

A strategic approach to facilitating research and responsible innovation

Strategic delivery: Setting standards Increasing and informing choice Demonstrating efficiency economy and value

Details:

Meeting Authority

Agenda item 10

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For information or decision? For decision

Recommendation Members are asked to:

- discuss the Authority's strategic role to help facilitate high quality research and responsible innovation;
- note the suggested next steps throughout the paper; and
- have a wider discussion about our role on emerging issues (set out in section five of the paper).

Resource implications

Implementation date 2017–2020 Strategy

Communication(s)

Organisational risk Low Medium High

Annexes

1. Background

- 1.1.** In assisted reproduction, as in medicine generally, there is a clear link between improvements in clinical practice and high quality research. As the specialist regulator of IVF and embryo research, we therefore want to facilitate high quality research and responsible innovation in the UK. We also want to use our position as a well-respected public body to facilitate or contribute to debates on emerging issues, such as new scientific developments.
- 1.2.** The intention of this paper is twofold. The first is to summarise the issues in embryo and data research and to update you on the steps we might take to encourage responsible innovation. The second intention is to provide an opportunity for a first-time conversation about the Authority's strategic role in relation to emerging issues and new scientific developments.

Facilitating research

- 1.3.** The ambition to help facilitate research is central to our strategy for 2017-2020, endorsed by Authority. The strategy places a renewed emphasis on improving the evidence base for both embryo and data research. We want help facilitate a more research focused sector so that patients can to provide their data for research and to donate their unused embryos for research, if they so wish. By acting now, we will ultimately benefit patients who, as a result of more high quality research and better research outcomes, will have access to more effective treatments and better quality information.

Why is this ambition central to our strategy?

- 1.4.** We think we are uniquely placed to have a real impact in this area. We regulate two areas of research, embryo and data research, so can affect change, and we are well placed to influence clinical research. We have well established links with professional bodies who publish guidelines and best practice. We already have a mechanism for keeping up to date with scientific developments and keeping our patient information up to date through our Scientific and Clinical Advances Advisory Committee (SCAAC). We want to do more to respond to emerging issues and new scientific developments and associated reporting, correcting myths and misunderstandings. We are also able to communicate directly with patients through our website and engagement work. On top of this we have a proven track record of making an impact and of affecting change – both to culture and clinical practice, as demonstrated by the success of our multiple births policy. The opportunities for us to make a positive impact on facilitating research and responsible innovation are therefore significant.

Our strategic positions

- 1.5.** The context for these discussions is the following overarching strategic positions:

- We should be facilitating high quality embryo research and responsible innovation - by encouraging a more research focused sector we would improve the quality and take-up of research in the UK.
- An inquisitive and research focused culture will lead to higher quality research and better outcomes for patients - if clinics are more research focused they would be more likely to promote the benefits of research to patients and patients would be better informed and arguably more likely to participate in research. In turn, this could lead to a greater sample size and therefore higher quality research outcomes.
- A robust approach to good clinical research will mean the use of more clinical trials to establish the efficacy of new techniques before offering them in patient treatment - this links to the Authority's decision to endorse work to tackle the overuse of treatment add-ons where there is not a solid evidence base to demonstrate efficacy.
- As a highly regarded regulator we facilitate discussion and debate, and share our expertise on the domestic and world stage to support responsible innovation – although there is an open question as to how far we can and should go in this direction and this is explored in section 5 below. This is not the time to reach a final position on this issue but the Authority is asked to consider how to balance its role as a regulator and decision maker with its ambition to do more to provide information on emerging issues.

2. Facilitating high quality embryo research

2.1. Research on human embryos has been a central component of the UK regulated landscape since the passing of the Human Fertilisation and Embryology Act in 1990. Scientists have benefited from a stable, yet flexible, framework in which UK bio-science and clinical expertise has been allowed to flourish. Two recent world first examples are:

- Parliament's decision to make lawful for the first time in a regulated environment treatment which could avoid the inheritance of serious mitochondrial diseases, and
- Authority's decision to license the Francis Crick Institute in London to undertake research involving the new gene editing technique CRISPR-Cas9 in human embryos for the first time in a regulated environment.

2.2. These ground-breaking developments have been able to happen because of the public's support and trust in the HFEA and our regulatory framework.

Current landscape of embryo research in the UK

2.3. Although the UK has an international reputation for innovative research and clinical treatment, the total amount of embryo research activity in the UK is relatively small. We currently license 21 research projects and receive around

two research applications per year. The level of embryo research activity in the UK during 2015 is set out in the table below:

Embryo research activity in 2015			
No. of fresh embryos donated by patients and received by researchers	No. of fresh embryos used in research projects	No. of frozen embryos donated and received by researchers	No. of frozen embryos used in research projects
604 fresh embryos	588 fresh embryos	1154 frozen embryos	990 frozen embryos

Facilitating embryo research

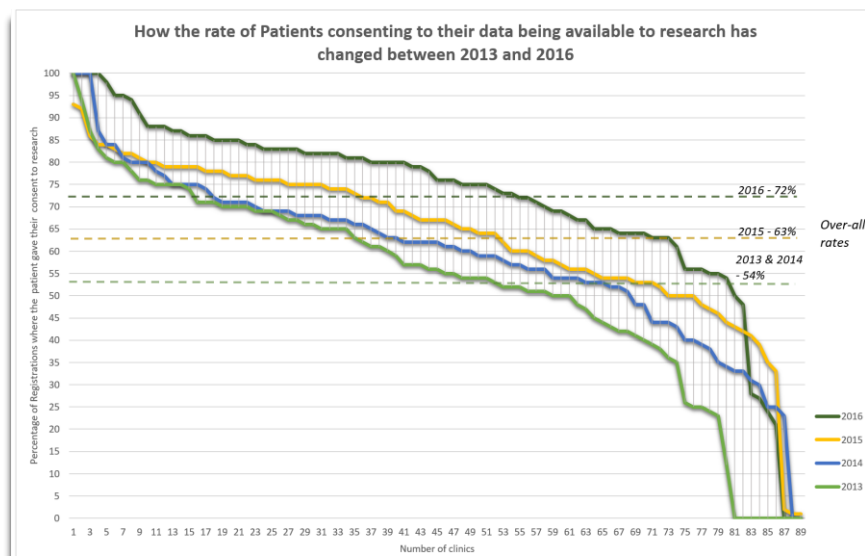
- 2.4.** To explore how we can best help facilitate research on human embryos we are carrying out a wide-ranging project on embryo research. A key part of this work is how we give patients greater opportunity to donate embryos to research if they so wish, and how clinics can have improved access to donated embryos for research projects. Early feedback from the sector presents a complex picture with different issues affecting different types of clinics.
- 2.5.** From the research phase of this project, we have found, perhaps unsurprisingly, that clinics who carry out research or have well-established links to research projects generally find it easier to access donated embryos. They have established procedures for providing information to patients about the merits of research and for supplying donated embryos to research.
- 2.6.** However only a small number of clinics are in this position. The majority do not carry out research, neither do they have established links to research projects. As a result, these clinics have less incentive to provide patients with information about research or to form collaborations with research teams to supply them with embryos for their research. This means that it can be harder for patients at these clinics to find out information about research or to donate their embryos because there is not the necessary information provided, or the practical administrative processes in place to do so.
- 2.7.** Another key area of this work is to review the patient consent process for embryo research and how this affects the availability of embryos. We currently require clinics to obtain patient consent to donate embryos for a specific research project. Initial feedback suggests that requiring specific consent for a research project (rather than, for example, obtaining generic consent) presents a significant barrier to researchers. This may be creating:
- an obstacle to honouring patients' wishes to donate their embryos to research; and
 - contributing to fewer embryos being available for research than might otherwise be the case.

Next steps

- 2.8.** Over the coming months we will be continuing to explore potential barriers to embryo research. We will develop ways of overcoming the barriers to clinics (especially large clinics) collaborating with research teams.
- 2.9.** We will also be seeking further views from patients to explore whether specific consent remains appropriate, and look at the merits (or otherwise) of adopting different models for generic consent. To this end, we will shortly be issuing clinic and patient surveys and contributing to the Health Research Authority's patient consultation exercise on generic consent. We will return to Authority in June to incorporate changes into the Code of Practice for October 2017.

3. Improving consent rates for data research

- 3.1.** We also regulate data research – a key area that can drive up the quality of information patients receive about fertility treatment. We are in the unique position of holding HFEA register data, dating back to 1991, about donors, patients and children born as a result of those treatments. This can be used by itself or linked to other data sets and several important studies have been published in recent years using HFEA data. Those working in the IVF sector, professional researchers, or research organisations, can access this data – via either the anonymised register or patient identifying data, where consent is provided. It is important that the Register can be used to best effect to promote understanding and facilitate good research.
- 3.2.** To maximise the amount of data available to researchers, clinics should be providing good quality information to patients about the value of data research before they are asked whether they consent to the disclosure of their identifying information. However, we know from a review in 2014 that:
 - only around half of patients give their consent to disclosing their information to researchers
 - the rate of consent varies substantially across clinics
 - the most significant factors in obtaining consent are how patients are given information, and whether the staff giving that information perceived consent to disclosure to be important and desirable.
- 3.3.** Following the review, we amended the consent to disclosure form to make it easier for clinics and patients to understand the different consents to disclosure and provided more information on the form about the types of research their data could be used in, and the value of research, if they gave their consent.
- 3.4.** The following graph shows the rate of patients consenting to their data being available to research (either contact, non-contact or both) on the vertical axis, and the number of clinics achieving those rates on the horizontal axis. The horizontal dotted lines show how this has changed between 2013 and 2016.



3.5. The graph shows that in 2016 the overall rate of consent was around 72% - an increase from 63% in 2015 and 54% in 2013 and 2014. However, despite this welcome improvement, there is still a marked variation in the rate of consent between clinics - in 2016 only half of clinics (some 45 clinics) achieved a consent rate of 75% or higher; in the remainder consent rates that were lower than the average, some as low as 0-30%. This suggests that there is still a variance in how information is provided to patients and the potential impact of the attitudes of clinic staff on consent rates.

Next steps

3.6. Over the coming months we will work to increase patient awareness of data research (along with awareness of embryo research). We will be holding a clinic-led research workshop at the annual conference, where we will discuss with the sector the best way of providing information to patients and look at the potential reasons for the fluctuation of consent rates across the sector. Other actions we will take, include:

- Developing a patient leaflet on data research to provide patients with more information about the types and benefits of research.
- Exploring the advantages and disadvantages of setting a minimum target for consent to disclosure rates (in a similar way as we introduced a minimum target for reducing multiple births) to help the Inspectorate measure the effectiveness of the clinic.
- Making data research a key part of our Information Policy which will be developed by the new Intelligence team. This will set out how we plan to work differently to carry out and facilitate data research to improve the quality of fertility services.

4. Promoting responsible innovation for new treatments

4.1. The final area of research that our 2017-2020 strategy focuses on is how we promote responsible innovation – particularly encouraging clinical research on new fertility techniques. Some of these techniques, such as preimplantation genetic screening, fall within our regulatory remit and others, such as reproductive immunology, do not. In January, the Authority noted its concerns about the apparent proliferation of fertility treatment add ons that have not been rigorously tested in a clinical trial setting before being offered to patients. This section of the paper summarises those discussions.

4.2. Treatment add ons are not a straight forward issue. We do not want to create a situation in which innovation in fertility treatment is stifled and there may well be a place for treatment add ons in the clinic. However, we want patients to have access to good quality, reasonably-priced treatments which maximise their chance of a pregnancy and birth. The Authority agreed that there is an important role for us to play in achieving that goal.

Next steps

- 4.3.** We are taking the following steps to encourage more robust clinical research:
- Our Scientific Clinical Advances Advisory Group have produced clear, honest information for patients about add ons; how safe they are, whether they work to increase pregnancy and birth rates, and how much they are likely to cost.
 - We will encourage more clinics to participate in clinical trials by publishing on the new HFEA website information about which clinics are carrying out clinical trials and providing information to patients on how to get involved.
 - We will use our new Intelligence Team to carry out a thorough analysis of our data and encourage clinics to carry out studies and publish their findings – all carried out through collaboration with scientific and clinical professional bodies, patient organisations and perhaps scientific publications.
 - We will develop a consensus about responsible innovation in fertility treatment that we could agree with stakeholders and encourage clinics to sign up to. Our success with changing professional and patient attitudes towards single embryo transfer suggests ways that we could make progress, utilising the same style of collaborative working, coupled with an effective public education campaign.
- 4.4.** We will bring a plan for the above work to the Authority later this year for further discussion.

5. Our role on emerging research

- 5.1.** Scientific developments in this field move at a fast pace. Often this can lead to ethical, legal and societal debates on the implications of these developments long before they become a clinical reality or are lawful. SCAAC frequently considers scientific developments which may impact upon clinical practice in the long and short term.
- 5.2.** As noted above, as part of the 2017-2020 strategy we want to do more to respond to new scientific developments and associated reporting, correcting myths and misunderstandings, where necessary. We have done something similar on specific issues in the past, but our new strategic ambition may be interpreted by some as a sea change in the willingness of the Authority to do more to facilitate or contribute to debates on potentially contentious areas of science.
- 5.3.** This new stance raises an important question about when and how we could do more to facilitate or contribute to ethical or legal debates on new research. To date, we have tended to remain relatively quiet on issues which call for a change in legislation, or which have no short-term prospect on affecting fertility patients, preferring instead to provide advice to Government when requested. This is the approach we have so far adopted on issues such as:
- Extending the 14-day rule on embryo research
 - In vitro derived gametes
 - The use of mitochondrial donation for infertility reasons
 - Future use of gene editing in human embryos for disease avoidance
- 5.4.** As the regulator, we are constrained in how and when we can comment on certain areas of emerging research. First, unlike advisory bodies or think tanks, we perform an important statutory licensing function which means that we must be able to make impartial and credible decisions. Some may argue that taking a public position on an issue might make it harder to take such licensing decisions securely. Secondly, as a public body we should not publicly lobby the Government to change the legislation.
- 5.5.** Our approach to date has often had clear benefits for us. Our role in the debates to permit mitochondrial donation to avoid serious mitochondrial disease allowed us to provide important impartial advice to the Government. We were well positioned to carry out public dialogue work on the ethics of mitochondrial donation and to commission reviews of scientific evidence into the safety and efficacy of the techniques. To have voiced an opinion during the debates – either in support or against changing the legislation - may have compromised our credibility to carry out this important work.
- 5.6.** Although this approach has clear benefits in an issue like mitochondrial donation, it may be possible to take a different approach on issues which do not result in our having to take statutory decisions. People often look to us, as a well-respected public body, to provide advice and expertise on areas of

emerging science. As a statutory regulator with both domestic and global reach, do we have a moral responsibility to facilitate debate and/or provide a comment on the wider consequences of emerging science? Do we have a responsibility to our patients to provide earlier advice on ethically or legally contentious issues? What could we lose or gain in being more vocal? By remaining silent on emerging issues do we risk missing out on the opportunity to input into important debates earlier? By not doing so, are we more likely to be on the back foot when it comes to providing patient information and advice about the potential implications of new scientific developments?

5.7. The Authority is therefore asked to consider how we can best balance our aim to do more to facilitate research and support responsible innovation whilst being mindful of the constraints we face as a statutory regulator. The Authority may want to consider which, if any, of the one or more approaches below we could take, depending on the emerging issue:

- Use our experience in carrying out public engagement work to do more to facilitate ethical and legal debates on areas of emerging science – either with or without providing an opinion or recommendation
- Use our expertise more to provide information in the public domain on areas of emerging science (ie, responding to press enquiries, attending domestic and international conferences, speaking at debates) - either with or without an opinion or recommendation
- Provide a balanced overview of the ethical and legal considerations of emerging issues for patients on our website - with or without an opinion or recommendation.

6. Summary

6.1. Members are invited to

- note the steps we plan to take to improve the quality of treatment, by encouraging world class research and clinical trials across all types of research we regulate. What is clear is the important role we can play in encouraging a culture shift in clinics to be more research focused. This is in the interests of all clinics as it is in the inherent interest of their patients. We will achieve this by working collegiately with clinics and professionals and by using every channel we have to make an impact.
- start exploring our role on emerging issues and how we balance our regulatory responsibilities with our ambition to use our highly regarded position to do more to combat myth-busting and provide patient information about emerging research.

6.2. The Authority's discussion today will help frame our work and priorities over the next three years as part of our renewed focus on engendering high quality research and responsible innovation as set out in our new Strategy for 2017-

2020. It will also provide valuable direction to the new Intelligence team and the formation of an Information Strategy to improve quality across the sector.