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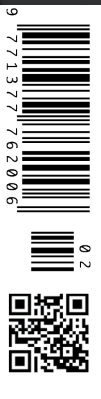
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# Early Diagnosis of Cancer at Greater Manchester Rapid Diagnostic Centre

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The Greater Manchester Rapid Diagnostic Centre Programme offers a new model of cancer care that aims to improve patient outcomes across the Greater Manchester area. The centre offers a new way of rapidly investigating patients with suspected cancer symptoms, so that they can receive appropriate treatment as soon as possible. HealthManagement.org spoke to Barney Schofield, Director of Planning and Delivery, Northern Care Alliance and Roger Prudham, Clinical Director of Northern Care Alliance Rapid Diagnostic Centre to find out more about this initiative and its goals, vision and performance.



## Key Points

- The Greater Manchester Rapid Diagnostic Centre Programme offers rapid investigation of patients with suspected cancer symptoms.
- Northern Care Alliance is the first site in Greater Manchester to develop a Rapid Diagnostic Centre.
- The Centre delivers a model that gets patients into the first diagnostic test within no longer than seven days of referral and diagnosis on the same day, whenever possible.

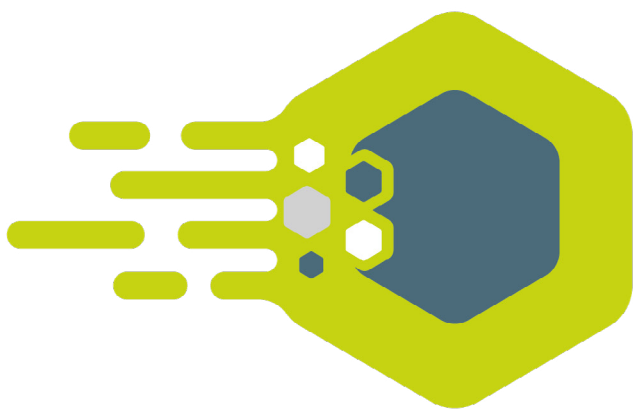
### ***What is behind the English cancer policy for Rapid Diagnostic Centres? What is it trying to solve or achieve?***

The aims and the intentions of Rapid Diagnostic Centres are framed within the national long-term plan for healthcare in England. Recognised within that plan are the opportunities to make major inroads in both the early diagnosis of cancer and the recognition that too many patients are waiting too long to receive a diagnosis of cancer once they've presented to their general practitioner or elsewhere in the system. The policy aims of rapid diagnostic centres are twofold: one is to speed up the diagnosis of cancer and reduce the anxiety and wait that patients experience to receive that diagnosis; and two, to diagnose cancer at an earlier stage of the disease. This is in line with the overall policy goal for England that by the year 2028, 75% of all cancers should be diagnosed at stage 1 or

stage 2, when they're more treatable and the outcomes for patients are better. In Greater Manchester, as is true in many other parts of England, we're still some distance away from that national goal. Therefore, we have a big opportunity to address late-stage cancer diagnosis and a new way of rapidly investigating patients with suspected cancer.

### ***Greater Manchester Cancer Alliance is testing a new way of rapidly investigating patients with suspected cancer. Can you tell us about this initiative?***

Within the Greater Manchester area, there are pockets of population that are not economically strong, where there are health inequalities and where outcomes are comparatively poorer. The hospital group that we work for serves about one-third of the Greater Manchester population,



# RAPID

## DIAGNOSTIC CENTRES IN GREATER MANCHESTER

and within that population, cancer is a huge burden. We are the first in Greater Manchester to pilot the development of a rapid diagnostic centre and take the initiative forward at an accelerated pace. The aim is to develop and deliver a rapid pathway where general practitioners can refer patients with vague symptoms of cancer into one place. Those symptoms will be investigated rapidly within a pathway where patients have a single point of access and a single point of contact from the point of referral and have support along that journey from clinical nurse specialists and care navigators. It is a novel service model because previously, at the point of referral, primary care physicians had to decide which specialist pathway to refer their patient into - whether it be a lung pathway or an upper GI, lower GI pathway or urology pathway. Sometimes, it's not clear what the underlying cause of the symptoms could be, but symptoms must be investigated. Hence, this is a pathway that's based on symptoms rather than body parts or specialist teams.

### ***What are the goals of these Rapid Diagnostic Centres?***

The goal is to diagnose cancer at an earlier stage. For this, the cohort of people that we've initially targeted includes patients with vague symptoms, which could have any number of different causes. There is plenty of published evidence that these patients wait longer for a diagnosis, longer for treatment and visit their general practitioner more frequently before they're referred onwards. They also have comparatively poorer outcomes compared to patients who have more specific symptoms. Our aim is to deliver a model that gets patients into that first diagnostic test within no longer than seven days of referral from their general practitioner and, where possible, to get the diagnosis on the same day. This is significantly different from what has historically been the model, with diagnostic tests delivered over an extended time span, often requiring multiple visits to healthcare sites and less coordination of that diagnostic journey, as patients and general practitioners try and navigate their way around different hospital departments.

### ***When you say rapid, what does that mean exactly?***

Rapid applies to all patients presenting with cancer symptoms, not just the patients who are currently going through our Rapid Diagnostic Centre model. The vision by 2024 is that all or most patients with suspected cancers will be referred in via a Rapid Diagnostic approach. The national target for cancer diagnosis is that patients should receive a yes or no diagnosis of cancer within 28 days of them being referred by their general practitioners. That's the overall goal. But within the Rapid Diagnostic Centre, we're trying to achieve the same thing within seven days or less. Therefore, the goal is to go further and faster than the overall national goal. It may not be possible to achieve this for all patients, but our aim is to achieve diagnosis in a single visit with the minimum of delay.

### ***Are there any specific types of cancers that are prioritised, or is this rapid diagnosis focused on all types of cancers?***

There is a diverse range of cancers that we're diagnosing through the Rapid Diagnostic Centre. We've currently diagnosed lung cancers, urological cancers, haematological cancers, breast cancers, head and neck cancers, upper GI and lower GI cancers. This goes to show how difficult it is to place these patients into very specific pathways at the point of referral, before they've been through a Rapid Diagnostic Centre, otherwise, they can end up on the wrong pathway being investigated by clinical teams trying to look for a cancer that they don't have.

### ***What type of digital technology is being used by Greater Manchester to improve diagnosis, make it faster and more accurate and to improve patient experience?***

At the moment, we're really only scratching the surface of the long-term digital potential of the Rapid Diagnostic Centre. There is a whole range of enabling and digital technologies, without which the Rapid Diagnostic Centre



couldn't exist. Amongst these is digital radiology, which allows us to access the radiologists that we need to provide a reported scan within two hours of the scan. That is what we're currently piloting within the Centre, and we want to roll that out for many more cancer patients as we go forward. The development of a single system-wide radiology picture and archiving system is critical to the development of Rapid Diagnostic Centres. Alongside that is the development of digital pathology applying the same principles.

***In terms of patient experience, what has been the feedback?***

We can't overstate how much patient experience is central to the policy intent. This is not just about patient outcomes; it's about how patients are supported throughout their diagnosis of cancer. The Rapid Diagnostic Centre model is designed to address and acknowledge deficiencies in the patient pathway and the poor patient experiences as they go through their diagnostic journey. One of the most gratifying things which encourages us that we're doing the right thing is through the patient feedback that we get, and how much people appreciate the lack of delay, the reduced anxiety and how

much people appreciate the personal touch and support they get from the Rapid Diagnostic Centre team. The hand-holding through this journey, the telephone call to discuss their symptoms very quickly after the referral has been received, the prompt care and attention, the coordination, the single point of contact and the personalisation are things that have received the most positive feedback. We can also see that patients appreciate the speed with which the results are delivered after the test has taken place.

***Do you have personalised procedures, or do the patients have to go through a standardised process?***

That is a really good question. It's absolutely not a conveyor belt. One of the most important things that happen within the Rapid Diagnostic Centre is a clinical triage of the referral, backed up by a telephone call, so that we can make sure that we have access to the best intelligence from the patient themselves. Also, referrals arrive in the Rapid Diagnostic Centre with a battery of blood tests already having been requested and carried out. At that point, we would look for any previous scans that the patient has had and their clinical history that we have on our digital information systems. Based on that, we form a view about the right sequence of diagnostic tests to get to the bottom of the presenting symptoms. What we're seeing is, for most patients, the first diagnostic test is a contrast CT scan of the thorax, abdomen and pelvis, but the Centre has access to many other tests as well, including MRI, ultrasound, gastroscopy, colonoscopy and other primary diagnostic tests required to investigate the symptoms.

***What are the main drivers and key performance indicators for this initiative?***

What drives us to do this, notwithstanding the national government policy goals in England, is what we want to do locally for our patients and our population. We're seeing huge increases in demand for our specialist teams to investigate cancer. The current service model, if we weren't to do anything with it, would have difficulties in keeping pace with that level of growing demand. There's got to be a different way of doing things.

We want to transform the patient experience, create a simpler model of diagnosing cancer, reduce delays and make better use of the specialist workforce that we have. Many of the current models rely on medically led service models, whereas within the Rapid Diagnostic Centre, we're maximising the use of specialist nurses and advanced nursing practice and delivering a service model which ought to, over time, demonstrate high levels of value and financial sustainability.



### ***What challenges have you faced when implementing the Rapid Diagnostic Centre?***

There have been huge operational, clinical, financial and logistical hurdles to overcome in the setup phase. One obvious point is that you can't make changes to the way cancer pathways and working cancers are diagnosed until you have absolute confidence in the safety and the effectiveness of the model that you're going to introduce because if that's not right, it will cost lives. It is important to take care of all the details about how patients would flow through the pathway, how the digital underpinning process would work, recruiting the right workforce with the right skills etc. The preparatory work is critical to getting a sense of credibility and confidence from referring clinicians and from secondary care that the Rapid Diagnostic Centre is a safe and viable place to send patients and investigate cancers. Alongside that, we faced the normal kind of logistical hurdles of office space, clinic space, getting access to the right diagnostic test capacity that the Centre relies on, securing the right medical input, etc. One hurdle that we certainly incurred was COVID-19. During the first peak of the pandemic, many of the nursing staff that we recruited to work in the Rapid Diagnostic Centre had critical care skills and were required to work in COVID-19 escalated areas. That delayed the implementation by a number of weeks, but as soon as we were in the post-peak period, we went live with the Rapid Diagnostic Centre pathway. This was a pivotal time, as many patients were nervous about the NHS system and about the prospect of experiencing delays. We implemented the Rapid Diagnostic Centre at the right time in the post-peak COVID-19 period.

### ***Which diagnostic solutions are being used to facilitate the goal of rapid diagnosis?***

Our solutions are designed in conjunction with recommendations from NHS England, the Greater Manchester Cancer Alliance, and other key players within the local health economy. We use a number of concise tests that are available to general practitioners that could give us an indication of where a problem might be before the patient arrives in our clinic. That would include a basic blood count and biochemistry test, thyroid function tests in case an overactive thyroid was a cause of weight loss, serological tests that can be specific to cancer such as CA-199 in case of a carcinogen of the pancreas, CA-125 for carcinoma of the ovary and CEA for bowel cancer. Celiac disease, for example, can cause weight loss and diarrhoea and could give symptoms that mimic cancer. Therefore we use a whole range of tests that would be available quickly and can be undertaken within primary care, so that on the day that we meet a patient, we already have an idea that we've excluded other things that could present as symptoms suggestive but not specific to cancer.

The primary diagnostic modality on which we rely to give both the patient and the primary care practitioner

the assurance that it is unlikely to be cancer is a CT scan of the thorax, abdomen and pelvis. We worked with radiology partners over several months to identify protected capacity that would give reliable access to CT scan and report within a day of the patient presenting to us. Therefore, we have screening blood tests done in primary care available to us when the patient presents. The patient has a pre-booked CT slot, so there's no stress involved with cancellation or delay. We have pre-booked reporting time, so within a day, we have the result for a patient. In short, it's a CT scan that we rely on. We've looked at other imaging modalities, particularly for younger patients, but have yet to reach a solution as to how we might use MRI scans as a way of screening younger patients without needing to use CT. In all of our patients under 45 years, for example, a specific clinical discussion takes place to determine whether it's justified to expose patients to CT scan.

### ***Is your Centre prepared to handle the demand?***

At present, yes. We have the capacity, we're seeing patients very promptly and are getting results back very promptly. The feedback we're getting from our patients is that it's a very high-quality service. However, there is the possibility that as the awareness and the consciousness of what we provide becomes more appreciated across our health economy, the demand will go up and then we will have to keep pace with that demand. We keep a very close eye on the trend in demand and work very closely with our radiology colleagues and providers. Thinking about cancer and indeed other diseases more widely, there is a recognised requirement for a huge expansion of diagnostic capacity across England as a whole and this is true in Greater Manchester. Growing diagnostic capacity and locating much of this away from our busy acute hospitals, in accessible Community Diagnostic Hubs, is very much part of our long-term plan.

### ***Can you tell us something about the operational infrastructure, staff, etc. that make the Rapid Diagnostic Centre efficient?***

Within our service model, our main job is rapid diagnosis. Many other services have a backlog of patients that they need to follow up over a long period of time. They have patients awaiting treatment, and so on. This is a model that specialises in rapid diagnosis, and that's the way that the process and the pathway and the team are set up - to have a well-governed process that gets patients to the point of a yes/no diagnosis of cancer and then referred on to specialist teams for further investigations and treatment.

The fact that we've got such a focused service model allows us to have a number of key performance indicators that are relevant to the job that we're trying to do. We are not impacted by emergency pressures and other demands

in the same way that some of our specialist colleagues are. We work within a set of nationally defined performance indicators that govern access and time. We have to triage the referral on the same day it's received or the next working day. The telephone consultation with the patient to discuss and assess the symptoms happens very rapidly after referral - the target is to get patients into their first diagnostic tests within seven days, and for that test to be reported within two hours being delivered. We have to give patients a diagnosis of or an exclusion of cancer within 28 days of referral. Patients are entitled to start the treatment for cancer in no longer than 62 days from referrals.

We are governed by a set of national indicators but locally, within the Rapid Diagnostic Centre, we have local indicators that enable us to work well inside those national parameters. We can't promise patients with advanced-stage cancer that we're going to make them live longer, but what we can promise is that we can improve the experience in terms of getting a diagnosis, and getting to the bottom of a problem which has been causing a great deal of stress to them and their family members. Our experience so far is that even when we're delivering devastating news of a life-limiting diagnosis, patients are grateful to us for informing them of that rather than people being angry and upset. They're actually relieved. For these cases, it's about delivering a very positive experience in a group of patients who have often been delayed or have perhaps had a poor experience in the past.

The Rapid Diagnostic Centre is a piece in a jigsaw of the ambition to improve population health outcomes for cancer in Greater Manchester through prevention and diagnosis at an earlier stage as well as more rapid diagnosis. However, the Rapid Diagnostic Centres alone are not going to deliver on that wider population goal and will need to work closely alongside effective screening services, for example.

### ***What role has GE Healthcare played, and how has it helped this initiative?***

**We have been partners with GE Healthcare in the early stage of this journey in providing thought leadership alongside our clinical and managerial expertise in the hospital group to generate the idea and the potential in this model.** We live in a world where technology leads, and then applications and ethics follow. Industry partners like GE Healthcare have a responsibility to let us see what is possible technically both in terms of the way that we acquire data and the way that we may use data and share that data. That is where innovation comes in from industry partners in terms of managing patients in a streamlined and rapid way. There is a lot of data within different systems and having the awareness of that and having applications and solutions that can bring all that together to help it make sense is another area where the industry can help. It's the global nature of GE Healthcare and their access to global

insights and experience of international delivery models, which have been really useful for us right at the outset. GE Healthcare is a key partner with the Northern Care Alliance radiology and in many other clinical areas. We have a range of GE Healthcare technology and infrastructure in use across the hospital group.

### ***What are some pros and cons of this solution?***

The pros speak for themselves in terms of the results that we're seeing with respect to diagnosis and the patient experience. As for the cons, we're still only seeing a relatively small proportion of the overall cancer referrals through the Rapid Diagnostic Centre at present. We'd like to grow our impact to maximise the number of patients who can benefit from the pathway.

We're also aware of our reliance on CT scan and the implications of associated radiation exposure as the programme grows. We are also very reliant on the expertise and capability of our radiologists. None of us are without error, but we put a lot of onus on the radiologists to really deliver. We would also like to see more technology that doesn't involve radiation and is less labour-intensive.

### ***So far, what results and changes have been observed with these Rapid Diagnostic Centres? What has worked well, and what could be improved?***

We need to be able to widen the focus of activity that we have so we can benefit more people and we need to be able to reliably predict how we can pace that. We want to take our methodology and apply it to other more traditional tumour groups. Thinking longer term, we can think beyond cancer to other conditions, which can cause as much morbidity and mortality as cancer. We are diagnosing probably 10 to 15% of patients who come through the Centre with non-cancerous, but other serious pathology, which we then refer on, so the benefit of the Rapid Diagnostic Centre is felt in other areas of disease detection and diagnosis. We could think about how we would design a suspected airway disease pathway or a suspected heart failure pathway or a suspected vascular disease pathway, for example. That is still a good few years off, but that is the ambition in the long term. Also, leveraging the benefit of technology is a key part of the vision and understanding the potential of Artificial Intelligence (AI) and decision support tools to provide greater precision and targeted diagnostics. ■