Scientific and Clinical Advances Advisory Committee (SCAAC) – Minutes

Monday 9th June 2025, 10:00am – 2:10pm

Virtual Meeting: Microsoft Teams

Authority members	Present	Tim Child (Chair) Frances Flinter Christine Watson Stephen Troup Geeta Nargund Zeynep Gurtin
External advisers	Present	Anthony Perry Scott Nelson Alison Campbell Peter Rugg-Gunn Veronique Berman Ying Cheong Asif Muneer
Speakers	Present	Alastair Sutcliffe (Professor of General Paediatrics, University College London) for item 7
Executive	Present	Julia Chain (Chair of Authority) Peter Thompson (Chief Executive) Clare Ettinghausen (Director of Strategy and Corporate Affairs) Rachel Cutting (Director of Compliance and Information) Dina Halai (Head of Policy, Scientific) Rebecca Taylor (Scientific Policy Manager) Molly Davies (Policy Manager, Scientific) Dharmi Deugi (Scientific Policy Officer; Committee Secretariat)
Observers	Present	Several HFEA staff observed the meeting as relevant to their role or induction into the organisation.

1. Welcome, apologies, declarations of interest

1.1. The Chair welcomed the Committee and introduced two new External Advisers (EA) who have joined the SCAAC following an open recruitment process:

- Asif Muneer
  - Brings both clinical and research expertise in andrology and urology as a Consultant Urological Surgeon and Andrologist based at University College London Hospital and a Professor of Urology and Surgical Andrology at University College London.
- Sarah Martins Da Silva
  - Brings expertise in reproductive medicine and andrology as a Clinical Reader in Reproductive Medicine at the University of Dundee, and an Honorary Consultant Gynaecologist, Clinical Lead for NHS Tayside Infertility Services as well as a Person Responsible for Ninewells Assisted Conception Unit.

1.2. The Chair reminded members of the advisory role of the SCAAC, highlighting that members should advise the HFEA on any significant implications for licensing and regulation arising out of scientific and clinical developments in assisted conception, embryo research and related areas.

1.3. The Chair informed members that Stephen Troup (Authority member) has been appointed as Deputy Chair of SCAAC by the Authority Chair, Julia Chain.

1.4. No apologies were received.

1.5. Following the Chair's request for any relevant declarations of interest, none were made.

2. Matters arising

2.1. The Executive updated the Committee on the matters arising as laid out in the matters arising paper for this meeting.

3. Chair's business

3.1. The Chair provided updates on SCAAC membership and recruitment:

3.1.1. As per the standing orders, EAs to the SCAAC may only be appointed for a term of three years, with a maximum of two terms. This allows for a refresh of expertise and views, consistent with good committee governance.

3.1.2. The Chair had thanked both Richard Anderson and Kevin McEleny at the last meeting for their contributions to the SCAAC, and their term has since ended.

3.1.3. Anthony Perry, Scott Nelson and Alison Campbell have been reappointed for a second term.

3.1.4. The Executive are currently recruiting for an EA to the SCAAC with expertise in one of the following areas:

- The use of artificial intelligence, machine learning and big data in healthcare or biological science/research.

- The use of automation and robotics in healthcare or biological science/research.
- Biostatistics and assessing the quality of research in fertility treatment.

3.2. The Chair provided updates from the March and May 2025 Authority meetings, and updates from the National Patient Survey 2024 publication, highlighting key findings regarding the use of additional tests, treatments or emerging technologies.

3.3. The Chair noted that the Executive have been planning for the HFEA's Annual Horizon Scanning Meeting, due to be held in Paris during the 41st Annual Meeting of the European Society of Human Reproduction and Embryology (ESHRE). The meeting is used as an opportunity to discuss scientific developments on the horizon with international experts and regulators.

3.3.1. Topics for discussion at the meeting include:

- Future Use of Mitochondrial Donation: Going beyond preventing Inherited Disease?
  - Speaker: Dr Nuno Cost-Borges, Embryotools
- Emerging Techniques in Male Fertility Preservation: The Role of In Vitro Spermatogenesis
  - Speaker: Professor Christine Rondanino, University of Rouen
- Remote Control ART – The Potential of Robotics and Automation to Revolutionise Fertility Treatment
  - Speaker: Professor Eduardo Gerardo Mendizabal-Ruiz, University of Guadalajara

4. Relevant public health developments and research findings

4.1. The Chair informed the Committee that this item provides members with the opportunity to highlight research relevant to the interests and role of the SCAAC, including those relevant to the horizon scanning topics that SCAAC have prioritised, the list of 'watching brief' topics put forward in the horizon scanning paper in February 2025, and for treatment add-ons ratings.

4.2. The Committee considered four research papers.

- First evidence of microplastics in human ovarian follicular fluid: An emerging threat to female fertility - ScienceDirect

4.3. The Chair noted a small sample size of only 18 patients. The paper demonstrated a direct correlation between higher levels of microplastics and higher FSH suggesting lower ovarian reserve.

- IVF versus ICSI in patients without severe male factor infertility: a randomized clinical trial | Nature Medicine and Insemination methods for embryos transferred in frozen-thawed embryo transfer cycles do not impact reproductive outcomes in couples with non-male factor infertility | Scientific Reports

4.4. A member highlighted that the Bernsten et al. (2025) paper selected patients for ICSI based on sperm preparation and analysis on the day of treatment, consistent with routine practice. Both papers concluded ICSI was not associated with improved clinical outcomes for patients with non-male factor infertility, highlighting that ICSI should only be reserved for patients with male factor infertility. The Executive highlighted that this is in line with existing HFEA webpage information on Intracytoplasmic sperm injection (ICSI).

4.5. Despite the evidence, members noted that ICSI is now routinely being used internationally, and it is also thought that there is an increase in the use of ICSI in a number of UK clinics in absence of severe male factor infertility.

4.6. It was flagged that ICSI selection criteria in some clinics is more lenient, which could potentially be financially driven. Furthermore, members commented that although ICSI is only indicated for male factor infertility, clinics have expressed the view that that it is more efficient in terms of laboratory workflows and embryologist capacity.

4.7. A member pointed out that the cohort of patients who only partially meet the ICSI selection criteria are also pushed towards ICSI. This may be perhaps to guard against fertilisation failure with IVF (especially in cases where patients have already previously gone down the ICSI route), as people perceive it as safer, however members agreed that with borderline cases, IVF should be performed.

4.8. The Chair flagged that the study by Bernsten at al. (2025) does suggest that the use of ICSI in younger patients may reduce success rates. Given this, evidence of harm to younger patients should be more closely examined.

4.9. **Recommendation:** The Executive to continue to explore research on ICSI under the watching brief, monitoring this concern.

- GLP-1 medicines for weight loss and diabetes: what you need to know - GOV.UK

4.10. A member highlighted that a recent Scottish study that is yet to be published reported no adverse obstetric outcomes in patients exposed to GLP-1. Whilst the study sample was small, and there is limited research on this topic, the results were reassuring.

4.11. A member flagged concerns about patients sourcing GLP-1 medicines from unregulated providers including the black market, who could potentially be providing counterfeit medication resulting in adverse effects.

4.12. From a patient perspective, large numbers of patients are being excluded from NHS funded treatment due to their body mass index (BMI), and some may prefer to access weight loss medication to avoid paying for costly private fertility treatment.

4.13. Although a member expressed that General Practitioners (GPs) also need to be aware of this information given that they are usually the first port of call for patients, it was flagged that patients are able to source GLP-1 medicines via online pharmacies.

4.14. The HFEA have issued an update to clinics following the MHRA guidance.

4.15. **Action:** The Executive to publish a statement on the website to highlight the updated guidance issued by the MHRA.

5. Application for treatment add-on: platelet rich plasma (PRP)

5.1. The Committee were asked to advise whether intrauterine and/or intraovarian infusion/injection of PRP meets the criteria set out by the treatment add-ons decision tree to be eligible for a HFEA rating. The Executive were not asking the Committee to make a recommendation on the rating itself at this point.

5.2. The Executive highlighted that the application for intrauterine and intraovarian infusion/injection of PRP should be considered separately due to different indications and clinical outcomes.

5.3. An additional paper to be considered with the PRP application was circulated by a member: Frontiers | Angiogenic factor-driven improvement of refractory thin endometrium with autologous platelet-rich plasma intrauterine infusion in frozen embryo transfer cycles.

5.4. In relation to the application, the Committee discussed the following:

5.4.1. A member flagged that clinics are offering PRP treatment with claims of improving egg quality and the lining of the uterus. Intrauterine treatment is being offered to patients who have had multiple rounds of treatment with either endometrial issues, failed implantation or recurrent miscarriages. Furthermore, intraovarian PRP treatment is being advertised to patients, with claims to "rejuvenate ovaries" and improve live birth rate, which is also alarming. It was noted that not all clinics offering this treatment are publicly advertising it.

5.4.2. The study by Shin et al suggests that PRP is pro-angiogenic and could potentially have an impact on endometrial thickness and may improve implantation success, however further research was needed to confirm this.

5.4.3. Several members commented that PRP has long been routinely used in medical practice for other applications, such as wound healing, and it is generally considered to be safe in such use because it uses the patients' own material. However, while there is a large amount of research on adverse events in other medical fields, there is limited research on adverse events with the use of PRP in the fertility sector.

5.4.4. Given the invasive nature of both intrauterine and intraovarian PRP treatment and a lack of research on the exposure of embryos, there are wider safety risks to consider for administration to a fertility patient.

5.4.5. A member went on to highlight the absence of a standard protocol for intrauterine PRP noting variations in PRP indications. This is because for example, endometrial thickness measurement can be very subjective and is not a qualitative measure.

5.4.6. A member highlighted that this is an invasive procedure which needs to be conducted within a sterile environment and is subject to the Blood Safety Quality Regulators (BSQR). Moreover, where sterility practices are poor, there are other risks to consider, including endometritis, contamination, and the development of sepsis. Members were concerned that there is not adequate training around managing such risks.

5.4.7. A member stated that the MHRA consider PRP a medicinal product and record data on several factors, including safety.

5.4.8. The Executive highlighted that MHRA have issued a statement on the use of PRP in physiotherapy with information about the BSQR and applying for a PRP license. PRP use either falls under the Blood Safety Quality Regulators (BSQR) or the Humans Medicines Regulations. In addition, the PRP product itself is not classed as a medical device, but the devices that are used to collect, procure and administer it would fall under the medical device regulations, and be subject to MHRA regulation.

5.4.9. The Executive noted that the HFEA have regular meetings with the MHRA who are aware that PRP treatment is being used within the fertility sector and are looking into its safety aspects.

5.4.10. **Recommendation:**

- The Committee agreed that both intrauterine and intraovarian infusion/injection of PRP meet the criteria set out by the treatment add-ons decision tree to be eligible for a HFEA rating.

5.4.11. **Actions:**

- The Executive is to commission an expert literature review on evidence of the use of intrauterine and intraovarian infusion/injection of PRP as a treatment add-on. This will be brought to a future meeting of the SCAAC for an official rating.

  The Executive to issue a statement on the website to highlight that both the HFEA and the MHRA are looking into the use of intrauterine and/or intraovarian infusion/injection of PRP.

6. Impact of the microbiome on fertility and fertility treatment outcomes

6.1. The paper presents further studies on research related to both the male and female reproductive tract microbiome and infertility, alongside relevant research on the gut microbiome, and interventions targeted to improve fertility treatment outcomes.

6.2. The Committee made the following comments and recommendations:

6.2.1. A member raised concerns about the way in which information is presented to patients by clinics as there is often a lack of understanding about the type of information that can be gained from microbiome tests. This is because the test is a snapshot in time; the microbiome on the test day will be quite different to the microbiome on the day of treatment, when hormonal treatments may have affected its composition. In addition, the fact that both individuals in a couple need to be tested is also often missing from patient information.

6.2.2. Members highlighted that microbiome testing is becoming increasingly commercialised, with a large number of private companies and nutritionists marketing microbiome tests often through social media platforms. This makes it increasingly difficult for patients to differentiate between information coming from a clinical perspective and that coming from a commercial perspective.

6.2.3. It was noted that although microbiome testing is not a treatment in itself, the outcome of the test may result in either advice or treatment. Treatment takes the form of probiotics or (prescribed) antibiotics aimed at increasing chances of success, or prebiotics taken prior to treatment.

6.2.4. Members cautioned about the use of antibiotics due to a lack of evidence on effectiveness, and the possible development of antibiotic resistance. Moreover, antibiotics may be sourced from unregulated providers.

6.2.5. Another member flagged that microbiome testing is now shifting towards identifying gynaecological conditions which may cause infertility such as, endometriosis, pelvic inflammatory disease, fibroids and polycystic ovary syndrome (PCOS), and offering treatment to supposedly reduce disease progression. This has led to concerns that the provision of misleading information may delay patients seeking more appropriate treatments, such as surgery to manage any gynaecological conditions.

6.2.6. Members expressed the view that, in general, there is a lack of evidence for the impact of the microbiome on fertility and treatment outcomes, as well as microbiome testing. For example, one

area that requires further research is the consideration of the host in terms of human proteomics and genomics. It was explained that due to host-microbe interactions, it would be important to perform genome analysis as genotypic pools differ between ethnicities and individuals.

6.2.7. Additionally, a member also questioned the methods used for microbiome assaying, stating that PCR techniques may not be sufficient or very quantitative, especially if there are millions of different species present.

6.2.8. There is some evidence to suggest that the prevalence of Lactobacillus species may have an impact on outcomes, and that the proportion of lactobacilli compared to other bacteria can be changed using prebiotics and probiotics. Although this is poor quality evidence, a member highlighted that this could potentially be beneficial, however there is not yet enough good quality data to make a judgment.

6.2.9. The Authority Chair reiterated the role that social media can play in influencing patient decisions and given the claims being made about microbiome testing, that it is important to ensure patients are provided with appropriate evidence-based information. The Chair highlighted that lack of good quality data further supports the recommendation to consider microbiome testing as a treatment add-on.

6.2.10. A member reiterated that by offering microbiome testing, clinics are exploiting vulnerable people. The Chair confirmed that the treatment add-ons page cautions patients on spending large amounts of money on treatment add-ons that haven't been proven to be effective.

6.2.11. The committee considered microbiome testing against the criteria set out by the treatment add-ons decision tree to determine if it is eligible for a HFEA rating. It was highlighted that the current definition for add-ons that the HFEA will provide rated information on does not include tests, only treatments. The Chair explained that the endometrial receptivity array (ERA) test is considered an add-on as it directly alters the day of embryo transfer in a frozen cycle.

6.2.12. The Chair informed members that an appropriate way forward would be to request the Authority consider changing the definition of treatment add-ons that the HFEA will provide rated information on. Such a change could also enable sperm DNA fragmentation, a widely offered test resulting in supplement treatment, to also be considered as an add-on.

6.2.13. The Chief Executive explained that due to resource implications the focus should be on widely offered treatment add-ons having the biggest impact on patients.

6.2.14. Assuming that the Authority approves the change to the definition of 'treatment add-on' in the decision tree, the Committee agreed that both microbiome testing and other pre-treatment testing (for example, sperm DNA fragmentation testing) would meet the criteria in the treatment add-ons decision tree to be eligible for a HFEA rating.

6.2.15. **Recommendations:**

- The definition of add-ons that the HFEA will provide rated information on should be updated to include tests, as well as treatments.
- Both microbiome testing and sperm DNA fragmentation should be rated as treatment add-ons.

6.2.16. **Actions:**

- Ask the Authority to consider including tests in the definition of a treatment add-on.

- Assuming that the Authority approves the proposed wording change, an expert literature review on both microbiome testing and sperm DNA fragmentation will be brought to a future meeting of the SCAAC for an official rating.

7. Health outcomes for ART patients (including gestational surrogates and egg donors)

7.1. The Chair welcomed an external speaker, paediatrician and researcher, Professor Alastair Sutcliffe, from University College London.

7.2. The Committee were reminded that the topic of health outcomes for ART patients was added to the SCAAC's horizon scanning prioritisation as a high priority topic in February 2025.

7.3. The Executive noted that a brief review and opinion of the evidence base on risks to gestational surrogates has been provided by Professor Stuart Campbell (Annex A).

7.4. Professor Alastair Sutcliffe presented his views on the health outcomes for ART patients specifically, including key findings from his research on cancer risk and mortality in women after IVF and other long-term health outcomes for infertile couples receiving ART.

7.5. Professor Alastair Sutcliffe explained that it is difficult to agree with the conclusions of the study by Velez et al, which suggest an increased risk of severe neonatal morbidity and adverse outcomes in gestational carriers. The study suggests that there is a need for heightened monitoring and care but does not explain to what extent.

7.6. In relation to this topic, the Committee discussed the following:

7.6.1. The Chair reminded the Committee that the HFEA currently provides some information on the general risks of fertility treatment, as well as risks related to infectious diseases when using donated eggs, sperm or embryos in treatment or undergoing surrogacy. It's important to ensure that patient information related to risks of fertility treatment is accurate and evidence based without causing any unnecessary alarm.

7.6.2. A member pointed out that it is unclear whether adverse outcomes are associated with the health of the patient or the fertility treatment. Even though IVF is associated with some complications, other adverse outcomes, such as blood transfusions and infection, can mediate through that pathway, especially in cases of multiple pregnancies.

7.6.3. Members supported the suggestion that when looking at ART complications, it is important to focus on preconception health, as pre-existing conditions and risk factors may play a role in complications associated with fertility treatment, and limiting multiple embryo transfers. A member also addressed the statistics on increased maternal mortality in black and minority ethnic (BME) populations. This could be explained by a number of factors including specific morbidities and pre-existing conditions.

7.6.4. It was noted that further research is required and that populations without subfertility e.g. donors and same sex couples, are good cohorts to study to investigate outcomes due to ART.

7.6.5. A member noted that possible complications in women undergoing ART have implications on the National Health Service (NHS). This includes increased hospitalisation due to ovarian

hyperstimulation syndrome (OHSS), and pregnancy complications, including caesarean section deliveries, as well increased use of the neonatal intensive care unit (NICU).

7.6.6. Members suggested that greater information on the mechanisms behind certain health outcomes in children born from ART, such as low birth weight, may be helpful to shift the focus more towards epigenetics and imprinting. There are also an increasing number of companies offering epigenetic testing that, for example, assess either sperm for male fertility potential, or the likeliness of success of a female undergoing fertility treatment.

7.6.7. A member added that, in other contexts, companies are developing therapies to edit the epigenome of adults, with the goals of reducing metabolic-associated conditions and viral infection. In the future, such technologies may offer the means to alter epigenetic marks for a variety of conditions. Another member also commented that epigenetic disturbances during the freezing and thawing of embryos needs to be considered and further researched.

7.6.8. Another area of interest is the effect of external supplementation of progesterone during medicated FET cycles on placentation as well as decidualisation.

7.6.9. There is also an increase in patients undergoing preconception screening, including whole genome sequencing which may influence the landscape. Despite the information that patients receive from these tests, they may put aside risks to their own health because their priority is to have a child and that should not be ignored.

7.6.10. A member highlighted that the idea that human leukocyte antigen (HLA) mismatching may underlie some of the differences in outcomes between natural pregnancies and gestational carriers was interesting and asked what proportion of gestational carriers are related to the egg donor. The Chair responded that only a very small minority of egg donors would be related to the gestational carrier.

7.6.11. Although there are some studies showing increased risk of adverse obstetric outcomes such as hypertensive disorders, postpartum haemorrhage, and gestational diabetes in comparison to non-surrogates, there are also some studies finding no difference in maternal morbidity between surrogate and non-surrogate pregnancies.

7.6.12. The Executive noted that there is very little research on the long-term impact of cryopreservation and whether health outcomes of ART patients is related to the method used for embryo freezing, for example, vitrification and slow freezing. The Director of Strategy and Corporate Affairs pointed out that the Fertility Trends 2022 report showed an increase in FETs performed and it is therefore an important area to consider.

7.6.13. While it is rare in the UK to undergo multiple cycles of ovarian stimulation for egg donation, a member raised concerns about the number of times women could theoretically be asked to donate eggs as this could have an influence on health outcomes, highlighting the need for further research in this area. Additionally, the Chair noted that the minimum age of donation is 18 and clinics should ensure they abide by the law and HFEA Code of Practice in recruiting egg donors[1].

[1] Data from the HFEA register shows that from 1991 to 2022, around 17,500 donors underwent cycles to collect eggs for the primary reason of donation. On average, these egg donors underwent 1.4 donation cycles, and fewer than 1% (0.7%) of these donors have undergone more than 5 egg donation cycles since 1991.

7.6.14. It was flagged that when looking at the research it is important to consider the cultural and regulatory context. This is because findings from large-scale international or US based studies will vary from the findings from UK based studies due to differences in culture and regulations.

7.6.15. The Chair highlighted that the HFEA's website information on risks mostly focuses on the risk of infections and that there are general obstetric risks, such as a high risk of preeclampsia, that should also be covered. It was highlighted that these are not new risks, but risks that need to be recognised.

7.6.16. A member expressed that contextualisation of risks is key, and graphics could be used to emphasise that the vast majority of outcomes are normal.

7.6.17. The Chair thanked Professor Stuart Campbell and Professor Alastair Sutcliffe for their contributions.

7.6.18. **Actions:**

- The Executive to review and update patient information on the website to highlight in the context noted by the committee any potential risks associated with the use of donor eggs and for surrogates.
- The Executive to review and update information about the role of preconception health in outcomes for ART patients.

8. Any other business

8.1. The dates for the SCAAC meetings in 2026 have been agreed as follows:

- Wednesday 4th February 2026 (hybrid meeting)
- Wednesday 3rd June 2026 (online meeting)
- Wednesday 7th October 2026 (in person meeting)

8.2. Next years Horizon Scanning Meeting at ESHRE 2026 will take place in London, and the Executive may consider planning an expanded meeting.

9. Meeting summary and close

9.1. The next SCAAC meeting will be face to face, held on Monday 6th October 2025 at the HFEA offices.

9.2. The Chair closed the meeting by thanking the Executive for the putting the papers together.

10. Chair's signature

I confirm this is a true and accurate record of the meeting.

Chair: Tim Child

Date: Monday 4th August 2025