House of Commons
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 025 • 2nd SESSION • 40th PARLIAMENT

EVIDENCE

Tuesday, June 9, 2009

Chair

Mr. Leon Benoit

Standing Committee on Natural Resources

Tuesday, June 9, 2009

● (1535)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good afternoon, everyone. We're ready to start the meeting.

I would just like to say before we start that we'll need a budget to cover any claims for travel expenses from this study. If we could just hang around a little bit at the end to deal with that, I would appreciate it.

Secondly, you will get your copy of the report on integrated energy systems towards the end of the meeting, so you'll have that today. We'll deal with it Thursday.

Today we are continuing our study, pursuant to Standing Order 108(2), of the Atomic Energy Canada Limited facility at Chalk River and the status of the production of medical isotopes.

We have with us today four groups of witnesses, three here in person and one by video conference. From the Canadian Association of Nuclear Medicine we have Jean-Luc Urbain, president, and Peter Hollett, past president. From the Canadian Association of Radiologists we have Edward Lyons, president, and Jacques Lévesque, vice-president. From the Quebec Association of Nuclear Medicine Specialists we have the president, François Lamoureux. By video conference from Hamilton, from the Hamilton Health Sciences and St. Joseph's Healthcare Hamilton, we have Karen Gulenchyn, the medical chief of the department of nuclear medicine.

We will go in the order listed on the agenda for today, starting with witnesses from the Canadian Association of Nuclear Medicine, for up to ten minutes. Whether one of you will give the presentation or you want to share, it's entirely up to you, but please limit it to ten minutes.

Thank you very much, and go ahead.

[*Translation*]

Dr. Jean-Luc Urbain (President, Canadian Association of Nuclear Medicine): Mr. Chairman, members of the committee, on behalf of the Canadian Association of Nuclear Medicine, I would first like to thank you all for giving our organization the opportunity to appear before you to discuss the scarcity of medical isotopes.

It is with mixed feelings and emotions that Dr. Peter Hollet, seated to my right, and I are here before you today as the spokespersons for Canada's doctors specialized in nuclear medicine. I have been working in the field of nuclear medicine for a little more than 30 years. I consider myself to be very privileged for having had this opportunity to practise my specialty for just over 20 years in Belgium, in the United States and, for nearly 6 years, in Canada. During all these years, my colleagues and I practised our profession knowing that we would have the best possible isotopes available to us in order to carry out our diagnoses and treat the patients referred to us every day. This feeling was based primarily on the fact that we knew that Canada had developed a nuclear energy and medical isotope production program unparalleled in the world and that it was in fact the envy of the world.

Since the first dramatic shutdown of the NRU reactor in December of 2007, our association, in cooperation with numerous colleagues, has worked relentlessly to mitigate the effects of the isotope shortage on the well-being of Canadians, and, it must be said, to try to save Canada's credibility on the international scene.

In May of 2008, the working group established by the Ministry of Health, of which we were a part, submitted to the Minister of Health a report detailing the sequence of events of December of 2007, outlining the impact of the reactor shutdown on health care and the weaknesses of the current systems, and, in addition, made recommendations that were both general and specific to prevent any reoccurrence of this type of situation.

We emphasized two basic issues in this report. First of all, we discussed the need to secure a made-in-Canada solution for the supply of isotopes, particularly molybdenum-99 and technetium-99m, by expeditiously commissioning the Maple I and II reactors.

Secondly, we discussed the need to develop and market alternative medical isotopes, particularly positron-emitting isotopes, which can be detected through positron emission tomography, which could partially alleviate the shortage of reactor-produced isotopes.

[*English*]

Over the past 18 months, our community has witnessed five to six significant fluctuations in technetium-99m delivery, forcing us to change drastically our patients' scheduling and our practice, and to reschedule patient examinations. We knew that any further prolonged shortage of isotope procurement would have a dramatic effect on our ability to provide services to our patients.

The announcement last month of the prolonged shutdown of the NRU reactors is a real catastrophe for the two million nuclear medicine patients in Canada, and also for the credibility of Canadian nuclear technology and industry. The chronic and acute shortage of medical isotopes is neither a funny nor sexy story. It is a real drama that we and our patients have to live with on a daily basis.

As physicians, we must practise medical, and not political, correctness. We must provide the very best diagnostic tests and treatments for our patients in Canada and across the world, and we are obligated to be truthful to our patients and ourselves. Our association has never shied away from its mission, responsibilities, or duties. And while we have worked relentlessly with Health Canada to try to mitigate as much as possible this new and prolonged crisis, we have expressed to the government, to our patients, and to the media our grave concern regarding our ability to delivery optimal diagnostic tests and therapeutic procedures. Unfortunately, our concerns have not really been taken seriously, and have even been qualified as ridiculous.

In reality, the current crisis is forcing us to use 20th century medical isotopes, diagnostics, and therapeutics, which are far from ideal. For example, we have used thallium chloride to replace technetium-99m-labeled cardiac tracer in order to make the diagnosis of cardiac disease. Thallium was one of the first isotopes that we used routinely in nuclear medicine in the seventies and eighties. While it represents a short-term alternative, thallium does not have ideal imaging characteristics. It requires drastic changes in patient scheduling and increases by a factor of 1.5 to 2 the radiation exposure of patients. We also have had to replace some of our nuclear medicine tests with radiology procedures that do not provide information on the function of the organs.

I mentioned earlier that I've been privileged to practise nuclear medicine in Europe and the United States. Positron emission tomography, what we also call PET, uses medical isotopes that characterize extremely well the physiology and pathophysiology of the human body, cardiac diseases, and most the cancers and neurological conditions, like Alzheimer's disease. PET education and training was an integral part of my education in Belgium in the eighties. And in 1990, based on the overwhelming evidence of its usefulness for the conditions I mentioned above, the Belgian government decided to provide access to this technology to its ten million citizens at no cost.

Some of the nuclear medicine tests that use technetium-99m can be replaced with the PET procedure. Should Canada have authorized the physicians and scientists to develop and implement this technology in the nineties and at the beginning of this century, we would now be able to provide a 21st century diagnostic tool to all Canadians. To our community, it is inconceivable that Canadians must go to China, Singapore, India, Australia, Kuwait, Europe, South America, and the United States to have unrestricted access to this proven technology and receive adequate treatment with state-of-the-art isotopes. In the eyes of our international colleagues, nuclear medicine in Canada is falling into a third, if not a fourth, world practice.

● (1540)

The absence of PET technology has already taken its toll on Canadians. I must say that I've never seen as many advanced cancers in my career as over the past six years of practice in Canada. Also, it is the first time in my career that I have been.... [*Technical Difficulty*]

The Chair: We will have to suspend the meeting until the microphones can be repaired.

● (1540)

(Pause)

● (1545)

The Chair: We will now resume the meeting. My mike is working.

Could you try yours again, Mr. Urbain? Great. Please continue and we'll hope that it works from now on.

Dr. Jean-Luc Urbain: Thank you very much. I'll try to be brief for the rest of my presentation.

What I was saying is that the absence of PET technology has already taken its toll on Canadians, and I must say that I have never seen as many advanced cancers in my career as over the past six years of practice in Canada. Also, it is the first time in my career that I have been forced to perform PET clinical trials that are qualified by the international community as unethical.

Without access to these 21st century technologies and isotopes, it is extremely difficult to attract medical students into this critical field and to retain our young graduates and senior physicians in Canada. Middle term and long term, losing its very best is always detrimental to any society.

The CANM would like to strongly recommend to this committee that, first, the government rescind the decision to abandon MAPLE 1 and MAPLE 2 reactors to produce medical isotopes, and immediately convene an international expert panel to analyze in depth the real issues related to the commissioning of these reactors and release all the conclusions of the panel to the public and medical organizations.

Second, we recommend that the federal government, through Health Canada, expeditiously approve the use of positron emitting isotopes and their radiopharmaceuticals based on the pre-clinical and clinical trials performed in Europe and the United States and the criteria well established by the United States and the European Union regulatory agencies for the safe clinical use of these radioisotopes.

Third, we recommend that for a period of five years the federal government work with the provinces and territories to support and subsidize the recent increase of, in particular, technetium-99m costs imposed by the manufacturer and distributor, and the cost of the deployment and implementation of positron emission technology throughout Canada.

Fourth, we recommend that the Minister of Natural Resources and Health Canada work formally and expeditiously with the relevant medical organizations, rather than relying on expert individuals who might have personal conflicts of interest, and establish rapidly the processes to implement these recommendations.

The CANM strongly believes that Canada must update its health care system and provide its citizens with 21st century nuclear medicine diagnostic and therapeutic tools. The CANM is also pleased to reiterate its offer to work very closely with the government and provide its support, experience, expertise, and testimony to achieve this goal.

Dr. Peter Hollet, immediate past president of the CANM, and I would be pleased to answer any questions you may have. We thank you for your attention.

● (1550)

The Chair: Thank you.

And now we go to the Canadian Association of Radiologists, Edward Lyons, president, and Jacques Lévesque, vice-president.

Go ahead, gentlemen. Hopefully, you'll keep it under ten minutes.

Dr. Edward Lyons (President, Canadian Association of Radiologists): Mr. Chairman and members of the committee, thank you for the opportunity to address this committee on this issue.

We've had the opportunity to serve on the ad hoc committee on medical isotopes. As Dr. Urbain mentioned, as a group of physicians representing the CAR, we were recently put on this committee.

The Canadian Association of Radiologists is the national voice of radiology committed to promoting highest standards in patient-centred imaging, lifelong learning, and research. We are also radiologists as an integral part of the health care team.

The CAR has been monitoring the effects of the Chalk River shutdown, as a prolonged shortage of medical isotopes has implications for radiology services across the country. Patients needing nuclear medicine scans may be required to move to other imaging modalities for their diagnoses and treatment monitoring, notably CT and MRI.

The effect on an already stressed imaging system with long waiting lists for CT and MRI can be significant. The availability of PET and CT PET scanners varies widely, but relatively few are available in Canada to meet the increased demand.

Provinces and territories individually manage their own isotope supplies. Therefore the effect of a shortage differs across the country. The CAR is trying to monitor any increased demand for radiology through its provincial organizations, and no change has been detected in just the last few weeks.

There is a need to maximize collaboration in Canada among provincial, territorial, and federal governments, health care authorities, and medical organizations as this shortage continues.

The CAR believes a coordinated national standard and strategy would ensure that the needs of all Canadian patients from coast to coast are at the forefront as we manoeuvre through a limited supply of medical isotopes. Perhaps a pan-Canadian committee might collectively manage the issue and develop strategies that address the best interests of all Canadians in the short and long term.

Such a committee would need to be comprised of representatives from and have mechanisms in place to seek input from provincial, territorial, and federal governments; provincial and territorial health care authorities; national and provincial imaging associations; colleges and educational institutions that provide health and human resources; and finally, but not least, the industries that are producing or distributing the isotopes.

Only through a concerted effort of government, medicine, and industry will Canada successfully navigate this critical health care situation. The CAR is willing to play a key role in this committee.

Coordinated consultation with imaging groups, accommodating more imaging studies in an already stretched medical imaging system, will require a detailed assessment and consultation with other imaging groups. This would include groups such as the Canadian Association of Medical Radiation Technologists, their representatives being here, and the Canadian Society of Diagnostic Medical Sonographers, in consideration of the impact of increased demand on technologists' manpower and training. CAR is willing to play a role in this kind of needed consultation.

In developing short-, mid-, and long-term strategies, it is critical that Canadians have access to required nuclear medicine services. This will require immediate action. The CAR identifies numerous areas it sees as requiring attention and in which the CAR might assist in managing the current isotope shortage.

● (1555)

First, we could assist in a comprehensive study on the realistic impact of how decreased supply worldwide will impact Canada. How many patients with no access to nuclear medicine tests would be affected? How many of these could and would be transferred to radiology imaging? What would be needed to accommodate these patients? Could increased workload be accommodated with the current system? If so, for how long and at what degree? Could we and how would we expand the operating time of facilities to impact patient needs? What would be the impact on staff, both physicians and technologists? Finally, who would absorb all these new costs for both capital and operating?

Secondly, we need to assess and monitor the effect of a prolonged isotope shortage on radiology demand and workload. Adjusting workload and manpower supply to optimize the use of isotopes and shifting imaging examinations to other nuclear or non-nuclear modalities, such as CT and MRI , are affected by and dependent on current imaging resources now and in the long term. Specifically, there's a need to monitor and report on the system impacts, including those. These will be useful in planning for the investment in isotope supply for the future, including staff—radiologists and technologists, their work hours, overtime, and sick leave; management; the number of units being produced in nuclear medicine radiology at facilities at the national, provincial, and regional levels; resource use; the total cost to treatment point as patients move through the system; machine use and operating time; wait times for nuclear medicine for diagnostic imaging; and ultimately cost overruns within the radiology system.

One solution we might offer is expanded use of the CAR evidence-based diagnostic imaging referral guidelines as a way to prioritize patients. Guidelines assist patients in ordering the best test first. They have a positive impact on the management of imaging, health, human, and equipment resources; patient safety through reduced exposure to unnecessary radiation; and wait times. Improved management of current imaging resources creates more capacity. The CAR now has five years of experience in implementing evidence-based and transparent diagnostic imaging guidelines with specialists, family physicians, and general practitioners, and can help expand the use of these guidelines across the country.

Next is developing clinical protocols, strategies, and algorithms for prioritizing patients based on local and regional resource availability, and developing special request forms or formats to identify these patients and assist them to monitor requests that might take into consideration already existing wait lists.

Another point is to assist in the development of a coordinated approach to assess radiology needs to ensure that all regions have fair and equitable access to available isotopes and alternative radiology services.

Next is to assist in the careful planning and coordination for the long term that will be required to avoid a similar situation in the future. The need to expand replacement technologies should be studied, such as adding more CT-PET and CT-NMR. The CAR might assist with issues to be resolved, such as how the actual demand would be met over the next five years; how many new units would be needed to meet the demand; how to deal with existing wait lists; how soon there could be a realistic increase in supply; and how we could meet the manpower needs.

Finally, managing the shortage of medical isotopes now and creating future supplies is a global, national, provincial, and territorial issue that will require collaborative efforts within and between all levels of government, health care authorities, medical associations, and industry, now and in the years ahead. Management of an isotope shortage in the short term must coincide with mid- and long-term strategies for supplies. The CAR is open to continuing involvement at each of these levels in order to assist in the evolution of isotope supply and management.

● (1600)

Finally, the CAR believes that beginning with a commitment to a national approach that considers the health care of each Canadian equally is an important first step on this journey.

Thank you very much.

Dr. Lévesque, our vice-president, and I will entertain questions at the appropriate time.

The Chair: Thank you, Dr. Lyons, for your presentation and for your specific recommendations.

We go now to the third group to present, Dr. François Lamoureux, from the Quebec Association of Nuclear Medicine Specialists. Go ahead, please, for up to ten minutes.

[*Translation*]

Dr. François Lamoureux (President, Quebec Association of Nuclear Medicine Specialists): Mr. Chairman, distinguished members of the committee, I would like to thank you, as the President of the Quebec Association of Nuclear Medicine Specialists, for giving me this opportunity to appear before you on behalf of my nuclear medicine specialist colleagues from Quebec.

We are currently experiencing a crisis which is truly medical and not political. This morning I listened to the CBC and heard the heart-wrenching testimony of a young 21-year-old patient suffering from thyroid cancer who was literally terrorized by the thought that she may not be able to receive an iodine 131 treatment for her cancer, and she was also concerned about other patients.

In Canada, 5,000 new cases of thyroid cancer are detected every year. Seventy-five per cent are women. If the cancer is treated adequately, the survival rate at 10 years is over 95%. If these patients no longer have access to this treatment, what will their future be? In Canada, the crisis has got so bad that now sick people are worried about other sick people, because this government does not appear to understand how tragic, how catastrophic this is for sick Canadians who need these tests and treatments. We have abandoned our sick. First of all, we denied that the crisis existed and now, we find it "sexy". Such grief, such sorrow? It is difficult to be a Canadian today. Who is going to protect the patients in this country? This medical disaster was foreseeable. Everybody knew this. It was not about if it would happen, but when it would happen.

As the national medical organization, the Canadian Association of Nuclear Medicine, as explained clearly by its president Jean-Luc Urbain, offered its cooperation from the outset. However, the government preferred to use obscure expert consultants. Why this obscurity? Were there any unacknowledged commitments or interests that the people should know about?

In Quebec, our association, in cooperation with Quebec's Ministry of Health, immediately reactivated its crisis cell the day after it was announced, on May 25, 2009, that the Chalk River reactor would be shut down for a prolonged period of time. We in Quebec, unlike the rest of Canada, have 15 positron emission tomography machines, commonly referred to as "PET scans", we were able to immediately mitigate this impact for cancer patients requiring positron emitting tomography by redirecting them to centres set up throughout the province. I would like to thank this government who had the vision to set up this technology throughout the province. In France, there are already 80 clinical centres, and since the main priority is cancer, this number will be brought up to 120.

We then decided to extend hours. As we speak, technologists, doctors and secretaries are contacting patients. We must constantly establish new appointment lists, cancel and postpone appointments and make decisions with respect to priorities. We are also using other radioactive tracers. We therefore totally support the assessment of the problem and the proposals made by the Canadian Association of Nuclear Medicine. We can no longer live with this uncertainty. The sick people in this country have completely lost confidence in our leaders. We need an independent committee to assess the situation. Using the media for diversion or concealing the collateral damage inflicted on patients offers no comfort. We have been thrown head first into a medical emergency.

On Thursday and Friday, several regional centres in Ontario will have to shut down their nuclear medicine service completely because they are out of technetium. The reactors in South Africa and Holland were not operating this week. Sick people need your help. Without exception, the 101 nuclear medicine physicians of Quebec add their voices to those of their nuclear colleagues in the rest of Canada through the Canadian Association of Nuclear Medicine in order to immediately offer their full cooperation to the elected officials of this land.

I am prepared to answer any question you may wish to ask. Thank you.

● (1605)

[*English*]

The Chair: Thank you, Monsieur Lamoureux, for your comments. They are much appreciated.

We go now to the witness by teleconference. The witness is Dr. Karen Gulenchyn, medical chief, department of nuclear medicine, at Hamilton Health Sciences and St. Joseph's Healthcare Hamilton.

Go ahead, please, Ms. Gulenchyn.

Dr. Karen Gulenchyn (Medical Chief, Department of Nuclear Medicine, Hamilton Health Sciences and St. Joseph's Healthcare Hamilton): Thank you, Mr. Chair and committee members, for the opportunity to appear once again before you. I last spoke to this committee in February 2008 in the aftermath of the regulatory shutdown at the NRU at Chalk River. I'm also a member of the group of experts that was called together in December 2007 by the federal Minister of Health to provide advice on the medical isotope supply, and I continue to serve in that capacity.

When I appeared here some 16 months ago, I spent some time describing my practice and its dependence upon the secure supply of medical isotopes. That dependence on a secure supply hasn't changed, but I'm not going to return to that description, as I know that members of the government have been involved in a detailed exploration of those issues since that time. However, I would like to present to you today what we have done in the interim to prepare for this crisis, which I think Dr. Lamoureux had referred to. We knew it was going to happen; we just didn't know when it was going to happen. We in fact believed this was going to be inevitable.

As an advisor to the federal Minister of Health, the group as a whole has provided advice on alternative radiopharmaceuticals, advice regarding alternative diagnostics and treatments, and information to assist in the preparation of a document that outlines strategies to maximize the use of any existing radiopharmaceutical supplies. That document has been very useful to all the centres across this country in dealing with the current issue.

I've also provided advice to the Ontario Ministry of Health and Long-Term Care, where we drafted a plan to use in the case of this particular event. In fact as the ink was drying on the last version of that plan, the shutdown at Chalk River occurred this past May.

We've prepared plans, as well, to roll out sodium fluoride bone imaging, but that is only going to replace a small proportion of the bone scans that are performed across the province. That plan was worked on in concert with people at the Cross Cancer Institute in Alberta, and I believe another plan was worked on as well in Sherbrooke, Quebec. Finally, we have developed a plan to monitor the situation in each local health integration network across the province.

Internally at Hamilton Health Sciences and St. Joseph's, my staff has been working to be sure we're in a position to be able to take that plan out of the drawer and in fact implement it. In particular, we've developed communication strategies so that the medical staff and the public in our city of Hamilton—all of whom are very concerned about the current situation—are kept informed.

Where do we stand today? We're four weeks into the current situation, which was triggered by a safety shutdown at the NRU. In large part, the planning undertaken by the nuclear medicine community in conjunction with the federal and provincial health ministries has worked. The radiopharmaceutical suppliers have developed backup supplies, but these are in smaller quantities and at an increased price. Of course, my organization and other organizations across the country are struggling within their constrained budgets to deal with that price increase.

We've maintained our usual workloads for the first three weeks using these strategies, but last week we experienced a 20% reduction in the number of examinations we were able to perform, and this week we expect a reduction of about 30% of our usual volumes.

To a lot of observers from the outside, it might not appear there is a crisis. That's because of the very talented and dedicated staff who work in each of Canada's 245 nuclear medicine facilities and radiopharmacies. Patients are booked and rebooked to make the best use of radiopharmaceuticals. Doses and patients are transferred from one facility to another to ensure that the patient in the greatest need of the examination receives the dose of the radiopharmaceutical.

But the efforts to manage this situation come at a considerable cost. I think the increased costs of radiopharmaceuticals are perhaps the simplest example. More important are the opportunity costs—the time spent by a technologist to reorganize workflow, rather than providing that extra bit of care that's really so important to our patients with cancer and heart disease, and the time spent by physicians and scientists managing this effort rather than teaching tomorrow's physicians or exploring new frontiers. So this is a costly event that we are attempting to manage.

● (1610)

When I appeared here last February, I was asked a very difficult question on whether patients would have died had the reactor not resumed operations. The answer that I gave at that time was understood by the media to be no. I'd like to set that record straight today.

In large part, what we are dealing with here is a limitation in diagnostic testing, as opposed to therapy, which has been caused by a shortage of medical isotopes. A diagnostic test is one element of a process that begins with a patient complaint and leads to a history and physical examination by a physician and eventually to a diagnosis and a prescription of therapy.

Appropriate diagnostic tests, as prescribed by the physician, are used to increase the certainty about the diagnosis. If the test is not available then the level of certainty remains at a lower level, and in fact the diagnosis may be incorrect. There are many steps between the initial assessment and eventual patient outcome, and the drawing of a direct line between the lack of a specific test and the death of an individual patient is a difficult connection to make. However, the withdrawal of nuclear medicine testing from the Canadian health care system, which operates at the best of times within significant constraints, is resulting in difficulties in delivering care to patients.

I would like to think that we can manage this event, but if the level of medical isotope supply falls to the point that we are able to deliver fewer than 50% of our usual examinations, then I believe that deaths could occur due to the additional strain placed on the health care delivery system.

I want to stress again that although we are coping reasonably well in mitigating the impact on patients at this time, this is taking a toll on our health care system and each individual involved in the system, in particular the patients. It results in increased costs and the refocusing of already stretched resources.

I'd like to thank the committee today for the opportunity to appear before you, and along with the others, I would be pleased to answer any questions you might have.

Thank you.

● (1615)

The Chair: Thank you very much, Dr. Gulenchyn, for your explanation of the preparation done over the past year and a half, and for your description of how you've implemented the plan for dealing with this inevitability.

I will go now directly to questioning, for up to seven minutes, starting with the official opposition. Ms. Bennett.

Hon. Carolyn Bennett (St. Paul's, Lib.): Thanks very much.

Thank you for your excellent testimony and your obvious frustration, if not outrage, on behalf of your patients. We thank you for your frankness and your advocacy for the patients of Canada.

If we look first to nuclear medicine and to the working group that reported in May 2008, you had four points there—ensuring efficient and effective communication with the medical community and the public, and three others. But at the same time, you said that it was exactly the same time that MAPLE 1 and MAPLE 2 shut down. Obviously, an ad hoc committee is an ad hoc committee.

What has happened in terms of coordination of both the alternatives in patient care and securing a supply since the time of the tabling of the expert committee report of May 2008 at the same time as MAPLE 1 and MAPLE 2 were decommissioned?

Dr. Jean-Luc Urbain: Thank you for the question, Mrs. Bennett.

We have an outstanding group of medical imagers in this room, and we all work in concert. With your approval, I will ask Dr. Gulenchyn to answer your question.

Karen.

Dr. Karen Gulenchyn: Yes, I'm here. I'm getting used to the video conferencing thing here.

Really, the working group's efforts along with those of the federal Ministry of Health have largely been focused on strategies to maximize the use of existing supplies. We have spoken, I think, in the group many times about the need to secure the supply of isotopes. I don't think as a group we have the expertise to say how that supply should be secured. But clearly, having five reactors, all of which are more than 40 years old and therefore likely to suffer difficulties and breakdowns, does not leave us in a situation of having a secure supply. So I would say that we are disappointed that there has not been more movement forward on this particular issue.

Hon. Carolyn Bennett: The ad hoc committee has not had a process over this past year since the shutdown of MAPLE 1 and MAPLE 2. I have before me the draft guidance for maximizing the supply of technetium, and it seems to be based on the Ontario plan. I'm interested in whether there is a sort of single-bank-teller approach to how you would prioritize the patients and mobilize the alternatives. My concern has been that across this country the availability of the alternatives is very different. Could we say that, for example, bone scanning and myocardial perfusion testing are pretty well available across the country right now?

● (1620)

The Chair: Who would like to answer that question?

Dr. Jean-Luc Urbain: I think I'll ask—

The Chair: Mr. Urbain, I would just remind you that in the future, if you'd like to pass a question off to someone else, go through the chair, and I will do that if I think it's appropriate.

Thank you.

Dr. Jean-Luc Urbain: Okay.

Hon. Carolyn Bennett: Before the shortage....

Dr. Jean-Luc Urbain: Well, the difficulty in Canada, as you know, is that the regulatory body is at the federal level, and the dispensation of the health care is at the provincial level, and it's very difficult to coordinate and strategize for each province.

Hon. Carolyn Bennett: In terms of the cardiac testing, to begin with, 20 years ago you stopped using thallium, for a good reason. It seems from what I've heard that it's just not as good a picture, and you miss things. I was very concerned, Dr. Urbain, that you said you'd never seen such advanced disease until you came to Canada. Is that because things aren't detected earlier, because of the absence of PET scanning?

Dr. Jean-Luc Urbain: There are two aspects to your question. One is the thallium issue. I have to say that images with thallium are pretty good in today's world because the equipment has made a lot of progress. It's not the ideal trace, for the reason that I've mentioned, but it's a good temporary alternative.

As to your second question, about the fact that I've witnessed a lot of advanced cancer due to the lack of availability of PET scans, the answer is formally yes.

Hon. Carolyn Bennett: Of the available alternatives, if this had begun a year ago.... I believe that all these guidelines were prepared for a shutdown of a month. I don't think the prospect of going three or six months was in any of these guidelines.

If we had to move forward on PET scanning for Canadians, how would you do that across this country? Obviously, Quebec has lots of them, because it's a European model. You obviously feel the rest of Canada has slid behind. I understand that for some of the PET-scanning pharmaceuticals...and certainly in your second recommendation, in terms of Health Canada, the minister said that she was expeditiously approving things. I understand that you would need FDG and F-18 to be approved immediately. At the moment, it's just being used for research. Have you had any word from the minister as to whether these will be approved?

Dr. Jean-Luc Urbain: Except that they've looked at them expeditiously, the answer is no.

Hon. Carolyn Bennett: In terms of getting other sources, I heard a worrying story that hospital will be fighting hospital, clinic will be fighting clinic, that if there were any available extra isotopes from around the world there would be a bidding war. Are you hearing that the federal government will have any ability to secure any of these, or will the United States just pay more and mop it all up? How confident are you that any of the extra capacity from the Dutch reactor will come to Canada?

Dr. Jean-Luc Urbain: I'm not confident at all. To the contrary, it was very clear from the OECD meeting in Paris in January that the chain of supply is very complex. In case of a shortage, we do not know if we indeed are going to go into a bidding war, which is definitely likely. As I mentioned in my report, over the past 18 months we have seen five or six shortages of isotopes. One day we got notice that we would get only 60% of our generator capacity, with no explanation.

Clearly, it has been very frustrating. Right now we are operating on a day-to-day basis.

The Chair: Thank you, Ms. Bennett.

We go now to the Bloc Québécois. Madame Brunelle, for up to seven minutes.

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Good afternoon, ladies and gentlemen.

Dr. Lamoureux, you talked to us about a serious international medical crisis. I was very troubled by what I heard this afternoon. On May 21, you warned us about what would happen. During the course of an interview with the press, you said the following:

> The shortage of isotopes should begin to be felt next week as the supply of 99mTc will be reduced by 60% to 70%, which will have a commensurate impact on the access to care [...]

Indeed, we can see that your forecast has been confirmed. During the same interview, you also said:

> Technetium is used on a daily basis for 70% to 80% of our clinical interventions. It is used exclusively for diagnostic purposes, to detect cancer and its metastases, pulmonary embolisms [...] However, because of the shortage, we will have to delay these investigations and postpone some surgeries.

The case you described earlier truly spoke volumes. I tie that into what Mr. Jean-Luc Urbain said, namely, that the absence of technology has hurt Canadians a great deal. He has seen more and more cases of cancer over the past six years. Many people can look around them and see the numerous cases of cancer and realize the extent to which the fight against this disease appears to be lagging behind.

Dr. Lamoureux and Dr. Urbain, how do you see the actions taken or not taken by this government to deal with this crisis? Does the government realize that this is a serious medical crisis? Is it taking the required steps to resolve it? Do you have the impression that we will find a solution?

● (1625)

Dr. François Lamoureux: Our sick are concerned. We have had to dramatically reduce access to care although people knew three years ago that this crisis was coming. I think action should have been taken long ago to avoid the situation we find ourselves in today.

The people being held hostage in this situation are the ill. They need urgent care. As Dr. Gulenchyn said, if the level of supply goes below the 50% mark, there is a high risk that the ill will suffer extremely negative consequences. According to Dr. Gulenchyn, the quantity of isotopes at Quebec's Institut universitaire de cardiologie et de pneumologie, one of the biggest cardiology and lung cancer investigation centres, has been reduced this week to 20%—so this is below the 50% mark—and we are going to have to go through all kinds of hoops in order to provide our patients with the greatest possible accessibility.

I think that a government, when it is in power, must govern and make decisions. A decision should have been made by the government three years ago. The Canadian government has a social responsibility not only to Canada but also to the rest of the world. I think that it must go to every possible length to ensure that an international committee assesses the Chalk River facility. People need to be told the truth, namely, whether or not this reactor can be made operational again. If this is at all possible, it must be made operational once again because there is no immediate solution in the rest of the world to compensate for this shortage of isotopes. The only solution for us and for the rest of the world is to, for the time being, try to prolong the life of the Chalk River reactor as much as possible. In addition, to ensure that an adequate assessment is done and that people are aware of the truth, we must establish an international emergency committee to assess the problem.

Ms. Paule Brunelle: Mr. Urbain or Mr. Lamoureux, I would like you to clarify two facts. First of all, when the minister was told about the shortage, she said that we could obtain supplies from the Netherlands or Australia. However, reports submitted by officials lead us to believe that this is unlikely. In addition, you have just told us that this is impossible.

Then, when we asked her what steps should be taken to deal with this isotope shortage, she responded by saying that there were alternatives, particularly 99mTc, which is a derivative of molybdenum. We are wondering whether there really are, in fact, any alternatives. Earlier, you talked about thallium, an alternative which, however, does not have the same qualities and involves a greater risk of radiation.

My question is for all of you and that is, I would like you to tell us whether or not there are any alternative solutions or are we going to have to simply rely on what we have, as if we were practising wartime medicine.

● (1630)

Dr. Jean-Luc Urbain: With respect to your first question, which pertained to the shortage, and supply, I mentioned earlier the OECD meeting held in Paris at the end of January at the behest of the Canadian government. It was very clear that there was no meaningful cooperation at the international level.

Moreover, it was very obvious that over the past 30 or 40 years, governments, internationally, have not given much thought to developing a financial strategy for manufacturing medical isotopes produced as a result of research. So this therefore is not so evident.

Indeed, it must be understood that these nuclear reactors cannot be handled like a car or a bicycle. They must be maintained, and just to give you an idea of what this involves, the maintenance plan for these reactors is drawn up two or three years ahead of time. When one of these reactors fails, it is practically impossible to reactivate it if it is undergoing maintenance or being used for other pursuits.

In addition, it must be understood that the reactor that produces the most molybdenum and technetium in the world is the Canadian reactor. When you hear that the Petten reactor can increase its production by 50%, the means 50% of its own production, not 50% of the world's production.

For example, the French reactor manufactures only 3% of the world production and the Belgian reactor accounts for 9%. Even if the Belgian reactor increased its production by 50%, this would only constitute 15% of the world's production.

In my opinion, this is not as easy as it may look, and the international governments should have adopted measures long ago. Every year, the reactors are one year older. Their birthdays are not celebrated, but they are one year older.

The Chair: Thank you, Ms. Brunelle.

Ms. Paule Brunelle: Could we have the answer?

[*English*]

The Chair: We go now to Mr. Cullen for up to seven minutes, please.

Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP): Thank you, Mr. Chair.

Thank you to our witnesses for being here and on the line.

I want to take us back to 2007 for a moment. The isotope crisis that happened at that time was described by the then Minister of Natural Resources, saying that had we not acted people would invariably have died. Was that an accurate statement, Monsieur Urbain?

[*Translation*]

Dr. Jean-Luc Urbain: Yes.

[*English*]

I think the statement was indeed accurate.

Mr. Nathan Cullen: Has the situation improved in this current crisis?

Dr. Jean-Luc Urbain: I think the situation is worse in this current crisis.

Mr. Nathan Cullen: Okay.

If in 2007, when Chalk River was expected to be shut down and the government then fired Linda Keen, there were more reactors operating internationally. We now advance to 2009, and the shutdown at Chalk River is a minimum of three months—we're hearing potentially much, much longer than that—and the international supply has become less now in 2009. Is this a situation of life and death for Canadians who are seeking cancer diagnosis and treatment?

Dr. Jean-Luc Urbain: In fact the supply is probably a little higher, because in 2007 the Dutch reactor was not on line. It only came on line last year.

Let me give you a picture in terms of death and life. Picture a patient who is waiting for a myocardial perfusion assessment, a myocardial scintigraphy study assessment, in order to decide if he's going to need a triple or quadruple bypass surgery, being told, “We are sorry, but we cannot perform this test because today we don't have isotopes.” So the answer is yes, it could be a life and death situation.

Mr. Nathan Cullen: On January 30 of this year, was Canada facing an isotope crisis?

Dr. Jean-Luc Urbain: There are so many things we have been facing over the past few weeks and months that I don't recall exactly where I was that day, but as I said, over the past 18 months we have lived through five or six shortages of isotopes, being told overnight that tomorrow you're only going to get 60% of your quota.

Mr. Nathan Cullen: I'll quote from the then Minister of Natural Resources:

> They're terrified of the issues. You know what? Good. Because when we win on this, we get all the credit. I'm ready to roll the dice on this.

What do you think of that statement?

Dr. Jean-Luc Urbain: First of all, I'd like to verify the origin of that statement. I've read it, like you, in the press. At times, several of my colleagues also put statements into my mouth that I never made. If those statements were made, I think they are irresponsible.

● (1635)

Mr. Nathan Cullen: Why are they irresponsible?

Dr. Jean-Luc Urbain: I just think that, as physicians, we need to do the very best for our patients. I think it's the responsibility of those appointed at the highest government-level functions, particularly the Minister of Health and the Minister of Natural Resources, to make sure....

There are two major things in life that are very important. One is life itself, and the second one is health. I don't think that can be compromised.

Mr. Nathan Cullen: Dr. Gulenchyn, I'm sorry if I said your name wrong, but I have a question for you.

How important is early and accurate detection of cancer? How critical is that in survivability, the health of patients as they battle cancers?

Dr. Karen Gulenchyn: The patient's best chance for proper treatment is that cancer be diagnosed early, when its extent is limited, and accurately, so appropriate treatment can be prescribed.

Mr. Nathan Cullen: The government has expressed to us that they feel they have alternatives and substitutes. We're hearing they are not as accurate, they are not as good, that they double the exposure of patients to radiation. Is this something you would recommend to your patients? Is this something that would allow for the accurate and early detection of the possible cancer they have?

Dr. Karen Gulenchyn: If you're talking about the increase in radiation dose Dr. Urbain spoke of, he was talking about thallium, which is the drug that's used for imaging heart disease, not cancers. If you're talking about the concept in general—should we be advocating for increased radiation dose when we do an examination—no, we should not be advocating for increased radiation dose. The appropriate principle to follow is that the dose be as low as is reasonably achievable.

However, in the current situation, what we are working with is the fact that we do not have access to the amounts of technetium-99m we would normally have. One is then put in a situation of making a decision as to whether the test is necessary to be done now, with perhaps an isotope that will result in a higher radiation dose, or whether one is in a position that one can wait. Other alternatives include accessing MR or CT examinations, as has been talked about by Dr. Lyons. Sometimes those are appropriate. Other times they are not appropriate and cannot show everything the isotope test may be able to show. These things are always—

Mr. Nathan Cullen: Doctor, if I can just interrupt for a second, I'd like to understand what it's like for you, then, dealing with the patient when you have to pull out these alternatives, these other techniques that are less than what you would like to do. What's that conversation like with the patient and the family?

Dr. Karen Gulenchyn: That conversation with the patient and family is like many conversations we have. One describes the benefit of the examination. One describes the risk of the examination. One describes the risk of not doing the examination or deferring the examination. One helps the patient and the family to the best choice for the patient under those circumstances. As I said, this is a matter of balancing risk and benefit.

Mr. Nathan Cullen: Thank you.

I have a question about supply, Monsieur Urbain. Does Canada have a guarantee, at all in any form, of supply of medical isotopes right now?

Dr. Jean-Luc Urbain: First of all, there is never any guarantee in life. Secondly, the answer is no, Canada does not have any guarantee. My understanding is that the Minister of Natural Resources is trying to secure some agreement with the other countries producing isotopes.

Mr. Nathan Cullen: But no guarantee, no ability to go to Canadians and give their doctors or those receiving treatment and diagnosis any sense of how long they might have to wait for the possible detection of the cancer?

Dr. Jean-Luc Urbain: No, we don't have that. The best guarantee Canada can give itself is to look at MAPLE 1 and MAPLE 2.

The Chair: Thank you, Mr. Cullen. Your time is up.

We go now to the government side, to Mr. Trost, for up to seven minutes.

Mr. Bradley Trost (Saskatoon—Humboldt, CPC): I guess I would like a little bit of feedback from the witnesses. I heard Dr. Urbain say he was first concerned about problems with Canada's system for cancer about six years ago, when he first started his practice in Canada. I heard Dr. Lamoureux mention about three years ago. When did you, as doctors who specialize in nuclear medicine, begin to become concerned first of all about the safety of supply of the world's nuclear medicine system?

Looking at it from my eyes as a layman, I see we have 50-year-old reactors, and 25, 30, 35 years in, I would have thought they would have started to be concerned. So three or six years ago seems to me to be a little bit short. Maybe we should have been concerned about this 10 or 15 years ago. Would that be an accurate viewpoint?

● (1640)

Dr. Jean-Luc Urbain: Well, I think this is reflected in the paper you have received. As I said before, Belgium, for example, approved the use of positron emission tomography for cancer, cardiac purposes, and also in neurological situations in 1990. So you are accurate in saying that basically the positron emission tomography story started 20 to 25 years ago, but—

Mr. Bradley Trost: Quickly, I just want to follow up on that point. Should we as a country have started expanding the use of that technology, the positron emission tomography, back in the 1990s? Is this something that provincial and federal governments of that era and I guess continuing forward have not really engaged on in the way they should?

Dr. Jean-Luc Urbain: Well, we have 20 to 25 years of delay in implementing that technology, except in Quebec.

Mr. Bradley Trost: Does anyone else have any comments on those two quick questions? No?

I guess my next question or point is this. As far as the long-term strategy for securing isotopes goes, from my perspective, having sat on this committee now in one form or another over five years—my term in Parliament—what has puzzled me is that our strategy seems to have been putting all the money on the MAPLE reactors, the equivalent of going into a casino and putting all your chips on one roll of the dice. Has there been any thought to other technologies or diversifying our supply of systems beyond the MAPLE reactors? It's basically been keep the NRU running, and somehow magically we can get the MAPLE reactors to actually work. Has anyone been proposing other solutions over the long term, other than those two solutions?

Dr. Jean-Luc Urbain: Many countries in the world have looked at that. You can produce technetium with a linear accelerator; you can produce technetium with a cyclotron. They're not very cost-effective solutions.

Remember that you don't have one die, you have two dice, because you have MAPLE 1 and MAPLE 2.

Mr. Bradley Trost: But they're the same technology.

Dr. Jean-Luc Urbain: Yes, but if you have two cars, one breaks down and you still have the other one to go to work.

Mr. Bradley Trost: But sir, my problem is this. The engineers at AECL, the physicists at AECL, can't figure out how to make these things work safely. Either we let the things work in an unsafe manner with unpredictable physics, or we don't use them. What are we going to do? Start up a machine and let her blow up and then have an even bigger problem on our hands? Or have we found out some magical, mystical way that the AECL engineers haven't been able to figure out?

Dr. Jean-Luc Urbain: Well, look, if I were to tell you today that you have cancer, you would be unwise not to consult and have a second opinion. That's why we're calling for an international panel of experts.

Secondly, my understanding is that AECL built a reactor very similar to the MAPLE 1 in South Korea. That reactor has been—

Mr. Bradley Trost: I appreciate what you're saying, sir, but candidly, more technical witnesses—engineers and physicists—have come to different conclusions from what you have. While I would very much hope your recommendation would be accurate, the engineers we've had before us have told us very differently.

Dr. Jean-Luc Urbain: I'm not an engineer, and what we're calling for is an international panel of experts, which I don't think, if my information is correct, has occurred so far.

Mr. Bradley Trost: I guess I'd like to bring my next question to Dr. Gulenchyn in Hamilton.

I'm very interested in how it's been functioning as far as our emergency plan is concerned. If we had not started the process of consultation and implementing the triage procedures we're now in 18 months ago, would we be in a much more serious situation if we had not done the planning over the previous 18 months?

Dr. Karen Gulenchyn: Yes, I believe that's true. I think the planning that has occurred over the last 16 to 18 months has allowed us to deal expeditiously with this circumstance, as opposed to trying to write the plan on the back of an envelope in the last three weeks to implement it. I believe the planning has been very helpful.

Unfortunately, we still have the situation that the reactor appears to be headed for a longer shutdown than we would have hoped for. We still have no assurances of security of supply. Although I think we're doing the best we can under the current circumstances—and that is due to the planning that has occurred—I'm still very concerned about what awaits us in the near and medium-term future.

● (1645)

Mr. Bradley Trost: On behalf of the committee, to you and to everyone who's dealing with this crisis, I want to say the whole country appreciates your work and applauds you for what you've been doing.

We have heard from other witnesses that the Dutch reactor, I believe, is going to be increasing its supply, my notes say by 50%, though my notes could be inaccurate. Have any of those supplies reached the North American market? Have they put the isotope production to a point where those supplies are in the system? Are they coming?

That's to Dr. Gulenchyn.

Dr. Karen Gulenchyn: I do not believe at this time we are seeing increased amounts of molybdenum going to the generator manufacturers in North America. The slight increase in supply we have for this week has occurred as a result of some activity leaving, I believe, South Africa and heading to Lantheus. Lantheus central radiopharmaceutical is purchasing generators from Covidien, but I think that's a redistribution of the molybdenum that was already out there, not an actual increase in supply from the Petten reactor.

Mr. Bradley Trost: But if the Dutch do get their supply on line, it will very much help ease the situation. Is that not correct?

The Chair: A very short answer, please, Doctor.

Dr. Karen Gulenchyn: I'm afraid I can't answer “very much”. I don't want to qualify it. It will help. I don't think “very much” may be the correct adjective.

The Chair: Thank you.

We go now to the second round, a five-minute round, to Mr. Bains, from the official opposition.

Hon. Navdeep Bains (Mississauga—Brampton South, Lib.): Thank you very much, Chair.

I'll be splitting my time with my colleague Mr. McGuinty.

In today's opening remarks, the situation we're dealing with was described as “the sick looking after the sick”. This is an issue of life and death. And one key indicator used to indicate why this issue is life and death is that anything less than 50%, in terms of the isotope supply, makes it a situation of life and death because you're pitting one patient against the other, ultimately, and making those tough choices when you prioritize the needs of the patients and the diagnoses.

Where are we now, in terms of the isotope supply? How do we measure that? How do we track that? Where do we stand? Are we at the 50% threshold? Are we below that threshold? Are we above that?

Dr. Karen Gulenchyn: At the moment, we're at about a 70% supply level in Hamilton. The amount of supply probably varies from site to site within the country. I think the question about the monitoring effort is a very good question. I know what the monitoring plan is for Ontario. We are having our first telephone conference call in our own local health integration network tomorrow. I cannot tell you what the monitoring plans are outside of Ontario. I know Ontario does have a plan, but I'm not able to inform you what that plan might be for the remainder of the provinces.

Hon. Navdeep Bains: Just as a quick follow-up, you cited Hamilton, but do we have a national number for the isotope supply?

Dr. Karen Gulenchyn: No.

Hon. Navdeep Bains: Okay.

The Chair: Mr. McGuinty, you have three minutes.

Mr. David McGuinty (Ottawa South, Lib.): Thanks, Mr. Chair.

Thank you, ladies and gentlemen, for being here. I have a couple of points I want to make and just have confirmed—if I understood some of the testimony here today.

I heard a number of points. The first point I heard was that obscure experts are being chosen by the government to advise them on this entire isotope crisis, as opposed to working with the established associations around the country.

I heard there is absolutely no confidence that we're going to have substitutes from the Netherlands, from South Africa, from Australia, or elsewhere.

I heard Dr. Lamoureux state categorically that the Government of Canada is being dishonest with Canadians about Chalk River.

I've just heard our good doctor on the video conference, Dr. Gulenchyn, basically say she's not able to tell us how many isotopes we have in this country. She can't confirm if we're going to see any increase in supply and can't tell us whether we've hit the 50% threshold—after which, she says in her own testimony, it may lead to death.

I've heard that the best guarantee for Canadians and Canada now is to re-examine the MAPLE reactors.

And, Dr. Urbain, I want to congratulate you on your patience with respect to the questions you received from the Conservative government member about nuclear security and safety. It's very, very disturbing and rich for Canadians, because this is the government that fired Linda Keen, our chief nuclear safety regulator, at 11:15 at night with a phone call from a previous minister, the day before she was scheduled to testify to Canadians. So it's very rich for the government now to say they are possessed with security concerns.

Can I ask you a very pointed question, please? In the government's plan for the guidelines, the draft guidance for maximizing the supply of Tc-99 during a shortage, something struck me. I have a children's hospital in my riding, and I want to confirm this. It says that “Any bone scan for newly diagnosed or established pediatric cancers”—that is, for our kids—“since there is no alternative to Tc-99m bone scans for the pediatric patients in the event of a shortage”.... In English, for the viewers who are watching, does this mean that if we don't have the isotope production, the isotopes that we need, children with pediatric cancers cannot be properly diagnosed? Can you help us understand what this means?

● (1650)

Dr. Jean-Luc Urbain: I think you're absolutely correct. You read the statement correctly.

Mr. David McGuinty: So...?

Dr. Jean-Luc Urbain: We don't have an alternative. The only alternative that we could potentially imagine, and which we are very reluctant to use, would be sodium fluoride and positron emission tomography. But remember, we're dealing with children, so we don't want to use excessive radiation when we don't need to. Children are a major problem, a major nightmare for us.

Mr. David McGuinty: Have the children's hospitals across this country been informed of this? Do they know these shortages are looming? We heard just moments ago that the Ontario head of nuclear medicine says that rural hospitals in Ontario starting Thursday morning will have no isotopes. Do our children's hospitals and their pediatric cancer experts know this?

Dr. Jean-Luc Urbain: I think Quebec might be a little different. For the rest of Canada, as I said earlier, basically we are dealing on a day-to-day basis with whatever we receive, or whatever is left from the day before. The nice thing about the medical imaging community is that it is very small and very big at the same time. So we communicate very effectively and we pay a lot of attention to children. They are very precious, as you know.

The Chair: Thank you, Mr. McGuinty.

Mr. Allen, for up to five minutes. Go ahead, please.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Mr. Chair, for the opportunity.

I can't help but say that I always marvel at Mr. McGuinty in committee and some of the things he does say. Given the fact that he said people were not consulting with experts, but I know that you, Mr. Urbain, have been involved, and I know Dr. Gulenchyn has been on the panel, that's a little bit rich of him, to say the least.

Dr. Urbain, you talked about the 1990s—and I just want to follow up on some of those technologies, especially the PET technology—and the opportunity that might have been missed back then to go with this technology. Regarding the comments you made about three years and six years, we've known with these reactors—and I think the youngest is about 45 years old, if I recall correctly—that this is really a time bomb for these five reactors around the world.

What I would like to understand is that if we had gone with the PET technology and had done the things needed in the 1990s to bring ourselves up to speed, as some of the other countries have done, what would have been the impact on isotope usage today if that had been implemented?

Dr. Jean-Luc Urbain: I'd like to comment on your first question, about the experts.

What we'd like to see from any government is the government engaging medical associations, and not necessarily individuals. At times we find an individual from an expert panel we never heard of. That's the first thing.

In terms of PET scintigraphy, it is going to vary from province to province. We estimate that if we have PET scintigraphy available today in Canada we would be able to shift anywhere from 10% to 25% of the technetium study to PET.

● (1655)

Mr. Mike Allen: We're talking about “expeditiously approved”. What would be the timeline to implement that type of solution?

Dr. Jean-Luc Urbain: The timeline can be as quick as one month or two months. There are many PET scanners available in many provinces. Unfortunately, those PET scanners are used to do research, clinical trials, or even animal imaging.

Mr. Mike Allen: You commented that thallium was a pretty good temporary alternative. Can you define what “temporary” means? Is it a week, two weeks, two months, or three months? And what does “pretty good” mean from your perspective?

Dr. Jean-Luc Urbain: If you are asking me for a number I'm not going to be able to give you the number. What I can tell you is that the rule of thumb when you deal with radioactive material is what Dr. Gulenchyn mentioned earlier: as low as reasonably achievable. We know that thallium increases the radiation by a factor of 1.12. Now, if you have to decide whether to let a patient die and not do a test and the patient was going to die, you are going to use thallium. But as I said, it's not the ideal isotope in the 21st century.

Mr. Mike Allen: Okay.

In talking about the international measures, we've got five reactors and we're going to see one come on line pretty soon, but there hasn't been a substantial change in the isotope supply that we can see, probably for five years or more. Even with the MAPLE situation, we were talking many years, even if we could do this power coefficient. I'd like to understand from a worldwide perspective—and I was really interested in the comments—what are the international measures we can do collaboratively? We all share these five reactors and we all are concerned about patient care around the world. What are the international measures we should be looking at? I'd like any comments from any of the panel on this.

Dr. Jean-Luc Urbain: That's a very good point.

Europe has not seen as much of an impact as we have seen in North America of the lack of production of molybdenum and technetium-99m. The reason is that since 1990 they have deployed a large program of PET scanning. I think that every country that is producing molybdenum and technetium is very sensitized to the issue. There is a very significant effort on the part of the producers of molybdenum—in other words, the reactor or creator—to try to better coordinate their production of molybdenum and technetium.

Mr. Mike Allen: How much time do I have, Mr. Chair?

The Chair: You have ten seconds.

Mr. Mike Allen: I pass.

The Chair: Your time is up.

We will go now to the Bloc Québécois, Mr. Malo, for up to five minutes.

[*Translation*]

Mr. Luc Malo (Verchères—Les Patriotes, BQ): Thank you, Mr. Chairman.

I would like to thank all of our witnesses for being here with us this afternoon.

You all talked about increased costs. In the case of Quebec, for example, how much do these isotopes cost per day, per week, as a result of this shortage?

Dr. François Lamoureux: They cost three times as much. I do not have the exact figures. For example, a millicurie of technetium—the millicurie is a unit of measurement—used to cost 19¢. Now we are paying 54¢. This represents 5 million additional dollars for Ontario—this information was conveyed to me by the President of the Ontario Association of Nuclear Medicine. As far as Quebec is concerned, we can foresee having to foot a bill that will cost, at a minimum, about $4 million more.

Mr. Luc Malo: Thank you.

Dr. Urbain, when you were talking about the OECD earlier, you said that there was no international cooperation in order to manufacture isotopes to deal with the shortage.

Do you think that a country like Canada, which produces approximately 50% of the isotopes, should be playing the role of a world leader in this field and invite all of the countries to sit down at the same table and discuss how we can take action together? Is it Canada's role to do that?

Dr. Jean-Luc Urbain: In a time where we see a resurgence of nuclear energy, I think that it is quite sad that Canada, over the past 10 years, has not been more proactive and shown leadership.

I think that Canada had a wonderful nuclear energy program and that still is the case today. I do not think that all has been lost, if you like. Canada has lost a great deal of credibility. One way to restore this credibility internationally is indeed to play a very meaningful leadership role on the world stage.

● (1700)

Mr. Luc Malo: You said earlier that technetium 99 was the only isotope or technology used to diagnose certain childhood cancers.

Have you already had to stop doing certain diagnoses? Are there already children who have not been diagnosed?

Dr. Jean-Luc Urbain: I have to correct something that you said. I did not say that technetium was the only isotope used for diagnosing cancer. For diagnosing most types of cancer, we have fluorodeoxyglucose, fluorine 18, sodium fluoride, that emit positrons. We use positron emission tomography.

What I was trying to say earlier to Mr. David McGuinty was that we are very reluctant to use positron emission tomography for children because the level of radiation is more intense. Children have priority. You no doubt know the saying "women and children first". In nuclear medicine, we apply this principle when there is a shortage.

Mr. Luc Malo: Thank you.

Could you tell us, in your opinion, what is the reason why the Canadian Association of Nuclear Medicine is not included in the group of experts?

Dr. Jean-Luc Urbain: Here again, I must make a correction. In fact, the Canadian Association of Nuclear Medicine belongs to the group. However, we note that within the group, individual experts are given preference over organizations.

For example, just recently, the Canadian Association of Radiologists and the Canadian Association of Medical Radiation Technologists were not represented in the group. It was inconceivable for the Canadian Association of Nuclear Medicine to recommend that nuclear medicine examinations be transferred to the radiology sector without the participation of the Canadian Association of Radiologists.

Mr. Luc Malo: What do you think is the reason for this?

Dr. Jean-Luc Urbain: I think that you should put this question to the elected politicians.

Mr. Luc Malo: Dr. Lyons or Dr. Lévesque, have you an opinion about this?

[*English*]

The Chair: Dr. Lyons, go ahead.

Dr. Edward Lyons: First of all, I want to thank Dr. Urbain for mentioning and insisting, at the committee level, that the organization that represents radiology, the CAR, be a representative too. I think he's done a lot by encouraging the government to do that, and now we are sitting at the table.

I have one comment, if possible. It was mentioned that there is a loss of leadership role by Canada by virtue of the lack of available isotopes. I would suggest that utilization of the isotope is one facet of this issue; the other facet is how the patients get into the system, and are they always choosing the best test first?

In fact, Canada today has a recognized leadership role in the use of guidelines to help the physicians—the specialists or the physicians—to identify the best tests. And maybe we also have to look at this facet to make sure that not all of the people who are getting in need to get in—and similarly, that those who really do need to get in will get in first.

The Chair: Thank you, Dr. Lyons.

You're out of time, Monsieur Malo.

We will go now to Mr. Shory—and if there's time left, to Mr. Trost. Five minutes for the two of you.

Mr. Devinder Shory (Calgary Northeast, CPC): Thank you, Mr. Chair.

I'd like to thank the witnesses for being here this afternoon.

This global problem has put our country in a very sad situation, I would say, and we are all concerned.

We have been hearing the witnesses for quite some time, and it concerns me when it comes to the health and safety of human beings in this world. But I'm trying to understand this. I have heard about alternatives being available also. So I'm trying to figure out what percentage of diagnostic testing can be completed with the alternatives available to doctors.

● (1705)

Dr. Jean-Luc Urbain: Well, the best alternative for what we call conventional nuclear medicine procedures, SPECT imaging with technetium or other single-photon tracers, is basically positron emission tomography. There is a good reason these tests exist and there's a good reason that we must promote their use and continue to use them.

I fully agree with Dr. Lyons, with whom I am working, that what we ought to do gives us and Canada and its medical community a chance to show leadership. We ought to use a socialized step approach to medicine by defining the very best test. Technology is evolving very fast. What was true yesterday might not be true tomorrow, so when you're talking about alternatives, our preference for nuclear medicine tests—single-photon tests and technetium—would be to use an alternative nuclear medicine procedure.

Mr. Devinder Shory: I really want to understand the percentage, basically. Let's say that in the past we were using the isotopes for 100 kinds of diagnostic tests. Out of those 100 tests, is it possible that in 5%, 10%, 30%, 20%, we can avoid using isotopes?

Dr. Jean-Luc Urbain: Once again it goes back to what we are trying to do. We triage very cautiously every single request made to nuclear medicine departments across Canada, and as a matter of fact across the world, to minimize the use of radiation by using the ALARA principle. That's the principle we're using, so I don't think we can cut much more than we have right now.

Let me give you an example. In the past, we were using carbon-14 to do breast tests. Carbon-14 is a radioactive isotope. Now we have switched towards carbon-13, which is not a radioactive isotope, in order to do those breast tests. I think you're going to find that the nuclear medicine community is extremely responsible when it comes to the use of radioisotopes; if there is any other test that we can recommend, we do recommend it. However, you need to understand that nuclear medicine essentially looks at the function of the organs, and not many other tools are available to look at the function of the organs.

Mr. Devinder Shory: Thank you.

I'd like to share my time with Cheryl.

The Chair: Ms. Gallant, you have about a minute and a half.

Mrs. Cheryl Gallant (Renfrew—Nipissing—Pembroke, CPC): Thank you.

My question follows the previous question, and you were just about touching on it.

We've had a number of people ask questions about why their cancer treatment cannot be continued. moly-99, the isotope manufactured at Chalk River, hasn't anything to do with the treatment of cancer, but it does have to do with diagnostic methods.

When somebody's undergoing a treatment, they have to have their organs looked at to ensure that this treatment isn't having a negative effect. Are there alternative diagnostic tests that can look at the heart to see whether the current treatment is having an impact on it?

I'd like to ask Dr. Gulenchyn as well as Dr. Urbain.

Dr. Jean-Luc Urbain: I think that we should not confuse the chain of events. I think Dr. Gulenchyn described it very well: it's never a straight line between the diagnosis and the treatment. You do not fix a problem without knowing what the problem is. The problem can be structural or it can be functional. In order to have a comprehensive understanding of whether the problem is cardiac, oncological—cancer—or any other problem, most of the time we need good functional and structural aspects.

The Chair: Dr. Gulenchyn, would you like to answer that as well?

Dr. Karen Gulenchyn: Thank you.

If we are talking specifically about cardiac function tests that are being monitored as a result of a patient, say, receiving chemotherapy, and we want to be certain that the patient's heart isn't being adversely affected, yes, there are alternative tests. Echocardiography would be one. A certain percentage of patients, perhaps up to 15% to 20%, may not be suitable for echocardiography for a number of different reasons. Another possibility would be to use MRI imaging, but with MRI, as Dr. Lyons has described, we run into very significant constraints: it's expensive to do an MRI, they are not particularly widely available, and some patients may not be able to tolerate them because of claustrophobia.

Every time we look at alternatives, we begin to run into some barriers. The system is structured the way it is now because we think that in at least most cases we do the best possible test for the patient. Sometimes we run into barriers because of lack of availability of those tests.

● (1710)

The Chair: Thank you, and thank you, Ms. Gallant.

We will go now to the next round of five minutes. We will begin with the official opposition and Mr. Tonks. If there's time left, we will have Mr. Bains.

Mr. Alan Tonks (York South—Weston, Lib.): Thank you, Mr. Chairman.

I do understand the international leadership issue that Canada has taken. We saw X-rays, however, of the NRU reactor, and to a lay person it would not look as though it's going to come back on stream quickly. The committee, I think, does understand also that 100% of the isotopes from the NRU were going down to Lantheus medically treated with a capacity to be used, and 10% were coming back to Canada. It appears that in the short term, the only suggestion that seems workable is not the MAPLE reactor, if the testimony we heard is accurate. The short-term solutions that have been put forward by the CANM are recommendations 2 and 3 with respect to positron emission tomography, which has clinical testimony in other countries, looking at the licensing provisions and so on, and enacting that very quickly.

My question is twofold. First, how quickly could that happen? My second question would be to Dr. Gulenchyn with respect to the McMaster reactor. If that reactor could be mobilized quickly, could it help to replace a large portion of the 10% that's coming back into Canada from Lantheus through MDS Nordion, if an agreement could be reached?

The Chair: Go ahead, Dr. Gulenchyn.

Dr. Karen Gulenchyn: I'm answering the second question first.

I live and work in Hamilton and have very good relationships with the people at the reactor, but I'm not directly connected to the reactor. My understanding of the proposal that McMaster has put in front of government is that they are in a position to be able to produce molybdenum. Molybdenum would need to enter the supply chain. They are not in a position to produce reactors, so molybdenum would have to enter the supply chain at the level of MDS Nordion.

Whether or not that material could be specifically earmarked for Canadian uses, I just don't know. It would be subject, I think, to contract. The reactor staff believe they could supply a large proportion of Canada's requirement for molybdenum, should it be possible to earmark it.

Dr. Jean-Luc Urbain: If the chair of the committee is agreeable, I would ask Dr. Peter Hollet to address the question about PET.

Dr. Peter Hollet (Past President, Canadian Association of Nuclear Medicine): Thank you.

I simply represent the province of Newfoundland. That's where I practise. We don't have PET imaging in Newfoundland. We sent our patients originally to Edmonton; we tried sending them to Ontario, but ran into barriers there. We now send them to Halifax, and in the event that we had to switch totally to PET imaging for our patients, I'm sure Nova Scotia patients would come first, and we'd have great difficulty in accomplishing that. Certainly in my area of the country, we'd be in big problems.

Mr. Alan Tonks: Thank you.

Thank you, Mr. Chairman.

The Chair: Thank you.

We'll go to Mr. Bains. You have a minute and a half.

● (1715)

Hon. Navdeep Bains: Thank you very much, Chair.

My question is to Dr. Gulenchyn, and it's with respect to the government's plan. We've talked about it extensively today. In the past 18 months they've deployed various initiatives, but it was predicated under the notion that there would be a short-term temporary reduction in supply. As we see today unfolding, it seems it will be much more prolonged. There doesn't seem to be a plan per se for a prolonged shortage of isotopes, and we know the history at Chalk River.

This plan pertains only to a specific scenario, which is not necessarily the scenario we're dealing with today. Is that a fair characterization?

Dr. Karen Gulenchyn: I don't think it's entirely fair. Quite clearly, we are going to continue to use the strategies we're using right now in order to do the best we can for our patients in our current circumstances.

How long can we continue to do this? The major thing we've done is in fact divert myocardial perfusion imaging from using technetium-based agents to thallium agents. We're assured that there is a secure supply of thallium coming from cylotrons in a number of different centres. We then have diverted the technetium-99m that remains to other types of scanning, predominantly to bone scanning.

We can continue doing this as long as there isn't the breakdown of another reactor. I think that if there is a breakdown of another reactor, we are going to rapidly move into a situation that perhaps cannot be managed without some inputs coming either in alternative imaging, which I think Dr. Lyons spoke to, or the expansion of the capability of PET imaging.

So I think we can continue, where we are right now, but I am very concerned about the scenario in which we lose another reactor.

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

We go now to Ms. Gallant with a question, followed by Mr. Trost.

Mrs. Cheryl Gallant: Thank you, Mr. Chairman.

Dr. Gulenchyn, in speaking about alternative diagnostic tests to those using moly-based medical isotopes, you mentioned that restrictions to use increase with cost and availability. To what extent are patients being told that cancer treatment cannot be conducted because of the possible costs related to using other diagnostic methods?

Dr. Karen Gulenchyn: To the best of my knowledge, that hasn't occurred. However, every hospital facility in the province I come from, Ontario, has signed an accountability agreement with government and is in a situation in which they must abide by their funding envelope. My financial people have not told me that I cannot spend the additional money to maintain my service levels. In fact, they've told me the exact opposite, to please go ahead.

I think the question that will come about is how the organization is going to fund that increase in cost. I would hope there would be some assistance forthcoming.

Mrs. Cheryl Gallant: Thank you.

The Chair: Thank you.

Mr. Trost, you have three and a half minutes.

Mr. Bradley Trost: I have a very quick follow-up question to what Mr. Tonks was talking about and to some of the earlier questions. I need some clarification, because I'm not sure I understood something correctly.

Talking again about the PET technology and perhaps any other diagnostic tools, from what one of the witnesses said earlier I got the impression that this could be done fairly quickly; that in a few weeks this could be ramped up, and we could divert from other non-human medical sources.

I'm seeing nods of agreement, so it seems that I understood that correctly.

Are those steps being taken by the provincial ministries of health and the people involved, as far as you know? Could you verbalize what you are nodding to me?

Dr. Jean-Luc Urbain: I'm assuming you're looking towards me for an answer.

Mr. Bradley Trost: I am, but the recorded evidence will not reflect nodding.

Dr. Jean-Luc Urbain: Quebec has definitely been very proactive. My understanding is that in Quebec, as we speak, a positron emission tomography study using FDG and sodium fluoride is being performed. Ontario has been a latecomer, but my understanding—

● (1720)

Mr. Bradley Trost: Can that be done quickly all across the country?

Dr. Jean-Luc Urbain: Absolutely; we have 13 to 15 PET scanners.

Mr. Bradley Trost: Are you giving that recommendation to the ministries of health everywhere, and are they responding to it?

Dr. Jean-Luc Urbain: We gave that recommendation to the Minister of Health of Ontario in 2003.

Mr. Bradley Trost: Thank you.

Dr. Lyons, do you want to comment about other diagnostic tests or so forth that could be relatively quickly implemented?

Dr. Edward Lyons: The other imaging studies, such as CT and MRI, are mostly structural, but as the technology increases and improves, they become faster and faster and also then give you functional information. So there is beginning to be a bit of a crossover.

Mr. Bradley Trost: But can we do that in the short term? I'm not talking about two or three years, but about 2009.

Again I'm getting nods, but....

Dr. Edward Lyons: Yes, that's correct. The new technology that is out for the high-speed CT and MRs is available. Again, there's the waiting list, but with appropriate prioritization we could divert—

Mr. Bradley Trost: Have patients go to vet colleges and things of that nature. There are always the jokes about your being able to get an MRI scan if you're a dog, but not if you're a human being.

Could we then divert the private sources, the vet clinics, over to use for human patients?

Dr. Edward Lyons: Probably we could not. I think the vet clinics —again I don't know this—use a relatively small bore, rather than the larger bores that are required in humans.

But I think the equipment is available and also that the equipment today is not being run 24/7. The capacity is generally available. But remember that nuclear medicine is primarily a functional technology, whereas MRI and CT is mostly structural.

I'll give Dr. Lévesque a chance to speak.

Dr. Jacques Lévesque (Vice-President, Canadian Association of Radiologists): Just to complement your answer, it's very clear in my mind that right now there are short-term problems, and you want a short-term answer.

I can give you a very good example of where there has been coordination before. Let's think about the equipment when we made the deal on the equipment in Canada to change our radiology equipment. We do that right now in nuclear medicine. But we have done it also with Infoways and the use of fax. On the prospect of imaging specialists, I think the problem right now is a problem of coordination, to get the number of isotopes you need and coordination among the federal government bodies.

[*Translation*]

I think that in the right places, replacement procedures for imaging can be implemented. Radiology will not replace nuclear medicine, but clinicians can now apply replacement mechanisms. For example, the multiplanar CAT scans with 250 slices can now be used to make excellent heart anatomy studies. I think that we need the collaboration of all the participants. It is crucial for associations, and not for individuals to be at the table.

Today, you are meeting with three associations. They are truly representative of technological and scientific thought. You will obtain your answers through the associations. This was demonstrated with Infoway, with the Pacs and the pooling of radiological equipment. I think that we must do the same thing now with isotopes.

[*English*]

The Chair: Thank you, Mr. Trost.

We go now for five minutes—

Dr. Karen Gulenchyn: Mr. Chair, this is Dr. Gulenchyn.

The Chair: Oh, go ahead. I was looking to see who was speaking.

Go ahead.

Dr. Karen Gulenchyn: I'm terribly sorry; it must be a little odd. But I wanted to respond to the question regarding the roll-out of PET in other provinces.

Dr. Urbain will not have been aware of the fact that literally as I walked into this teleconference room today, the Ontario government responded to our request to implement sodium fluoride imaging in the province in selected cases and is moving in fact to make it available to its citizens. Dr. Urbain had no way of knowing that, because it literally appeared on my BlackBerry as I walked into the room.

The Chair: Thank you, Dr. Gulenchyn.

We go now to Mr. Allen for up to five minutes.

Mr. Mike Allen: Thank you, Mr. Chair.

There are a couple of questions I would like to ask. I'm trying to sum this up in terms of the alternatives out there. What I'm hearing is that with the PET we can probably get to 20% or maybe 25% of our requirements, and I'm assuming also, with the other existing technologies we have today, that perhaps with some investment in it we could probably replace some other isotope usage in our system.

Is it a fair statement that we could do that rather than build a new reactor?

● (1725)

Dr. Jean-Luc Urbain: I think it's a fair statement, but don't make a connection between new technology and the reactor. We don't know what these new technologies will use tomorrow.

Mr. Mike Allen: Right. So the bottom line out of this is that for the foreseeable future, the medical isotopes that come from these five reactors and any new ones on line will be playing a significant role in the imaging testing that we do—at least two-thirds.

Dr. Jean-Luc Urbain: We expect, with personalized medicine coming, with the human genome and personal genome projects, that isotopes will play an increasing role, maybe for more specific indications. They will definitely be there for a long time.

Mr. Mike Allen: Okay.

Can either Dr. Urbain or Dr. Gulenchyn talk to the difference in cost to the system between the PET and the isotope? What is the difference? Is there a great difference?

Dr. Jean-Luc Urbain: I'm very well connected with Dr. Gulenchyn, but not to her BlackBerry, so I will pass the response to her.

Dr. Karen Gulenchyn: I should have forwarded it to you, Jean-Luc.

As part of my program, I operate the cyclotron at McMaster University Medical Centre. They are expensive to operate. A dose of fluorodeoxyglucose, if we were operating at full capacity and therefore using the system to its fullest availability, would probably be in the range of about $250 to $300. It actually now costs us about $600 to produce a dose, as compared to something like, I believe, $15 to $20 for a dose of a technetium-based product, although it can sometimes be up to $50 for a technetium-based product. Sodium fluoride will be less expensive because it doesn't have the complex chemistry associated with it. It would probably also be in the range of about $175 to $250 a dose, so it is also a much more expensive product.

Mr. Mike Allen: Okay. Thank you.

My last question is to Dr. Gulenchyn. In your briefing and in your speaking notes you mention that as adviser to the Minister of Health, you provided information to assist in the preparation of a document outlining strategies to maximize the use of any existing radiopharmaceutical supply. I think I heard you say that you were certain of what you were doing in Ontario and in your facility, but not so sure of what they were doing in other places. How widely distributed was that information-sharing in the document that you did for the Minister of Health?

Dr. Karen Gulenchyn: I certainly know that the federal health ministry has been meeting on an ongoing basis with provincial and territorial counterparts, and there has been information-sharing at that level. I believe it has gone through the process in Alberta, and it has been relatively widely disseminated in Alberta. Dr. Hollet could perhaps comment on whether they heard about it in Newfoundland. I believe it has been reasonably well distributed.

Dr. Peter Hollet: It's been distributed and talked about, but it's a little like talking about some mythical beast. We don't have PET scanning largely available in Atlantic Canada, so the guidelines didn't have much application for us.

Mr. Mike Allen: Okay.

Thank you, Mr. Chair.

The Chair: Thank you, Mr. Allen.

I'll just see how much time we have left on the clock.

We have to end the meeting at this time. We will dismiss the witnesses, but I ask the members to stay around, because we have to quickly vote on the budget to cover the cost for the witnesses to come here.

I thank all the witnesses for appearing. Thank you very much for the information you've given to the committee. It has helped considerably. Thank you very much.

We will suspend for a minute and get right to the issue of the budget.

● (1725)

(Pause)

● (1730)

The Chair: We are late, so could I ask that the witnesses and anyone else just move outside so that we can have the rest of our meeting?

The only item on the agenda is the budget. The budget request is for $32,950. We don't have to send it to the Liaison Committee because of the amount—it's $36,000, actually—so all I need is a motion from someone that we pass this budget to fund the witnesses for this study.

Mr. Russ Hiebert: I so move.

The Chair: It is seconded by Mr. Tonks. Is there any comment or any discussion?

(Motion agreed to)

The Chair: The meeting is adjourned.

Published under the authority of the Speaker of the House of Commons

Publié en conformité de l'autorité du Président de la Chambre des communes

Also available on the Parliament of Canada Web Site at the following address:
Aussi disponible sur le site Web du Parlement du Canada à l'adresse suivante :
http://www.parl.gc.ca
