NUCLEAR MEDICINE EUROPE
the industry association

STAYING SAFE, SAVING LIVES

How nuclear medicine patient care continues in the COVID era

These are extraordinary times.
Life as we knew it has been disrupted
and we all have had to adapt to a new reality.
Regardless, patients undergoing or awaiting life-changing medical treatments need to receive their critical care.

The nuclear medicine sector is doing everything it can to make sure that people who most need interventions – diagnostic and therapeutic - can get them, despite the ongoing coronavirus pandemic.

We may be navigating in these uncertain seas for a long time yet. If so, we are prepared to ensure that our patients can be served. We have already responded robustly, putting into place the necessary adjustments to our operations. We worked closely with industry, health authorities, and governments to ensure people can get access to diagnostics, therapeutics and the healthcare they need.

Here is what the nuclear medicine sector has been doing to ensure patient care during these exceptional circumstances.

What we have done

Without swift action, the nuclear medicine sector would have faced severe disruption in the face of government lockdowns that mandate social distancing and work-from-home, as well as travel and shipping restrictions.

Yet from the earliest stage, the nuclear medicine industry adjusted to the changing situation along its entire chain of activities. This was to ensure the smooth and safe movement of radiopharmaceuticals every step of the way, from reactors to the patient. It meant liaising with authorities, working with radiopharmaceutical and scanner manufacturers and helping nuclear medicine departments in clinics to continue operating.

Production

When the crisis first hit in March and April, demand for many medical radioisotopes fell dramatically, for example the crucial molybdenum isotope (99Mo) fell by about 20%. However, radioactive isotope production continued uninterrupted and we reliably supplied PET and SPECT products to customers. Producers modified their processing schedules to align with the main bottleneck, which was available flight disruptions.

Many authorities recognized the importance of ensuring continuity in the sector. For example, the Belgian government published a ministerial decree on March 18 listing activities of the nuclear and radiological sector as “essential services”, ensuring that the BR-2 Reactor based in Mol (SCK•CEN’s most important nuclear facility) could continue producing radioisotopes.

Our priorities have been to protect the health and safety of people working in the sector and securing a reliable supply of our life-saving imaging and therapeutic products to our customers and patients across the globe.

We have secured manufacturing sites by establishing independent production teams. restricting access to essential personnel, and instituting remote work arrangements for non-production staff. Enhanced sanitizing and cleaning procedures were imposed. We implemented social distancing practices, daily temperature checks and other precautionary measures. Plus, we have obtained special regulatory permits for essential products to enter countries that could not be delivered under normal procedures

The sustained efforts of many institutions, companies, and employees during this difficult and challenging period helped maintain the security of supply of medical isotopes. It meant that our plants stayed up and running, and global Molybdenum production has not been interrupted.

Transport

We did everything we could to ship essential products, including bulk Mo-99 and Technetium generators, to hospitals.

Road transport continued mostly unaffected, as companies shipping radiochemical and radiopharmaceutical products were identified as essential services and allowed to keep on working even during the spring lockdown. EU countries even extended legal driving time hours to give more flexibility to transport companies. And we have ensured that this is seen as an emergency service in the EU, giving nuclear medicine the status of an important healthcare service.

Air transport proved more complicated as most commercial flights – the main carriers of radioisotopes and nuclear medicines – were grounded. This was the major transport bottleneck: the lack of flights meant that other airports and other air companies had to be found. More than 60 new shipment routes had to be implemented and adapted due to airfreight options closing down.

While air transport deliveries have been restored, finding flights options for new destinations is harder than in the past, and we are now working more closely with authorities to support the supply chain.

Nuclear medicine departments

As hospitals have mobilized to treat coronavirus patients, there has been an understandable transfer of resources between departments. At the same time, special measures have been put in place across hospital environments for both staff and patients. The disruption has meant most nuclear medicine departments lost between 15 and 30% of their full capacity as they moved to meet the requirements of infection control and social distancing.

Many adjustments had to be made. Some nuclear medicine departments shut down or reduced their daily routine to make space for additional ventilator beds or to reduce traffic. Some reduced their activities because of difficulties receiving sufficient radioactivity for injections. That is not to mention the loss of staff due to quarantine.

Many appointments were lost as patients could not attend. This was not just because they had caught the coronavirus (or had the symptoms) and were self-isolating, but because they were looking after dependants, or were told to self-isolate due to certain conditions like their age, or simply because they were nervous about accessing hospitals and undergoing medical procedures. In most cases, reorganising the schedule meant pushing back appointments by months.

At the same time, departments have instituted new health and safety protocols ensuring social distancing in waiting and treatment areas, cleaning and decontamination after each patient. It has meant setting aside one camera for non-symptomatic patients and a different camera for symptomatic or unconfirmed patients. And some medical facilities set up temporary imaging in unshielded areas outside hospital premises.

As service departments providing nuclear medicine and imaging have faced new demands to prevent infections, this will have implications for their budgets, and may well force painful cost-cutting or price rises.

We also moved to adapt the hybrid nuclear medicine equipment, so that their CT scanners could be used for COVID evaluation, while the full equipment could perform examinations to exclude other causes of respiratory failure, such as pulmonary embolism. And we have been pursuing the repurposing of nuclear medicine pharmaceuticals and the development new ones to target different aspects of the virus.

As for essential on site activities for scanners, we have set up additional remote access arrangements and offered to ensure fast delivery of support and communication.

The cancer challenge

This autumn, Europe is battling a new wave of coronavirus cases. While there are hopes of a vaccine at the end of the year, a full roll-out cannot be assumed before the end of 2021, which means that this situation will continue for a long time.

However, we will not wait for a vaccine or any other treatment. We cannot put our activities on hold. And the reason is simple: cancer is not waiting until COVID leaves. It is lurking permanently, ready to pounce at any time.

Cancer is the second largest cause of mortality in Europe after cardiovascular disease, responsible for 26% of all registered deaths across the EU28 last year, killing 1.2 million people, according to Eurostat (9.6 million globally, according to the WHO). But the frequency of cancer-related deaths varies considerably from one country to another, as well as by age and gender.

Per-capita health spending on cancer rose by 86% between 1995 and 2018, from €105 to €195. Yet healthcare spending is relatively small: just 4–7% of total European health expenditure goes to cancer. This is not just about treating tumours, but about managing the needs of the increasing numbers of cancer survivors.

So we need to keep supporting cancer patients during this period and beyond.

The EU is addressing this issue through various initiatives like the European Parliament Challenge Cancer Intergroup, launched on July, and the Europe's Beating Cancer Plan, due to be published by the European Commission at the end of the year. EU4Health, the EU's €9.4 billion health programme set up to respond to COVID-19, includes an improved budget for combatting cancer.

Conclusion

This year has been one of disruption for everyone, including the nuclear medicine sector. However, despite the challenges, we have worked hard to ensure that there was no interruption in our complex global supply chains.

We feel a unique responsibility to bring treatments to patients, and this sense of duty plays into every decision we make. This is what we achieved:

> • **Our key production sites remained fully operational**, as we shifted production schedules to the frequent changes in our supply and distribution network.
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> • We developed containment guidelines, preventive and response strategies, and contingency plans **to keep our facilities safe and supply chains open**.
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> • **We maintained a consistent supply for our customers** while dealing with unprecedented disruption to our supply chains, despite the added complexity and costs.
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> • And **we worked closely with health authorities, industry bodies and governments in affected countries** to ensure people can get access to diagnostic and therapeutic isotopes.

As a result, medical institutions and patients have continued receiving the life-saving healthcare they desperately need.

Amid the second coronavirus wave, we are again committed to ensuring a reliable supply of radiopharmaceuticals. We recognise that in this uncertain time, people want tobe assured that their treatments will continue.

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Nuclear Medicine Europe (ex AIPES) is a European Industrial Association working on promotion, awareness and defence of Nuclear Medicine and Molecular Healthcare in Europe. We are active in the field of Imaging and Therapy with Molecular and Radioactive Tracers. The main objective of our association in this field is to ensure the promotion of the economic and/or commercial interests of its Members, in particular, by all means allowing to increase the awareness to the benefits of the products and services they offer.