# Leicester PET-CT Centre

## Quality Report

Glenfield Hospital
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Date of inspection visit: Monday 4th March 2019
Date of publication: 17/05/2019

This report describes our judgement of the quality of care at this location. It is based on a combination of what we found when we inspected and a review of all information available to CQC including information given to us from patients, the public and other organisations

## Ratings

| | |
|---|---|
| Overall rating for this location | Good |
| Are services safe? | Good |
| Are services effective? | Not sufficient evidence to rate |
| Are services caring? | Good |
| Are services responsive? | Good |
| Are services well-led? | Good |

## Overall summary

Leicester PET-CT Centre is operated by Alliance Medical Ltd. The service provider has a registered location within an acute hospital trust site.

The service provides diagnostic imaging services which includes positron emission tomography–computed tomography (PET-CT) to the local community. We inspected diagnostic imaging services at this location. Positron emission tomography–computed tomography is a nuclear medicine technique which combines, in a single in a single gantry, a positron emission tomography scanner and an x-ray computed tomography scanner, to acquire sequential images from both devices in the same session, which are combined into a single superposed image. Positron emission tomography (PET) scans are used to produce detailed three-dimensional images of the inside of the body. The images can clearly show the part of the body being investigated, including any abnormal areas, and can highlight how well certain functions of the body are working. PET scans combined with CT scans produce more detailed images. PET

# Summary of findings

scanners work by detecting the radiation given off by a substance injected into the patient's blood stream called a radiotracer as it collects in different parts of the body. In most PET scans a radiotracer called fluorodeoxyglucose (FDG) is used, which is like naturally occurring glucose (a type of sugar) the body treats it in a similar way. By analysing the areas where the radiotracer does and does not build up, it is possible to work out how well certain body functions are working and identify any abnormalities. For example, a concentration of FDG in the body's tissues can help identify cancerous cells because cancer cells use glucose at a much faster rate than normal cells.

We inspected this service using our comprehensive inspection methodology. We carried out an unannounced inspection on Monday 4 March 2019.

To get to the heart of patients' experiences of care and treatment, we ask the same five questions of all services: are they safe, effective, caring, responsive to people's needs, and well-led? Where we have a legal duty to do so we rate services' performance against each key question as outstanding, good, requires improvement or inadequate.

Throughout the inspection, we took account of what people told us and how the provider understood and complied with the Mental Capacity Act 2005.

The only service provided at this location was diagnostic imaging.

**Services we rate**

We previously did not have the authority to rate this service.

We rated it as good overall.

We found the following areas of good practice:

- Staff had the right qualifications, skills, knowledge and experience to do their job.
- Staff understood the impact that a patient's care or condition had on their wellbeing and on their relatives, both emotionally and socially.
- Staff communicated with patients to ensure that they understood their care and condition.
- Information about the needs of the local population was used to inform how services were planned and delivered.
- The service gathered patients' views and experiences and used these to shape and improve the services and culture.

However, we found areas of practice that the service needed to improve:

- The radiographer we observed did not carry out a final four or five-way check immediately prior to injection of patients.
- We were not assured radiographers were always checking all six points of the Pause & Check ScoR IR(ME)R Referrers checklist. On the day of the inspection questions radiographers asked were not open ended enough so there was a risk of patients agreeing without having understood.

Following this inspection, we told the provider that it should make improvements, even though a regulation had not been breached, to help the service improve. Details are at the end of the report.

Amanda Stanford

Deputy Chief Inspector of Hospitals (Central)

# Summary of findings

## Our judgements about each of the main services

| Service | Rating | Summary of each main service |
|---|---|---|
| **Diagnostic imaging** | Good  | The provision of PET-CT scanning services, which is classified under the diagnostic imaging and endoscopy core service was the only core service provided at this service. We rated this core service as good overall. |

# Summary of findings

## Contents

Good

# Leicester PET-CT Centre

**Services we looked at:**

- Diagnostic imaging

# Summary of this inspection

## Background to Leicester PET-CT Centre

Leicester PET-CT was registered on 29 November 2017. The service provides diagnostic imaging examinations using PET-CT imaging equipment.

NHS England has selected a collaborative network, operated by Alliance Medical Ltd (AML), to provide PET-CT scanning services across 30 locations in England. AML are Europe's biggest independent provider of medical imaging services. AML are also increasing the number of sites at which PET-CT services are delivered. They support NHS England's objective to optimise equity in patient access and reduce geographical variability in the quality of PET-CT infrastructures.

The service provides PET-CT scanning services for patients aged 16 years and above.

The service has had a registered manager in post since registering with the CQC.

## Our inspection team

The team comprised a CQC lead inspector who had completed the single speciality diagnostic imaging training, two inspectors and a specialist advisor. The inspection team was overseen by Inspection manager Simon Brown.

## Information about Leicester PET-CT Centre

The location was registered to provide the following regulated activity:

- Diagnostic and screening procedures.

During the inspection, we visited the registered location which was at an acute NHS Hospital. We spoke with all staff (five in total) including two clinical assistants (one receptionist and one booking administrator), two radiographers/technologists, and the unit manager. We observed six PET-CT scans and engaged with patients and relatives during these procedures. During our inspection, we reviewed four patient records. There were no special reviews or investigations of the service ongoing by the CQC at any time during the 12 months before this inspection.

The service was registered with the CQC in November 2017 and this was the first inspection since registration.

**Activity (1 January 2018 to 31 December 2018)**

- There were 1,717 positron emission tomography–computed tomography (PET-CT) scans performed at the service. The service scanned children over 16. All were commissioned by NHS England.
- A 0.5 whole time equivalent (WTE) unit manager, one PET-CT technologist one PET-CT radiographer and two clinical assistant/bookings administrators worked at the service on permanent contracts.
- Controlled medicines were not used and therefore they did not have an accountable officer for these.

# Summary of this inspection

**Track record on safety, between January and December 2018.**

- There were no never events reported.
- No serious incidents.
- There was one IR(ME)R/IRR reportable incident on 15 June. This involved a patient who underwent an unnecessary PET-CT scan using the incorrect isotope.
- No incidences of healthcare acquired Methicillin-resistant Staphylococcus aureus (MRSA).
- No incidences of healthcare acquired Methicillin-sensitive Staphylococcus aureus (MSSA).
- No incidences of healthcare acquired Clostridium difficile (C. difficile).
- No incidences of healthcare acquired Escherichia coli (E-Coli).
- The service had received 3 complaints.

**Services accredited by a national body:**

- The service currently had three accreditations by national bodies:

ISAS - Date of Accreditation (DoA) July 2018, Date of Renewal (DoR) July 2021

ISO27001 - DoA June 2018, DoR June 2021

IIP - DoA March 2017, DoR March 2020

# Summary of this inspection

**Services provided under service level agreement:**

- Clinical and or non-clinical waste removal.
- Laboratory services.
- Interpreting services.
- Maintenance of medical equipment.

# Summary of this inspection

## The five questions we ask about services and what we found

We always ask the following five questions of services.

### Are services safe?

Good

We rated safe as good because:

- Staff received effective mandatory training in the safety systems, processes and practices.
- There were systems, processes and practices essential to keep patients safe identified, put in place and communicated to staff.
- Standards of cleanliness and hygiene were maintained.
- The design, maintenance and use of facilities and premises prevented patients from avoidable harm.
- There were comprehensive risk assessments carried out for patients who used services and risk management plans developed in line with national guidance.
- There were sufficient numbers of staff with the necessary skills, experience and qualifications to meet patients' needs.
- Patients' individual care records were written and managed according to best practice.
- Arrangements were in place for managing contrast media (radioactive medicines) that protected patients from avoidable harm.
- There was an effective system in place for reporting incidents. Staff understood their responsibilities to raise concerns, to record safety incidents, concerns and near misses.

However,

- We observed radiographers were not always checking all six points of the radiation exposure regulatory (IRMER) referrers checklist. Radiographers asked closed questions which meant patients were at risk of agreeing without having understood.

### Are services effective?

Not sufficient evidence to rate

We currently do not rate effective, we found:

- In most cases, relevant and current evidence-based guidance, standards, best practice and legislation were used to identify and develop how services and care were delivered.
- Patients had access to bottled water in reception and in the waiting rooms.
- Patients were asked by staff if they were comfortable during their appointment.
- Information about the outcomes of patient's care was routinely collected and monitored.

# Summary of this inspection

- Staff had the right qualifications, skills, knowledge and experience to do their job.
- Staff were appropriately involved in assessing, planning and delivering patient's care.
- The service operated on Mondays, Wednesday and Thursdays.
- Information leaflets such as understanding your PET-CT scan were sent to patients with their appointment letters and were available in the waiting rooms.
- Staff understood the relevant consent and decision-making requirements of legislation and guidance, including the Mental Capacity Act 2005.

## Are services caring?

Good

We rated caring as good because:

- Staff understood and respected patient's personal, cultural, social and religious needs, and took these into account.
- Staff understood the impact that a patient's care, treatment or condition had on their wellbeing and on their relatives, both emotionally and socially.
- Staff communicated with patients to ensure that they understood their care, treatment and condition.

## Are services responsive?

Good

We rated responsive as good because:

- Information about the needs of the local population was used to inform how services were planned and delivered.
- Patients' individual needs were accounted for. Staff delivered care in a way that took account of the needs of different patients on the grounds of age, disability, gender, race, religion or belief and sexual orientation.
- Patients had timely access to scanning. Since opening in December 2017, the service had worked closely with the acute trust team to improve the quality of the service provided.
- Patients we spoke with told us they knew how to make a complaint or raise concerns about the service. Complaints were responded to in a timely way.

## Are services well-led?

Good

We rated well-led as good because:

- Leaders had the skills, knowledge, experience and integrity to manage the service.
- The provider had a clear vision and a set of values with quality and safety as the top priority.

# Summary of this inspection

- The registered manager promoted a positive culture that supported and valued staff, creating a sense of common purpose based on shared values.
- There were governance frameworks to support the delivery of good quality care.
- There was a risk assessment system in place locally with a process of escalation onto the corporate risk register.
- Electronic patient records were kept secure to prevent unauthorised access to data however authorised staff demonstrated they could be easily accessed when required.
- The service gathered patients' views and experiences and used these to shape and improve the services and culture.

However,

- PET risk register timescales were not included and there were no review dates or accompanying action log. We could not confirm any new risks had been identified and added since March 2018.
- The service had no succession planning in place.

# Detailed findings from this inspection

## Overview of ratings

Our ratings for this location are:

| | Safe | Effective | Caring | Responsive | Well-led | Overall |
|---|---|---|---|---|---|---|
| Diagnostic imaging | Good | Not rated | Good | Good | Good | Good |
| Overall | Good | Not rated | Good | Good | Good | Good |

Good

# Diagnostic imaging

| | |
|---|---|
| Safe | Good |
| Effective | Not sufficient evidence to rate |
| Caring | Good |
| Responsive | Good |
| Well-led | Good |

## Are diagnostic imaging services safe?

Good

### Mandatory training

- **The service provided mandatory training in key skills to all staff and made sure everyone completed it.**

- We saw evidence to confirm almost all mandatory training was up to date or due for expiry. However, one staff member's Information Governance training had expired.
  Most training was delivered as an e-learning module. However, staff attended face to face training for immediate life support. There was a system in place to ensure there was always staff members on duty with the correct level of resuscitation training.
- Staff received effective training in safety systems, processes and practices. All staff supporting patients as part of the clinical pathway were required to complete immediate life support (ILS), this included paediatric basic life support (BLS). ILS training was agreed by special approval after being requested by the unit manager. The training compliance for ILS was 100% at the time of the inspection.
- A contemporaneous training record was available for all staff and was reviewed by their line manager. Staff were emailed to prompt them to book to update their training, three months and one month prior to their training expiring.

Mandatory training subjects included:

- Complaints handling
- Conflict resolution
- Data Protection
- Equality and diversity
- Fire safety at work
- Health and safety awareness
- Infection control
- Information governance
- Managing violence and aggression
- Manual handling objects
- Medicines management in imaging
- Moving and positioning people
- The mandatory equality and diversity training, provided staff awareness of the potential needs of patients with any of the following needs: mental health, learning disabilities, autism and dementia.
- All staff working at the service were expected to complete the local induction process that covered local requirements such as knowledge of the local rules document, fire evacuation plan, local staff facilities and access codes to relevant areas.
- Staff had undertaken contrast application training a week prior to our inspection. Auto-injector training was scheduled in April. At the time of our inspection the auto injector equipment was being serviced.
- We were assured staff working with radiation had appropriate training in the regulations, radiation risks, and use of radiation. Staff could provide evidence of

training and were aware of the Ionising Radiation Regulations 2017 (IRR17) and the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R17) and were able to direct us the IRR regulations. IR(ME)R 'employers procedures' are specific work instructions which radiographers (and other staff) follow for every patient. Ionising radiation such as X-rays or that emitted by radioactive material is used widely in medicine.

- The registered manager directed us to the regulations, radiation risks, and use of radiation documents stored on the intranet. The standards of practice (SOP) was available to staff on the intranet. The document had been reviewed on 21 January 2019 and was due for review in January 2020 as required.

**Safeguarding**

- **Staff understood how to protect patients from abuse and the service worked well with other agencies to do so. Staff had training on how to recognise and report abuse and they knew how to apply it.**

- There were systems, processes and practices essential to keep patients safe identified, put in place and communicated to staff.
- There were arrangements in place to safeguard adults and children from abuse that reflected relevant legislation and local requirements. Staff were trained to recognise adults at risk and were supported with an effective safeguarding adults' policy in place that reflect relevant legislation and local requirements. Staff we spoke with demonstrated they understood their responsibilities and adhered to safeguarding policies and procedures. Staff were aware of their responsibilities surrounding female genital mutilation (FGM) which comprised part of their completed safeguarding training.
- Contact numbers for local adult and child safeguarding referrals advice were displayed in the control room. There was also a safeguarding information poster on the whiteboard.
- There was a system in place to ensure there were always staff members on duty with the correct level of safeguarding training. The provider had service leads for children and adults safeguarding who were trained to levels 4 and 3 respectively.
- At the time of the inspection, 100% of staff had been trained in safeguarding children level one and two. The unit did not treat patients who were under the age of 16. This met intercollegiate guidance 'Safeguarding Children and Young People: Roles and competencies for Health Care Staff '(March 2014). Guidance states all non-clinical and clinical staff who have any contact with children, young people and/or parents/carers should be trained to level two. All staff had been trained in safeguarding adults level one and two.

**Cleanliness, infection control and hygiene**

- **The service controlled infection risk well. Staff kept themselves, equipment and the premises clean. They used control measures to prevent the spread of infection.**
- Standards of cleanliness and hygiene were maintained. There was an infection control lead for the service. The service had infection prevention and control (IPC) policies and procedures in place which provided staff with guidance on appropriate IPC practice, for example, communicable diseases and isolation.
- The service's centre was a newly built unit and was subject to regular IPC monitoring requirements in accordance with policy and procedure. The service completed monthly environmental monitoring via their internal system site tool in accordance with policy and the IPC Programme from January to December 2018.
- We observed staff to be compliant with best practice regarding hand hygiene, and staff were noted to be bare below the elbow. There was access to hand washing facilities. We observed staff washing their hands using correct hand hygiene techniques before, during and after patient contact. Patients told us staff always washed their hands prior to attending to them. Hand sanitiser gels were available at reception and in several rooms. Information charts about hand hygiene were displayed throughout the service.

Good

# Diagnostic imaging

- The service met NICE QS61 statement 3: People receive healthcare from healthcare workers who decontaminate their hands immediately before and after every episode of direct contact or care. Hand hygiene audits were undertaken to measure compliance with the World Health Organisation's (WHO) 'Five Moments for Hand Hygiene.' These guidelines are for all staff working in healthcare environments and define the key moments when staff should be performing hand hygiene to reduce risk of cross contamination between patients.
- The service completed monthly hand hygiene audits for all clinical staff from January to December 2018. The monthly audits mean score was 98%, with a noted area of development relating to bare below elbows. The unit manager had addressed this issue with staff. Hand hygiene results were communicated to staff at team meetings and through email.
- Leicester PET-CT Centre was subject to regular, infection prevention control (IPC) monitoring requirements in accordance with policy and procedure. The unit achieved and maintained a good standard across all areas. The centre achieved a score of 87% in the annual IPC audit in the March 2018 audit which was above their 2017-18 benchmark of 80%. Areas of improvement were being addressed as per their action plan. The annual IPC audit 2018-19 benchmark was 90%. They were about to undertake 2019's annual audit.
- The local NHS trust undertook daily cleaning to maintain standards of cleanliness and hygiene. Cleaning schedules were included on the service's electronic daily checklists reviewed by the unit manager each week. We observed appropriate cleaning procedures in place for all PET-CT equipment, following use. Clinical assistants cleaned the scanner daily.
- There had been no incidences of a healthcare acquired infection from January to December 2018. There were reliable systems in place to prevent and protect people from a healthcare-associated infection. The service had an MRSA policy. There were safety systems, processes and practices in place and these were monitored and improved when required.
- However, we saw staff eating in the control room where some open food including fruit was stored. This could present a possible cross-contamination risk.
- Sharps disposal bins (secure boxes for disposing of used needles) were located as appropriate across the service which ensured the safe disposal of sharps, for example needles. They were all clean and not overfilled. Labels were correctly completed to inform staff when the sharps disposal bin had been opened.
- Staff were trained in cannulation and explained to us the need to monitor cannula sites. They also told us about the process, for removing the cannula and we observed them disposing of them correctly in a contaminated sharps container.
- Arrangements for managing waste and clinical specimens protected patients from avoidable harm. This included classification, segregation, storage, labelling, handling and, where appropriate, treatment and disposal of waste. Staff used the correct system to handle and sort different types of waste and these were labelled appropriately.
- The patient referral pathway for Leicester PET-CT Centre did not restrict referral of infectious patients. Where infectious patients were referred they were managed in compliance with policy for example, deep cleaning was carried out after the scan. Scans were reported through the incident reporting policy to allow trend analysis. No trends had been identified and no areas of concern had been noted in the reporting period.
- All staff were compliant with the on-line annual IPC training module.
- Legionella Testing (Health and Safety) was carried out as per local policy. We saw evidence the last samples and analytical report results were completed in January 2019.
- Annual deep cleans were carried out by an external service through a corporate contract. The last deep clean was completed in March 2019. We saw evidence to assure us this had been completed.

**Environment and equipment**

- **The service had suitable premises and equipment and looked after them well.**

Good

# Diagnostic imaging

- The design, maintenance and use of facilities and premises kept people safe and prevented patients from avoidable harm. The layout of the unit was compatible with health building note (HBN06) guidance. Health building notes give best practice guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities.
- Leicester PET-CT Centre is a stand-alone purpose-built unit, located near Glenfield hospital's south entrance and operated as part of Alliance Medical Ltd. (AML) PET-CT Service improvement project.
- Maintenance and use of equipment protected patients from avoidable harm. All equipment we checked had a sticker indicating when they had been last serviced and when the next service was due. Equipment we looked at had an up to date service record which provided information on when an item was due to be serviced.
- The centre had clear signage and visual prompts to assist with patients and visitors attending the service. Access to clinical areas were protected with doors secured with a keypad entry system. Staff had a central emergency alarm system with electronic panels behind the reception desk and in the control room. The alarm screen identified where in the centre it was triggered. The pre-procedure 'cold' toilets had signs advising patients to contact reception if they had been injected. The service also had 'hot' toilets for the use of post-scan patients.
- The service had a special PET-CT scanner (128 Slice). This system's technology reduced patient radiation dose and reduced scan times for longer imaging procedures. For example, 'total body scans' took approximately 35 to 40 minutes compared to 50 to 60 minutes (on previous 2D scanners). The scanner was also digital ready.
- A control/observation area allowed visibility of all patients during the scan and closed circuit televisions (CCTV) allowed staff to observe and monitor patients in the waiting rooms at all times following administration of FDG or FEC. Presence of the cameras was explained to patients and not recorded or shown anywhere outside the unit. Patients privacy and dignity was maintained as they could draw a curtain to obscure the cameras. CCTV notices were displayed at reception.
- There was sufficient space around the scanner for staff to move and for scans to be carried out safely. Patients had access to an emergency call buzzer. A microphone allowed constant contact between the radiographer and the patient.
- The systems, processes and practices that were essential to prevent patients from avoidable harm identified, put in place and communicated to staff. Implementation of safety systems, processes and practices were monitored and improved when required.
- All equipment conformed to the relevant safety standards and had been regularly serviced. Electrical equipment had been appropriately tested.
- Staff wore protective equipment to avoid contamination such as rings on each index finger when drawing and administering radiopharmaceuticals (RPs). RPs are a group of drugs used in PET-CT which have radioactivity. Staff used lead shield syringes and placed them in a lead-lined box for protection against radioactivity.
- Staff could access two spillage kits and grab boxes in the control room and laboratory.
- A first aid kit was available within the laboratory. Contents and expiry dates we checked were suitable and in date. Staff checked and resealed the contents every six months if not used.
- Resuscitation equipment was readily available and easily accessible. The resuscitation trolley was owned and managed by the local trust. This was located out of the way in a side bay near the reception area. We checked 20 pieces of equipment in the trolley which were all sealed and in good condition. Daily and weekly equipment checks were carried out by staff. This demonstrated the equipment was safe and fit for use. We saw completed stock checklists for the last three months with no gaps. Days when the centre was

closed were documented to confirm no checks were required. Issues and actions taken were logged in the checklist book. New equipment and medication was pre-emptively ordered 30 days before expiry.

- The premises had arrangements in place to restrict access and control the area where there was ionising radiation. We saw radiation warning signs were correctly located outside the clinical diagnostic imaging area. Signs on the door explained safety rules. A physical barrier was put across the door when the PET-CT was in use.
- We saw the email trail of follow up actions from the service's open and sealed sources (EPR) audit. We also saw the sealed sources permit dated 19 September 2017 from the Environment Agency. We saw the local register of sealed sources certificates for Germanium Ge68 and Caesium 137.
- Chemical products deemed as hazardous to health were in locked cupboards or rooms that were only accessible to authorised staff. This complied with the Control of Substances Hazardous to Health (COSHH) 2002 Regulations. The COSHH file with information sheets was accessible to all staff in the control room.
- Emergency pull cords were available in areas where patients were left alone, such as 'hot' toilets and waiting rooms. These could be disconnected so they were not ligature risks. Call bells were available within the scanning room which patients could press if they wanted the scan to stop.
- There was twenty-four-hour, seven-day picture archiving and communication system (PACS) support, there were backup arrangements in the event of an IT failure.
- Used gloves, procedure sheets and packaging were disposed of in clinical waste bins. Staff disposed of equipment using tongs to avoid direct contact with any radioactive waste.
- The service had two contamination monitors in the laboratory and corridor.
- We checked the equality impact assessment, daily monitoring record and annual calibration record had all been completed. We saw a list of emergency generator tests on the control room noticeboard.
- The intravenous injection of a radiopharmaceutical standard operating procedures (SOP) was in date and did not need reviewing until May 2019.

**Assessing and responding to patient risk**

- **Staff completed and updated risk assessments for each patient but not always in enough detail. They kept clear records and asked for support when necessary.**
- There were comprehensive risk assessments carried out for patients and risk management plans developed in line with national guidance. For example, we saw evidence of a patient safety questionnaire being completed prior to any scan. Risks were managed positively and updated appropriately where a change in the patient's condition was required, for example managing patients who were claustrophobic or felt unwell.
- No patients had required urgent transfer for emergency care from January to December 2018.
- There were procedures in place for removal of a collapsed patient and we reviewed evidence of evacuation practices which were performed twice yearly.
- There were processes in place to ensure the right person received the right imaging procedure or radiological scan at the right time. Staff used The Society and College of Radiographers (SCoR) "Paused and Checked" guidance system to reduce the risk of referrer error. Pause and Check consisted of the three-point demographic checks to correctly identify the patient, as well as checking with the patient the site/side to be imaged, the existence of previous imaging and for the operator to ensure that the correct imaging modality is used.
- However, we observed radiographers were not always checking all six points of the Pause & Check ScoR IR(ME)R Referrers checklist. We had concerns with how the radiographer accurately identified the correct patient before the procedure. Questions radiographers asked were not open ended. This meant there was a risk of patients agreeing without having understood.

For example, we observed the operator failing to verify actual patient identification when person handling. This meant we could not be assured the service appropriately checked patient details.

- The potential risks of intravascular administration of FDG were assessed against the potential benefits. Systems were in place which included trained individuals that can recognise and treat severe reactions, including anaphylaxis. Anaphylaxis kits were available on the service's resuscitation trolley.
- Clinical staff told us they felt confident to identify and respond appropriately to changing risks to patients who use services, including deteriorating health and wellbeing or medical emergencies. All clinical staff had received immediate life support training.
- There were clear pathways and processes for staff to assess patients using services in radiology departments who were clinically unwell and need hospital admission. For example, the provider policy for the management of medical emergencies was available to guide staff in referring patients to an emergency department. Staff would dial 999 for any emergencies or 2222 for the cardiac arrest team.
- The provider's quality and risk team planned resuscitation scenarios. These were carried out by a qualified member of the AML quality and risk team. We were provided with evidence identifying a score of five out of five for the last review.
- Radiation risks to patients were managed in line with guidance from the International Atomic Energy Agency (IAEA) The Committee on Medical Aspects of Radiation in the Environment (COMARE 16th report): Review of radiation dose issues from the use of CT published 14 August 2014.
- The service ensured that women (including patients and staff) who were or may be pregnant always informed a member of staff before they were exposed to any radiation in accordance with IR(ME)R. We saw evidence if the possibility of pregnancy could not be excluded, the patient was asked whether her menstrual period was overdue. Low dose procedures could continue to be undertaken, provided that the women's period was not overdue, which met national guidance. Information was sent out to the patient at the time of booking the appointment and there were notices up in the reception, waiting area and corridors.
- There were clear pathways and processes for the assessment of patients using services within radiology who were clinically unwell and required hospital admission.
- We saw completed risk assessments as well as several from the local Trust.
- However, one of the risk assessments we checked had not been signed by the author, registered manager or Radiation Protection Supervisor (RPS). Another had no review date.
- The service had named staff fulfilling the essential roles of radiation protection advisor, medical physics expert, radiation protection supervisor, senior radiologist and infection control lead. The service had appointed a radiation protection supervisor (RPS). Staff said the radiation protection advisor (RPA) and the medical physics expert (MPE) were readily accessible online or through the telephone for providing radiation advice.
- There were local rules (IRR) and employer's procedures in place (IR(ME)R) which protected staff and patients from ionising radiation. The service's local rules referenced the latest 2017 regulations. These had been signed by the RPS and issued which was in date and next needed reviewing in June 2019. Staff were aware of the Ionising Radiation Regulations 2017 (IRR17) and the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R17) and knew where to locate them.
- Staff's daily dose levels were monitored and recorded by the PET handling audit. We saw dose reports for the service. Staff had to request dose information through the RPS. Investigation of high doses were followed up with recommendations and dose readings shared with staff.

**Staffing**

- **The service had enough staff with the right qualifications, skills, training and experience to keep people safe from avoidable harm and to provide the right care.**

Good

# Diagnostic imaging

- There were sufficient numbers of staff with the necessary skills, experience and qualifications to meet patients' needs. The provider's staffing requirement to support a safe scanning pathway standard of practice (SOP) was in place, this enabled the unit to effectively maintain safe staffing levels and ensured there were sufficient numbers of suitably qualified, skilled staff to carry out daily tasks. The policy and procedure outlined how the headcount (actual number of staff on duty) and full time equivalent (FTE) numbers were to be calculated and managed at unit level. To achieve this the minimal amount of staff required locally for a full scanning day comprising 17 PET-CT scans was two technologists/radiographers, one clinical assistant and a receptionist, having a minimum of two staff qualified in the management of medical emergencies and recognition of the deteriorating patient, to provide a safe service to patients.
- On the day of our inspection the service had the minimal required staff to operate the PET-CT which was one technologist/radiographer, two clinical assistants; one bookings administrator and one receptionist, as stated in the local BCP and provider staffing requirements to support a safe scanning pathway SOP. The part time, 0.5 whole time equivalent (WTE) unit manager was a radiographer. This team allowed the service to operate a "Single Handed Scanning" day with a maximum of 8 scans to be performed, to allow sufficient breaks and ensure staff have adequate rest.
- All staff were employed on permanent contracts. Due to an increase in the capacity requirements at AML's other Northampton PET-CT centre, the service relied on staff support from their PET Mobile team.
- Actual staffing levels and skill mix compared with the planned levels. The staffing policy ensured the service operated safely and effectively, with the appropriate number of staff and correct skill mix levels required to facilitate safe care.
- The service had 'lone working' policy and risk assessment process. On the day of inspection, the service was 'single handed scanning' where a radiographer worked only with a clinical assistant. This was due to a member of the team being on planned leave.
- The impact on safety was assessed and monitored when carrying out changes to the service or the staff. We observed as stated in the provider's staffing requirements to support a safe scanning pathway standard of practice and the local Business Continuity Plan, the service had reduced the number of scans booked. This allowed staff to take regular breaks to ensure the adequate rest was maintained. To support the calculation of local staff requirements in the different roles, the service used a staff calculator. This ensured sufficient staff were available during operational periods.
- Two appointments had been cancelled because of staffing issues between January and December 2018. The unit manager informed us they support the unit as a qualified radiographer when staffing levels were low to avoid any cancellations minimising the impact to patients.
- At the time of inspection, there were no vacancies within the service. Between January and December 2018, no radiographer staff had left the service and one WTE PET-CT radiographer had joined the service.
- Between January and December 2018, the average sickness rate for the service was reported as 0% for radiographer staff and 4.475% for all staff.
- The service had not used any bank staff to cover times of radiographer staff shortage during the last three months. However, we were told, if bank or agency staff were required, prior to undertaking any shifts they had to complete a period of induction and have proof of completion of mandatory training relevant to the position they were required to fill, and previous equipment experience to establish suitability.
- The service had used agency staff to cover times of radiographer staff shortage on 12 occasions and clinical assistant staff shortage on three occasions in the last three months.
- The unit manager was also the manager for another diagnostic unit relatively locally and could utilise the provider's internal bank staff from other sites to cover leave. This ensured staff continuity and familiarity with the unit.

Good

# Diagnostic imaging

- Each service was managed by an experienced operational manager, supported by regional management and central support functions, to maintain 24-hour accountability for safe and appropriate staffing levels.
- Staffing levels and skill mix were planned and reviewed so that patients received safe care at all times and staff did not work excessive hours. The service had daily team huddles first thing in the morning to brief staff and keep them informed. Staff also used a daily Quality Control checklist to ensure full oversight of patient safety.
- We saw evidence of a good induction process for a new member of staff with most training already complete, signed off or booked.
- Arrangements for using bank, agency and locum staff kept patients safe at all times. The service ensured all agency and bank staff were subjected to a local induction process conducted by the unit manager or a senior member of staff. This covered local requirements such as knowledge of the local rules document, fire evacuation plan, local staff facilities and access codes to relevant areas, introduction to local staff and training requirements where relevant.
- Bank and agency staff could also shadow a resident member of staff where noted to be required, until their capabilities and skills were satisfactory.
- Cover provided for staff absence was from a nearby location of the same provider. Additional shifts or overtime could be covered by the service's flexible mobile-based staff.
- The service did not authorise staff to work at the centre without an ID badge and/or, where required, personal dosimeters. A personal dosimeter is a device that measures exposure to ionizing radiation. It is normally worn by the person being monitored, as a record of the radiation dose received. The dosimeter badges for mobile staff are posted to head office.

**Medical staffing**

- The service did not employ any medical staff.
- The service was located just outside of an NHS hospital and its proximity to the hospital allowed staff to request expert medical advice from either their senior radiologist or other radiologists as required.
- In case of a medical emergency the hospital cardiac arrest team or an emergency duty clinician could be contacted depending on the type of medical emergency.

**Records**

- **Staff kept detailed records of patients' care and treatment. Records were clear, up-to-date and easily available to all staff providing care.**
- Patients individual care records, including clinical data, were written and managed according to best practice in a way that kept people safe.
- We reviewed eight patient records. Records were accurate, complete, legible, up to date and stored securely. Records were electronic and available for access by staff. Paper records such as paper referrals were kept for seven days in a locked filing cabinet. The previous week's hard copies were shredded and replaced with the current copies as per policy once the information was uploaded.
- All the information needed to deliver safe care was available to relevant staff in a timely and accessible way. This included test and imaging results, care and risk assessments, care plans and case notes.
- The radiology information system and picture archiving and communication system used by the service was secure and password protected. Each staff member had their own personally identifiable password.
- Patient and clinical information was recorded on the provider's electronic records system. This system was not integrated with the commissioner's (NHS England) data management system.
- There was a secure system in place to ensure necessary information was shared such as reports and images from the PET-CT Scan. The report was also shared with the commissioner via secure NHS.net account for administration purposes. This process was managed by the provider's image transfer team and case management.

Good

# Diagnostic imaging

- The quality of images were peer reviewed and quality assured on a corporate level. Any deficiencies in images were highlighted to the member of staff for their learning. However, this was very rare, and the services re-scanning rate was negligible. At the time of our inspection, no issues had been raised by the audit team.
- The service had a quality assurance (QA) process under which sealed sources had to be padlocked and bolted to the floor.
- We saw minutes of meetings such as the Radiation Protection Committee and Trust Waste Committee. We also saw Radiation Protection Advisor reports and the audit, the Radioactive Waste Audit and the Open and Sealed Source Audit. However, one record of radioactive waste disposal had no review date.

**Medicines**

- **The service mostly followed best practice when prescribing, giving, recording and storing medicines. However, checks were not always done to ensure patients received the right medication at the right dose at the right time.** Staff did not complete final checks consistently prior to the injection of patients.
- A PET scan uses a small amount of a radioactive drug, or tracer, to show differences between healthy tissue and diseased tissue. The most commonly used tracer is called fluorodeoxyglucose (FDG), so the test is sometimes called an FDG-PET scan. Before the PET scan, a small amount of FDG is injected into the patient. There were processes in place to ensure the right radiopharmaceutical was injected.
- Arrangements were in place for managing FDG and fluoroethylcholine (FEC) that protected patients from avoidable harm. This included obtaining, prescribing, recording, handling, storage and security, dispensing and disposal.
- We were assured there were sufficient checks to ensure patients received the correct dosage of the radioactive drug, or tracer. There were checks when the radiopharmaceutical was dispensed, drawn up and level of radioactivity measured.

On the day of inspection, a lone radiographer was administering FDG to patients. There was no opportunity for a second clinician to check the dosage prior to administration. However, IRMER 2017 regulations do not state this as a requirement and the service complied with provider policy when checking medicines. The service's 'monitoring patients in the PET-CT environment' SOP allowed radiographers to administer and undertake double (repeat first person) checks alone. Radiographers and staff could monitor patients at all times when they were not with them.

- The Society of Radiographers (SoR) recommended "Paused and Checked" system was used to check medications prior to administration.
- However, there was no final four or five-way check immediately prior to injection of patient verses, demographics, verses intended exam, verses radioactive medicinal products (RMP) identity verses RMP activity, as a useful 'fail-safe'. We raised this with senior staff during the inspection.
- Medicines were stored securely within a designated room and were stored at the correct temperatures, in line with the manufacturers' recommendations, to ensure they would be fit for use.
- Staff were trained on the safe administration of intravenous FDG and FEC. We reviewed staff competency files and saw all staff had received this training. We observed patients receiving intravenous FDG during our inspection, their allergies were documented and checked on arrival in the unit.
- The service did not use any controlled medicines for any of their procedures and therefore did not have a controlled medicines policy in place.
- Emergency medicines were available in the event of an anaphylactic reaction. These were in date.
- The registered manager was the service lead for the safe and secure handling of medicines.
- Patients were given patient information post scan which documented which medications they had been given. This directed patients to seek advice from their GP or A&E if feeling unwell after leaving the unit and explained they should show the information regarding what they had received.

- The pharmacy team at the local acute trust was available for assistance and advice locally if required.
- The service had arrangements for specialist pharmacy support available. This included a consultant pharmacist who issued guidance and support at a corporate level and worked collaboratively with the clinical quality team on all issues related to medicines' management.
- Medication and disposal was provided by an external company on a contract.
- The service ensured that the Ionising Radiation (Medical Exposure) Regulations 2018 (IR(ME)R)were adhered to. The lead consultant was an administration of radioactive substances committee (ARSAC) certificate holder. They were based at the local acute trust and provided cover for the examinations they performed.

**Incidents**

- **The service managed patient safety incidents well. Staff recognised incidents and reported them appropriately.**
- Managers investigated incidents and shared lessons learned with the whole team and the wider service. When things went wrong, staff apologised and gave patients honest information and suitable support.
- There was an effective system in place for reporting incidents. Staff understood their responsibilities to raise concerns, to record safety incidents, concerns and near misses.
- All staff were encouraged to report incidents as they happen. The service had a SOP used by managers and staff when a suspected adverse event, incident or near miss occurred.
- Staff undertook no mandatory training for reporting events, incidents and near misses. However, an overview of the requirements formed part of their corporate induction.
- Managers and staff classed as investigators were trained in incident investigation techniques to support staff on an ongoing basis at unit level. Staff used an open AML quick links system to access their Risk Management System (RMS) to report all incidents. The service had an incident reporting procedure approved by the clinical governance committee which is reviewed every three years. This outlined their escalation and reporting process. In the event of no internet access, staff documented and entered all incident details into the RMS as soon as reasonably practical.
- The Registered Manager ensured that the provider's Quality and Risk (QAR) Team were notified of any 'IRMER Reportable' incident. The QAR Team then reported any IRMER incident to the CQC. We saw evidence and heard about one example of an IRMER reportable incident. This involved a patient undergoing an unnecessary scan using the wrong isotope.
- Senior staff were aware of the requirements for reporting serious incidents to the CQC using the statutory notification route if this met the criteria, under Regulation 18 of the Care Quality Commission (Registration) Regulations 2009.
- Incident reporting system feedback was included at staff meetings. Incident outcomes supported the development not only locally but also at provider level, with lessons learned shared on a monthly QAR bulletin.
- There were no serious incidents reported for the service from January to December 2018. Serious incidents are events in health care where there is potential for learning or the consequences are so significant that they warrant using additional resources to mount a comprehensive response.
- There were no never events reported for the service from January to December 2018. Never events are serious incidents that are entirely preventable as guidance, or safety recommendations providing strong systemic protective barriers, are available at a national level, and should have been implemented by all healthcare providers.
- The service had recorded 28 incidents from January to December 2018. 12 incidents were graded as moderate risk, 16 were graded as low or very low risk. Five incidents were classified as appointment issues, for example a hospital trust inpatient booked with no escort or a patient booked in too soon after chemotherapy. Four incidents were classified as the

result of an operational issue such as procedure failure/error. One of these entailed eight patients being cancelled and rescheduled for the next available date due to the practitioner not ordering FDG.

- Four were also the result of radiation protection issues around staff exposure where on these occasions the finger dosimeter reading was above 7 mSv, AML dose investigation level. The scientific unit of measurement for whole body radiation dose, called "effective dose," is the millisievert (mSv).We saw the investigation forms resulting from these incidents, with conclusions and recommendations after observation of technique. Two incidents were near misses, and two were patient claustrophobia. The service looked for opportunities to learn lessons from these incidents.
- We reviewed reported incidents. All incidents were recorded, reviewed and investigated with trends identified and actioned at a national and regional level. However, serious incidents were not always reported within 24 hours and four incidents were not reported within 48 hours, the longest time between incident and report date was 41 days.
- The service had between five and 10 near misses a month. The service recorded these on the incident reporting system. Any conclusions were shared with staff, either by email if urgent or at team meetings.
- We saw minutes indicating AML published a definition of near misses and provided examples for all their DI modalities. Examples were also being incorporated into Incident Management Policy as an appendix.
- The relevant RIS information was always checked and records updated if a concise incident report (similar to a root cause analysis) investigation was not undertaken. We saw evidence of a level 1 report from June 2018.
- Concise incident reports were reviewed at the relevant sub-committees who were responsible for making sure that appropriate remedial action and shared learning had taken place. During 2017 a new pathway for 'escalated events' was introduced to track incidents which the organisation considered required a more in-depth level of investigation to support prevention.
- From March 2015, all independent healthcare providers were required to comply with the Duty of Candour (DoC) Regulation 20 of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014. The DoC is a regulatory duty that relates to openness and transparency and requires providers of health and social care services to notify patients (or other relevant persons) of 'certain notifiable safety incidents' and provide reasonable support to that person.
- Staff were aware of the DoC regulation (to be open and honest) ensuring patients received a timely apology when there had been a defined notifiable safety incident. Staff undertook DoC training as part of their complaints and incidents management during induction.
- The service has had a DoC policy in place since April 2017. The policy defined when the principles of duty of candour should be followed. No incidents occurred requiring DoC notifications between January and December 2018.

## Are diagnostic imaging services effective?

Not sufficient evidence to rate

**Evidence based care and treatment**

- **The service provided care based on national guidance and evidence of its effectiveness. Managers checked to make sure staff followed guidance.**
- In most cases, relevant and current evidence-based guidance, standards, best practice and legislation was used to identify and develop how services and care were delivered. We were assured the standards of practice (SOP) available to staff on the intranet and in folders around the centre were up to date and referenced the Ionising Radiation Regulations 2017 (IRR17) and the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R17).
- Patients had their needs assessed and their care was planned and delivered in line with evidence-based guidance, standards and best practice. Relevant and current evidence-based guidance, standards, best

practice and legislation identified and were used to develop how services and care were delivered for example, evidence-based indications for the use of PET-CT in the United Kingdom' (2016).

- We were assured staff were aware of the Ionising Radiation Regulations 2017 (IRR17) and the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R17). On the day of inspection, staff could locate the document to show to inspectors.
- Policies procedures and staff competence in relation to diagnostic procedures involving nuclear medicines were adhered to. The service ensured the practitioner noted the diagnostic reference level for each adult investigation. Activity for each exposure was optimised so the patient was given the lowest practicable dose.
- The Royal College of Radiologist's (RCR) 2015 Standards for IV Contrast Administration to Adult Patients were adhered to.
- The service undertook monthly intravenous (IV) cannulation internal audits. These required clinical staff members to achieve more than three cannulations per month and demonstrate competency.
- The Peripheral Vascular Catheter (PVC) departmental monthly audit had been completed up until August 2018. This audit was monitored via the service's internal system and reported to the Clinical Governance team.
- All PET-CT reporters were included in the national programme audit scheme. This was a randomised 10% surveillance audit undertaken by auditors independent to the reporting clinicians. For National Health Service Executive (NHSE) programme sites such as Leicester PET-CT Centre this was a centrally coordinated audit process. The results were held centrally, with feedback provided throughout the year to reporters to allow for reflection of practice.
- As Imaging Services Accreditation Scheme (ISAS) accredited the service, annual robust audits were required. An audit of radiation protection arrangements was carried out at the service in June 2018 by the radiation protection adviser and radiation protection supervisor. The audit reviewed the service's departmental procedures, protocols and practices against the legislative requirements and associated guidance as there were multiple changes from initiating IRR17. Only one action was identified from the audit. This related to implementing recommendations from a recent patient dose audit completed following changes to the CT protocols. We saw evidence the recommendations had been completed.

**Nutrition and hydration**

- There were no nutrition services provided by the unit for patients that attended for PET-CT scans. However, patients had access to water in reception and in the waiting rooms. Patients were also offered biscuits post scan, particularly if they were diabetic.

**Pain relief**

- Patients were asked by staff if they were comfortable during their appointment. We observed this on several occasions. However, no formal pain level monitoring was undertaken as procedures undertaken were pain free.

**Patient outcomes**

- **Managers monitored the effectiveness of care and used the findings to improve them. They compared local results with those of other services to learn from them.**
- Information about the outcomes of patient's care was routinely collected and monitored. The service undertook regular clinical audits internally within the organisation. They took appropriate action to monitor and review the quality of the service and to effectively plan for the implementation of changes and improvements required.
- All PET-CT reporters were included in the National Programme Audit scheme. A randomised 10% surveillance audit was undertaken by independent auditors. This was a centrally coordinated audit process. The results were held centrally, with feedback provided throughout the year to reporters to allow for reflection of practice.
- The service manager audited and compared key elements of the referral and scanning pathway and these were benchmarked with other provider locations.

- Audits of the quality of the images were carried out by the acute trust. The service's re-scanning rate was negligible. More details are given under the Records sub-heading.
- There was a schedule for patient and quality audits in place. The quality audits aimed to assist in monitoring the service and drive improvement. It involved all staff ensuring they had ownership of things that had gone well and that needed to be improved. Quality audits included hand hygiene, infection prevention and control (IPC), Peripheral Vascular Catheter (PVC), internal cannulation (IV) and open and sealed sources.
- Hand hygiene, IPC, PVC and IV cannulation audit outcomes are summarised under Safe. The open and sealed source audit outcomes are given at the end of the report under Well-led.
- Patient audits consisted of complaints & compliments, reporting incidents and patient satisfaction surveys. Audit outcomes are detailed under the relevant sections.
- A monthly report was submitted to the commissioners, this provided the commissioners with information on activity and any issues impacting on service provision such as staffing, equipment, operational issues and improvements.

**Competent staff**

- **The service made sure staff were competent for their roles. Managers appraised staff's work performance and held supervision meetings with them to provide support and monitor the effectiveness of the service.**
- Staff had the right qualifications, skills, knowledge and experience to do their job when they started their employment, took on new responsibilities and on a continual basis. The service operated a comprehensive mandatory and statutory training programme which ensured relevant knowledge and competence was maintained and updated throughout the lifespan of employment with the organisation.
- Staff had regular informal meetings with their manager and a performance appraisal annually to set goals to review them. At the time of inspection, all eligible staff had received an appraisal in the last 12 months.
- Both radiographers at the service were Health and Care Professions Council (HCPC) registered and met the standards to ensure delivery of safe and effective services to patients. Clinical staff were required to complete continued professional development (CPD) to meet their professional body requirements.
- Key attributes to ensure staff suitability were assessed as part of the interview process which were based on predetermined questioning that aligned with the service's core values.
- In the event of any aspect of competency falling short of the required standard, the staff member's line manager was responsible for providing necessary support and guidance required to attain the relevant standard.
- Ongoing staff competence was managed through the performance review process, for example where local audit, complaints and incidents, that highlighted potential failing areas where different staff members may need support and development.
- All staff had completed relevant clinical competency assessments in relation to their role. To support patient safety, all members of staff had been intermediate life support trained, undertaking courses recognised by the Resuscitation Council UK (RCUK).
- Radiographers' scanning performance was monitored through peer review and issues were discussed in a supportive environment. Radiologists also fed back any perceived issues with scanning to enhance and learning or improvements in individual performance.
- There were clear records showing who was entitled to administer radioactive medicinal products (RMP) together with who has the necessary certificate from 'The Administration of Radioactive Substances Advisory Committee' (ARSAC).
- At the time of our inspection, the part-time registered manager had requested with the provider for staff to be first aid trained for when he was not onsite.

- Staff were offered opportunities for further training. We heard examples of continued development including business administration courses run through Universities.

**Multidisciplinary working**

- Staff were appropriately involved in assessing, planning and delivering patient's care. Staff worked closely with the referring NHS trusts, this ensured a smooth pathway for patients. Staff were aware of the days of the different cancer multidisciplinary meetings ran and endeavoured to ensure the results of short notice scans were available to be discussed when necessary.
- Staff working in the service had good relationships with external partners and undertook scans for local NHS providers. We saw good communication between services and there were opportunities for staff to contact refers for advice and support.

**Seven-day services**

- The service was not open seven days a week. It operated on Mondays, Wednesdays and Thursdays. The service occasionally had capacity to reschedule patients to Friday if necessary.

**Health promotion**

- Information leaflets such as understanding your PET-CT scan were sent to patients with their appointment letters and were available in the waiting rooms. These leaflets included information about what the scan would entail and what was expected of the patient before and after the scan appointment. Infection, prevention and control leaflets as well as a compliments, concerns and complaints patient guide were also available in the waiting area.
- Health promotion information leaflets and posters on subjects such as smoking cessation services and information on living with cancer were on display in the waiting rooms. In addition, there was a range of information leaflets for patients and relatives, including those from Macmillan and the Stroke Association which patients could take away.
- The service encouraged staff to bring in healthy food choices for themselves as part of a new initiative.

**Consent, mental capacity act and deprivation of liberty safeguards**

- **Staff understood how and when to assess whether a patient had the capacity to make decisions about their care. Staff understood their roles and responsibilities under the Mental Health Act 1983 and the Mental Capacity Act 2005.**
- Staff understood the relevant consent and decision-making requirements of legislation and guidance, including the Mental Capacity Act 2005 and the Children Acts 1989 and 2004. Staff had received training on mental capacity.
- Staff were aware of what to do if they had concerns about a patient and their ability to consent to the scan. They were familiar with processes such as best interest decisions. They knew how to support patients experiencing mental ill health and those who lacked the capacity to make decisions about their care.
- There were no patients attending at the time of inspection who lacked capacity to make decisions in relation to consenting to their scan. Staff knew how to conduct mental capacity assessments if they had concerns about a patients' ability to consent for whatever reason. Staff told us if, for example, a patient with a learning disability or a person living with dementia was due to attend, they would be advised to attend with a relative or carer to provide the necessary support.
- Diagnostic imaging procedures were consented for appropriately. A corporate consent policy written was available to staff, it was written in line with national guidance. We reviewed eight patient care records which all included a consent to treatment record.
- We observed staff obtaining verbal consent from patients during their interventions. Patients confirmed their consent had been obtained throughout the scanning process, for example verbal consent when measuring their height and weight. Positive patient identification was used such as name, address and date of birth. Past medical history, current treatment taken and allergies were checked as part of pre-procedure questions.

## Are diagnostic imaging services caring?

Good

# Diagnostic imaging

Good

**Compassionate care**

- **Staff cared for patients with compassion. Feedback from patients confirmed that staff treated them well and with kindness.**
- Staff understood and respected patient's personal, cultural, social and religious needs, and took these into account.
- Staff took the time, where possible to interact with patients and those close to them in a respectful and considerate manner. Staff were encouraging, sensitive and supportive to patients and those close to them.
- Staff made sure that patients' privacy and dignity was respected, for example, blinds over the window between the control and scanning room were closed while the patient moved onto the scanning plinth. There was a toilet/changing area, where patients could change their clothing. Staff made patients aware of the closed-circuit television in the examination rooms, so they did not change in these rooms.
- Care observed met NICE QS15 Statement 1: 'Patients are treated with dignity, kindness, compassion, courtesy, respect, understanding and honesty', NICE QS15 Statement 2: 'Patients experience effective interactions with staff who have demonstrated competency in relevant communication skills', NICE QS15 Statement 3: 'Patients are introduced to all healthcare professionals involved in their care and are made aware of the roles and responsibilities of the members of the healthcare team' and NICE QS15 Statement 13: 'Patients' preferences for sharing information with their partner, family members and/or carers are established, respected and reviewed throughout their care'.
- We heard from four patients, all said they had been very happy with the service they had received. One claustrophobic patient described the service as 'absolutely superb' in being conscious of their needs and welfare, for example by taking a blood sample from their hand. No patients raised any concerns about their care. All said they had been treated with care, compassion and respect.

**Emotional support**

- **Staff provided emotional support to patients to minimise their distress.**
- Staff understood the impact that a patient's care or condition had on their wellbeing and on their relatives, both emotionally and socially. Staff were aware patients attending the service were often feeling nervous and anxious. Staff provided reassurance and support and demonstrated a calm and reassuring approach.
- Due to the size of the service and many patients having recurring appointments, staff developed close relationships with patients and spent extra time providing emotional support to them. We were told 1% of patients attend their scan with minimal knowledge of why they are there. For these patients' staff explained in more detail why they had been referred in a supportive manner and where to find more information.
- A patient described how they were emotionally supported by staff asking if they were nervous after being given a cushion, blanket and checked upon regularly.
- Patients told us they had been spoken to with compassion and staff ensured they had the information required to lessen their concerns.
- Staff told us, if a patient became distressed, rather than provide support to them in an open environment, staff could take them in to a private room to talk to them to assist them to maintain their privacy and dignity.

**Understanding and involvement of patients and those close to them**

- **Staff involved patients and those close to them in decisions about their care.**
- Staff communicated with patients to ensure that they understood their care and condition. Staff took the time to explain the procedure and what would happen during their appointment.
- Staff recognised when patients and their relatives needed additional support to help them understand

and be involved in their care and enable them to access this. This included, for example, access to language interpreters, sign language interpreters, specialist advice or advocates.

- Staff made sure that patients and their relatives could find further information or ask questions about their care. There was a range of leaflets available, for example, information about the scans and information about common health conditions.
- Relatives or carers were permitted to remain with the patient for their appointment if this was necessary.

## Are diagnostic imaging services responsive?

Good

**Service delivery to meet the needs of local people/ Planning and delivering services which meet people's needs**

- **The service planned and provided services in a way that met the needs of local people.**
- Information about the needs of the local population was used to inform how services were planned and delivered. The service provided PET-CT scanning for a local clinical commissioning group (CCG) with which they communicated directly. The unit provided services through contractual agreements.
- Progress in delivering services against the contractual agreement was monitored by the CCG. Monitoring was reported through monthly contract review meetings with the acute trust, and measurement of quality outcomes for example, the patient experience. Service improvements were agreed at these regular meetings.
- The service provided services for a range of patients. The service provided a variety of arm cuff sizes which could be adjusted to fit patients including those who were bariatric. There was access to a hoist and pat slide, and patients whose mobility required these were referred to this service. Staff told us they could access an alternative hoist from a neighbouring department within the acute trust, if required. Patients could wear plugs and defenders during scanning, through which music could be played.
- Staff were confident and competent assisting patients who required assistance with their mobility. Two of the three uptake rooms could accommodate hospital trolleys for internal transfers. All three rooms allowed space for wheelchairs.
- The service was accessible, being on hospital grounds it was on an established bus route. There was accessible car parking with plenty of spaces, however parking costs applied.
- The facilities and premises were appropriate for the services that were planned and delivered. The service's uptake rooms, scanner rooms and toilets were designed to meet Disability Discrimination Act (DDA) 1995 guidelines. There was sufficient comfortable seating, toilets, reading materials such as magazines and puzzle books and a water fountain. Additional drinks and food were available in the attached main hospital building. Each examination room was assessed for suitability prior to its use and provided privacy and dignity. There was sufficient space in each examination room for individuals accompanying the patient, for example, relatives or carers as well as patients.
- Information was provided to patients in accessible formats before appointments. Appointment letters containing information required by the patient such as contact details, a map and directions and information about the intervention including any preparation such as fasting was required. The appointments letters sent out asked patients to contact the service if they had any queries or if they had answered yes to any of the questions on the safety questionnaire.
- The service was responsive in meeting the needs of local patients. Financial efficiency was sometimes compromised to meet patient need, for example urgent or pre-treatment scans for patients undergoing chemotherapy. Additional ad-hoc scanning days were planned as required with substantive staff including two technologists from AML's other mobile units.
- The service had added an extra permanent operational scanning day incorporating MDT needs since they opened in December 2017. This aimed to achieve better turnaround times and easier access to

the service for patients. The service had capacity to respond to increased demand as this was assessed daily as part of their collaborative work with the nationwide PET-CT team.

- The service utilised FEC as well as fluorodeoxyglucose (FDG) as an additional radio-isotope tracer during patient scans. This allowed better detectability for prostate cancer as a noted clinical need in the region.
- The service worked closely with the local senior radiologist in responding to local clinical need and had introduced thermoluminescent dosimeter (TLD) checks to validate radioprotection over six/twelve. TLD is a passive radiation detection device that is used for personal dose monitoring or to measure patient dose. The unit manager was considering further expanding the list of diagnostic imaging procedures performed onsite.
- The service has had failures with FDG radioisotope tracers 3-4 times during the past year. However, booking staff had managed to transfer their entire patient list to an additional scanning day later that week.
- The service had main and back up isotope suppliers and could anticipate any supply issues. They received three deliveries per day, the last of which covered their last five patients to ensure a timely supply which did not lose radioactivity. Three hours was the maximum time from isotope production in the Preston laboratory onto site for patient use. In the event of delays the service had back up isotope suppliers more locally.

**Meeting people's individual needs**

- **The service took account of patients' individual needs.**
- Patients' individual needs were accounted for. Staff delivered care in a way that took account of the needs of different patients on the grounds of age, disability, gender, ethnicity, religion or belief and sexual orientation. Staff had received training in equality and diversity and had a good understanding of cultural, social and religious needs of the patient and demonstrated these values in their work.
- Reasonable adjustments were made so disabled patients could access and use services on an equal basis to others. All patients were encouraged in the appointment letter, to contact the unit if they had any needs, concerns or questions about their examination.
- There was a system in place for managing the needs of patients living with dementia or learning disabilities. Staff making the referrals could add an alert which related to a patient's medical condition. This would help them meet the Accessible Information Standard (AIS) by anticipating patient's specific needs, either in advance or if they were transferred onto the local acute trust. AIS applies to patients (and where appropriate carers and parents) who have information or communication needs relating to a disability, impairment or sensory loss.
- The service scanned patients who required patient transport at hours which reduced the likelihood for long waits prior to or following their appointment. This ensured these patients left the grounds in a timely manner when staff were onsite to assist.
- Interpreters could be provided if the service was informed prior to the appointment. Patients had an option on their referral form to request this service. Staff also had access to language line, a phone translation or British sign language (BSL) service where appropriate. A hearing loop was available for hearing-impaired patients.
- The service could request escorts for inpatients throughout their pathway to ensure continuity of care. The escort received a health and safety and radiation protection induction/briefing on the day.
- Staff provided patients with information leaflets and written information to explain the scan process. A staff photo board was visible in the reception waiting area so patients could recognise and familiarise themselves with staff.
- During the PET-CT scan, staff made patients comfortable with padding aids which are similar to cushions. Patients were given an emergency call buzzer to allow them to communicate with staff should they wish. Microphones were built into the scanner to enable two-way conversation between the radiographer and the patient. Patients could bring in their own music for relaxation.

- The service was based at an acute hospital and there was a café within waiting distance for patients who were there for any length of time.

**Access and flow**

- **People could access the service when they needed it.**
- Patients had timely access to scanning. Since opening on 1 December 2017, the service had worked closely with the acute trust team CCG; to improve the quality of the service provided. The service increased the PET-CT capacity available from two mobile service days to three service days at the static centre, with the objective of reducing the turnaround times for patients. The unit had the potential to increase the capacity if required.
- Referrals were prioritised by clinical urgency. If patient symptoms were deemed to be clinically urgent, these patients were often given an appointment within two days depending on the urgency. The service standard turnaround for referrals was three days.
- Slots were not held for clinically urgent referrals as they did not receive a significant number of these. Urgent referrals were offered the first available appointment. A two week wait slot could be used, if not needed for the patients on this pathway. The unit kept two reserved slots on Monday, Wednesdays and Thursday to accommodate patients on the urgent pathway.
- The service could balance patients between sites to have extra capacity for urgent or next day scanning availability. There was an option for the patient to be scanned at Northampton PET/CT centre if capacity at Leicester was a problem.
- All patients on a two-week cancer pathway were scanned within five days to enable swift report turnaround. Where several clinically urgent requests were received, advice was sought from a radiologist at the service on the priority order for booking. The unit kept two reserved slots on Monday, Wednesdays and Thursday to accommodate patients on this pathway.
- The time between when a referral to the service for a scan was received and that scan being booked was recorded and audited monthly.
- Between January and December 2018, 95.2% of patients were seen within five days. 2.5% of routine patients were seen within six days. 0.8% of routine patients were seen within seven days and 1.5% of routine patients were seen over seven days. The delays were all in relation to radioisotope production failure.
- All delays were investigated, none had resulted in serious incident notification needing to be raised and actions had been taken to ensure actions to reduce future delays were taken and any lessons identified were learned. Delays in sourcing isotopes were addressed.
- Should the need arise to add an urgent referral into the waiting list when no appointments were available, the unit manager would assess appointments filled by routine, not urgent examinations and rebook patients to make room for the clinical urgent case. The rebooked patient would be given the next available appointment to suit them.
- Eight planned procedures were cancelled for non-clinical reasons between January and December 2018. Most were due to transport failure where patients could not arrive on time. The service was working to avoid the cancellation of planned procedures.
- Appointments generally ran to time; reception staff would advise patients of any delays as they signed in. Staff would keep patients informed of any ongoing delays.
- Reporting on scans was carried out by NHS radiologists who were not employed by the service. Staff told us urgent scans were reported on within 24 hours which met national guidance. We saw proof of this during our inspection.
- All appointments were confirmed 24 hours prior to a patient's appointment, by phone. The service used a recognised phone number to call patients as more answered than when a 'no caller ID' phoneline was used. Text messages were also sent if requested to remind patients of their appointment. These all helped reduce the number of did not attend (DNA's) appointments and provided an opportunity for the patient to ask any questions they may have. Should a patient not be verbally contacted prior to their

appointment, for example where a message had been left for the patient on an answer machine, the patient was asked to call the service to confirm their intention to attend the appointment.

- The service did not record the number of DNAs by location. AML's national supervisory board monitored monthly DNA percentages by modality. PET-CT's DNA rate averaged approximately 3% between January and August 2018 (the latest available). We also saw clinical governance committee minutes which linked DNA rates to the type of booking process utilised. Cold letter bookings had an adverse effect on patient experience and attendance. The unit manager had agreed implementation plans to transfer cold letter bookings to telephone bookings wherever possible.

**Learning from complaints and concerns**

- **The service treated concerns and complaints seriously, investigated them and learned lessons from the results, and shared these with all staff.**
- Patients we spoke with told us they knew how to make a complaint or raise concerns about the service.
- A patients' guide to making compliments, concerns and complaints was available in the waiting area. Staff would also provide these to patients upon request and/or when the local staff recognised the need.
- The service received three compliments and two complaints between January and December 2018. Both complaints were managed under the formal complaints process. However, neither were upheld after investigation.
- The provider had a policy for the management of concerns and complaints. All staff were obliged to acknowledge and comply with this process. We saw a complaints summary from September 2018 highlighting themes and actions taken with sharing lessons and training disseminated to staff across the service.
- The registered manager was responsible for overseeing the management of complaints at the service. We saw evidence in the team meeting minutes of learning from complaint investigations being discussed and recorded, for example after a delayed procedure.
- Patients could also provide feedback direct or indirectly via the provider complaints and compliments leaflet or verbally with any member of our staff. Verbal feedback was recorded on the service's incident management system for investigation. The service reviewed complaint investigations and shared their results with the complainant via letter allowing them time to respond.
- Patients were advised to provide an email address in order to be sent the provider's electronic satisfaction survey after completion of their procedure. The aim was to maintain patient confidentiality, but the service could also provide written or verbal surveys.
- Every patient had the opportunity to complete the NHS Friends and Family Test (FFT) and indicate their likelihood to recommend the service. There was an opportunity to add free text comments on any positive or negative aspects. The free text comments were reviewed to enable positive staff feedback and individuals could be praised where they noted for the quality of care delivered. Negative comments were scrutinised for opportunities to drive improvement in the service.
- The FFT process used a paper-based form complete with website address so that patients may choose to complete it digitally on a personal device. The results were collated by an external provider and delivered to service managers.
- The unit manager reviewed the results which summarised response rates for this location between January and December 2018. This included the overall likelihood of patients to recommend (currently 95%) and unlikely to recommend (currently 2%) the service. When asked how satisfied they were with their overall experience, 75% said very satisfied, 20% said satisfied, 3% were not satisfied. When asked how satisfied they were with the booking process, 73% said they were very satisfied.
- The service had a patient satisfaction survey report which triggered only negative feedback and comments. These were discussed at staff meetings to be shared with staff for wider learning and service

improvement. Survey questions were open ended. The service was considering putting a 'You said we did' board in reception to show changes they had actioned from patient feedback.

## Are diagnostic imaging services well-led?

Good

### Leadership

- **Managers at all levels in the service had the right skills and abilities to run a service providing high-quality sustainable care.**
- Leadership ensured the service had direct links across the country with other provider locations.
- Leaders had the skills, knowledge, experience and integrity to manage the service. The service employed a part time, 0.5 whole time equivalent (WTE) unit manager, who was a radiographer. The manager also managed one other services, a diagnostic service based in Northamptonshire. They were supported by a regional head of PET-CT molecular imaging services.
- The service manager was an experienced senior radiographer who worked at least one shift a month to maintain their clinical competency.
- The manager was knowledgeable in leading the service. They understood the challenges to quality and sustainability the service faced and had pro-active ongoing action plans in place to address them.
- The registered manager was fully aware of the scope and limitations of the service, based on the size, numbers and type of staff, and type of work booked for. All staff told us leaders were keen to keep developing the service to ensure the patients received a quality service.
- Staff we spoke with found the registered manager to be approachable, supportive, and effective in their role.
- However, at the time of our inspection the service had no succession planning in place. The service relied on the part-time unit manager always being available onsite if substantive staff were not available. The manager admitted they felt it was never easy to cover radiographer posts.

### Vision and strategy

- **The service had a vision for what it wanted to achieve and workable plans to turn it into action, which it developed with staff, patients, and local community groups.**
- The provider had a clear vision and a set of values with quality and safety as the top priority. The provider's managing director described how as an organisation, they had a responsibility to continue to grow the services they provided, they had also invested in their teams, infrastructure and approach to quality to ensure they could continue to deliver on their key quality goals: 'The provision of safe, effective and timely services; ensuring measured, responsible outcomes from our services; and the provision of an experience that meets stakeholders' expectations.'
- The provider operated a collaborative approach to diagnostic imaging working with clinicians, local NHS providers and independent providers. The collaborative approach to imaging services aimed to future proof the service, provide access to emerging clinical and technological developments and support research programmes, while supporting local pathways of care. The strategy was monitored through the clinical governance meeting and board meetings.
- The service's four values were: collaboration, excellence, efficiency and learning.
- Staff were aware and understood what the vision and values were and understood the strategy and their role in achieving it. All staff were introduced to these core values at the corporate induction and then through their annual appraisal.

### Culture

- **Managers across the service promoted a positive culture that supported and valued staff, creating a sense of common purpose based on shared values.**

Good

# Diagnostic imaging

- The registered manager promoted a positive culture that supported and valued staff, creating a sense of common purpose based on shared values. Staff ID cards had the values printed on the back to help embed these.
- The registered manager encouraged collaboration. Staff told us they felt empowered to suggest new ideas and were encouraged to have ownership of the service. The service had established a 'Culture Club' to promote sharing via social events which were also open to local acute trust staff. We heard how on a rescheduled service day when the scanning machine was being repaired, the unit manager had taken the staff out for lunch at a nearby restaurant.
- The service's culture was centred on the needs and experience of patients. This attitude was reflected in staff we spoke with on inspection.
- Equality and diversity was promoted, it was part of mandatory training, and inclusive, non-discriminatory practices were part of usual working.
- The provider had a whistle blowing policy and duty of candour policy which supported staff to be open and honest. The provider had appointed a freedom to speak up guardian. Staff were aware how they could raise concerns. Staff described the principles of duty of candour to us.
- All independent healthcare organisations with NHS contracts worth £200,000 or more are contractually obliged to take part in the Workforce Race Equality Standard (WRES). Providers must collect, report, monitor and publish their WRES data and take action where needed to improve their workforce race equality. The provider had produced a WRES report in July 2018. The service found no specific findings from this report. There was clear ownership of the WRES report within the provider management and governance arrangements, this included the WRES action plan reported to and considered by the board.
- Staff at the service were from a variety of backgrounds. The service's patients were determined by severity of need and were broadly representative of the local population.

**Governance**

- **The service systematically improved service quality and safeguarded high standards of care by creating an environment for excellent clinical care to flourish. However, several files we checked were not in date or signed and dated.**
- There were governance frameworks to support the delivery of good quality care. The service undertook several quality audits, for example an annual quality and risk (QAR) audit in December 2018 aligned to national guidance. Actions from the QAR report and other audits were monitored locally and at corporate level. All audits and local risk assessments were subject to an annual review in this process.
- Information from these assisted in driving improvement and giving all staff ownership of areas that had gone well and action plans were identified on how to address concerns which needed to be improved.
- Local governance processes were achieved through team meetings and local analysis of performance, with discussion of local incidents. The service aimed to have monthly team meetings. However, on occasions these had to be postponed due to staffing or patient care needs. The manager would ensure necessary information was shared with staff if meetings were cancelled through email or one to one meetings.
- Feedback and actions from performance discussion of local incidents were fed into processes at a corporate level. We saw evidence of this process in meeting minutes and meeting notes during our inspection.
- Staff were clear about their roles and understood what they were accountable for. All clinical staff were professionally accountable for the service and care that was delivered within the unit.
- Working arrangements with partners and third-party providers were managed. For example, there was service level agreement between the service and the local acute trust. Monthly quality reports were issued, and regular meetings were held with the radiology services manager at the acute trust to discuss the service provided.
- The registered manager was the governance and quality monitoring lead for the service.

- There were processes in place to ensure staff were fit for practice. For example, they were competent and held appropriate, up to date indemnity insurance in accordance with The Health Care and Associated Professions (Indemnity Arrangements) Order 2014.
- Staff working with radiation were provided with training in the regulations, radiation risks, and use of radiation. Staff were aware of the changes made by the introduction of the Ionising Radiation Regulations 2017 (IRR17) and the Ionising Radiation (Medical Exposure) Regulations 2017 (IR(ME)R17) which had been introduced in February 2018.
- We saw that the local information governance policy had been read by all staff and signed off in January 2019. The service had quality and risk meetings and these were available to all staff on their intranet system. There were national governance leads who could provide both national and local information. The service completed daily environmental monitoring for all rooms at the centre.
- However, several staff files we checked were not in date or signed and dated. The Record of file update review date had expired and the Certification of Employee Awareness form was not signed or dated. One employee's induction folder in progress had an incomplete IRMER regulations checklist. This meant we could not ensure managerial oversight or updates were being documented.

**Management of risk, issues and performance**

- **The service had systems to identify risks, plans to eliminate or reduce them, and cope with both the expected and unexpected. However, we could not confirm timely oversight and review of risks.**
- We saw evidence risks were managed positively. A table of these were listed with control measures in the Radiation Protection File in the control room.
- There was a PET risk assessment system in place nationally with a process of escalation onto the corporate risk register. The national PET risk register was reviewed and updated in March 2018.
- The risk register included risks to national contract PET-CT with the greatest severity being the lack of Neuro software solution available to reporters. Another severe local risk related to the regulatory non-compliance of IRMER due to a delay in finalising changes as the guidance was not issued. Other risks included difficulty of competitive recruitment, poor staff morale due to local workload pressures, new unit managers having a lack of CQC and IRMER knowledge and the inability to reach or renew contractual agreement at certain sites.
- However, PET risk register timescales were not included and there were no review dates or accompanying action log. We could not confirm any new risks had been identified and added since March 2018.
- Performance was monitored on a local and corporate level. Performance dashboards and reports were produced which enabled comparisons and benchmarking against other services. Information on turnaround times, patient engagement scores, incidents, complaints, mandatory training levels amongst others were monitored.
- The service had a joint service level agreement with the local acute trust to access a back-up emergency generator if needed.
- The service occasionally had supply failures of isotope doses. This meant isotope deliveries do not arrive as and when required. There were supply failures on 10 occasions during February 2019. However, no patients were cancelled by the service as they were able to calculate doses to use the excess amount on new patients. The unit manager was thankful to their staff for overcoming such an issue.
- The service could give several examples of performance development which were reviewed during staff appraisals. One example was the service had started to perform FDG PET-CT for cardiac sarcoidosis and FDG PET-CT brain for dementia.
- The service had submitted a case management plan regarding the improved transfer of images. However, the unit manager could approve the fast-track of images for reporting for patients who were identified to be at greater risk. This helped potentially start their treatment sooner.

**Information management**

- **The service collected, managed and used information to support all its activities, using secure electronic systems with security safeguards.**
- Although not recorded locally, there was national oversight and clinical governance of DNA rates. DNA rates were kept low as all appointments were confirmed with the patient 24 hours prior using a recognised phone number or text message reminder.
- Waiting times were also monitored and audited. As all appointments were pre-planned with patients these were minimal. 98.5% of patients were scanned within a week of being booked and most delays could be anticipated with patients rebooked within the next few days.
- Electronic patient records were kept secure to prevent unauthorised access to data. However authorised staff demonstrated they could be easily accessed when required.
- The service was aware of the requirements of managing a patient's personal information in accordance with relevant legislation and regulations. General Data Protection Regulations (GDPR) had been reviewed to ensure the service was operating within the regulations. Staff viewed breaches of patient personal information as a serious incident and would therefore manage this as such and escalate to the appropriate bodies.
- Staff had access to provider policies and resource material through the internal computer system. Staff could locate and access relevant and key records easily, this enabled them to carry out their day to day roles. On the day of inspection, staff could locate most documents to show inspectors. The unit manager directed us to the regulations, radiation risks, and use of radiation documents stored on the intranet. We saw service reports and error correction reports had been completed.
- There were sufficient computers available to enable staff to access the system when they needed to. IT systems were up to date and had bespoke improvements for specific modalities which used EMR data only access from PET workers.
- Electronic information was sent in encrypted format and stakeholders were warned in the event of a data security breach. Company policy meant information could only be sent to NHS accounts. The service had plans to install a direct VPN to the acute trust. This would speed up the transfer of detailed scans directly and further fast-track the patient journey.

**Engagement**

- **The service engaged well with patients, staff and local organisations to plan and manage appropriate services, and collaborated with partner organisations effectively.**
- Patient views and experiences were gathered and used to shape and improve the services and culture. Patient surveys were in use, the questions were sufficiently open ended to allow patients to express themselves. We saw changes were implemented following feedback from patients. The response rate was 14.14% for the service between January and December 2018.
- There was regular engagement with commissioners to understand the service they required and how they could be improved. This produced an effective pathway for patients. The service had a good relationship with the local NHS trust and engaged regularly with their staff to discuss the service provided.
- We heard about several examples of service collaboration with external partner healthcare organisations. The service has been an established unit for over ten years prior to building the fixed centre and had built close working links with the local acute trust among others.
- The provider launched a high-performance initiative under the title, 'Getting Better Every day' in 2017. An in-depth diagnostic review was undertaken following this to deliver against five workstreams: Strategy, Structure, Workforce, Process and Technology. All employees were invited to participate in the workstream design and delivery. Employee engagement was also measured through an annual employee survey which was conducted by an

independent organisation to ensure confidentiality. In response to the survey, action plans were developed and progress against the plans was measured on a regular basis.

**Learning, continuous improvement and innovation**

- **The service was committed to improving services by learning from when things went well or wrong, promoting training, research and innovation.**
- Staff could provide examples of improvements and changes made to processes based on patient feedback, incidents and staff suggestions. For example, the service wanted to determine what sealed sources were onsite and where at any given time. Sealed sources ensure radioactive materials are protected in small metal containers so they can be handled and disposed of safely. Therefore, an open and sealed source audit advised the service adds their inventory to their document system for easier access with weekly checks of sources to meet the requirements of the permit.
- There were numerous service improvements and the unit manager felt that PET was under used in the country. The service were involved in clinical trials and added a significant amount of procedures through this. Their work and research had expanded to incorporate FDG, brain, chlorine prostate, infection or inflammation and cardiac scans. 30 post-surgical cardiac patients with aortic infections had agreed to funded research in partnership with the local acute trust.
- The service had also begun gallium studies for neuro-endocrine tumours which need diagnostic studies in partnership with the acute trust's neurosciences department. Gallium scans use radioactive chemicals to help create images by looking for areas of rapid cell division within the body. One radiographer staff in training had already attended a gallium studies course.
- Staff were given the training opportunities to develop and contribute toward service improvement.

# Outstanding practice and areas for improvement

## Outstanding practice

The unit manager provided several examples of collaborative research and development work with the local trust to respond better to meeting local patient needs. Whilst many of these were still in the early stages of development, the service had the autonomy to fund innovative projects which could rarely be offered to patients nationally.

## Areas for improvement

### Action the provider SHOULD take to improve

- The service should review the opportunity for a second clinician to check the dosage prior to administering fluorodeoxyglucose (FDG) to patients. A final four or five-way check immediately prior to injection of patient verses, demographics, verses intended exam, verses radioactive medicinal products (RMP) identity verses RMP activity, would be a useful 'fail-safe'.
- Radiographers should always check all six points of the IR(ME)R Referrers checklist. Radiographers should ask more open-ended questions which mean there is reduced risk of patients agreeing without having understood.
- The PET risk register should include timescales, review dates and an accompanying action log.
- Risk assessments should be signed by the author, registered manager or Radiation Protection Supervisor (RPS) and given a review date.
- All hardcopy files on display should be signed, dated and renewed before expiry.