STANDING COMMITTEE ON HEALTH

COMITÉ PERMANENT DE LA SANTÉ

EVIDENCE

[*Recorded by Electronic Apparatus*]

Thursday, May 17, 2001

• 1122

[*English*]

The Acting Chair (Mr. Stan Dromisky (Thunder Bay—Atikokan, Lib.)): Order.

We're very fortunate today to have, from the Canadian Fertility and Andrology Society, Dr. Arthur Leader, chief of the reproductive medicine division at the University of Ottawa, Dr. Gosden, research director, Department of Obstetrics and Gynaecology, McGill University, and Dr. Léveillé.

Thank you very much. Who is going to start the presentation?

Dr. Arthur Leader (Chairman, Government Relations Committee, Canadian Fertility and Andrology Society): Thank you very much, Mr. Chairman, members of Parliament. We want to thank you for giving us the lead opportunity to speak with you regarding the draft bill.

We are at this point regarding this as a technical discussion as opposed to a specific discussion of the elements of the draft bill recently submitted by Minister Rock. We're eager to participate with the committee in its deliberations on the draft bill. We see this as the first of perhaps two or three potential consultations.

Our overall approach is that we favour an integration of the bench-to-bedside-to-community approach in the creation of new knowledge, in the provision of clinical services, and in the improvement of the human condition.

Just to tell you a little bit about our society, we are the Canadian society for reproductive medicine and sciences. We were founded in 1954. We are a voluntary association of about 400 physicians, scientists, and health care and laboratory professionals dedicated to improving reproductive health and advancing the scientific understanding of human reproduction.

Our mission is to promote research into and education about reproductive health; to provide accreditation expertise in the processes for measuring the outcomes of the therapies we offer; and to respond to social needs with regard to human reproduction.

We have over the past 40-plus years developed a national and international profile. These are just some of the highlights for those of you who aren't aware of our association.

Dr. Bruce Murphy is a member of our society. He is also a board member on the human development, youth, and child health institute, one of the institutes with the CIHR.

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We currently are recognized by the Royal College of Physicians and Surgeons as an accreditor to grant educational credits for specialists in the field of reproductive medicine.

We have been invited by the IFFS, the international federation of all fertility societies in the world, to host the world congress in Montreal in 2004. With the SOGC we published a document a number of years ago on the ethical issues associated with assisted reproduction. That is available to the committee.

What we'd like to do today is talk about how we've been involved in the development of national standards for assisted conception clinics—first, accreditation standards, to promote the best patient care and quality of care in the laboratory, and second, management standards for reproductive tissues for transplantation, to ensure the safety management of reproductive tissues—such as sperm, eggs, and embryos—for transplantation.

We have in both these ventures partnered with national organizations, some of which you're familiar with, including Health Canada and some others that Dr. Léveillé will talk about, such as the CCHSA.

We also want to talk about the important scientific research issues that touch on the draft bill at hand. We'll close with information on the IVF data registry, which we have established voluntarily and now maintain.

I'm going to call first on Dr. Léveillé to talk about the development of national standards for assisted conception clinics, followed by Dr. Gosden, who will talk about the important scientific research issues, followed by me.

Dr. Léveillé.

[*Translation*]

Ms. Marie-Claude Léveillé (Director, Clinic Laboratory, The Fertility Centre, Ottawa): I am pleased to be here today.

I will make my presentation in English, but I will be pleased to answer questions either in French or in English. Here is my presentation.

[*English*]

My role here is to give you an idea of where we are with the development of standards for assisted conception and to give you an idea of the role that CFAS has played in developing these standards.

If we start with the accreditation standards, the goal for these standards is to basically promote best patient care and quality of care in the laboratory. The partners in that venture were the Canadian Fertility and Andrology Society, the Canadian Council on Health Services Accreditation, Health Canada, and the Society of Obstetricians and Gynaecologists of Canada.

If we look at the history of this activity, in 1992 it was identified at the CFAS that accreditation should be a strategic direction for the society. In 1993 there was the report of the Royal Commission on New Reproductive Technologies, and in 1993 as well the CFAS and the SOGC decided to have a joint committee on accreditation.

In 1994 we realized that the CFAS didn't have the expertise to run an accreditation program by themselves, so they partnered with the Canadian Council on Health Services Accreditation, which is a well-known organization that has been doing accreditation across the country for many years. It's a non-profit, non-governmental organization. It was founded in 1958 and it has been involved in developing standards for many different health organizations, including acute care and long-term care organizations. It has been conducting voluntary accreditation surveys for many years. So it seems to be a perfect fit for the CFAS to partner with that organization to develop standards for assisted conception clinics.

We also were really happy with the approach of the CCHSA, based on four key points—improvement of quality of care and service, performance indicators, an internal self-assessment process, and an external peer review process—that are really in line with the CFAS approach to developing standards for assisted conception in this country.

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In 1994 came the development of draft clinical and laboratory standards for assisted conception clinics. In 1995 we organized a pilot voluntary accreditation program in five university-based centres to survey across the country, from Halifax to Ottawa, Hamilton, London, and Calgary. After that pilot exercise there was a follow-up evaluation of the people involved and where we should go from there.

Everybody involved in this saw it as a good opportunity to share interests and improve care, but there was also an indication that there should be some improvement in the process. The first would be basically a better orientation of the clinic to the self-assessment process. People did not understand the process very well at that point. As well, there was an indication that formal training of the surveyors would be of benefit.

The second phase, between 1996 and 2001, with funding from Health Canada, was to basically go ahead and review and update these standards and to develop a set of performance indicators. At the same time, the CFAS saw fit to start to organize on an annual basis a meeting of the IVF directors. The idea was to basically have a general discussion on the volunteer accreditation program, the development of accreditation standards, the development of performance indicators, and the logistics of data collection.

Where are we now, in 2001? We actually do have a revised document of CCHSA accreditation standards for assisted conception. In the document we are going to work with, part of it contains the general standards used by CCHSA for all health care organizations, including leadership, information management, human resources, and environment. There is a section that is specific to assisted conception. That section includes two different subsections, one on clinical services and one on laboratory services.

Just to give you an overview of these specific standards, if we look at clinical services there are key points addressed: health promotion, patient assessment, diagnostic services, informed consent, and delivery of services. On the laboratory side there are all the more technical points of assisted conception: the design and space for the laboratory component, the instruments, the solutions, and the processing—namely, the collection and handling of gametes and embryos. There is also a question addressing research on human gametes and embryos.

Just to give you an idea of what is in the current document on the research on human gametes and embryos, there is an indication in the document to ensure that, when the clinic does these activities, they meet protocols and standards—that is, they actually get a patient's informed consent and board approval to do the research.

As well, there is an indication that these activities are undertaken to develop and improve lab services. As an example, quite often research is done to improve the laboratory procedure and to develop new procedures that could optimize the results of assisted conception.

There is a point about staff training, too, which is also very important. Another area of these activities that would be undertaken is a better understanding of human reproductive processes.

Now, in the third phase, which we are hoping to be able to do between 2001 and 2003—this would be in the fall of 2001—we hope to get the final approval, with all of the IVF directors, of this revised document, and then in 2002-03 to go ahead with volunteer accreditation of all the IVF clinics.

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The other set of standards that CFAS has been involved with, the safety management standards, are more along the idea of safety management of reproductive tissue for transplantation. For the background of the development of these standards we have to go back to 1988, when CFAS published their first guidelines for therapeutic donor insemination. These guidelines were practice guidelines for the people in the field. These guidelines were revised in 1992 and 1996. In 1996 we got the regulation on processing and distribution of semen for assisted conception. In that regulation there were references to the CFAS guidelines as a document to use for reference.

In 1999 there was notice of non-compliance to the semen regulation by some clinics. It came to a point where there was a need for the revision of the 1996 guidelines from the CFAS. There was also a need for input from infectious disease experts.

In 2000 there was a revision of the CFAS guidelines by an expert working group of Health Canada. That group has on its board infertility experts and infectious disease experts. In July 2000 Health Canada published a directive on the technical requirements for therapeutic donor insemination. This is the document that is now referenced in the semen regulations.

During the same period, there also another larger undertaking about the organ and tissue transplantation standard, which was actually a recommendation from this standing committee that there was a need in this country for the development of, referencing in law, Canadian general standards for safety of organs and tissues. It is my understanding that the Canadian

Standards Association is expecting to publish these standards in 2003, and they will have a technical committee that will be reviewing and revising these standards on a regular basis.

What was the contribution of the CFAS to this part of the development standards? Members of our society were appointed to the expert working group to help develop the standards for reproductive tissue.

Thank you.

Dr. Arthur Leader: I'll now ask Dr. Gosden to speak on our behalf.

The Acting Chair (Mr. Stan Dromisky): Thank you.

Dr. Roger Gosden (Member, Government Relations Committee, Canadian Fertility and Andrology Society): Members of Parliament, ladies and gentlemen, I'm very privileged to be able to present today scientific background on assisted reproductive technology. I'm not speaking on behalf of researchers in Canada. My role is to provide you with the background to some of the work that is going on today, some of the areas of progress, and some of the problems we face.

I think I can say on behalf of my colleagues throughout Canada that we do welcome legislation in this area. I say that because I worked in the U.K. for a long time, where there has been legislation in place since the early 1990s, and if it's appropriate at a later time I'd be happy to describe my experiences working as a researcher associated with a clinical service in that country.

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I start from the premise that clinically assisted reproductive technology without research on gametes and embryos is unethical. I don't think that should be a controversial statement, because it is firmly embedded in medical ethics and based upon the emphasis throughout the medical world that we should provide medical services on the basis of excellent scientific evidence.

I want to tell you about the type of work that is going on today using human embryos and gametes—eggs and sperm—and why it is necessary. First of all, I'm going to list the major topics, and then I'm going to select some, including testing the safety of assisted reproductive technologies, or ARTs, and avoiding inherited diseases and producing embryonic stem cells.

First, of all, however, with regard to improving assisted reproductive technologies, these have been with us for over 20 years, but this is still a relatively young subspecialty in medicine. As well, the technology is as yet imperfect. Only about one in four or one in five treatment cycles results in a live-born baby. We can do better. There has been progress. But research on gametes, and in special circumstances on embryos, helps us to identify the problems.

I'm going to say more about the testing of safety of assisted reproductive technologies, because I think this is very important too. Because of the rapid progress in this field, sometimes the technologies have moved ahead of the science, and we don't always know what all the implications are of these new technologies for the well-being of both mother and the child-to-be.

Discovering the causes of infertility by looking at the very early events in human reproduction—fertilization and early embryo development—we may be able to understand why some people have problems. It is perhaps one of the most common medical problems throughout the country. According to various estimates, 10% to 15% of couples have problems conceiving. If we understand the causes, maybe we can in the future introduce some preventive measures.

The fourth reason is avoiding inherited diseases, diseases that are transmitted from generation to generation. There are about 4,000 described, many very rare but some remarkably common—cystic fibrosis, for instance. It may be that in the future, assisted reproductive technology will have a larger part to play in avoiding inherited diseases.

Next is finding the causes of birth defects. There are various influences, perhaps in the diet, perhaps in the workplace, perhaps in the environment generally, or perhaps in drugs that can interfere with the well-being of the very early embryo. Research on these eggs and embryos and sperm can help us to understand.

Producing embryonic stem cells is a new technology that has enormous potential. It is based on using embryo cells, derived from spare embryos. I will say more about this shortly.

Finally, there's innovative contraception. I'm not going to say much about this, but I've always thought that some of the problems we've observed in infertile couples who are otherwise perfectly healthy might provide the ideal strategy for those who wish to control their future fertility. Understanding the causes of infertility may thus have a positive feedback effect on contraceptive development.

I'll now give you a little bit more detail.

Testing the safety of assisted reproductive technologies is very important. When assisted reproductive technology was launched back in the late seventies with the birth of Louise Brown, nobody knew for sure whether the baby would be healthy. All the animal experiments suggested that she would be. And she is. There is no evidence whatsoever, from now upwards of half a million babies born around the world from assisted reproductive technologies, that there's any increase in birth defects of any kind. Nevertheless, there are new technologies being introduced, and we must safeguard the children and the parents. That requires research, and in some cases at these very early stages of development.

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Perhaps the most dramatic example is sperm injection technique. Intracytoplasmic sperm injection, or ICSI, was introduced in the 1990s. It is depicted here. Here is a human egg. This is the egg cell itself. It has a membrane around it. This is a polar body, which is a bit of cytoplasm with a spare set of chromosomes that has been expelled. But I'll mention more about that in a minute.

The egg has been collected from the woman after hormone stimulation, mounted on a pipette, a glass straw, and then the sperm, which is tiny, inside this other little needle-like pipette, is injected into the egg.

This technique revolutionized male infertility almost overnight. Before, men who had very low sperm counts could only become a father through sperm donation. Now, for a very large proportion of those men we can find enough sperm to assist fertilization so that they can become genetic parents too.

But it is important to know, what are the risks of the technology? Where to place the pipette and inject the cell? What about the fluid that's injected into the cell? These are questions that are not fully answered yet.

Second, there is in vitro ripening of eggs, or IVM. This is a technique you may have seen in the news about 18 months ago. There is a clinical trial in Montreal where a technique that would revolutionize in vitro fertilization technology has been tried out, with the aim of reducing drug treatment to the woman and reducing any risks by collecting eggs during the natural cycle.

These eggs are collected while they're still immature. They are matured in the Petri dish or test tube.

And this technique requires careful monitoring, of course: Is fertilization normal, and is the embryo normal before it is replaced in the womb?

This very promising technique, which doesn't have as high an efficiency at the moment as routine IVF—that's why it's not been widely adopted—needs to be perfected. I'm sure it will be welcomed by many patients as an alternative to the present technology, which has remained pretty much the same for a decade or two.

The third area is cytoplasmic transfer, or nuclear transfer. I'm just going to talk about cytoplasmic injection because that was in the news just two weeks ago. It was headline news: “American researchers at St. Barnabus Hospital have created genetically transformed children”. That's the way the news story was spun.

It's true that it's not a technology we are performing in Canada, by the way, and in my view it's far too premature for us to do so, but it has a worthy aim. The aim is to help women who are slightly older than the optimal fertile age—say, fortyish—and whose eggs have deteriorated in quality, or those who for some unknown reason have eggs that are difficult to fertilize or don't have the normal viability.

The idea is that there's something in the cytoplasmic jacket around the DNA in the cell that is deficient. The researchers have transferred some of this cytoplasmic jacket, containing the proteins, from a young donor woman's egg into the patient's egg in the hope that it's going to improve the quality of the egg. They've reported 15 viable pregnancies in their centre, and there are apparently about 30 in the world.

The aim is to avoid the need for egg donation by helping to rescue these eggs. But I wouldn't encourage this technology until further research has been done to prove its safety and its effectiveness and to optimize the technology.

So that is another reason, I think, we should be considering research on eggs and embryos.

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Now, as to avoiding inherited disease, this is a very large subject. I'm only going to be able to touch on one or two topics.

First of all, I would emphasize that there are two ways of checking whether an egg has an inherited mutation or whether there's been a chromosomal error during the division of the cell, so that the chromosomes split equally, to produce a normal set of chromosomes.

You can see in this picture, by the way, extracted from the egg a very tiny spindle apparatus, as we call it. The green are like muscle cells that separate the chromosomes when the egg is fertilized. The chromosomes containing the DNA are purple. They're held at the equator, and when the egg is fertilized the chromosomes there will split. There are 46 of them. They will split into the two sides of the egg. One will form this polar body structure, which is discarded, and the other will retain 23 chromosomes. That is made up by the sperm's 23 chromosomes. And that is how fertilization happens.

But sometimes the DNA from either the egg or the sperm has some type of mutation, whether of chromosome number or a difference in the coding of the DNA that leads to some kind of problem in the embryo, in the fetus, or later on.

These can be tested at different stages, either the polar body, that little speck of cytoplasm containing chromosomes that's emitted, that is waste.... That is very attractive because it doesn't interfere with the egg or the future embryo. But it has only limited applications. We can't get the full information for certain types of conditions. That is why genetic testing of embryos is also carried out. This is called pre-implantation genetic diagnosis. It is being carried out on a very limited scale on a research basis in Canada right now, but there are about fifty centres worldwide.

Sometimes the single gene is screened, but I'm not going to show you the technology for that because it's a little bit complicated. Sometimes the numbers of chromosomes are counted. And this is what is shown here. These are actually the nuclei of embryos.

Consider an embryo at an eight-cell stage on day two to three and taking one of those embryo cells, which we don't believe causes any damage to the rest of the embryo. It's like taking a blood sample, in a way, except it's a rather larger biopsy, proportionately speaking. That one cell is then tested with probes, coloured probes for different chromosomes. We can't easily test all of the chromosomes at the moment, but we can do about eight or nine at a time.

So in the nucleus are all of the 46 chromosomes in the normal cell. In a cell that has had an aberrant division, there may be an extra one—for instance, an extra chromosome 21—which you can see from the number of coloured spots, these three coloured spots. Sometimes there is faulty division and there's a doubling of the number of chromosomes, so we get four sets instead of the normal two. Sometimes fertilization fails and there is only a single set of chromosomes. Maybe the sperm didn't enter properly, but the egg does divide to form a sort of embryo. But it won't go very far. It will undergo a miscarriage. Here we can see that this one is also unviable.

So you can see, ladies and gentlemen, that it is possible, using the screening technique, to identify the embryos with the highest viability, with a normal set of 46 chromosomes. This technology then allows one to avoid miscarriage—that is the fate of nearly all of these problems—and thus to increase the success, we think, of assisted reproductive technology.

In vitro fertilization, and in the body with natural fertilization, means there is a huge wastage of embryos. For reasons that are not fully understood, and that we need to address in research, many embryos do not make it. Even though they may look good, the majority do not make it.

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For instance, here, from some research my colleagues have been carrying out, these are human embryos that have been screened. They're spare embryos that would otherwise be discarded. Their chromosomes have been checked. We find that only one-quarter, or 26%, are diploid—that is, with a normal set of chromosomes and thus the most viable ones. The rest have various problems. The anuploid group might include ones with an extra chromosome 21. Most of those also miscarry, but occasionally they will be born Down's Syndrome.

I want to move on now to the third area of research I have selected, embryo stem cells. To introduce this, I want to point out that in the early embryo there is a very primitive cell type, called the embryonic stem cell. These cells—and there are perhaps a dozen of them, although we're actually not quite sure how many—are the mother cells of all the organs in the body. During the development of the embryo these cells divide. They disappear themselves, because they change into more specialized or differentiated cell types, three basic cell types—ectoderm, endoderm, mesoderm—from which all of these different organs, indeed all the rest, are derived. So you can see the importance of this cell. This is the basis of the excitement internationally in stem cell technology.

Now, this is an embryo from which embryo stem cells could be derived. It is about day four or day five, and it still has the membrane around it that you saw before. It's still at the free-floating stage and is about at the stage when it could be put back into the uterus, or womb of course. But with spare embryos, a group in Wisconsin has derived from these the inner cells, here, of the embryo in vitro. They basically removed those cells and put them into a nutrient medium in the test tube. They found that the cells multiplied and that they were able then to control their development in vitro.

This was demonstrated in the mouse, in fact, by some of my very close colleagues 20 years ago, but it took 15 years before these were found in human embryos.

Why are we interested in these? Well, these primitive cells are self-renewing. You can produce millions of them. At the same time, if you expose them to certain molecules or hormones, you can channel them into forming pancreatic islet cells, etc. Many different cell types, perhaps every cell type in the body, could be generated in vitro from these cells and then be used for what we might call regenerative medicine to treat degenerative diseases like Parkinson's, type I diabetes, cancer, and so on.

That is why research on these embryos is so important in the view of researchers around the world. But it is still at the very early stage of development.

Another reason for studying embryo stem cells in vitro—and of course these cells at this stage have no capacity any longer to form a baby, being just part of the embryo—is that we could use those cells to test drug toxicity, potentially. For instance, we suspect there are many substances that could interfere with early development to harm the baby or the embryo. So instead of testing them on animals, which are not always the most reliable test subjects, we could do this on human cells to see what happens to the development of those cells, to determine whether they cause problems. The substances are known as teratogens. The most familiar example, of course, is thalidomide, although that has an effect at a later stage of development. We may be able to screen for drugs, dietary factors, and environmental factors that might harm the early stages of human development with lifelong implications.

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Third, these embryo stem cells help us to understand more about the early development of humans, how a cell transforms from being a very primitive cell into a differentiated cell. Why is that important? Well, it may help us to understand causes of infertility and miscarriage. On the other hand, it could have other implications.

For instance, in the case of cancer, we have a cell that is also very primitive in some respects. They're very much like embryo cells in some regards except that they are not behaving in a controlled way. We would like to be able to convert cancer cells into differentiated cells that cease to divide and are much more benign. This is exactly what happens during our own genesis from primitive cells, which have huge potential to do almost anything, into much more controlled and specific cell types. So embryo research may help us to understand more about cancer.

Last—and I thank you for your patience—I would like to say that one of the reasons we welcome legislation in this area is that, as it says in the preamble, it acknowledges the value of the new reproductive technologies for individuals and society in Canada. What researchers are concerned about, I suppose, is not only what are the penalties if we make a mistake, but also, what is the division between the categories of research and clinical treatment that are put in the prohibited category versus the regulated category?

If there is one message I would like to finish on, it is that I would say there are huge implications if we put many things into the prohibited category. Let me give you one or two examples of this.

We would like to develop egg freezing as a technology. The reason for this is that then we wouldn't have to freeze so many embryos, and I think everyone would welcome that. Second, we would like to carry out further studies to improve the in vitro ripening technology. I think doctors and patients agree that this is in theory a much more attractive technology to the existing in vitro fertilization.

Now, what is the boundary between doing embryo research and creating research embryos and doing a clinical trial to produce a baby? I think researchers are going to be very cautious and very aware that if they're carrying out a procedure, one aimed at producing a baby but using a new technology—perhaps involving freezing or egg maturation or ripening in vitro—there is the possibility that, first of all, their hospital ethics committee will say, “You're contravening the act”, or there will be criminal repercussions from carrying out a procedure that, although intended to produce a baby, actually was involving research in a strict sense. Because when you do something new, you are collecting eggs, and need to observe fertilization, to to check that the embryo has undergone appropriate divisions, reached the right stage, before transferring it to the woman. You wouldn't do it otherwise. So that, in my mind, constitutes research. I think the committee has to be aware of this very grey area that we're working within.

One last example of this is germ line modification. I don't think there are many people who would welcome the idea of designer babies—that's largely a creation of newspaper hype—but the question of carrying out modification of the genome, the DNA, of embryos is obviously a very serious one. I think if this area is prohibited, it means there is no possibility, unless there is a new act in force, where we could correct a mutation that was lethal to the embryo or to the fetus or that would shorten the life of a child-to-be.

Although this technology is nowhere near at the moment, I think it could come in five to ten years, where it is possible to overcome a heritable condition in the family.

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It also would have implications in Canada for researchers working on somatic gene therapy—for instance, treating patients of reproductive age who are being treated with these experimental procedures for, say, cystic fibrosis. I don't think we can always exclude the possibility that this gene therapy will not affect their eggs or sperm, which would be germ line modification. Those researchers would have to be aware if this was a prohibited activity.

Thank you very much.

Dr. Arthur Leader: Mr. Chairman, perhaps I can come in with one last comment on the registry, because this is one of the items people have been concerned about. I just want to go through our IVF data registry. And I thank the committee members for their patience.

Why do we collect data? Well, we want to know what's going on and how that activity predicts the outcome so that we can better treat patients. If we're going to introduce new therapies, are they truly better? We need a reference point, which is what the data does. We need to identify risks, short-term to women and long-term to their offspring, to provide realistic options for patients, and to guide resource allocation.

In Canada in June of 1998, all of the IVF clinics came together and agreed on the need to collect data, and did so voluntarily. Software was distributed at the end of December, and in January 1999 the data collection started throughout Canada. Data has been sent in from hospital-based as well as independent or free-standing clinics across the country. The data collection in Canada is currently voluntary and self-funded. In other words, the costs of collection, of analysis, and of processing are funded entirely by the clinics themselves, with no external funding or support.

The data is submitted quarterly to the CFAS from each clinic.

Now, we're using the same database as is used by the Centers for Disease Control in the United States. They have given us that software package for a dollar, and we are reporting and collecting data in the same fashion as is done in the United States.

The annual report is made to IVF directors, and it's on their decision that the data is published. Without a full structure, as I'll explain, to visit the various sites to audit records, which is a very expensive venture—in the United States it's about $300,000 a year—they want to very careful that what is published actually represents the activity that goes on. Our next report is expected after our meeting in 2001.

In terms of outcomes for 1999, there were 4,290 IVF cycles started as compared with France, in the neighbourhood of probably 80,000 cycles a year, and the U.K., with probably the

same number of cycles. So it's not a technology that we're abusing in Canada, certainly.

The pregnancy rate is 26%, which compares favourably with world-class...with the United States and other larger countries, where there is more activity going on. Younger women had the best rates. So it's to the advantage, for example, of younger women to be treated rather than waiting until their forties to go through for treatment. The majority of people who got pregnant, 62%, delivered one baby, and there was a 26% twin-pregnancy rate. This is some idea of the data.

Our future plans are to develop a Canadian version of the database, which will require resources, and to identify areas for improvement, because we have different definitions in Canada compared with those in the United States—for example, in defining outcomes. We do not have a French translation of the database, which is unfortunate. The cost for doing that is prohibitive for a voluntary organization.

We need to secure adequate funding to analyse the data, to prepare reports, and to do data validation, which requires on-site inspection. In the United States the top 5% of clinics and the bottom 5% are routinely audited as part of the data registry. Again, this is an expensive function.

In conclusion, I want to thank you all for your patience in listening to our presentation. We certainly welcome your questions. We'd also like to extend to you the opportunity to visit any of the infertility clinics, be they in Ottawa, Montreal, or anywhere across the country, that members would like to visit.

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We also extend an invitation to the committee to visit any reproductive science research laboratory so that you have the opportunity to discuss with the researchers the activities they're undertaking, whether it be in Montreal at McGill, in Toronto at the Lunenfeld or in Ottawa or Vancouver.

If there's an area of interest, just let us know and we would be pleased to facilitate it. If it's easier for the committee, we can bring the people here for you. And we would honoured to come back to speak to this committee specifically as it considers the draft bill. As you know, the draft bill is fairly new in the public domain, and we haven't had time as an organization to meet and consider what our appropriate response would be to the items suggested.

So we would like to have the opportunity to come back to discuss the draft bill and our response to it. If the data registry is interesting for people, if they wanted more information on that aspect or on accreditation we would be honoured to come back and talk with you at a future time.

Again, we're eager to participate in this with you. We want to see an integrated approach to the issues of assisted human conception and would welcome the opportunity to meet with you again.

I'd like to thank you for the opportunity today and for your patience in listening to us. We welcome your questions.

The Acting Chair (Mr. Stan Dromisky): Thank you very much.

As far as returning to the committee is concerned, there's no guarantee of that, but we certainly will keep you in mind in case there is a need. However, once the final version of the bill comes out I'm sure you'll be most eager to share your perceptions and judgments pertaining to that bill. Please do keep in touch with us.

Your presentations were extremely comprehensive. I would enquire as to whether or not you have some documentation or copies of your presentations that you could give to the clerk so that they can be duplicated for all members. We certainly would appreciate that.

We're open for questioning—five minutes per person, including the response. Please keep your preambles as short as possible.

Mr. Manning.

Mr. Preston Manning (Calgary Southwest, Canadian Alliance): I'd like to first of all thank our guests for coming. I'm sure you'd all rather be in a laboratory or a clinic or a hospital rather than here, and we appreciate the time you've spent with us.

The question I'd like to ask—maybe I can pass you this piece of paper and you can all share it—really centres on what Dr. Gosden said in terms of the division between prohibited activities and regulated activities. As you know, in this bill that's one of the main things we have to decide, what gets prohibited and therefore incorporated in the statute and what goes under the category of regulated activity and therefore is subject to this regulatory body.

I wonder if maybe all three of you, or whoever chooses, could tell us, are there certain procedures and related research that you are convinced, in your own minds, absolutely should be prohibited? You mentioned that you want to keep that list very short, but are there some that in your judgment ought to be prohibited?

And we don't assume that you're all in agreement on this.

Dr. Arthur Leader: As I think I said in closing, Mr. Manning, we would like to come back with that list after we've had time to reflect on it.

Mr. Preston Manning: All right.

Dr. Arthur Leader: We have gone on record as saying that we oppose human cloning. We oppose what's called the reproductive cloning of another person. That's unequivocal. The issue of what should be prohibited and what should be regulated is, as you say, critical, but I think we'd be better able to do that after we've had an opportunity to consult our members.

Mr. Preston Manning: Would that be the same for all of you?

What about at the other end of the spectrum? Are you able even to say at this stage that...? Are there certain either procedures or related research that ought not to be regulated, at least by government? It could be subject to self-regulation by science...or by hospitals or by the infertility clinics themselves. Are there some areas that in your judgment ought to be self-regulated rather than regulated by government?

• 1215

Dr. Arthur Leader: I think currently there is a system in place in Canada, through the Federation of Medical Licencing Authorities, where the practise of medicine is regulated by the provinces. Therefore that aspect of medicine is self-regulated and would require a significant change and certainly provincial input.

As Dr. Léveillé pointed out, in the whole area of accreditation that is an area that is developing. Again, there is a history in Canada of health service facilities being regulated, if you like, through the accreditation process, so that the care of the patient....

Those are two areas where I think we can draw on existing experience and expertise, but when it comes to specifics of the technologies, I would ask that we have the opportunity to reflect further on that and come back to this committee at that time.

Mr. Preston Manning: Well, if you can fill out that chart for us, that would very good.

Dr. Arthur Leader: I think it's a good tool.

Mr. Preston Manning: I have one last question. We asked the departmental officials who were here last week for their definition of "related" research with respect to assisted human reproduction. They said, if I understood their answer right, it was research that involved the creation or the use of human embryos. The creation or use of the embryo was what sort of defined the scope of related research for the purpose of this bill.

I guess my question is, do you think that's a good way to define the scope of related research for the purpose of this bill? Because I heard Dr. Gosden talk about pre-embryonic testing, which, by the definition we got last week, would not come under this bill.

Are we right to zero in on the use of embryos as defining the scope of related research with respect to assisted human reproduction or do we have to look for something else?

Dr. Arthur Leader: I don't know. I think the issue is, again, how broad do you want to cast the net? You have to look at precedents. If you look at the Law Reform Commission of Ontario, or if you look at the federal Law Reform Commission—and this goes back to the eighties, so there's some precedent for that opinion—sperm and egg have human origins but they do not constitute personhood, and up to 14 days following fertilization is legitimate for undertaking research. That's been a recommendation that has international acceptance, whether it be in the U.K., through the Warnock commission, or whether it be the Law Reform Commission or the royal commission or the Medical Research Council.

So I think the whole gamut of activities comes under the concern for research—what you do to sperm, what you do to eggs, what you do to embryos—and the concept is that there seems to be a dividing line between day 14 and beyond and up to day 14.

Mr. Preston Manning: Thank you.

The Acting Chair (Mr. Stan Dromisky): Thank you.

Mr. Bonin.

Mr. Ray Bonin (Nickel Belt, Lib.): Thank you, Mr. Chair.

Thank you for a fantastic presentation. I've been in politics for 25 years, at every level except provincial, and I have always had a lot of trust and confidence in experts such as you. I still do. And this is the first time I've been put in a position of assessing possible legislation and having, on one side of my evaluation and final conclusion, a moral side.

• 1220 

I say this early in the stage because we're starting our study. This is a draft bill. Therefore, when it goes back to the House it will become a bill some day and come back to committee. Inevitably, I suspect, you will be back.

What I'm getting at is this. I know we will be getting witnesses who will speak of the moral issues from their perspective. We'll be faced with listening to that argument and assessing it. What I'd like to say at this time is that I would also like to hear from the experts.

I don't believe that just because you're a bishop you have all the morals and that just because you're a researcher you have none. I believe you are good people, as good as, and better than, most of us, and you do have these concerns. In your profession, you can be in support of something and say "Morally and ethically, I personally choose not to do that", but when you're a legislator, you choose to allow people to do it or not. Do you understand the dilemma we have? And we're not experts. I dare say not one of us is an expert. So we depend on all of you.

Throughout our study, I would hope that we would have assistance from all peoples to help us understand and be reasonable—and even attempt to be intelligent—in our approach to solving that problem that some of us may or may not have.

I guess there isn't a question in there, but I would ask others in your field who will be appearing to be conscious that we're looking for your side. You must know what, in the bill, the Catholic Church may have problems with. I'm a Catholic. I don't only want to hear about this from the bishop. I want to know the science part of it and where my bishop may be wrong.

So that's my message to you. You're here today and you may respond, but I hope it will be picked up by others. We're going through almost a year's process here, and it's very important that we understand and not just say "I'm against it, and I don't want to hear any reasoning".

This is not a question. It's just something that some of us have to deal with, and you should be aware of that.

Dr. Arthur Leader: I think it is a very difficult task. It's always easier, when you know that you're right, to be right. It's harder to know what *is* right. I don't envy you in your task, especially in a society that is multicultural and that has a multi-faith, multi-ethical background. It's more and more of a mosaic. It is very difficult.

As a clinician my responsibility is to do no harm to the patients I see or that others might see. That's why we've been involved in this process of accreditation. The colleagues who work in the lab want to make sure that the care people get—this is the accreditation side of it—is the best possible care, and they should be able to get that care across Canada.

The area that is, again, most difficult, the area raised by Mr. Manning and others, is what should never be allowed, what should not be allowed today, in regulation, but may be allowed tomorrow? Those values can change. We've seen that in other societies. For example, Germany, which has a total ban on embryo research, is now looking to undertake stem cell research. They see the health benefit there.

So it's very hard to integrate all of that. If we can help you, we'd be glad to, but we respect that it's a difficult job you have.

Mr. Ray Bonin: I know more now than I did before I came, so you'll know that I came here knowing very little.

Dr. Arthur Leader: Thank you for the compliment. I appreciate it.

Mr. Ray Bonin: This has been very interesting.

My understanding is that you must create a number of embryos in the hope that one would become fertile and create a person. The other embryos would be the ones within 14 days that would go to research. Is that correct? They would be used for research.

• 1225

Ms. Marie-Claude Léveillé: In general, what does happen is that we may get between one and twenty eggs from a patient. The control on this is not perfect. That's why you cannot guarantee a patient when you are collecting only three eggs.

We are facing a dilemma in the lab. Not knowing which eggs are the best eggs, we cannot go ahead and fertilize only three eggs so that we can transfer back three embryos. The only approach we have at this point is to fertilize all of them, which could be twenty. Basically we then continue to look at them for the next two or three days, and, by their morphology, by the way they look, and through experience and knowledge, we can identify the ones that we figure are the most viable. We would then transfer back two or three embryos.

Some patients will decide they want to have the other embryos frozen so that they don't have to go back to ovarian stimulation, go back through the entire process for the next time. They can come back and we can thaw three or four embryos and again transfer one or two embryos.

So, yes, for each case we are faced with embryos that don't look nice, and they are not the ones that will be transferred. They quite often will not be frozen, because we know by now that there is level of quality that needs to be there so that we can guarantee that when we thaw the embryos, they are going to survive. So there are, in some cases, maybe four or five embryos that we need to discard.

In the majority of the clinics in Canada, we have a system in place whereby we do ask the patients, before they enter this treatment, if they would allow us to use these embryos to do research. Quite often the patients will say yes. I think they do understand that if we are allowed to test a new type of medium, and if they come back in two years for new treatment, they might have a better success rate by allowing us today to look at the behaviour of these embryos in a different culture, different environment, or different conditions. Quite often, we will be using these embryos for these activities.

Mr. Ray Bonin: This is one of the decisions we will have to recommend. What I wanted to get to is this. As I said, I do have confidence in professionals and experts, as you are. Some day, I believe, you will be able to produce one embryo and know it will have all the ingredients to be a wonderful person. At that time, will we be in a position whereby we will be forced to create other embryos solely for research? That's one dilemma I'm going to have to deal with.

[*Translation*]

The Acting Chair: Ms. Picard.

Ms. Pauline Picard (Drummond, BQ): Thank you, Mr. Chairman.

You represent the Canadian Fertility and Andrology Society. According to what I have read, you also have links with laboratories. I would like to know if you only deal with assisted human reproduction. Is this your only area of research? Do you study in any shape or form the causes of infertility? It is not the first time that we are dealing with this issue and that the committee hears witnesses. We have done so at the time of the Baird Commission. A bill had been tabled. We heard many scientists, physicians, experts that are specialized in ethics, prominent people. I myself have tabled a bill to prohibit human cloning. Then we started all over again.

One issue comes back often. I understand that it may not be very interesting for scientists to study the causes of women's infertility at this time, when we are doing research on embryos, because there are a host of new technologies, all sorts of new discovery channels.

• 1230

I would like to know whether you are looking at these causes and what the status of your research is in this area. Do you not think that before offering an assisted reproduction technology to a woman who is sterile and who wants to conceive a child, we should first try to find the cause of her infertility?

[*English*]

Dr. Arthur Leader: If you use the word “you”, I think there is an interest within the medical and scientific community as to the causes of infertility and the prevention of infertility, and that's recognized as being important.

When we do our research, for example, many of us are looking at the influence of chlamydia on sperm function, on tubal function, on how the body normally works in situations, and why infertility results. There is an interest in that, and it's part of the research that goes on among the basic scientists, the clinicians, as well as those people who are interested in community health, and that spectrum is represented in this society. It's not strictly that we focus on the end point, which is really a treatment for the suffering of infertility as opposed to a treatment for the cause.

I'm sure you and the other members are aware that the larger cause is sexually transmitted infections and the prevention of those, and the effects on fertility of such things as smoking, substance abuse, and environment to some extent. When we see our patients, we counsel them to change lifestyles and we often intervene on their behalf if we can help them to change their workplace environment or other activities. It is an interest of ours.

We have focused on this area because it's the area that's probably most technical and maybe least understood by the committee. But there is a need, and we support the idea that there should be preventive measures instituted to prevent infertility where it is preventable.

The Acting Chair (Mr. Stan Dromisky): Madame Carroll.

Ms. Aileen Carroll (Barrie—Simcoe—Bradford, Lib.): I'm not a current member of the health committee, I'm a former member. I'm just replacing Monsieur Yvon Charbonneau today.

Listening to you was incredibly interesting, and I thank you for taking the time to come, particularly because this is the health committee. Having been a member here, I know we work with the minister who is very open to what his committee does. I was here for our study of herbal remedies, which of course doesn't come anywhere near to where this study that is before this committee is on the chart. But we came forward with a report with 54 recommendations and Mr. Rock accepted all of them, so this is the kind of parliamentary standing committee I would hope to see other committees emulate.

Certainly, the expertise you bring to all of us is incredibly vital. In that regard, I just had a couple of questions for Madame Léveillé. If I may just ask you, how old are the embryos that you are currently discarding?

Ms. Marie-Claude Léveillé: Do you mean the ones that would have been frozen?

Ms. Aileen Carroll: Right, but wait a minute and let me go back, then. When an embryo is frozen, the clock has stopped ticking.

Ms. Marie-Claude Léveillé: Yes.

Ms. Aileen Carroll: I assumed that. So once you make a scientific decision on the capability of that embryo to be successful, you are currently, by law, permitted how much time before you make that decision to discard? Is there a law, or is that the—

Ms. Marie-Claude Léveillé: There is no—

Ms. Aileen Carroll: There is none. So that's the 14 days.

Ms. Marie-Claude Léveillé: My understanding is that there is no law at this point.

In the program in which I am working in Ottawa, we started the freezing in 1992, and I think there are still some embryos that have been stored from that period, 1992-93, and are still in storage at this point.

The process that we have in place in our clinic is to call back or send a letter to these patients on an annual basis, asking them if they want to renew the banking of their embryos, if they will be coming for a new attempt, or if they want us to discard them. Some patients write back to us saying they just want us to discard them, and that's what we have been doing. But most of the embryos have been frozen and thawed for therapeutic use. Basically, the patients come back a year or two later for a new procedure.

Ms. Aileen Carroll: I see. Thank you for your answer.

• 1235

Dr. Gosden, in chatting with us about the freezing of eggs, which is an area in which you are currently engaged, I accept what you said, that it's premature at this stage—in all deference to Mr. Manning—to create it, chart it, prohibit it, and regulate it. I agree very much with that. It is premature. Nevertheless, I would ask you, having viewed as you would have the draft legislation, do you feel any of the prohibited or regulated techniques that are set out there are going to inhibit your work? Or am I premature with that question?

Dr. Roger Gosden: I'll try to answer as best I can.

Ms. Aileen Carroll: I think where you're going is very vital and very interesting for us lay people to comprehend. It's important to understand the distinction between doing this with the egg vis-à-vis the fertilized egg, the embryo.

Dr. Roger Gosden: I can only say that wherever we've discussed this, there seems to be the universal feeling that this would be a desirable technology, but it's very unreliable at the moment. It's so unreliable that we don't offer it to our patients, because the success rates are probably about a quarter of what they would be for freezing embryos. But we believe we can raise it. When it has risen sufficiently, then it would be implemented clinically around the world, I'm sure, so I believe Canadian researchers will want to be part of this effort to improve this area of reproductive medicine.

I can't comment specifically on the bill, but I was concerned to draw attention to the problems of interpretation that could happen, depending on parliamentary drafting of the term of what is a research embryo. It applies to a number of different topics. Some people think of creating research embryos—or embryos solely for research, to use the words that were used. That means certain things, but it could in fact encompass these sorts of procedures, perhaps, and others. One other one that I mentioned was the in vitro maturation of eggs, which I think would be widely accepted.

I think it may be very difficult to make a drafting that will encompass these areas so that the progress can go ahead without causing researchers and their ethics committees in the hospitals to say they are not sure about their position and don't want to test this precedent in the courts. It does seem there is a grey area that could emerge here, so I don't have any specific recommendations. I don't speak for anybody else on this. I'm just highlighting a potential problem.

Ms. Aileen Carroll: Thank you.

Thank you, Mr. Chair.

The Acting Chair (Mr. Stan Dromisky): Thank you.

Mr. Owen.

Mr. Stephen Owen (Vancouver Quadra, Lib.): Thank you very much for your very informative and expert testimony.

This area, of course, has the potential to be highly troubling. It already has shown immense promise. Throughout this decade we have been in a fairly advanced degree of practice or therapy, as you've described, that your organization helps to watch over and standardize. But it has been without regulation, without law, with, as you've described it, a voluntary code monitored by unaudited presentation of data. And this area, so potentially explosive, is also of high potential. But there we were, and now here we are.

• 1240

Turning to Mr. Manning's quadrant, it seems to me that, as we look across the research-to-therapy line, and then from prohibited to regulated, what we seem to be involved with here is research that is not separated from therapy in the way that, for instance, pharmaceutical research development is as opposed to investigations around very strict protocols before final authorization and full clinical practice.

So in many ways the research, and sometimes it's discrete, seems to be the therapy as well. It's really one process, which is going to make the division I guess even more challenging. That's more an observation than anything.

But my question would be in terms of the research you've been doing on the data and your analysis that has produced the percentage success rates among different age groups, which you've presented to us. In terms of the clinics that are involved in research therapy and, to a certain extent, are self-monitoring under voluntary codes and self-reporting without audit, what level of confidence do you have in the numbers you've presented in terms of success rates, since presumably there is some competitive relationship amongst the clinics that report to you? How confident are you that the view you have of the research and practice is an accurate one? Because as we build a regulatory regime through this legislation we'll of course want to benefit from and expand upon your experience.

Dr. Arthur Leader: First of all, the community is a small one. There are 22 centres in Canada. Most of them are based in university hospitals and therefore are subject to research ethics committees. We have not published centre-specific data, and it has been aggregate data, in order to avoid that issue of competitiveness. So in the spirit of aggregate data the centres have submitted their data.

The reason it cost $500,000 to develop the program that was used is that it is a program where, once you've entered, you can't go back and modify your data. So to that extent there is

an audit. You cannot alter the outcome and you are required to enter in every patient. The on-site audit is simply yet another step. But within the program there are safeguards to assure that people are not excluding their worse cases and only including their best ones.

So the data I think is secure in that regard and the fact that it's aggregate means that people are not going to be altering their data to have a better success rate than the others have. So I think it is reliable.

The Acting Chair (Mr. Stan Dromisky): Thank you.

Mr. Castonguay.

Mr. Jeannot Castonguay (Madawaska—Restigouche, Lib.): Dr. Gosden wants to answer, I believe.

The Acting Chair (Mr. Stan Dromisky): Dr. Gosden.

Dr. Roger Gosden: I have a follow-on, if I may, based on the U.K. experience.

I think everyone agrees that patients should know what success rates are and that there should be quality control. In the U.K. there is what has become known as the league table, where the hundred-odd centres have their success rates published in the newspapers. The data is collected nationally by the regulatory body and becomes public.

I think it's important to recognize that while you can see many merits in that system it has introduced there the competitiveness that Dr. Leader has mentioned. The side effect of this is that centres have been suspected of only selecting patients who offer the best prospects of treatment success. So individuals with harder cases, for whom treatment is maybe very justifiable but who are not going to contribute to a high success rate, tend to be dropped. This is perceived as being a problem.

So I don't know how you get around it. That's just an observation.

The Acting Chair (Mr. Stan Dromisky): Mr. Castonguay.

[*Translation*]

Mr. Jeannot Castonguay: Thank you, Mr. Chairman, and thanks to our guests.

I believe that we must find a way to allow research to go on. This whole area offers enormous potential for mankind in terms of improving living conditions. I am aware that when you deal with living human tissues, it has other consequences, as my colleague mentioned.

• 1245

Obviously, we know that embryonic stem cells, with their multiple potential, are a gem for researchers and constitute an excellent source. Are there presently other sources of multi use cells that we could use and that would perhaps be a bit less controversial?

The reason I am asking the question is because I believe that there are other sources of stem cells that are not taken from the embryo. If you focus on research done from embryonic cells, will you discourage researchers from doing their research using sources other than embryonic cells?

[*English*]

Dr. Roger Gosden: Thank you for that question. It's a very important one.

The worldwide community of medical scientists at the moment are very supportive and encouraging of embryo stem cell research. As I showed in my figure, these cells have the maximum potential. But by no means do we know whether they are going to be the best or whether they will be safe to use ultimately. We do not know at this stage. But there is a widespread feeling that we should investigate to find out what are the options and not to dismiss any at the present time. There are many researchers, myself included, in fact, who are not using embryo cells for this sort of research at all. In fact, we're using cells from other sources, such as the placental cord and adult tissue. We are finding that these cells are more plastic in that they can form other cell types than we thought of before.

For instance, cells in the bone marrow can be converted in vitro into liver cells or muscle cells, or even nerve cells, in animals. We don't know whether this is possible in humans yet fully but the research is going forward. There's more potential there for using these alternative and ethically less troubled cell types than we had originally thought. Nevertheless, the large majority of opinion is that for various reasons these adult stem cells, and maybe even the placental ones from the cord, will not be able to fulfil all of the purposes that we require, either because the cells have aged or because there have been changes over time, or for other reasons.

So we believe, I think speaking for my colleagues, research will go forward on all of these fronts at the moment until we have a clearer notion.

The Acting Chair (Mr. Stan Dromisky): Thank you very much.

We've gone around the table. We need short answers because of the kinds of questions you're presenting to the witnesses. Don't use up your two minutes for preamble because I'll cut you off.

Mr. Manning.

Mr. Preston Manning: That makes it difficult.

I actually have a list of questions this presentation raised that I'll maybe leave with the clerk after, but let me zero in on just one. The departmental officials said that the representations from ethicists to the department on this issue over the last four or five years have focused on the moral standing of the embryo. This is really the point that Mr. Bonin was raising.

They said to us that there was a range of opinion on that view. I'll quote to you what they said, that at one end of the spectrum—and again, I'll set this out as neutrally as possible—there are those who would say the embryo ought not to be accorded any particular moral status. At that stage it is a massive tissue of cells undergoing the earliest development. At the other end of the spectrum would be the view that the embryo has full human moral status. In the middle there would be those who would say that the embryo ought to be accorded special moral status, which is to say more than simply tissue but not fully human moral status. The said in that domain, that middle domain, very careful considerations have to be made.

• 1250

Now, I recognize that this is a huge question to answer in two minutes, but if you had to advise us today on where we should head with respect to the moral status of the embryo in

this legislation, what would your advice be?

The Acting Chair (Mr. Stan Dromisky): Mr. Manning, I think what you're asking for could be presented in the form of a thesis or a dissertation that would take hours to go through. It's a very awesome field that you're entering there. I don't know if any witness can answer it within a minute or two minutes, in all fairness. If any of the witnesses would accept the challenge and present a paper, I'm sure it would be printed globally and internationally for all your colleagues.

That's my automatic response to the kind of challenge you're presenting to our witnesses, Mr. Manning.

Ms. Marie-Claude Léveillé: The only thing I would say is that you have to be aware that there's a lot of respect for the embryo in these clinics. When I have new staff coming to work in the lab—there are now ten people working with me in the clinic—at the beginning it's very difficult for them to work in a human IVF clinic because of the potential of these embryos.

Quite a few people have been trained working with mouse embryos, rat embryos, hamster embryos. They know the technical skills and can do their work. But when they start to work with human embryos, that big aspect—you know, this could be a human being—is very difficult for everyone.

My point is to reassure you that people like me working in the field don't consider these as just multiple cells that we can basically do whatever we want with. We have a very high respect for these embryos. We're well aware that they could be human beings, and we're doing our best to keep them in the best condition possible in those two or three—or four or five—days outside the human body.

The Acting Chair (Mr. Stan Dromisky): That's a good answer, and I would bring it to your attention that we have a group of ethicists coming here sometime towards the end of May. We'll have to present this kind of question to that group as well.

Mr. Bonin.

Mr. Ray Bonin: Thank you, Mr. Chairman.

I appreciate your suggestion that it may be of value to visit clinics or laboratories. I definitely will recommend it, and I'm sure the committee would want to go.

Where would you recommend we go to obtain the most helpful information? Even if there are a number of them, you could send us a list.

Dr. Arthur Leader: We could provide you with a list. It really depends. If you're travelling individually to your home constituency, for example, there may be one nearby. Depending on where you'd like to go as a committee—and I don't mean to denigrate other places—certainly there are three important centres for research and clinical care. It would really be at your discretion. Wherever you'd like to go, we could provide you with that list.

Mr. Ray Bonin: I have only two minutes, or a few seconds, left. If we travel to Great Britain, will be see things that are much different from what we will see in Canada?

Dr. Roger Gosden: No, I don't think so. You would see the operation of the regulatory body perhaps, if you wished. You would see how the inspections are carried out for both the clinical practice and the research. The nature of the research is broader there. Perhaps I should emphasize that there are very few centres in Canada actually doing research on human embryos at the present time anyway.

You would see a wider range of activities. You might even see people who are now working on human embryo stem cells there, and this has hardly started in Canada. But as I'm sure you know, there was passage by Parliament in January and February this year to allow human embryos to be used to derive embryo stem cells.

So you would see a full spectrum of activities in a small country, very condensed.

The Acting Chair (Mr. Stan Dromisky): Madame Picard.

[*Translation*]

Ms. Pauline Picard: I will be brief.

• 1255

You have mentioned your role regarding accreditation of clinics and laboratories. Can you tell us whether the accreditation of these clinics is mandatory? If not, do you think that private clinics could undertake procedures and research in the area of assisted conception technologies without any definition of standards and without any code of ethics?

Ms. Marie-Claude Léveillé: The present system is a voluntary system. If clinics concur in it, it is not because of a law. After taking part in the last three meetings with directors of IVF clinics, I believe that it is in the best interest of all clinics to obtain accreditation. It is a good thing for all clinics because it gives them a better idea of the processes that should be put in place and it gives some guidance to clinics. The document helps us to define where we're at in terms of our procedures and to see whether there are things that should be put in place. Sometimes we just had not thought about it. The document offers us the opportunity to review our activities and often brings us new ideas. But the current system is a voluntary one.

Ms. Pauline Picard: Thank you very much.

[*English*]

The Acting Chair (Mr. Stan Dromisky): Thank you very much.

I now have to put an end to the discussion because of the time. Is it possible for us to have the information in the guide to which you referred for standards of accreditation? Thank you very much.

First of all, I would like to compliment you. You are three different individuals, three highly trained, intelligent academics and researchers from three different institutions, and it's amazing how comprehensive, succinct, clear, and logical was your presentation to this committee of lay people. There was such a logical pattern of development, and I congratulate you for your thoughtfulness in doing it in such a manner. We learned a tremendous amount here today, and I'm hoping all the presentations in the future will be as clear as yours was. I thank you very much.

Mr. Preston Manning: About four questions came out of this presentation. Could I simply read them off very quickly to get them on the record for the benefit of our research people and the clerk?

The Acting Chair (Mr. Stan Dromisky): Just present them to the clerk. Would you do that, Mr. Manning?

Mr. Preston Manning: Okay, I can do that.

The Acting Chair (Mr. Stan Dromisky): Thank you very much.

The meeting is adjourned.