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Chair

Mrs. Joy Smith

Standing Committee on Health

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● (0905)

[*English*]

The Chair (Mrs. Joy Smith (Kildonan—St. Paul, CPC)): Order. Good morning, everybody.

I want to give a warm welcome to all our guests this morning. I'm Joy Smith, the chair of this committee. We're very pleased to have you here and to hear what you have to say this morning.

The presentations will be roughly five minutes each, and I'm going to be watching the time very closely.

Ms. Murray.

Ms. Joyce Murray (Vancouver Quadra, Lib.): Thank you, Madam Chair.

I just want to start with a point of order on the procedure for the hearings on this issue. Industry Canada regulates certain devices that concern this—

The Chair: Ms. Murray, excuse me, but that's not a point of order.

Ms. Joyce Murray: Well, we requested that they come here and they refused. So I'm asking the chair to intervene on that.

The Chair: That's not a point of order.

We will now continue.

Could we start with the Department of Health?

Ms. Pieterson.

Ms. Beth Pieterson (Director General, Environmental and Radiation Health Sciences Directorate, Department of Health): Good morning, everybody.

Chair, members of the committee, it's my pleasure to be here today to speak to Health Canada's position on the impact of microwaves on human health.

We've heard concerns from some communities of stakeholders about the possibility of radio frequency electromagnetic energy emissions—or microwaves—from cell towers and wireless technologies posing hazards to the health of Canadians, including children.

While the responsibility for the regulation of cell towers and wireless technologies lies with Industry Canada, Health Canada, acting within the authority of the Radiation Emitting Devices Act, has thoroughly evaluated relevant peer-reviewed scientific evidence and conducted in-house studies, which, to date, do not support the notion that microwave emissions from cell towers and wireless technologies pose hazards to the health of Canadians.

In fact, as recently as October 2009, Health Canada published a revision to Canada's guideline, called *Limits of Human Exposure to Radiofrequency Electromagnetic Energy*, commonly known as Safety Code 6. This document sets the recommended limits for safe human exposure to electromagnetic energy from various devices, including cellphones, Wi-Fi equipment, and cellphone towers. Industry Canada has incorporated the guidance in Safety Code 6 in its regulations for these devices.

Canada's revision of Safety Code 6 followed a thorough evaluation of the scientific evidence and literature on the effects of radio frequency energy on biological systems. Health Canada reviewed scientific evidence from animal, cell culture, and epidemiological studies carried out worldwide and conducted its own studies, which are published in peer-reviewed journals. Both the quality of the individual studies and the consistency of observed effects across laboratories were key in evaluating all the study results.

On the basis of such analyses, Health Canada established limits for human exposure that are well below the threshold for any potential harm. The limits recommended for general public exposure were designed to provide protection for all age groups, including children, if exposed on a continual basis. Health Canada's determination that there are no health effects associated with radio frequency exposure at levels below the specified limit is supported by peer-reviewed scientific studies, which are verified on an ongoing basis. Our Canadian exposure limits are comparable to those in other jurisdictions, including the United States and the International Commission on Non-Ionizing Radiation Protection, the standard adopted by most European countries.

Furthermore, Canada's guideline development process is consistent with the guidance outlined in the World Health Organization's framework for developing health-based electromagnetic frequency standards. In other words, we also follow the process that's prescribed by the WHO.

Recently, a report cited by electromagnetic advocates, entitled the *BioInitiative Report*, suggests that regulatory authorities should apply precautionary approaches for sources of electromagnetic frequency exposure and apply much more stringent limits. Health Canada has concerns about this report. It does not contain any new scientific data; it excludes, in fact, numerous studies; and it contains internal consistencies. Having reviewed the report, it is the opinion of Health Canada that there are insufficient grounds to revise our views on the electromagnetic frequency health risk assessment at this time.

The precautionary approach is a public policy approach for risk management of possible, but unproven, adverse health effects. Health Canada, as with other departments and many regulatory agencies worldwide, frequently applies the precautionary principle to underpin risk-related decisions. When conducting an assessment, data available in the scientific literature are considered, including data generated by Health Canada scientists; evaluations by other jurisdictions; external panel conclusions, if they are available; as well as information submitted to the Government of Canada during the information-gathering phase of an assessment. The assessments focus on effects that scientists consider most relevant for human health.

Based on such an evaluation and Health Canada's application of the precautionary principle, the department will take action if required. But the precautionary principle is used when there is only some evidence and the evidence is not conclusive. In the case of electromagnetic frequency, Health Canada's position is that there is sufficient evidence to show that the recommended levels of exposure in Safety Code 6, the Health Canada guideline, will not cause harm to health.

● (0910)

In conclusion, the evidence to support a change in Health Canada's electromagnetic frequency emissions requirements has not presented itself, nor has it been demonstrated in the scientific community. Health Canada regularly works with varying degrees of evidence in applying risk-based approaches to assist with decision-making related to the promotion and protection of the health and safety of Canadians. As a department, we do not hesitate to act should the evidence or potential risks weigh in favour of a particular action.

Thank you.

The Chair: Thank you very much, Ms. Pieterson.

Now we'll go to the Canadian Wireless Telecommunications Association with Bernard Lord, president and chief executive officer, and with Marc Choma, who will assist him.

Mr. Lord.

Mr. Bernard Lord (President and Chief Executive Officer, Canadian Wireless Telecommunications Association): Thank you very much.

[*Translation*]

Thank you for inviting us to appear before the committee this morning.

[*English*]

It is a pleasure to be here this morning to talk about this important issue. I just want to tell you a few things about the CWTA. We've given you a copy of our slide deck so you can follow.

The CWTA is the Canadian Wireless Telecommunications Association, and it is the authority on wireless telecommunications issues in Canada. The association represents over 180 wireless service providers, equipment manufacturers, and other suppliers in Canada. We champion the interests of over 23 million Canadians who use wireless services for convenience, productivity, business, and safety. We bring together the industry on key social issues, such as the enhanced 911 service, Mobile Giving Canada, our code of conduct, wireless number portability, Recycle My Cell—which is our national recycling program—and TextEd.ca.

Wireless is an essential part of our lives. The industry itself is responsible and proactive. We make our communities safer. We help our families and friends stay connected. We enhance our cultural and social lives. Wireless also creates new jobs and opportunities, increases business productivity and competitiveness, and generates new investments.

The wireless industry in Canada is fully compliant with the rules and regulations that are set by the Government of Canada. The wireless industry is in full compliance with the federal government's electromagnetic field, or EMF, emissions safety standards, standards, which are followed scrupulously. EMF emissions of cellular phones and antennas are strictly regulated by Industry Canada, based on Health Canada's Safety Code 6. The wireless industry fully complies with these regulations.

Health effect studies of EMFs have been ongoing for decades. To date there is no convincing scientific evidence of adverse health effects from exposures to EMF at levels below the limits outlined in Health Canada's Safety Code 6. Again, for exposure below the safety limits set by the science-based EMF exposure standards, including Health Canada's Safety Code 6, no adverse effects have been proven through credible, peer-reviewed, scientific evidence. The wireless industry does not set the standard. I want to be clear on this point. Industry Canada enforces these standards based on Health Canada's Safety Code 6.

[*Translation*]

So it is clear that the Canadian industry adheres to the standards set by the Canadian government.

[*English*]

There have been studies ongoing about the potential impacts of EMF. For instance, the Institute of Cancer Epidemiology of the Danish Cancer Society in Copenhagen tracked 16 million people over a 30-year span in Denmark, Sweden, Finland, and Norway. This is an important study, because it tracks the rate of brain tumours over a prolonged period of time.

This a quote from their report:

> Our finding that brain tumor incidence rates were either stable, decreased, or continued a gradual increase that started before the introduction of mobile phones is consistent with mobile phone use having no observable effect on brain tumor incidence in this period.

This is their own conclusion.

As well,

> Although mobile phone use has frequently been proposed as a risk factor for brain tumors, neither a biological mechanism to explain this association nor the etiology of brain tumors is known. Mobile phone use in Denmark, Finland, Norway, and Sweden increased sharply in the mid-1990s.

This was another conclusion from their report.

There are questionable conclusions from questionable studies. The health committee's study of wireless safety should be guided by actual science and not by unsupported conjecture.

● (0915)

[*Translation*]

We firmly believe it is essential to establish public policies that are in everyone's best interests. The Government of Canada and the committee examining these issues must base their decisions on the tested and peer-reviewed science.

[*English*]

There are some reports, such as the *BioInitiative Report* that purport to demonstrate adverse effects. However, the findings in this report are not supported by the vast majority of other scientific studies on this topic around the world. The conclusions drawn by the authors of the *BioInitiative Report* are not representative of the massive body of evidence emanating from the international scientific community.

Here's a quote:

> The opinions expressed by the authors of the BioInitiative report are not consistent with the conclusions drawn from the broader base of scientific literature reviewed by Health Canada or a large number of other national and international standards bodies....

This was a response by the Minister of Health to a question in November 2008.

As well, the minister went on to say:

> Health Canada's Safety Code 6 takes into account all possible biological and/or health effects of radiofrequency (RF) fields, including short-term heating effects, non-thermal effects and/or long- term effects. While some European municipalities have adopted more stringent limits, these recommendations are based upon socio-political considerations.

Further, the minister also went on to say:

> It is true that there are some "outlier" reports and some scientists which express a "minority" opinion with respect to the safety of low-level RF field exposures. However, it is important to point out that the vast majority of studies and scientists in this field do not consider low-level RF field exposures...to cause any adverse health effects. There are numerous scientific reviews on this issue by independent scientists and by government institutions around the world which share this scientific consensus.

This was also a response by the Minister of Health in May 2008.

Other governments around the world have provided reactions to the *BioInitiative Report*. The European Commission says that the report is "written in an alarmist and emotive language and whose arguments have no scientific support from well-conducted EMF research".

In Australia they said about the *BioInitiative Report* that, "As it stands it merely provides a set of views that are not consistent with the consensus of science, and it does not provide an analysis that is rigorous enough to raise doubts about the scientific consensus."

And we can go to the Netherlands and their conclusion, that the *BioInitiative Report* "is not an objective and balanced reflection of the current state of scientific knowledge".

Or we can go to Germany:

> The BfS [German Federal Office for Radiation Protection] conducted a preliminary review of the so-called "BioInitiative Report" immediately after its release and concluded that it had clear scientific shortcomings. In particular, it has undertaken to combine the health effects of low- and high-frequency fields that are not technically possible. The overwhelming majority of studies underpinning the report are not new: they already have been taken into account in the determination of currently applicable standards.

In conclusion, the Canadian wireless industry will continue to be responsible by adhering to the safety standards enforced by the Government of Canada, guidelines that are based on actual science, not unsupported conjecture, and that reflect international standards as well. Safety Code 6 is a product of international standards that take into account all of the credible scientific literature available.

The scientific research overwhelmingly demonstrates that wireless technologies are safe.

Thank you. *Merci*.

● (0920)

The Chair: Thank you very much, Mr. Lord.

We'll now go to Mr. François Therrien from the Save our Children from Microwaves association.

Please begin.

[*Translation*]

Mr. François Therrien (Spokesperson, Collectif S.E.M.O. Save our Children from microwave): Madam Chair, members of the committee, I want to thank you for allowing us to appear today.

My name is François Therrien, and I am the spokesperson for Save our Children from Microwaves, or SEMO. I represent the section of the Canadian population that is aware of the harmful effects of microwaves used in wireless communication devices. On March 11 of this year, a petition on this issue signed by 11,000 people was presented to Parliament in Ottawa. And more than 5,600 people have signed various petitions in the Montreal region. Furthermore, it has come to our attention that many others have added their signatures to petitions across Canada, including Charlottetown, Toronto, Vancouver and Victoria.

We are talking about microwaves. What are they exactly? Cell phones, cordless telephones, laptop computers, Wii and Xbox game consoles emit microwaves when in use. We have a choice to use or not use these devices. Microwaves primarily originate from cell phone relay antennas, WiMAX antennas, FM antennas, Wi-Fi router antennas, and DECT wireless telephone base stations that emit waves around the clock. In addition, newly developed electricity meters that communicate by microwave are expected to be installed in every Canadian home.

In Canada, the standards set out in Safety Code 6 are supposed to protect the population from microwaves. While they offer protection against thermal effects, they unfortunately do not guard against biological effects related to long-term low levels of exposure. When people find out—usually by chance—that they will soon live next to this type of antenna, they tend to seek information; and what they discover about microwaves can be unnerving.

I will shorten my presentation, but I just want to mention that the harmful effects of microwaves on the health of Canadians can be described using these names: electromagnetic hypersensitivity, microwave syndrome and sensitivity to electromagnetic fields. Symptoms include headaches, sleep disturbances, problems with concentration, dizziness or blood-brain barrier permeability, and DNA damage, and they may lead to cancer.

As for the science, Mr. Lord was right to mention the BioInitiative report. In our view, it is recognized scientific evidence. There is also the Interphone study, in which Canada participated. Of 13 countries, Canada is the only one where the microwave industry funded the study. I think everyone knows that we are still waiting for the results of that study and that the scientists apparently disagree on the type of conclusions that should appear in the report.

In terms of insurance companies and judicial decisions, some international companies now refuse to ensure cell phone companies on account of the very high risks they pose to people's health. Appeal courts in various countries have ruled in favour of applying the precautionary principle. We are not talking about panic-mongers or activists here, but appeal court judges who have made these rulings.

From a political standpoint, the European Parliament took a historic vote of approximately 550 versus 16. Members of Parliament claimed to be concerned about the international BioInitiative report, and recommended a reduction in microwave exposure and the application of the precautionary principle. That was in April 2009.

Senators in the French Senate voted to prohibit cell phones in elementary and secondary schools. They also intend to prohibit advertising aimed at teenagers. This is clearly the result of applying the precautionary principle regarding the effects of microwaves. In Austria, Italy and elsewhere, permissible norms were decreased to levels corresponding to the recommendations in the international BioInitiative report.

In view of the urgency of this situation, allow me to specifically address members of the government. The government does much to promote families and children. It also does much to encourage the Canadian economy and the microwave-based communications industry.

● (0925)

Today, we are at a crossroads, and the government must choose whether to protect Canadians and their health or whether to encourage the growth of the microwave industry. Ignoring and denying the dangers of microwaves are no longer options. The intense promotion of microwave-emitting products to young people is endangering their health. This is a terribly sad situation, and the complicit silence of public health authorities is scandalous. We are demanding that the precautionary principle be applied. An example of this, especially in the case of children, was the H1N1 vaccination program. The pandemic declared by the WHO left us no other choice. Canada's public health authorities had to take action.

Today, it is recognized that the World Health Organization perhaps overreacted a little and that its decision was probably influenced by pharmaceutical companies. Why would you oppose the application of the precautionary principle today? Alarm signals are coming from numerous international, legal, political, medical and scientific communities. This time, however, the World Health Organization is maintaining its empty reassurances, and the microwave industry is benefiting. Does the precautionary principle absolutely have to be to the benefit of multinationals before it can be applied? We are concerned about the health of the population, and especially of children. But we are also concerned about increased healthcare costs associated with all kinds of illnesses that will arise unless something is done to prevent and reduce risks.

Prevention or healthcare? Once again, the government must make a choice. The government must react. This is what we demand of Canada's health authorities: issue warnings to the population about health risks associated with microwaves as soon as possible; immediately stop the proliferation of devices using this technology, especially among young people; prohibit the installation of Wi-Fi systems in schools and daycare centres; lower applicable norms to a level below those causing harmful health effects—and the BioInitiative report has set the standard on that; and promote public safety standards rather than individual measures in relation to microwave exposure.

Ladies and gentlemen, please save our children from microwaves. Thank you for your consideration.

[*English*]

The Chair: Thank you so much.

Now we will go to Dr. Jack Rowley, a director of research and sustainability for public policy in Dublin.

Welcome to our committee, Dr. Rowley. You have between five and ten minutes to make your presentation and then the committee goes into questions and answers.

Can you hear me clearly?

Dr. Jack Rowley (Director, Research and Sustainability, Public Policy, GSM Association): Yes, I can. Thank you very much for the invitation.

I thank the Standing Committee on Health for the opportunity to provide information on this important issue.

The GSM Association recognizes that there is public concern about the siting of antennas and the use of mobile devices. These are low-powered radio services. It is the GSMA position, based on expert scientific reviews, that there are no established health risks from radio frequency exposures up to the levels recommended by the World Health Organization.

By way of introduction to the GSMA, the association represents the interests of the worldwide mobile communications industry. Spanning 219 countries, the GSMA represents nearly 800 of the world's mobile operators as well as 200 supplier companies. The GSMA has had an active program supporting research and communications on these topics since 1996.

I work in the public policy department within the GSMA. I am responsible for activities related to the safety of mobile communications and responsible environmental practices. This includes overseeing the GSMA's global health research program and developing communication materials. I'm an electronics engineer by primary degree, and I hold a Ph.D. in the area of antenna design for mobile phones. I've been working in this field since 1994, and I have produced more than 80 publications and presentations on related topics.

The subject of radio frequency safety has been extensively studied for more than 50 years. There is a large body of research on radio signals in general and some 10 years of research specifically related to mobile communications. Currently, the WHO research-based database lists some 1,200 studies related to mobile communications topics in particular.

Human exposure recommendations have been developed that include large safety margins and that provide protection for all persons against all established health hazards. The recommendations of the International Commission on Non-Ionizing Radiation Protection, or ICNIRP, are supported by the World Health Organization, the International Telecommunication Union, the European Commission, and more than 30 independent expert scientific reviews done since the year 2000. They have been widely adopted in Europe, Asia, and Africa. The limits in the Canadian Safety Code 6 are consistent with those recommendations.

● (0930)

It's important to appreciate that public exposures from mobile and wireless networks are very low relative to the safety recommendations. The WHO stated in fact sheet 304 the following:

> Recent surveys have shown that the RF [radio frequency] exposures from base stations range from 0.002% to 2% of the levels of international exposure guidelines....This is lower or comparable to RF exposures from radio or television broadcast transmitters.

Organizations such as the WHO, the Health Council of the Netherlands, and the U.K. Health Protection Agency have concluded that considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak radio signals from base stations and wireless networks cause any adverse health effects.

Some individuals have called for the adoption of policies based on arbitrarily low exposure limits or exclusion zones around locations such as schools, hospitals, or child care facilities. In some cases, these have been justified on the basis of incorrect reports of their adoption in other countries.

Contrary to claims on the Internet, there are no such enforceable national policies in Australia, France, Germany, New Zealand, the U.K., or the U.S.A. Indeed, authorities in the U.K. have concluded the following:

> ...there is no scientific basis for establishing minimal distances between base stations and areas of public occupancy....There are many sources of exposure to RF fields, and it would in practice have little impact on people's overall exposure.

Policy-makers need to consider potential impacts on the concern of adopting non-science-based measures. Professor David Coggon, who is a former member of the U.K. Stewart expert group on mobile phones and health, has commented, and I quote, that:

> Evidence is emerging that prior beliefs about the risks from modern technology are an important predictor of symptoms from perceived exposures. Thus, by distorting perceptions of risk, disproportionate precaution might paradoxically lead to illness that would not otherwise occur.

The subject of so-called electrohypersensitivity was recently reviewed by Dr. James Rubin of Kings College, London. He identified 46 blind or double-blind provocation studies involving 1,175 self-reported electrosensitive volunteers, and concluded there was no robust evidence to support a causal relationship between electromagnetic field exposures and the reported symptoms. That's consistent with the conclusion of the World Health Organization.

There is a widespread reliance on mobile communications for business purposes and personal safety. In Australia, Professor Simon Chapman at the University of Sydney studied the use of mobile phones in emergency situations and reported that one in four users had reported a dangerous situation using their mobile phone. He concluded that, “Any governmental decisions that reduce the reach of the mobile phone net which claim to be driven by public health concerns must factor in the reduction of such health benefits.”

I'll conclude this brief opening statement by noting that the GSMA supports the adoption of policies and standards based on established scientific evidence. We believe this provides protection for public health, is the best way to reassure the public, and supports access to the benefits of mobile communications.

I thank the committee for your attention and look forward to the discussions.

● (0935)

The Chair: Thank you very much, Dr. Rowley.

Now we have with us Dr. Havas from Baltimore.

Dr. Havas, can you hear me?

Dr. Magda Havas (Professor, As an Individual): Yes, I can.

The Chair: Wonderful.

I will ask you now to make a presentation of five to 10 minutes. You may begin now, and then we'll go into our question period.

Thank you for joining us.

Dr. Magda Havas: Thank you for asking me.

I'd like to make five points, and I'll try to make them as briefly as possible.

The current guidelines we have for microwave radiation are based on a thermal effect. This effect came out of research that was done following World War II with radar operators. It was intended to protect military personnel from radiation. I don't think anyone at that time realized what would happen with our love affair with wireless technology and that we would have this type of technology on top of apartment buildings and inside schools, and that children would be exposed to the radiation.

The guidelines that we currently have in Canada are 100 times higher than the guidelines in Russia. The reason for the discrepancy between the two is that the Russian guidelines do not apply to the military. When the United States was first instigating their guidelines, they had the same ones for the general public as for the military, and they didn't want any compromises in what they could do with microwave radiation.

Our guidelines, being 100 times higher than those in Russia, don't make sense any more, because the Russians are probably as sensitive to this form of energy as we are here in Canada.

So that is my first point: that the existing guidelines are inadequate. They're based on an assumed thermal effect, and we now have a lot of scientific documentation—over 6,000 publications—that show adverse health effects from this radiation well below those thermal guidelines.

My second point is that we have some recent advances that are worth noting. In September 2009, there was a Senate committee hearing on cellphones. Shortly following that, the Federal Communications Commission issued a fact sheet asking for a precautionary approach when it came to cellphone use. I think this was a major step forward.

In November last year, following the Senate hearing, the National Institute of Environmental Health Sciences published a report called "Microwaves from Mobile Phones Inhibit 53BP1 Focus Formation in Human Stem Cells More Strongly Than in Differentiated Cells: Possible Mechanistic Link to Cancer Risk". This report shows that the radiation from mobile phones inhibits a tumour-suppressor gene. That means if you have cancer and you're exposed to this radiation, your cancer is likely to grow more quickly because the gene that suppresses the tumour is disabled.

Health Canada, in their 1999 report on page 11, states that some individuals may be more sensitive to the radiation. So in a sense they acknowledge the concept of electrohypersensitivity.

The Royal Society report in 1999 came up with three different biological indicators that happen below Safety Code 6. They include increased permeability of the blood-brain barrier, increased calcium flux between cells, and an increase in an enzyme that's been associated with cancer. In that 1999 report they state that the guidelines are not sufficiently protective for occupational exposure.

On the final document with recent advances, the Canadian Human Rights Commission in 2007 recognized that environmental sensitivities may be initiated and promoted by electromagnetic exposure.

My third point is that I have a unique perspective on this. I work with people who have developed electrohypersensitivity. My current research is trying to come up with diagnostic procedures we can provide to doctors, so when someone comes into their office and claims they are electrically hypersensitive, we can monitor them objectively.

The most recent study that we've completed—it has been accepted for peer review—will be coming out within the next month. It looks at cordless phones—a particular type of technology called the DECT phone. We found in a double-blind study that when we exposed people to the radiation from a cordless DECT phone at 0.3% of Safety Code 6 guidelines—well under Safety Code 6 guidelines—for three minutes, their hearts began to go into either arrhythmia or tachycardia. So they developed either a very rapid heart rate, palpitations, or an irregular heart rate.

● (0940)

That study was done in Colorado with 25 subjects. We've since repeated it with an additional 75 subjects and we're getting virtually the same response. So the comment that electromagnetic energy well below Safety Code 6 guidelines has no adverse biological or health effect is simply not supported by the study.

The fourth point I would like to make is that communities are trying desperately to protect their health. There are individuals among them who are very sensitive, and they're trying to keep telecommunication antennas away from residential areas and schools and day care centres. Each time this happens, Industry Canada overrides the local decision.

I was part of a group in Charlottetown, Prince Edward Island, where the city community decided it did not want a tower near day care centres and schools. Industry Canada simply said that was nonsense and overrode the local decision. So people are no longer having the right to determine what is in their environment.

Finally, I'd like to say that we're really not here trying to point blame at either the industry or government communities that are regulating this technology. What we're doing is responding to a very rapid increase in our exposure to microwave radiation, and I think it's responsible for us to respond to the people who are claiming that they are ill, testing to see whether or not their symptoms are induced by exposure to microwave radiation, and, if they are, to take steps that would limit their exposure.

I think what is absolutely essential is that we begin to reduce the current guidelines that we have. Safety Code 6 does not protect the public. We need to have areas where this technology is restricted, and that includes schools and hospitals. We need to have some microwave-free zones, and I think we have to educate health care professionals who are trying to treat their patients with very little success because, whatever the treatment is, they go back home into a dirty environment, an electromagnetically polluted environment, and they become sick again.

I would like to end my presentation with a quote that comes from the Freiburger Appeal in 2002. This appeal comes from a group of German physicians who got together and were very concerned that current guidelines were not protecting their patients:

> Our therapeutic efforts to restore health are becoming increasingly less effective: the unimpeded and continuous penetration of radiation into living and working areas...causes uninterrupted stress and prevents the patient's thorough recovery.
>
> In the face of this disquieting development, we feel obliged to inform the public of our observations....What we experience in the daily reality of our medical practice is anything but hypothetical! We see the rising number of chronically sick patients also as the result of an irresponsible “safety limits” policy, which fails to take the protection of the public...as its criterion for action. Instead, it submits to the dictates of a technology already long recognized as dangerous. For us, this is the beginning of a very serious development through which the health of many people is being threatened.
>
> We will no longer be made to wait upon further unreal research results—which in our experience are often influenced by the communications industry—while evidential studies go on being ignored. We find it to be of urgent necessity that we act now!
>
> Above all, we are, as doctors, the advocates for our patients. In the interest of all those concerned, whose basic right to life and freedom from bodily harm is currently being put at stake, we appeal to those in the spheres of politics and public health.

That is the end of my presentation.

Thank you very much.

The Chair: I thank you very much for your presentation, Dr. Havas.

We'll now go into the first round of our questions and answers. It's seven minutes per person for the question and answer. I will be watching the time quite closely so we can get the maximum number of questions and answers on the record today. If you see the light turn on, please note that I'm going to be asking you to wrap up. Please don't ignore it, because I do have a tendency to shut your mike off so we can go to the next person. It's not to be rude, it's simply that we need to get all the questions and answers out there.

We'll start with Ms. Murray.

● (0945)

Ms. Joyce Murray: Thank you, Madam Chair.

I appreciate the time and effort all of the intervenors are putting into coming here to help us understand this.

Obviously the technology is completely woven into our lives and important for our productivity and quality of life. At the same time, there are many people who are very concerned that the cumulative impacts, or impacts that are beyond the thermal impacts, haven't been properly studied, or have been studied and haven't been resolved.

This question is for any of the intervenors. Is there research that Health Canada could or should be doing that would more likely capture cumulative impacts, if there are such, that Health Canada doesn't at this point have established?

Secondly, is the research really directed at impacts on children? Children's responses to environmental impacts are not just proportional to their weight difference compared to an adult, but when they're in a stage of development it can have a different kind of impact.

I'd like also a comment on this. When there's such opposite testimony and some are saying there's no proof of any harm and others are saying there are 6,000 studies, publications—and I'm interested in how many of those are peer-reviewed—what would the committee members propose as a forum for taking this issue to where there can be a more in-depth study than two hearings to come to some conclusions?

Thank you.

The Chair: Who would like to begin the answer to Ms. Murray's question?

Ms. Pieterson.

Ms. Beth Pieterson: I would just say that Health Canada has some research in this area, not a huge amount, but there's lots of research going on internationally in the area. And I think in terms of the long-term effects of cellphones, as you know, as Mr. Lord referred to, there was the Danish study, but the cohort included people who hadn't really used them all that long. There is value in having longer-term studies certainly, and I don't think anyone would deny that. Health Canada doesn't usually conduct those types of studies themselves.

As far as children are concerned, there have been a number of studies on children, and to date there's no evidence that children are any more at risk to this effect than others. That doesn't mean if people are concerned they shouldn't take the precautionary principle. Health Canada's written material states that: if parents are concerned, they can limit their children's cellphone use, if they can, and use hands-free devices and things.

I'd like to clarify another point that's been used. Health Canada's Safety Code 6 does look at non-thermal effects. It's a misconception that it only has set the limits based on thermal effects. In fact, as for the range of microwave energy in the electromagnetic spectrum, at the lower levels of that range it's nerve and muscle stimulation that is the end effect, acute effect, not thermal stimulation. And when we set those limits, we looked at all the literature available, the huge wealth of literature available on non-thermal effects also.

Ms. Joyce Murray: Are there other comments?

Dr. Magda Havas: Could I comment?

The Chair: Please go ahead, Dr. Havas.

Dr. Magda Havas: First of all, there is evidence that children are more sensitive to this form of radiation, although very little research has been done on this. That's a study that came out just last year, written by Dr. Lennart Hardell from Sweden. With cellphone radiation, he found that when he looked at individuals who used cellphones, there was an increase in something called ipsilateral tumours, which are tumours on the same side of head that you use the cellphone. This was found for glioma, the brain tumour; for acoustic neuroma, a tumour that affects the auditory nerve; and for uveal melanoma, which affects the eye. He also found that if you looked at children who were under the age of 20 when they first started using cellphones, their risk increased to 420%, whereas the risk for adults was much lower than that. So we do know that children are much more sensitive to any type of environmental contaminant and certainly this one as well.

When it comes to the number of references and where these references are, I'm in Maryland right now and I have just had meetings with a Dr. Glaser, who has one of the best collections of microwave references. He worked with the U.S. military. He was in the navy and began to collect these in the 1960s. So he has a collection that extends beyond 6,000 references. Many of them are from the military, some of them come from eastern European countries, and he's making them available to the public. So this will be available and anyone can read them. He's one of the leading experts in this. So Canada is going to have access to, I think, one of the best references that we can rely on.

I think it's absolutely critical that instead of doing a long-term study and waiting 10 to 15 years, it's really important that we begin to limit exposure. That doesn't necessarily mean changing what we're doing right now. For example, if you put an antenna on top of an apartment building, you can simply put shielding devices underneath those antennas to protect the tenants on the top floor.

So there are ways to minimize our exposure without changing the use of this particular type of technology.

● (0950)

The Chair: Very briefly, Mr. Therrien. Time is running out.

[*Translation*]

Mr. François Therrien: Thank you.

Sunday, on Radio-Canada, Dan Krewski—who many consider the leading scientific expert on the effects of microwaves on human health—was taking questions about the effects on children. As usual, he said that more research was needed. We needed to probe further. He could not make a determination based on the current studies.

He then mentioned the MOBI-KIDS study, which was undertaken by the same people who were behind the Interphone study. The study began in 2008, I believe. According to him, once the results of that study are in, it will be possible to determine whether microwaves are dangerous or not. The MOBI-KIDS study was funded the same way as the Interphone study. It was wholly funded by the people at the CWTA and the GSMA. In our view, that is a way of keeping the debate at the scientific level.

Thank you.

[*English*]

The Chair: Thank you, Mr. Therrien.

We will now go to Monsieur Malo.

[*Translation*]

Mr. Luc Malo (Verchères—Les Patriotes, BQ): Thank you very much, Madam Chair.

I would also like to thank all the witnesses for being here today.

As Ms. Murray said, there are indeed a number of studies with seemingly conflicting results. My question is for Ms. Pieterson.

When a new study comes out, what kind of analysis does Health Canada do? You said that no conclusive scientific evidence exists right now to show that current levels are not appropriate. Could you clearly describe how Health Canada goes about analyzing the various studies that have been done?

[*English*]

Ms. Beth Pieterson: I think there are many scientific publications. For Health Canada, it has to be peer-reviewed, first of all. That means it has undergone the scrutiny of scientists who are experts in that field, so it has to be in a peer-reviewed journal.

One study doesn't make conclusive evidence. We use an expression in Health Canada, “the weight of evidence”, which is looking at all of the studies out there. Is something reproduceable? Has it been reproduced in another lab? If one group of scientists does it, it's usually not considered conclusive until others can repeat it in different laboratories. Is the quality of the science there? There are different factors like that. It goes through scientific scrutiny.

Does that help?

● (0955)

[*Translation*]

Mr. Luc Malo: The various stages are not yet clear, but we can focus on one study, in particular. You said in your testimony that the BioInitiative report contained inconsistencies. Could you tell us what they are?

[*English*]

Ms. Beth Pieterson: We did. We studied the *BioInitiative Report*, and there were inconsistencies. When I said that, I meant that it contradicted itself within the report. In one chapter it said something, and in another chapter it contradicted what it said—I can't tell you those things—or it made references to different studies at different times.

[*Translation*]

Mr. Luc Malo: Could you be more specific?

[*English*]

Ms. Beth Pieterson: I cannot give you the precise details at this point.

[*Translation*]

Mr. Luc Malo: Could the committee get a copy of that?

[*English*]

Ms. Beth Pieterson: Yes, I can.

[*Translation*]

Mr. Luc Malo: Thank you.

At the beginning of your presentation, Ms. Pieterson, you said that the Department of Health was doing studies internally.

Has it done any on this topic, specifically?

Ms. Beth Pieterson: I understand.

[*English*]

I just didn't hear the last part of the question; I'm sorry.

[*Translation*]

Mr. Luc Malo: At the beginning of your presentation, you said that the Department of Health was doing studies internally.

Has it done any on this topic, specifically?

[*English*]

Ms. Beth Pieterson: I didn't specifically refer to the internal studies by Health Canada, but they're ones that looked at.... We'd look at thermal effects on tissue, and we're doing some genomic study to look at possible genetic effects of electromagnetic radiation.

[*Translation*]

Mr. Luc Malo: So Health Canada has never done any studies specifically on the health effects discussed in the BioInitiative report? Is that correct?

[*English*]

Ms. Beth Pieterson: I'm sorry, I don't have the translation on, and I don't understand exactly the question.

The Chair: We'll pause for a moment.

Could someone assist Ms. Pieterson?

The translation should be functioning now.

Monsieur Malo, would you please continue?

[*Translation*]

Mr. Luc Malo: I am talking about the health effects mentioned in the BioInitiative report: leukemia, brain tumours, immune system disorders and breast cancer. That is what worries people the most, I would say.

Has Health Canada done any studies on those?

[*English*]

Ms. Beth Pieterson: No, we have not conducted those exact studies ourselves, but there's lots of available scientific literature that has been reviewed.

[*Translation*]

Mr. Luc Malo: I read that Health Canada had spent $500,000 on electromagnetic field research, assessment, investigation and monitoring since 2003. Could you tell us exactly where this money went?

[*English*]

Ms. Beth Pieterson: I can submit that to you. I don't know that off the top of my head. I'd be happy to submit in writing what our funds were spent on.

Mr. Luc Malo: *Parfait.*

The Chair: Thank you. If you could submit that to the clerk, Ms. Pieterson, that would be very good.

You have another minute, Monsieur Malo.

[*Translation*]

Mr. Luc Malo: There seem to be differing interpretations on the precautionary principle, as well.

How do you explain the fact that people on both sides disagree on how to apply the precautionary principle?

[*English*]

Ms. Beth Pieterson: I think everyone applies it in a different way based on the need for it. It does apply, and there are many examples where we apply it. It's used where there's some evidence and the evidence is not conclusive, but based on the possibility of risk we will take the action.

If you want an example, I suppose you could use the example of the bisphenol A in baby bottles. It was banned recently by Health Canada using the precautionary principle. The evidence is not conclusive that it's harmful, actually, but because children could be potentially harmed the precautionary principle was taken. Other countries haven't used that evidence available and taken action; Health Canada did. That's one example. But in the case of electromagnetic energy and potential harms, we believe there's enough evidence and therefore we don't take the precautionary principle.

The examples in Europe, where neighbourhoods or communities have banned cell towers in schoolyards and things, that's the precautionary principle. Communities can do that based on the local politics and decisions they make there, but it's not based on scientific evidence.

● (1000)

The Chair: Thank you, Monsieur Malo.

We'll now go to Ms. Hughes.

[*Translation*]

Mrs. Carol Hughes (Algoma—Manitoulin—Kapuskasing, NDP): Mr. Therrien, you appear to want to say something before I ask my questions. You have been nodding your head a lot.

Mr. François Therrien: Yes, thank you.

With respect to what Mr. Malo said about scientific research in Canada, I just wanted to mention that researchers from the radiology centre at Saint-Luc hospital in Montreal took part in the Interphone study, as experts. They made a request to assess the health effects on a population living near a relay antenna. The request was not funded by the CIHR, the research centre that normally funds studies.

In Canada, there is a clear unwillingness to fund so-called independent studies. The only studies we have and the only studies that Industry Canada relies on are those that, until proven otherwise, are funded by the CWTA. That is the point I wanted to make with respect to what Mr. Malo said earlier.

Mrs. Carol Hughes: Very well. Thank you.

[*English*]

You mentioned, Ms. Pieterson, that Health Canada is basing the level based on studies, and I'd be interested in knowing who guided the research. How was it basically funded? Was it Health Canada or was it industry that funded the research?

The Chair: Ms. Pieterson, before you answer that, Mr. Lord wanted to make a comment on the last question.

Mr. Lord, would you do that first? Then we'll go to Ms. Pieterson.

Mr. Bernard Lord: Thank you very much, Madam Chair.

I'll be very brief.

[*Translation*]

Mr. Therrien has questioned us a few times and seems to want people to believe that the only studies conducted in Canada are those funded and led by the Canadian Wireless Telecommunications Association, which is completely untrue.

Funding was provided. Our industry, our association wants to act responsibly. We are aware that some people may have questions. It is not unusual that we would decide to take part. The industry provides money, but it is only a portion of what is needed to carry out the studies. Neither the CWTA nor its members influence the studies in any way. We are not consulted regarding the results before they are published or anything like that. That needs to be clear.

It is one thing to want to scare people, but I think you need to be realistic and tell it like it is. You cannot get carried away and say things that are not true. The CWTA funded a portion of certain studies, but it has absolutely no right of review regarding those studies. The studies are independent. We are in a bit of a unique situation. Certain industries and companies are being singled out. So they decide to do the right thing and are willing to fund independent studies. Then they are criticized for funding the studies.

Mrs. Carol Hughes: I do not want to get into a debate on that.

[*English*]

Madam Chair, this was my time, and I did ask a question to someone in particular.

I appreciate the feedback.

The Chair: Ms. Pieterson, go right ahead.

Mrs. Carol Hughes: I did ask a question to Health Canada.

Ms. Beth Pieterson: We based our Safety Code 6 on all available information. That's peer-reviewed scientific literature, expert reports, information. We do not conduct a lot of the research. Some of the published results are by Health Canada science. They are peer-reviewed and done by Health Canada scientists. The bulk of the data are done by international experts around the world. We followed the procedure—the World Health Organization has a guideline—on how to develop our Safety Code 6; we used the WHO's guideline on how to develop it.

● (1005)

Mrs. Carol Hughes: I just want to remind, as well, that sometimes Health Canada has put guidelines in place and they have had to change them because of other scientific evidence that has come forward. We need to look at what happened with the Bell Canada workers. We could look at what happened even before the smoking bylaws came into place. We used to think, oh, smoking was okay.

I want to ask a question with regard to Dr. Magda Havas. I did listen to the piece on CBC Radio, and I have a couple of letters here from some people who say they are affected by the cellphone usage or all of these towers. One of them comes from White Rock, B.C., and another one here comes from Toronto.

I understand you did do some studies in Toronto on a particular apartment, from a Mrs. Caroline Orban. My understanding is that Spectrum went in and did a study on this particular apartment as well.

I was just wondering what your findings were.

The Chair: Who would like to answer that question?

Mrs. Carol Hughes: It was for Dr. Havas.

The Chair: Oh.

Dr. Havas, could you please respond to that question?

Hello, Dr. Havas, are you there?

Mrs. Carol Hughes: Did we lose her?

The Chair: I'm so sorry. We'll try to get her back.

Who else do you want to respond?

Mrs. Carol Hughes: I have another question.

It would seem that there is no danger, based on the reports you have reviewed, Mr. Lord. Is that the case? What effects are indicated in studies that you are not accepting?

Mr. Bernard Lord: Thank you for the question.

First of all, as I've said before, we comply with the regulations and standards that are set by Health Canada and are enforced by Industry Canada. There are studies from around the world.

We base what we say on the body of evidence that is out there. Someone asked earlier if there should be more studies. We welcome more studies. We think having more studies on the subject is a good thing. We want to make sure that these products are safe. We believe they are safe. We want to make sure that they continue to be safe, because everybody uses them, including us. We all have them. We use them ourselves. Our children use them. They're in our homes. They're everywhere. The fact is that they are safe.

We rely on the body of evidence that is out there. When we're asked to support studies, we only do it in cases of independent studies. We know that if we fund a study that is not independent, it's not a reliable study. We want it to be credible. And we're usually just one of many funding partners for certain studies.

There is a body of evidence out there in the scientific community, and we rely on that. We, as an industry, do not set the standards. I myself don't set the standards. We simply review what is there and we comply with the standards. I think it's important, as well, when we talk about these things, to realize the benefits that come from this technology.

We talk about health and safety concerns. Maybe some of the members of the committee don't realize it, but more than half the 911 calls in Canada are made on mobile wireless devices. There are some clearly positive impacts for our community.

The Chair: Thank you, Mr. Lord.

We'll go to Dr. Carrie—

Dr. Magda Havas: Excuse me; I was disconnected as soon as the question was asked, so I didn't hear the entire question.

The Chair: Dr. Havas, if you'll just be patient for a minute, we'll go to Dr. Carrie. It's his turn for questions. But just hang on, because we'll get back to you.

Dr. Magda Havas: Okay.

The Chair: You know what? In case we lose Dr. Havas again—we have a bad connection there—perhaps I would ask for patience from Dr. Carrie and go back to Ms. Hughes' question.

Ms. Hughes.

Mrs. Carol Hughes: Thank you.

Dr. Havas, I did listen to you on CBC Radio. I have some correspondence I received with regard to a study you did on an apartment in Toronto, specifically for a Caroline Orban. I was just wondering what your results were with respect to that apartment building.

● (1010)

The Chair: Go ahead, Dr. Havas.

Dr. Magda Havas: Thank you for asking.

I was contacted by a woman in that apartment who asked me to do some measurements. I went there. She told me that Industry Canada was also going to be doing some measurements. I asked her to make certain that Industry Canada provided her with real numbers rather than with a percentage of Safety Code 6.

The people who live on the top floor of that apartment—it's the 8th floor—are immediately underneath antennas. They are so close that they can take a broom and touch the antennas with a broom handle. We did measurements, and when Industry Canada went a week later to do the measurements, I was called while they were there. I was told that one of the providers, Bell Mobility, had actually disconnected the antennas. They weren't operational for the Industry Canada readings. They were operational for my readings, because we got the highest levels immediately under the antennas.

When I compare the two values—the values Industry Canada documented and the values I had—they were perfectly linear. There was a perfect correlation based on where we took them. Industry Canada's values were one-fifth of my values, which having the antennas turned off would account for.

The people on that top floor are now very ill. One family has moved out. Another one is taking legal action against the landlord, and the third family is thinking of taking legal action as well, because they've all become ill. The antennas went up in December, and by February, some of the people couldn't live there anymore because of their response to the electromagnetic microwave radiation.

The Chair: Thank you, Dr. Havas.

Dr. Carrie.

Mr. Colin Carrie (Oshawa, CPC): Thank you very much, Madam Chair.

I want to thank the witnesses for being here today.

As a father of three kids, we've recently updated to the family plan, because we utilize a lot of these products in our family. I realize that EMF is everywhere. It's this microphone, buildings, our toasters, our TV, and I guess the greatest source is actually from the sun.

I'm wondering if there are any sources that we as a committee could direct Canadians to, if they have questions about exposure to microwave radiation.

Do you, Monsieur Lord, have something from industry that we could direct Canadians to; or perhaps you, Madam Pieterson, from Health Canada; or even you, Mr. Rowley, over there in Ireland? Are there perhaps different websites or sources that we could direct Canadians to with their questions?

Ms. Beth Pieterson: I will start.

Health Canada has a number of publications on our website geared to the public. We have several articles in our “It's Your Health” section. Let me just read them. We have one on safety of cellphones and cellphone towers, another one on electric and magnetic fields at low frequency, and one on radiation safety of microwave ovens and electromagnetic hypersensitivity. As well, Safety Code 6 is available there if you're interested in the technical details. Industry Canada also has lots of technical and non-technical information about Safety Code 6, their regulations, and how they apply.

Mr. Colin Carrie: Thank you.

Monsieur Lord, does the industry have fact sheets or websites?

Mr. Bernard Lord: We recommend that people visit the Health Canada website. New information is updated there on a regular basis.

As a father of two myself, I think it's important for parents to inform themselves to make sure they make the right decisions for themselves. Most parents will tell you that they feel safer knowing their children have mobile devices with them rather than not.

Mr. Colin Carrie: Mr. Rowley, are there websites or international sources that we could direct Canadians to?

Dr. Jack Rowley: There certainly are. Thank you for that question.

The World Health Organization has a dedicated unit following this topic, and you will find on their web page a series of fact sheets addressing the main topics related to these issues. Also, because we recognize that it is a global issue, we've recorded more than 100 reviews and statements by expert groups on the topic of radio frequency safety since the middle 1970s. On the GSM Association website we list that extensive resource so people can go there. They can see the reviews by expert and independent scientific committees. I'd be happy to provide the web links to the committee.

● (1015)

Mr. Colin Carrie: Thank you very much. It would be great if you could provide that.

While we have you there, Dr. Rowley—

Dr. Magda Havas: May I provide information on websites as well?

The Chair: Dr. Havas, thank you for interceding. I can't see you physically, so please, when you want to make a comment, please intercede.

Go ahead.

Dr. Magda Havas: I have three websites to recommend. One is www.microwavenews.com; this is a very authoritative document from the United States that keeps abreast of all the developments in this area. The other two are Canadian. One is www.weepinitiative.ca. The other is www.rewire.me, and that's the ElectroSensitive Society, which has just started to help people suffering from this illness.

Mr. Colin Carrie: Thank you very much.

To Dr. Rowley, and perhaps Health Canada, how do the limits proposed in the *BioInitiative Report* compare to the limits of Safety Code 6 and other international guidelines?

Dr. Jack Rowley: The limits are typically between 1,000 and 10,000 times more restrictive than the limits proposed in the international safety recommendations. They have their origins in a small study in Austria, which is not supported by any independent scientific confirmation. They were originally adopted as a local policy in the city of Salzburg, Austria.

Measurements done for the Swiss regulator confirmed that you cannot build a mobile network and provide wireless services at the limits recommended in the *BioInitiative Report*. About 50% of locations were above the limits in the *BioInitiative Report* and 50% of limits were below that. You cannot operate a mobile network and comply with those limits.

As other speakers have noted, and expert groups representing from the Netherlands, Germany, Australia, and the U.K. have all concluded, those limits are not based on scientific evidence of public health. They do not provide any additional public health protection. What they do is reinforce people's concern, and that is in and of itself a health risk that needs to be addressed.

Mr. Colin Carrie: Are you able to comment about the authors of the *BioInitiative Report*? Do they represent any authoritative international body? Who do they represent?

Dr. Jack Rowley: The report makes it clear that it's a collection of chapters written by individual scientists who are expressing their personal assessment of the science on a range of topics. The summary chapter was written by a consultant from California who specializes in offering services to reduce exposure in people's homes. It's not a synthesis scientific committee expert group report.

Dr. Magda Havas: May I comment on that as well?

The Chair: Yes, please go ahead.

Dr. Magda Havas: The *BioInitiative Report* is only one of a number of reports, resolutions, and appeals that have come out. It started with Salzburg in 2000. Then there was a report in Italy, the Catania Resolution, in 2002; the Freiburger Appeal, from German physicians, in 2002; the Irish Doctors Environmental Association, in 2005; the Helsinki Appeal 2005, in Finland; and there were two Italian ones: the Benevento Resolution and the Venice Appeal.

The most recent one was the Porto Alegre Resolution, in Brazil. I'd like to read something very briefly from what this resolution states, that—

The Chair: I'm sorry, Dr. Havas, the time is up. I would like you, if you could, to submit your documentation to our committee, because you have so much interesting information. Could you do that?

We'll now go into our five-minute rounds.

Mr. Colin Carrie: I gave up some of my time earlier.

Would the witnesses, Monsieur Lord and the witness from Health Canada, also be able to submit—

The Chair: Absolutely.

Mr. Colin Carrie: —anything else they have to add, perhaps, about the authors of the *BioInitiative Report*?

The Chair: Could you please submit that to us, as well?

Mr. Colin Carrie: Or if you get a chance to speak later on.

The Chair: Actually, Dr. Carrie, I gave you your full time.

● (1020)

Mr. Colin Carrie: Oh, you did. Thank you very much.

The Chair: We're going into the second round, five minutes.

Apparently, Ms. Murray and Ms. Minna, you're going to be sharing, so the watch is at five minutes. Thanks.

Who starts?

Hon. Maria Minna (Beaches—East York, Lib.): Thank you, Madam Chair. I've got one very quick question.

I was talking to my nephew doctor, and he was warning my niece about this issue. I seem to hear from Dr. Havas and from Mr. Therrien that there is evidence out in the field and work that is being done. They notice it. I think you have to trust to some degree people who work with people. Sometimes we forget that during the SARS event the nurses knew more and they saw it coming long before the doctors acknowledged it. I think there's something happening here.

My question to Health Canada is whether there is any coming together of people like Mr. Therrien and Dr. Havas to look at ways of doing studies to see if there's real concern that we need to be addressing. I don't think the answer is in the extremes; I think it's somewhere in the middle.

Ms. Beth Pieterson: The term “electromagnetic hypersensitivity” is a term to describe a number of effects. It's not that anyone denies that these effects don't happen. It's the fact that numerous scientific studies have failed to make an adequate association between the electromagnetic radiation and the effects themselves. So the causes of the symptoms are unclear, from a scientific point of view.

There are suggestions that they might arise from environmental factors unrelated to the EMFs. We don't know.

Yes, there should be more study. I think many of us have said that. More study is the answer, and there are ongoing studies.

Ms. Joyce Murray: Thank you.

To Ms. Pieterson, given your comment that there should be more studies—which is not the same as what you said in your briefing, that this has been thoroughly evaluated and Health Canada does not support the notion that there are hazards posed—it sounds like Health Canada might in fact be open to relooking at the evidence and the studies.

What would it take for Health Canada to do a longitudinal study that goes right down to the postal code to identify if there is any correspondence between problems and locations that are close to the EMF sources?

Ms. Beth Pieterson: Again, I'm not sure if Health Canada should do the study. Health Canada would certainly be interested in such a study, and helping with it.

I don't think...I said the studies to date may ensure that our Safety Code 6, we believe, is accurate and shouldn't be changed. We review the Safety Code 6 standards regularly to update them and we reissued it again in 2009. So certainly I don't want any member of the committee to believe that it's set in stone. We continuously review the literature and would change it as imposed by...as another member of the committee suggested about changing guidelines. We do change guidelines based on new information.

Ms. Joyce Murray: Thank you.

I'd like to take a minute of our time to hear from Dr. Havas, who was cut off in the previous round. She was going to read something.

The Chair: Dr. Havas, are you online here?

Dr. Magda Havas: Yes, I am.

Ms. Joyce Murray: Good.

You were about to read something from one of the studies.

Dr. Magda Havas: That's right, the Porto Alegre Resolution in Brazil. This was intended by scientists from all over the world, and this is what they stated:

> Scientists and doctors recognize electrohypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable.

This was one of their recommendations and conclusions.

That's one of about 10 different scientific groups that have gotten together and that do represent the scientific community in this area.

Regarding Ms. Pieterson's comment that the Safety Code 6 is updated, I had a good look at the 2009 versus the 1999 safety code, and the major difference I saw was the removal of one of the statements on page 11 of the original report that said some people are more sensitive to this form of radiation. That statement was removed in the most recent report, and I'm really quite curious as to why that might be.

● (1025)

The Chair: Thank you, Dr. Havas.

We'll now go to Mr. Uppal.

Mr. Tim Uppal (Edmonton—Sherwood Park, CPC): Thank you.

I want to ask a couple of questions regarding high-voltage power lines. This has become a huge issue in my riding, where there are going to be very large power lines. They're proposed to go right through the riding. They're 500 volts. They're 20-storey-high towers.

My office has received hundreds—maybe close to a thousand—e-mails on this from residents. There have been town hall meetings with thousands of people showing up, so it's a concern to people. The concern comes from one side of the story versus the other side of the story—one side of the evidence on health, and what the other side is proposing.

The power companies and, frankly, the Government of Alberta are basing their justification on Health Canada's guidelines. Can you explain further the science behind Health Canada's guidelines? Are there studies that Health Canada has done on power lines? If you haven't done your own studies, which studies have you looked at?

Ms. Beth Pieterson: I'll try to explain some of this.

For cellphone towers, the appropriate exposure limits are expressed in terms of a field intensity. Usually it's measured in watts per square metre. The Safety Code 6 limit for the general public is 10 watts per square metre.

I hope some of my other colleagues will speak up, if they know more of this technically.

Studies have shown—Industry Canada actually does measurements in the area—that the exposure limits are very much less than the safety code standard. The whole body is exposed to RF energy, and the power density is used for evaluation of exposures. Recent surveys have indicated that the exposures from cellphone towers in publicly accessible areas are normally 1,000 times below the international exposure standard or the Safety Code 6 standard: 1,000 times below.

Mr. Tim Uppal: And what about power lines? That's—

Dr. Magda Havas: May I comment on that?

Mr. Tim Uppal: In a minute, if I can first get Health Canada's answer.

The Chair: Mr. Uppal is asking a question, Dr. Havas. Be patient, please.

Mr. Tim Uppal: In terms of power lines, 500-volt power lines are supposed to be the very largest power lines—

Ms. Beth Pieterson: Again, the exposure limit to individuals in the area is way below the limit set.

Mr. Tim Uppal: And what studies are we looking at, or is Health Canada looking at?

Ms. Beth Pieterson: Health Canada is looking at the peer-reviewed literature, Canadian and international literature.

Mr. Tim Uppal: I'd like to give Mr. Lord an opportunity to respond to my colleague Colin Carrie's question regarding the *BioInitiative Report* and its authors.

I think you were going to speak about the authors of that report.

Mr. Bernard Lord: I was simply going to say that we have nothing to say about the authors themselves. We just reviewed what others have said, and we rely on other scientists who have examined the *BioInitiative Report* and who have concluded that it is not in accordance with other science that's been accepted and peer-reviewed.

That seems to be the big difference, the fact that some are peer-reviewed and some are not. That seems to be a clear difference.

As I've stated before, we certainly welcome more study. At the same time, as we weigh the evidence—and I think it's important to weigh the evidence before us—around the world, and also examine what's perceived to be the risk, we cannot take away all the benefits that come from this technology, benefits that help us in our communities, with education, with health care, and with public safety. All of those have to be part of it. At a time when the federal government wants to embark on a digital economy strategy, which we think is very important for the future prosperity of our country, we have to make sure that we look at the evidence and don't succumb to fear over reason and conjecture over science, because that's really the choice before us.

The Chair: Thank you very much.

We have a few more minutes.

Dr. Havas, would you like to make comment?

Dr. Magda Havas: Yes, I would.

The question was about high-voltage transmission lines. For that, we're not interested in power density. We're not talking about microwave energy; we're talking about extremely low-frequency electric and magnetic fields. Canada's guideline on that is about 833 milligauss—that's the strength of the magnetic field. Studies are showing that there's an increased risk of childhood leukemia between two and four milligauss; an increase in breast cancer up to 12 milligauss; and an increase in miscarriages at 16 milligauss. All of these values are well below the 833 milligauss that Health Canada uses for magnetic fields.

So there is a concern about people who live near them. The childhood leukemia has been recognized internationally. Low-frequency magnetic fields have been classified as a class 2B carcinogen, meaning a possible carcinogen.

● (1030)

The Chair: Thank you.

We'll go to Monsieur Cardin.

[*Translation*]

Mr. Serge Cardin (Sherbrooke, BQ): Thank you, Madam Chair.

Ladies and gentlemen, good morning and welcome to the committee.

You would not think it, but I am very sensitive. It does not show, but I am, both emotionally and physically. I really believe that microwaves can affect people. I especially do not want a confrontation between the industry and health advocates, either today or in the future. I would prefer that both sides work together to find solutions.

A number of years ago, I used to wear my cell phone on my belt, back when they used to have small antennas sticking out from them. Then, one day, I developed a rash in the exact spot where I wore my cell phone, and it worried me. I got the feeling that it was caused by the phone, so I started carrying my cell phone in a different place, and the problem went away. I wanted to know whether the problem was in fact caused by the cell phone, so I put it back on my belt, and the problem came back. That was enough to convince me.

Today, as much as possible, I wear earphones when talking on my cell phone in the car. I do not carry the device that can capture the waves directly on my person. When I have to hold the phone directly to my ear, it feels totally different. By the way, when I used to wear my old cell phone on my belt, I knew it was going to ring even before it made a sound. I am convinced there is something to that and that we need to work on determining the levels. Some people are probably more sensitive to it than others. It is certainly not the majority of people, or else the source of the problem would have been found by now.

I think this is an excellent opportunity for the CWTA to determine the scope of the problem. As far as facilities go, I think we need to do more than just applying the precautionary principle. Ideally, even if there are more people who are not sensitive to the phenomenon than who are, the law of the majority should not rule. This is a case where we need to intervene for everyone's sake. And we need to work together in order to succeed.

The story I just recounted is a bit of anecdotal evidence. I am convinced there is something to it. The question is how do we come up with a solution. The industry is here to stay, and it will. People, however, are not like industries. They do not live forever. It is my hope, though, that they live long and well.

I want to know what the representatives on both sides recommend.

Mr. François Therrien: I want to thank Mr. Cardin for his comment.

We mentioned Web sites that provide information on the health effects. The official Web sites of Industry Canada, the GSMA and the CWTA provide a lot of information. But all of them deny the existence of the electrosensitivity problem on their Web sites. None of the sites acknowledge the illness, which is related to microwave exposure.

You asked whether we could work together to find a solution. It will be necessary to establish a basis for understanding at some point. First and foremost, what has to happen is that the industry must recognize the existence of electrosensitivity problems. That is what we need to do now. Not only do they not recognize that electrosensitivity exists, but all of them also refer, on their Web sites —which concerned parents such as Mr. Carrie check—to the World Health Organization's study in which the subjects had a predisposition to electrosensitivity as a result of psychiatric problems. Anyone looking for information on these official Web sites will see that.

There are people who are exposed to microwaves through relay antennas, as Magda Havas mentioned in her presentation and according to emails sent to you by a number of Canadians. One could think that the public no longer has faith in the safety standards. So there is a societal problem. What happens when the public no longer believes what the authorities tell them about safety? That is the question that needs to be asked.

It is time to stop denying this reality and to recognize it. Then we need to realize that the microwave issue should no longer be viewed from a scientific standpoint. We cannot think that tomorrow two researchers will discover that microwaves are harmful. The proof is that the more studies there are to show the harmful effects, the more studies there will be to show the opposite.

● (1035)

[*English*]

The Chair: Thank you, Mr. Therrien.

We'll now go to Mrs. Davidson.

Mrs. Patricia Davidson (Sarnia—Lambton, CPC): Thank you very much, Madam Chair.

Thanks very much to our presenters this morning.

We're certainly hearing some differing opinions as far as what's dangerous and what isn't, I believe, and what's accepted as scientific information and what isn't. I'm just a little bit confused about where we go from here.

Ms. Pieterson, you've said that certainly Health Canada would welcome more studies. I think that's the way it should be. I think we always need to be willing to update, and you have indicated that is the role at Health Canada, to make those changes as new scientific evidence becomes available.

We've heard quite a bit about the study that's being done, the one that Health Canada does not feel has scientific background to it. So the evidence that is presented there is not taken into account, I guess, by Health Canada.

If we agree that we need to have more studies, and Health Canada doesn't do these studies in particular—they're done by individuals and by independent people—who's going to do them, and how are we going to determine that they are of scientific value?

Mr. Bernard Lord: I'd be happy to comment on that, not just as president of the CWTA but as someone who spent a bit of little time on public policy.

I think in the end we have to have institutions such as Health Canada that set the norm. We need to have institutions that will weigh the evidence and examine all of the evidence itself. It's not because a scientist somewhere comes up with one study that says one thing or another, that this should be enough to completely change everything that we have. I think it's important to have institutions and groups that will weigh scientific evidence that is peer-reviewed to examine what the risks are and what standards need to be set. Once those standards are set, then you have to expect industry—that I now represent—to follow the standards that are set.

The fact that there is a willingness to have ongoing studies is only normal because human knowledge never ceases and we have to have an evergreening process of understanding. What we see with the peer-reviewed international studies is that there's no reason to conclude that there are risks. But we know there are significant benefits and that must be taken into account as well.

We see this often in public life. We always want to find the balance. We always want to find the middle ground. What's the middle ground? Sometimes you may have people who believe that the earth is round and some who believe it's flat. The answer is not in the middle. You can't just say, “It's probably like an orange sliced in half: most of it is round, but some of it is flat.” That's not the case.

That's why it's important to look at the body of evidence, and the body of evidence is that this is safe. We must continue to examine it to see if there are other things that can be done to make sure that we protect public safety, absolutely. I think, in the end, institutions like Health Canada have that responsibility. We have to make sure that they have the resources to make that assessment, and then Industry Canada must make sure that industry complies with the regulations. Luckily for us in Canada, that's what we have now.

Dr. Magda Havas: May I comment as well?

I think if we're going to try to resolve this issue, it's absolutely essential that we have funding for independent research that's done in North America. Considering our exposure to this microwave radiation from wireless technology inside our homes and from wireless technology outside our homes, it's amazing that we don't have funding for independent research. That's really the first step. We have to better understand what the mechanisms are and what the exposure limits are. We have some amazing scientists who simply are unable to get resources to apply their science to this problem. I think when it comes to committees looking at this, that's a second step. The first step is really to get independent research funded in Canada and in the United States.

● (1040)

The Chair: Go ahead, Dr. Rowley.

Dr. Jack Rowley: I just wanted to reflect the international situation in terms of research funding.

The World Health Organization estimates that more than $200 million U.S. has been spent globally on research related to electromagnetic fields over the last 10 to 15 years. What we have seen is that some countries dedicate significant resources to specific programs related to wireless communications and health, and that other countries have felt that for resource reasons it's necessary for those study proposals to be balanced against other public health issues that governments need to fund. So it's something that has taken different approaches in different countries.

I have been following this issue now for more than 15 years. What I've seen is that the number of research uncertainties has reduced over that time; the scale of the research progress has been reduced over that time, because many of the questions that were there when I started in this area have been answered and have been resolved. We're getting to a situation where there are a few outstanding questions from the scientific community that still need to be addressed. The separate issue from a health policy point of view is whether the current standards protect public health. There is that international consensus that the present standards as reflected in Safety Code 6 do protect public health.

The Chair: Thank you.

Ladies and gentlemen, the bells are ringing now, so I have to dismiss the committee to go for votes.

I want to thank the witnesses very much for being here today—

Hon. Carolyn Bennett: There is a motion, Madam Chair.

The Chair: Okay.

Before we go, can we quickly get this motion out?

Oh, wait a minute. I need unanimous consent to continue in order to hear the motion.

Do I have unanimous consent?

Some hon. members: Agreed.

The Chair: Okay.

Ms. Murray.

Ms. Joyce Murray: Thank you, Madam Chair.

The motion reads as follows:

> That since the regulation of radiation emitting devices related to radio and telecommunications, such as wireless phones and their phone base stations is the responsibility of Industry Canada, and since members of this Committee requested that an Industry Canada representative appear in relation to the Committee's study of the potential health effects of electromagnetic radiation emitting devices, therefore this Committee requires the presence of Industry Canada at the next meeting concerning this study.

The Chair: If there is debate, now is the time to do it—very quickly.

Ms. Joyce Murray: Madam Chair, I'll make my remarks about that.

From my perspective and that of my colleagues, it is simply not acceptable that we make a request for a related government official to come to our study and have it denied. We don't know who made that decision or where it was made. We consider that not to be acceptable. We've heard testimony that Industry Canada is involved in decisions about the safety of people around cellphone towers.

The Chair: Dr. Carrie.

Mr. Colin Carrie: I'd like to make a friendly amendment to what my colleague said, to change “require” to “request”. As we all know, sometimes there is difficulty scheduling things.

The Chair: Do we all agree that the amendment be included to change “require” to “request?”

Ms. Murray.

Ms. Joyce Murray: Well, Madam Chair, if we're debating an amendment, we didn't ask the minister, we asked Industry Canada. The idea that nobody is available is completely implausible.

We have already requested Industry Canada to come, and they denied that request, which is why we need stronger language from this committee.

I believe all committee members see us as having an important role. If officials in Industry Canada can overrule our request, we need a stronger statement.

The Chair: Dr. Carrie.

Mr. Colin Carrie: Then I would like to modify my friendly amendment to say “strongly request”.

The Chair: We'll read it out then, with the friendly amendment:

> That since the regulation of radiation emitting devices related to radio and telecommunications, such as wireless phones and their phone base stations is the responsibility of Industry Canada, and since members of this Committee requested that an Industry Canada representative appear in relation to the Committee's study of the potential health effects of electromagnetic radiation emitting devices, therefore this Committee strongly requests the presence of Industry Canada at the next meeting concerning this study.

(Motion agreed to)

The Chair: Again, thank you to the witnesses. As you know, when the bells ring we absolutely have to run. My apologies for this interruption, but your insightful comments were very useful. Thank you.

The meeting is adjourned.

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