im-bereich-fortpflanzung.html>

2.1 Assisted reproductive techniques

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/medizinische-praxis-im-bereich-fortpflanzung/verfahren-der-fortpflanzungsmedizin.html>

Couples starting IVF treatment: In 2017, 2,930 couples started IVF treatment; the figure for 2018 was very similar (2,987 couples). In previous years, demand appears to have been higher: in every year from 2008 to 2016, between roughly 3,500 and 4,000 couples started IVF treatment. Since 2017, however, whether a couple is actually undergoing IVF treatment for the first time is checked electronically against existing records in the FIVNAT Registry. Multiple counting, as occurred in previous years, is thus avoided.

Reason for IVF treatment: In almost all cases, the reason for starting IVF treatment was infertility. In 2017 and 2018 combined, only 21 couples started IVF treatment to avoid the risk of transmitting a serious genetic disease (2017: 6; 2018: 15).

IVF treatment overall: In the years under review, the total number of couples undergoing IVF treatment was 5,854 in 2017 and 6,012 in 2018. As in previous years, around 11,000 treatment cycles were conducted each year (2017: 10,943; 2018: 11,242). The number of couples from whom IVF embryos were preserved rose from 1,681 in 2017 to 2,659 in 2018. Before 1 September 2017, preservation of embryos was only permitted in exceptional cases. In the revised legislation, preservation of embryos was legalised and made subject to the same requirements as preservation of impregnated ova (Art. 16 para. 1 RMA).

Preimplantation diagnosis (permissible since 1 September 2017): Here, a distinction is to be made between testing for specific genetic diseases (preimplantation genetic diagnosis, PGD) and screening for chromosome abnormalities (preimplantation genetic screening, PGS). These procedures were rarely used in 2017 and 2018. In 2017, PGD was performed for 1 couple, and PGS for 39, and no couples had both PGD and PGS performed. In 2018, the figures were already somewhat higher (PGD: 14 couples; PGS: 183; PGD+PGS: 8). It should however be borne in mind that in 2017 PGS and PGD were only permissible from 1 September (i.e. for only four months).

2.2 Handling of embryos from in vitro fertilisation

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/medizinische-praxis-im-bereich-fortpflanzung/umgang-mit-embryonen-nach-in-vitro-fertilisation.html>

Embryos developed: For several years up to 2016, the total number of embryos developed per year was between roughly 18,000 and 19,000. The total then rose sharply – to 25,635 in 2017 and 33,945 in 2018. This is most likely attributable, in particular, to two changes in the legislation. Firstly, up to a maximum of twelve embryos may now be developed per treatment cycle (previously three; Art. 17 para. 1 RMA). Secondly, the preservation of embryos is now no longer only permissible in exceptional cases (Art. 16 para. 1 RMA).

Embryos preserved: As a result of these changes in the legislation, the number of embryos preserved also increased dramatically: 251 embryos were preserved in 2016, 4,943 in 2017 and 10,766 in 2018.

Embryos transferred: Conversely, the same period saw a marked decrease in the number of embryos transferred – from 14,659 in 2016 to 10,520 in 2018. This is attributable to two developments. Firstly, after the partial revision of the RMA, fewer embryos, on average, were transferred per cycle than previously: in 2016, two or three embryos were transferred in almost two thirds (66%), and one embryo in only a third of all cases (34%). In 2018, the ratio was reversed: in 71% of cases only one embryo was transferred, and in 29% two or three. Secondly, the number of transfers declined: 8,179 transfers were recorded in 2017, and 8,062 in 2018. This figure had already been declining since 2014 (9,033), but it consistently exceeded 8,500 from 2009 to 2016.

Embryos destroyed: Compared to 2016, the total number of embryos destroyed almost quadrupled: while 3,297 embryos were destroyed in 2016, the total rose to 7,851 in 2017 and 12,884 in 2018. By far the most frequent reason for destruction was failure of embryo development (2018: 11,595; 2017: 6,889).

2.3 Pregnancy and birth after in vitro fertilisation

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/medizinische-praxis-im-bereich-fortpflanzung/schwangerschaft-geburt-in-vitro-fertilisation.html>

Birth rate: Of all treatment cycles started in 2017, 17% resulted in a birth. The birth rate was thus practically the same as in previous years.

Births after IVF with preimplantation diagnosis: 4 IVF treatments with preimplantation diagnosis in 2017 resulted in a birth (1 after PGD, 3 after PGS). In total, 1,888 IVF treatments carried out in 2017 resulted in a (singleton or multiple) birth.

Multiple births after IVF: Of all the births following IVF in 2017, 1,587 were singleton and 301 multiple births (295 sets of twins, 6 sets of triplets); in total, 2,195 children were born. The proportion of singleton births (84%) was roughly similar to that seen in previous years.

Premature births: 388 births after IVF in 2017 occurred before the end of the 37th week. Premature births thus represented 21% of all births after IVF.

2.4 Preservation of reproductive cells

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/medizinische-praxis-im-bereich-fortpflanzung/konservierung-eigenvorsorge-und-spende.html>

No results were available at the time this report was prepared.

3 Actors in reproductive medicine

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/akteure-der-fortpflanzungsmedizin.html>

Physicians with a licence: In 2017, 79 physicians in Switzerland had a licence in accordance with Art. 8 RMA. Of these, 15 were also authorised to conduct preimplantation diagnosis. Of the 82 physicians with a licence in 2018, 25 were authorised to conduct preimplantation diagnosis.

Laboratories conducting genetic testing on embryos: In 2017, seven genetic laboratories were authorised to conduct genetic testing on embryos. In fact, however, only two laboratories carried out tests of this kind; in 2018, genetic testing was performed at five laboratories (of the seven authorised to do so).

4 Children from sperm donation

<https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-fortpflanzungsmedizin/kinder-aus-samenspende.html>

Reported births registered: Since 2001, physicians performing IVF have been required to report births of sperm-donor-conceived children to the EAZW. In the EAZW donor data registry, a total of 3,661 births were registered from 2001 to the end of 2018; these may be multiple births.

Registered sperm donors: As of the end of 2018, no data is available on the number of sperm donors registered at the EAZW.

Children's requests for information: By the end of 2018, no requests from children for donor information in accordance with Art. 27 para. 2 RMA had been received by the EAZW.