SAUDI ARABIA

Realising the potential of radioligand therapy: a national call to action

May 2025

This project is led by The Health Policy Partnership (HPP) with guidance from a multidisciplinary group of experts. HPP has full editorial control of all outputs and is guided by experts with the aim of reflecting a consensus position. The project is supported with funding by Novartis.

The Health Policy Partnership

[research, people, action]

About this report

This policy narrative has been developed following consultation with national experts in radioligand therapy delivery, and seeks to provide an evidence-based overview of the key challenges that must be addressed to enhance radioligand therapy readiness at a national level. In addition, it provides policymakers and health-system leaders with recommendations to improve effective implementation of radioligand therapy and, ultimately, support delivering the best-quality care for people with cancer.

To assess the current implementation of radioligand therapy in Saudi Arabia, the authors of this report convened an advisory group of national experts in nuclear medicine and oncology to guide the development of the policy narrative. Insights were gathered through a series of interviews and a workshop, and combined with desk-based research to identify the following policy and system barriers and associated recommendations.

Funding disclaimer

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Executive summary

Radioligand therapy is a precision medicine that, if effectively implemented, has the potential to significantly improve cancer care and outcomes. Cancer is a substantial global burden; it was the third leading cause of death in 2021, resulting in almost 10 million deaths.[1] The incidence of cancer is growing, but new, targeted precision approaches – such as radioligand therapy – have the potential to provide more effective treatment options with fewer side effects.[2,3] A considerable level of investment and research into radioligand therapy is ongoing, with more than 320 clinical trials around the world exploring the therapeutic application of radiopharmaceuticals in a range of cancers.[4] This momentum is paving the way for demand to increase significantly in the coming years. It is therefore vital that health systems have the ability to rapidly and sustainably adapt to integrate this innovative technology into care.

The incidence of cancer is growing

In 2021, the disease caused almost
10 million deaths

There are more than
320
ongoing clinical trials around the world

Innovative treatments, such as radioligand therapy, can act as crucial tools to support national efforts to tackle the rapidly increasing incidence and mortality of cancer in Saudi Arabia. The number of cases and deaths from cancer there are expected to more than double by 2040.[5] Improving access to high-quality healthcare services is at the heart of the strategic objectives laid out in the government's Healthcare Sector Transformation Plan, a core part of its flagship strategy, Saudi Vision 2030.[6] The plan includes an initiative focused on enhancing the quality of cancer care.[6] Although the use of radioligand therapy is at an early stage, the treatment represents an opportunity to raise cancer care quality and tackle the rising number of cases and deaths.

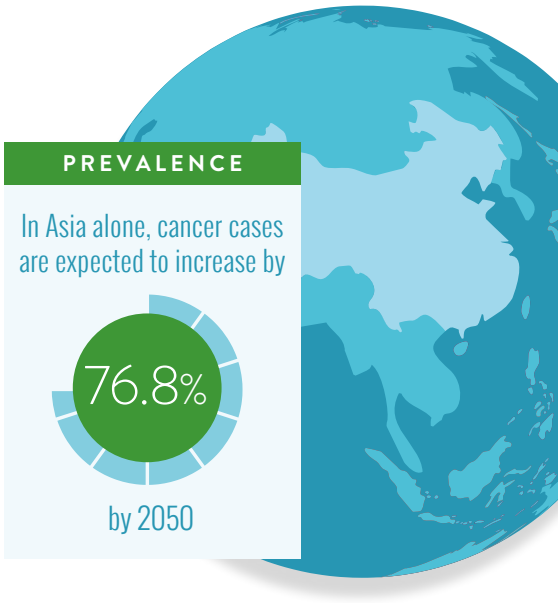
By 2040,

cancer cases and deaths are expected to
more than double
in Saudi Arabia

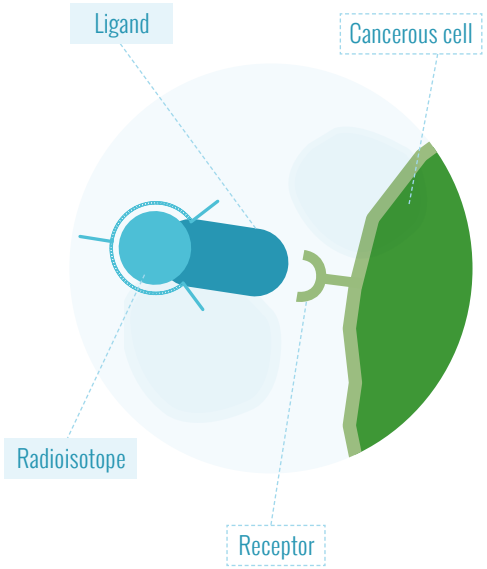
This report has identified the key barriers to effectively implementing radioligand therapy in Saudi Arabia. Addressing these barriers will require policymakers to:

- **engage with healthcare professionals to better understand the health system capacity requirements for radioligand therapy** with a view to developing evidence-based policy that supports capacity expansion and allows the equitable delivery of the treatment
- **develop an appropriate guideline on radioligand therapy** that allows for the safest, most effective and efficient delivery of the treatment; is informed by national-level experts and healthcare professionals; and is underpinned by international evidence
- **provide financial support for health institutions,** to allow them to urgently begin workforce capacity expansion for nuclear medicine physicians, radiopharmacists, nuclear medicine technologists and nurses; this will help meet future demand for radioligand therapy
- **increase radioligand therapy expertise among nuclear medicine physicians and other healthcare professionals** through collaboration with health institutions, overseas health system leaders and industry to support additional training opportunities, such as observerships
- **work with private health insurance providers** to develop a long-term plan that considers the future demand for radioligand therapy so people with mandatory private health insurance can access treatment
- **establish a consistent supply of imaging radioisotopes** by increasing national production infrastructure and securing important agreements to avoid unnecessary delays in treatment.

An introduction to radioligand therapy



The global prevalence and cost of cancer is immense, and continues to grow, but our ability to tackle it is improving. Cancer was the third leading cause of death in 2021, when it led to almost 10 million deaths globally.[1] In Asia alone – the continent with the highest prevalence of cancer – it is estimated that there will be over 7.5 million additional new cases of cancer by 2050, an increase of 76.8% from 2022.[7] However, while the incidence of cancer continues to grow, so does the number of available treatments and innovations.



Radioligand therapy is a targeted treatment with huge potential to improve cancer care. The therapy is made up of two parts: a ligand that identifies cancer cells, and a radioisotope that delivers radiation.[8] The process allows radiation to target cells anywhere in the body.[2 3] Because the radiation works over short distances and can be directed specifically to cancer cells, the treatment is generally well tolerated and has less impact on healthy cells than other treatments, such as chemotherapy.[3] Additionally, radioligand therapy has been proven to improve survival rates and quality of life, as well as slow disease progression, meaning that the treatment can have a significant positive impact on people's lives.[9-11] Radioligand therapy is currently licensed in several countries for use in certain types of neuroendocrine neoplasms (NENs) and prostate cancer.[12-16]

However, the mechanism by which the therapy works is not specific to any particular tumour type, meaning it could be applied to many other cancers. Investment and research are paving the way for a large increase in demand for radioligand therapy in the next 20 years. Recognition of its potential has led to significant investment; there are more than 320 ongoing clinical trials around the world exploring the therapeutic application of radiopharmaceuticals in a range of cancers.[4] Given the potential of this research to identify new applications for radioligand therapy, demand is expected to surge.

As demand increases, so too will the need to build readiness for the implementation of radioligand therapy to ensure equitable access. Readiness is the ability of a health system to rapidly and sustainably adapt policies, processes and infrastructure to support the integration of new therapies, as outlined in the Radioligand Therapy Readiness Assessment Framework (*see Appendix*).[17] Identifying the policy and health system barriers to the implementation of radioligand therapy allows for more effective long-term planning and resource allocation to build readiness and provide equitable access to radioligand therapy services.

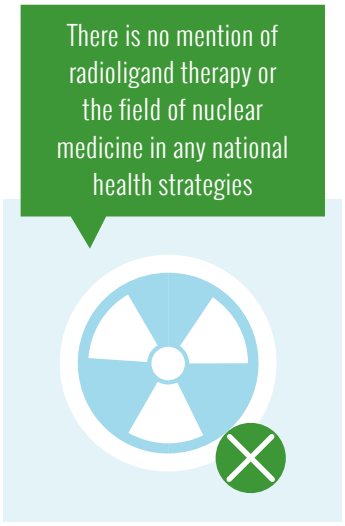
BOX 1. Defining radioligand therapy

This document uses the term radioligand therapy, but there are various terms used for the approach, including theranostics, molecular radiotherapy, peptide-receptor radionuclide therapy (PRRT), systemic radiation therapy, targeted radionuclide therapy and targeted radiotherapy. If the ligand used is an antibody, the approach is known as radioimmunotherapy.

The potential of radioligand therapy in Saudi Arabia

Innovative approaches to care will be needed to tackle the rapidly increasing rates of cancer in Saudi Arabia. The number of new cases is predicted to more than double by 2040,[5] possibly driven by changing lifestyles (e.g. poor diet and reduced physical activity), limited awareness of the disease, and a lack of cancer screening;[18] the number of deaths from cancer is expected to rise by two and a half times in the same period.[5] The increase in cases is likely to place pressure on healthcare services to meet the surge in demand. Emerging treatments, such as radioligand therapy, have the potential to improve survival rates and overall quality of life for people with cancer.

Various national strategies demonstrate the government's ambition to increase the quality of, and access to, innovative healthcare. The Saudi Health Council is responsible for coordinating healthcare policy and strategy, and its 'strategic foundations' include providing high-quality, efficient services that meet the health needs of all people through a geographically balanced distribution of services.[19] Similarly, the strategic objectives of the Healthcare Sector Transformation Plan, a core part of Saudi Vision 2030, include improving the quality of and access to healthcare services.[6] To do this, the government plans to expand workforce capacity and the number of hospital beds while ensuring that health infrastructure is distributed across the country in a way that allows for equitable access.[6]



Some government-led initiatives aim to improve cancer services, but there is no specific reference to radioligand therapy or nuclear medicine more widely. The National Cancer Center, for example, was established with the goal of improving cancer services across the country by developing policies and regulations that reflect best practice.[6] Radioligand therapy may play an important role in elevating the quality of cancer care, yet there is currently no mention of the treatment – or the field of nuclear medicine – in any national health strategies, suggesting the approach may not be considered a priority by policymakers at this stage.

Opportunities to advance the implementation of radioligand therapy in Saudi Arabia

Equitable access can be improved through the expansion of radioligand therapy infrastructure

Outpatient treatment could improve the efficiency of radioligand therapy delivery

An increase in workforce capacity and training is needed to meet future demand

Action is needed to ensure that people with mandatory private insurance can access radioligand therapy

Greater consistency in the supply of radioisotopes would improve radioligand therapy care

Guidance on the delivery of radioligand therapy could support future capacity-building

Clear communication is needed on new manufacturing regulations

Equitable access can be improved through the expansion of radioligand therapy infrastructure

WHAT IS THE CURRENT CONTEXT?

Radioligand therapy is provided by very few hospitals in Saudi Arabia, making access challenging. Current provision relies on King Faisal Specialist Hospital and Research Centre (KFSH&RC) in Riyadh compounding (*Box 2*) and delivering the treatment in-house.[20] This practice may change in light of the Saudi Food and Drug Authority licensing radioligand therapy for use in prostate cancer.[21] People living outside the city may have to travel a significant distance to access the treatment,[22] although KFSH&RC may also provide radioligand therapy doses to a limited number of other hospitals. There is growing interest from other hospitals to start a radioligand therapy service;[23] efforts to establish new services are ongoing, but remain at an early stage.[24 25] Experts noted that some previous attempts to set up radioligand therapy services have been unsuccessful, and that a concerted effort to understand the reasons behind this is needed to support the development of future services.[25]

BOX 2. Compounding

Compounding refers to the 'preparation, mixing, assembling, packaging, or labeling' of a treatment or diagnostic.[26] This practice may be carried out when a licensed option of a treatment or diagnostic is unavailable or challenging to access.[27] In the case of radioligand therapy, compounding may involve a hospital acquiring the radioisotope and ligand separately, and linking the two elements in-house. Compounded treatments and licensed therapies may undergo different quality and safety assessments.

The requirement for multiple radioligand treatment cycles, coupled with the geographical availability of radioligand therapy, may be presenting a barrier to access for patients. The therapy can involve the delivery of up to six treatment cycles,[14] so patients may have to travel multiple times to receive the full course.[25] Experts have suggested that physicians may choose not to refer a patient for radioligand therapy because of the anticipated travel burden.[25]

Limited treatment infrastructure is contributing to capacity challenges that are likely to become more severe as demand grows. Experts involved in the delivery of radioligand therapy and nuclear medicine services have highlighted that there may be an insufficient number of treatment beds and isolation rooms at KFSH&RC, resulting in delivery challenges.[25 28] These difficulties are expected to be exacerbated by upcoming increases in demand, which are likely to further intensify capacity pressures at the hospital.[25]

WHAT CAN BE DONE?

By engaging with the Saudi Health Council, experts may be able to support the expansion of radioligand therapy services to improve access to the approach and ease capacity pressures on existing treatment centres. While experts have noted that establishing a radioligand therapy service in all hospitals would be challenging, efforts should be made to set up a small number of treatment centres, distributed evenly across the country, to accommodate more patients.[25] This goal aligns with the strategic foundations of the council, which commit to 'achieving a balanced distribution of health services, including specialized services, geographically and demographically, to meet the real health needs of all individuals and groups of society in all regions of the Kingdom'.[19] Physicians could engage with the council to seek its support for this infrastructural expansion.

Partnerships with the private sector may help relieve pressures on public hospitals. Working with private hospitals could be an opportunity to increase capacity and reduce the case load on centres delivering radioligand therapy.[25] Saudi Vision 2030 anticipates and encourages the increased involvement of the private sector in providing healthcare services,[6] suggesting that the time is right for public–private partnerships to support the delivery of radioligand therapy.

CASE STUDY 1. **Hub-and-spoke by the British Nuclear Medicine Society**

As proposed by the British Nuclear Medicine Society, a hub-and-spoke model of service provision is one way to increase equitable access to radioligand therapy.[29 30] This involves a central 'hub' equipped to deliver radioligand therapy working in conjunction with 'spoke' centres, which have fewer specialist staff but can rely on capacity and expertise from the central hub to deliver high-quality services.[31] People on low incomes may be eligible for financial help for travel costs to access specialist services.[32] This model could be replicated in Saudi Arabia to provide equitable access and meet future demand for radioligand therapy.

Outpatient treatment could improve the efficiency of radioligand therapy delivery

WHAT IS THE CURRENT CONTEXT?

Carrying out more radioligand therapy treatments as an outpatient procedure could increase efficiency and mitigate the shortage of beds and rooms. Most radioligand therapy treatments are delivered in an inpatient setting in Saudi Arabia, requiring longer use of treatment beds and isolation rooms, and making capacity management more challenging.[24 25 33] Radioligand therapy is commonly delivered as an outpatient treatment in other countries; this can contribute to more efficient use of treatment infrastructure.[34 35] It should be noted that, even in these countries, preparations remain in place to admit the patient overnight if needed.[34] There is recognition among experts that the future delivery of radioligand therapy in Saudi Arabia will involve the outpatient setting, with a view to increasing patient throughput,[25] but regulatory challenges complicate that goal.

Current regulations may delay the effective implementation of radioligand therapy. In 2024, physicians at KFSH&RC requested permission from the regulatory authorities to deliver radioligand therapy in an outpatient setting.[25] The authorities decided to allow patients who are residents of Riyadh to be treated as outpatients; however, patients residing outside of the city (approximately half of referrals) would be treated as inpatients to limit radiation exposure to wider society.[25] It should be noted that the radiation emitted by a person who has received radioligand therapy is considered low; it can require less extreme radiation safety measures than other radioactive therapies.[36] Experts have suggested that greater regulator awareness of the benefits and risks of radioligand therapy could enable more harmonised and appropriate regulation of the treatment.[25]

WHAT CAN BE DONE?

There is an urgent need for physicians to engage with healthcare and regulatory decision-makers to raise awareness about radioligand therapy and encourage a revised approach to its delivery. The overarching strategic goal of the Nuclear and Radiological Regulatory Commission, the body that oversees nuclear practices, is the 'protection from radiation risks while regulating its beneficial uses'.[37] And the mission of the Saudi Health Council is to establish regulations that foster coordination and integration among healthcare agencies to improve and enhance services.[38] This suggests a willingness from

decision-makers to balance the risks and benefits of nuclear medicine technologies – including radioligand therapy – to improve services. Physicians could formally engage with these authorities and present data on the positive effects of outpatient delivery in other health systems; this dialogue could result in regulatory reforms that facilitate more efficient delivery of radioligand therapy.

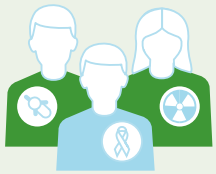
CASE STUDY 2. **Outpatient delivery of radioligand therapy in the United States**

In a 2024 international survey of theranostics centres, 21 of which were in the US, 19 (90%) delivered radioligand therapy as an outpatient procedure.[39]

Nuclear Regulatory Commission guidelines permit the release of patients who have been administered radioactive materials if the total effective dose from exposure is not likely to exceed 5 mSv (the unit that measures the radiation that can affect the human body).[40]

The decision to administer radioligand therapy as an outpatient vs. inpatient procedure is determined by the properties of the radioisotope used, the dose, and patient characteristics e.g. their home situation or the presence of other medical conditions.[35]

An increase in workforce capacity and training is needed to meet future demand



WHAT IS THE CURRENT CONTEXT?

The radioligand therapy workforce needs to expand in order to meet the expected increase in demand for the treatment. Experts agree that the radioligand therapy workforce in Saudi Arabia is sufficient for the current number of patients.[25 28] As demand rises, however, more nuclear medicine physicians, radiopharmacists, nuclear medicine technologists and nurses will be needed to deliver the treatment effectively.[23 25] This demand could increase even more with the growth of Saudi Arabia's reputation as a destination for medical tourism, which is one of the ambitions set out in Saudi Vision 2030.[6 25]

The nuclear medicine training programme includes radioligand therapy, but there are limited opportunities for physicians to gain practical experience. The Nuclear Medicine Fellowship programme, run by the Saudi Commission for Health Specialties, provides training on the diagnostic and therapeutic applications of nuclear medicine in four hospitals.[23 41] This training includes lectures on the delivery of radioligand therapy.[24 42] Yet currently, the only way to develop hands-on experience is to proactively pursue an elective at KFSH&RC.[25] This may limit the number of nuclear medicine physicians able to deliver radioligand therapy in practice.

WHAT CAN BE DONE?

Through training provision, national health authorities could work with healthcare professionals to expand the number of nuclear medicine physicians and radiopharmacists. A core part of Saudi Vision 2030 is its workforce strategy, which aims to recruit and train a sufficient number of health professionals and optimal multidisciplinary teams.[6] This suggests a willingness among policymakers to take steps towards ensuring that workforce capacity is satisfactory in all areas of the health system, including radioligand therapy. Increasing the number of trained, specialised staff is key to achieving this; however, it can take several years to train nuclear medicine physicians, nuclear medicine technologists and radiopharmacists.[23 25 43] This highlights the need to swiftly increase the number of training places for these specialisms, and to incentivise people to enrol in training programmes, with a view to expanding the workforce.

Clinical observerships may provide a short-term opportunity to upskill the current workforce in radioligand therapy, to fill capacity gaps while new staff are trained. Given the time it takes to train staff, hospitals may need to identify methods of providing practical training in radioligand therapy to their current workforce. If KFSH&RC were to introduce a clinical observership programme, it could provide greater numbers of nuclear medicine physicians, radiopharmacists or nuclear medicine technologists with an interest in radioligand therapy with a chance to learn first-hand from those delivering the treatment.[25] In addition, encouraging Saudi nuclear medicine physicians to pursue similar training overseas could reduce the reliance on KFSH&RC as the sole provider of practical experience. Industry may also be able to play a role in providing more immediate education and training on radioligand therapy to support national workforce expansion.[25]

CASE STUDY 3. **European Association of Nuclear Medicine INSPIRE programme: tackling workforce challenges[44]**

In 2024, the European Association of Nuclear Medicine established the Initiatives in Nuclear Medicine to Support Professional Interest and Recruitment in Europe (INSPIRE) programme to address shortages in the workforce.

The objective of the programme is to attract nuclear medicine workers by approaching students, schools, universities and other stakeholders. INSPIRE engages younger generations through social media, offers in-person experience in nuclear medicine, and promotes the appeal of working in the field.

Similar projects could be replicated in other countries, including Saudi Arabia, to boost the nuclear medicine workforce and support the long-term implementation of radioligand therapy.

Action is needed to ensure that people with mandatory private insurance can access radioligand therapy

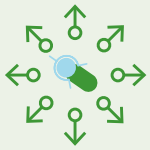
WHAT IS THE CURRENT CONTEXT?

A significant proportion of Saudi residents rely on private insurance for their healthcare, but radioligand therapy is not currently covered. The Saudi government provides access to free healthcare services – including radioligand therapy – to Saudis and to non-Saudis working in government sectors.[45] However, most people use private health insurance; it is mandatory for Saudi nationals who work in the private sector,[46] who make up 21.0% of the private-sector labour market,[47] and non-Saudi residents, who represent 41.6% of the population.[48] But there is currently no radioligand therapy service available in the private sector.[25] In 2023, over a third of the adult Saudi population had private health insurance; and in a speech at that year's Global Health Forum, Saudi Health Minister Fahad bin Abdul-Rahman Al-Jalajel predicted that the use of private health insurance would grow fivefold in the coming years.[49] Saudi Vision 2030 also anticipates and encourages the increased involvement of the private sector in providing healthcare services,[6] so without the expansion of radioligand therapy provision in the private sector, a significant number of people may not be able to access it.[25]

WHAT CAN BE DONE?

Greater clarity is needed from decision-makers about the future coverage of radioligand therapy by private insurance. Health insurance falls under the remit of the Insurance Authority. Experts have expressed a desire to engage with decision-makers to establish a shared vision for radioligand therapy implementation, and for private health insurance to provide access to it.[25] As the number of people relying on private health insurance grows, it is crucial to plan ahead to ensure that those who would benefit from radioligand therapy are able to access it.

Greater consistency in the supply of radioisotopes would improve radioligand therapy care



WHAT IS THE CURRENT CONTEXT?

The supply of imaging radioisotopes is subject to constraints, and these can lead to delays in the delivery of radioligand therapy. The national supply of imaging radioisotopes is reliant on a small number of cyclotron facilities, which sometimes require refurbishment, leading to interruptions in radioisotope availability.[23 33] This, in turn, may delay the essential imaging required before or after radioligand therapy;[23] such delays can postpone radioligand therapy, disrupt established treatment schedules and potentially compromise patient outcomes.[25 23 50]

WHAT CAN BE DONE?

The Nuclear and Radiological Regulatory Commission and the Saudi Health Council could work together to deliver a sustainable supply of imaging radioisotopes. This may be achieved by increasing production through cyclotrons or generators, or by importing radioisotopes from other countries. As demand for innovative radiopharmaceutical treatments grows, it is vital that the Saudi health system plans ahead to secure a consistent supply of radioisotopes for imaging and prevent delays in treatment.

CASE STUDY 4.

Ensuring a consistent supply of radioisotopes in Europe

The Euratom Supply Agency (ESA) aims to secure a regular and equitable supply of source materials to European Union (EU) countries.[51] The ESA also monitors the production chain of medical isotopes through the European Observatory on the Supply of Medical Radioisotopes.[52]

The European Observatory's strategic objectives include securing the supply of certain radioisotopes in the EU, encouraging a sustainable economic structure for the supply chain and establishing periodic reviews of the supply chain and capacities.[52]

A similarly focused and coordinated initiative in Saudi Arabia could help secure a consistent supply of medical radioisotopes to support the timely delivery of radioligand therapy and other radiopharmaceuticals.

Guidance on the delivery of radioligand therapy could support future capacity-building

WHAT IS THE CURRENT CONTEXT?

There is no standalone guideline that covers radioligand therapy; this creates uncertainty around the requirements for its safe delivery. Saudi Food and Drug Authority (SFDA) guidelines cover radiation protection at nuclear medicine facilities – including the storage, disposal and handling of radioactive material.[53] In addition, the Ministry of Health covers general patient safety in hospitals; its guidance includes definitions of the risks associated with radiopharmaceuticals.[54] However, the lack of a unified guideline that covers the unique workforce, infrastructure and regulatory requirements associated with radioligand therapy may hamper planning and capacity-building.

WHAT CAN BE DONE?

Establishing an evidence-based guideline for radioligand therapy is essential to support future delivery. Hospitals and policymakers alike would benefit from having a clear understanding of the requirements for the safe and effective delivery of radioligand therapy; such requirements would help ensure the appropriate allocation of resources, and address potential capacity gaps. The development of a guideline – such as the one covering the use of Lutetium-177 (^{177}Lu)-prostate-specific membrane antigen (PSMA) radioligand therapy published by the European Association for Nuclear Medicine and the Society for Nuclear Medicine and Molecular Imaging[55] – could provide vital details on the healthcare professionals involved in delivery, the specialist infrastructure required to meet safety standards, and the appropriate referral pathways. Policymakers and healthcare professionals should develop a guideline that is practical and based on international evidence.

Clear communication is needed on new manufacturing regulations

WHAT IS THE CURRENT CONTEXT?

The latest regulation on manufacturing radiopharmaceuticals may affect the compounding required for radioligand therapy. In 2023, the SFDA published an update to the *Guide to Good Manufacturing for Medical Products* that included guidance on the manufacture of radiopharmaceuticals.[56] This guidance outlined new standards on personnel as well as infrastructure requirements for the manufacture of radiopharmaceuticals such as radioligand therapy.[56] Therefore, some hospitals may need to adapt their infrastructure and build workforce expertise to comply with these standards.

WHAT CAN BE DONE?

Regulators should work with physicians to enhance awareness of the updated regulations. The SFDA should engage with hospitals that manufacture, or are looking to manufacture, radioligand therapy to support their understanding of the 2023 guidance and avoid the risk of future compliance challenges. This would allow greater awareness among physicians and radiation safety officers about how to comply with manufacturing regulations for radioligand therapy.

Recommendations for action

The effective implementation of radioligand therapy represents a significant opportunity for Saudi Arabia to establish itself as a world-leading health system that provides the best possible care to its population. Although progress towards the adoption of radioligand therapy has been positive, a number of challenges must be addressed to ensure equitable access to this innovative treatment.

The authors of this report have developed a series of recommendations to support Saudi Arabia in its efforts to establish itself as an innovation hub through the successful implementation of radioligand therapy.

WE CALL FOR POLICYMAKERS IN SAUDI ARABIA TO:

- **engage with healthcare professionals to better understand the health system capacity requirements for radioligand therapy** with a view to developing evidence-based policy that supports capacity expansion and allows the equitable delivery of the treatment
- **develop an appropriate guideline on radioligand therapy** that allows for the safest, most effective and efficient delivery of the treatment; is informed by national-level experts and healthcare professionals; and is underpinned by international evidence
- **provide financial support for health institutions,** to allow them to urgently begin workforce capacity expansion for nuclear medicine physicians, radiopharmacists, nuclear medicine technologists and nurses; this will help meet future demand for radioligand therapy
- **increase radioligand therapy expertise among nuclear medicine physicians and other healthcare professionals** through collaboration with health institutions, overseas health system leaders and industry to support additional training opportunities, such as observerships
- **work with private health insurance providers** to develop a long-term plan that considers the future demand for radioligand therapy so people with mandatory private health insurance can access treatment
- **establish a consistent supply of imaging radioisotopes** by increasing national production infrastructure and securing important agreements to avoid unnecessary delays in treatment.

Appendix

The Radioligand Therapy Readiness Assessment Framework used to guide the research for this policy narrative was developed by HPP to evaluate national health systems' progress in integrating radioligand therapy.[17] The framework allows users to take a systems-based approach to assessing the level of readiness in their country across five key domains (*Figure 1*), with the aim of identifying gaps in capacity and supporting effective long-term planning and resource allocation.

The framework's development was guided by a multi-stakeholder international advisory group made up of nuclear medicine specialists, oncologists, urologists and patient representatives, and has been endorsed by the European Association of Urology, the European Neuroendocrine Tumor Society and the Oncidium Foundation.

Previous applications of the framework have been carried out in the US, the UK and South Korea.

Figure 1. The five domains of the Radioligand Therapy Readiness Assessment Framework

Governance	Regulation and reimbursement	Identified need	Service provision	Health information
Governance refers to a range of steering and rule-making functions carried out by decision-makers that directly impact the availability, accessibility and standards of delivery of radioligand therapy.	Regulation and reimbursement define why, when and how radioligand therapy should be provided, as well as who pays for it and how.	Identified need is the potential need and demand for radioligand therapy among people with cancer.	Service provision encompasses the inputs (such as healthcare workforce, infrastructure and equipment) and outputs (such as diagnostic, therapeutic and follow-up services) required for the provision of radioligand therapy.	Health information refers to data that are collected, analysed and synthesised to support decision-making around radioligand therapy.

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