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Statement no.: M3/RCR/01
Exhibits: TRSH/1 – TRSH/73
Dated: 9 February 2024

UK COVID-19 INQUIRY

WITNESS STATEMENT OF THE ROYAL COLLEGE OF RADIOLOGISTS

We, Dr Stephen Harden, Vice President for Clinical Radiology, and Dr Tom Roques, Vice President for Clinical Oncology, will say as follows:

The Royal College of Radiologists' role, function and aims

1. The Royal College of Radiologists (RCR, the College) is the UK's professional membership body for doctors specialising in the fields of clinical radiology (CR) and clinical oncology (CO).

2. Clinical radiologists are specialist doctors who interpret medical images to diagnose, treat and monitor diseases and injuries. They do this using a range of imaging techniques, including X-ray, ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET) and molecular imaging. They are leaders of departmental imaging teams and work collaboratively with other doctors to enable high quality patient care. Some radiologists are interventional radiologists (IR); these doctors perform image-guided surgical interventions, often replacing traditional open operations. Further information about our clinical radiology members and their work can be found in our 2022 Census Report (TRSH/1- INQ000309006).

3. Clinical oncologists are specialist doctors who treat cancer with drugs (systemic anti-cancer therapies) and radiotherapy. Alongside a patient's GP, they are often the key medical contact for a cancer patient. Radiotherapy, the use of radiation to kill cancer cells, can only be prescribed by clinical oncologists. Please consult our 2022 Clinical Oncology Census Report for further information (TRSH/2-INQ000309017).

4. The function of the College is to provide leadership to educate and support doctors in our specialties throughout their careers. We provide practical guidance to support individuals and clinical guidance to support services; we set the standards for practice via our

examinations; and we engage with our Fellows, members and multiple clinical partners, to uphold the highest standards of clinical practice in diagnostics, interventional radiology and cancer care. The RCR's leadership team includes Officers, who are clinical oncologists and clinical radiologists elected by the membership to represent them in certain roles. These Officers include our President and two Vice-Presidents. All Officers take up their positions on a voluntary basis, in addition to their clinical commitments for the NHS.

5. The RCR's foremost policy priority is maximising and supporting the workforce. With diagnostic activity forming a part of an estimated 85% of clinical pathways[1] and cancer recognised as a major condition by the UK government, affecting hundreds of thousands of people annually, we believe it is vitally important that our specialisms are properly supported and equipped to conduct their essential work. Year after year, our workforce census reveals huge shortages among radiologists and clinical oncologists. The lack of resilience in radiology and oncology services due to workforce shortages affected the NHS's experience of Covid-19 and the ongoing slow recovery of the diagnostics and cancer care. Currently, there is a 22% shortfall in consultant clinical radiologists and a 15% shortfall in consultant clinical oncologists. Without action, these shortfalls will rise to 40% and 25%, respectively, by 2027. The impacts of these shortfalls are serious. They mean that patients may need to wait longer before their scans are reviewed, and hence to receive a diagnosis. They also mean that they may need to wait longer to begin treatment. Delays in treatment can have significant negative effects on a patient's ultimate health outcome. These shortfall figures are drawn from our 2022 census reports (TRSH/1-INQ000309006) ((TRSH/2-INQ000309017). Below are tables outlining the shortfalls in consultant clinical oncologists and clinical radiologists across the regions and nations of the UK. These show that workforce shortages are not evenly distributed, with the effect being that patients in certain areas may receive care more rapidly than patients in other areas. Figures are taken from the 2022 workforce censuses. The geographical divisions are the RCR's own; Northern Ireland is not subdivided.

[1] H. McCaughey and S. Powis, Presentation to NHS England and NHS Improvement Boards on "Diagnostics: Recovery and Renewal" (2020, Ref: BM/20/xx)

Clinical Oncology

Nation	Region	CO consultant workforce shortfall 2022	Forecast CO consultant workforce shortfall 2027
England	East Midlands	29%	27%
England	East of England	17%	38%
England	London	5%	0%
England	North East	17%	41%
England	North West	17%	32%
England	South East	17%	31%
England	South West	16%	33%
England	West Midlands	23%	38%
England	Yorkshire & Humber	17%	26%
ENGLAND TOTAL		15%	24%
Scotland	North of Scotland	9%	28%
Scotland	South East Scotland	13%	21%
Scotland	South West Scotland	15%	20%
SCOTLAND TOTAL		14%	22%
Wales	North and West Wales	65%	73%
Wales	South Wales	9%	33%
WALES TOTAL		18%	41%
NORTHERN IRELAND TOTAL		8%	22%

Clinical Radiology

Nation	Region	CO consultant workforce shortfall 2022	Forecast CO consultant workforce shortfall 2027
England	East Midlands	35%	37%
England	East of England	36%	44%
England	London	13%	27%
England	North East	33%	37%
England	North West	31%	43%
England	South East	38%	50%
England	South West	29%	45%
England	West Midlands	32%	37%
England	Yorkshire & Humber	33%	43%
ENGLAND TOTAL		30%	41%
Scotland	East of Scotland	17%	0%
Scotland	North of Scotland	44%	53%
Scotland	South East Scotland	18%	28%
Scotland	South West Scotland	24%	39%
SCOTLAND TOTAL		24%	34%
Wales	North and West Wales	51%	59%
Wales	South Wales	18%	21%
WALES TOTAL		30%	35%
NORTHERN IRELAND TOTAL		28%	43%

6. We also prioritise the provision of the necessary tools for optimum patient care, such as modern diagnostic and radiotherapy equipment like MRI machines, CT scanners, as well as joined-up IT infrastructure. We promote the introduction of new and efficient ways of delivering patient care, including the rollout of Community Diagnostic Centres (CDCs) and the appropriate use of Artificial Intelligence (AI) tools in clinical practice. The RCR's policy priorities, as outlined in the preceding paragraph and this one, are further summarised in 'Policy Priorities for Clinical Radiology 2021-26' (TRSH/3-INQ000309028).

7. Throughout the Covid-19 pandemic, it was made clear by the government and the NHS that cancer services should continue to be prioritised and maintained as far as possible. The

RCR maintained close contact with the Department of Health and Social Care and NHS-England. Senior College leadership met regularly with the Chief Medical Officer for England; the Cancer Programme Team, National Medical Director and National Clinical Director for Cancer at NHS England; and the National Imaging Optimisation Delivery Board (NIODB). These were regular, informal "catch-up" discussion meetings for DHSC and NHSE to provide updates to the Royal Colleges and to provide an opportunity for Colleges to learn more about the specific challenges being faced by clinical oncology and clinical radiology, as well as other specialties. The RCR thus had no set "role" aside from conveying the experiences of our members and the state of cancer, imaging and interventional radiology services. These meetings were attended by RCR Officers, most of whom have subsequently completed their terms of office. Meetings with the CMO were initially held on a weekly basis from 14 January to 29 May 2020. Meetings were thereafter held less frequently, usually on a weekly or fortnightly basis. Meetings with NHSE were held regularly from July 2020 to January 2021. Public Health England (PHE; now replaced by the UK Health Security Agency and Office for Health Improvement and Disparities) representatives were present at some of these meetings. In addition, as a member of the Academy of Medical Royal Colleges, the RCR also contributed to various meetings between the NHS and government and the Academy throughout the pandemic. For example, the Academy met with Heath Education England (HEE) from April 2020 to February 2021; these meetings were routine prior to the pandemic, and it is likely that their frequency was stepped up during the pandemic. In some months, multiple meetings were held, whereas in other months there were no meetings. In these meetings HEE provided updates on their activities to the Academy and its members; RCR staff were in attendance. Please note that the above is based on the records and institutional memory of the RCR; there may have been additional meetings attended by RCR staff which have not been captured here. The RCR did not make any formal submissions to these meetings.

8. During the pandemic, the RCR did make three formal submissions to the Government (independently of the meetings mentioned in this paragraph). In April 2020, we responded to the Health and Social Care Committee Inquiry, "Delivering Core NHS and Care Services during the Pandemic and Beyond", alongside the Society and College of Radiographers (SCoR) and the Institute of Physics and Engineering and Medicine (IPEM). This outlined the workforce shortfalls and equipment and infrastructure deficiencies then facing diagnostic services in the NHS (TRSH/36-INQ000309035). We also submitted to that same Inquiry, along with SCoR, a separate written statement covering the effect of Covid-19 on the cancer pathway at that point in time (TRSH/16-INQ000309013). In November 2021, we responded to the Commons Public Accounts Committee Inquiry into NHS backlogs and waiting times,

setting out the state of the backlog in cancer and imaging services and how the Covid-19 pandemic had affected those services at that point (TRSH/35-INQ000309034).

9. During the pandemic, the RCR issued (sometimes jointly with other organisations) statements, guidance and resources, as well as creating online forums, to support our membership. The RCR's ability to issue guidance stems from our Royal Charter (TRSH/72-INQ000409263). Paragraph 3 of the Charter states the objective of the RCR is to "advance the science and practice of clinical radiology and clinical oncology". This paragraph outlines the powers the RCR can exercise, which include among others:

- "(1) to further instruction and training in clinical radiology and clinical oncology, and to undertake regular audit of training and practice, where appropriate in association with other bodies"
- "(4) to encourage the development of clinical radiology and clinical oncology and to further public education therein"
- "(5) to maintain the highest possible standards of professional competence and practice in clinical radiology and clinical oncology, and to act as an authoritative body for the purpose of consultation in matters of public and professional interest concerning clinical radiology and clinical oncology"
- "(6) to promote study and research work in clinical radiology, clinical oncology and related subjects, to publish the results of such study and research work, and to assist any persons to undertake such study or research work or to attend meetings connected with the objects of the College"
- "(15) to do all such other things as shall further the attainment of its objects".

These clauses in our Charter empower the RCR to publish clinical guidance for our members.

10. In the production of RCR guidance, the College always looks to relate our publications to pre-existing publications, whether these be from bodies such as NHS England, the UK Health Security Agency and (when formerly extant) Public Health England, or from academic research journals. Our guidelines are routinely out for consultation from stakeholders from these and other organisations. We do not require the permission of NHS England or any other public body to issue guidance to our members. Nonetheless, we maintain close contact with NHS England to keep them aware of what guidance we will be producing. This also ensures we can avoid duplication of or overlapping guidance; the College seeks to work collaboratively with NHS England to determine who is best placed to produce guidance on individual topics. In this way, conflicts between our guidance and that produced by NHS

England or the UK HSA (formerly PHE) are avoided. There are occasions where NHS England produces broad guidance for all healthcare professionals, after which the RCR may produce a position statement to clarify what effects these will have specifically on our members. In the unlikely event that NHS England were to produce guidance the RCR actively disagreed with, we would withhold our endorsement (if asked) and engage with the relevant stakeholders in NHS England to convey our concerns and reach a mutually agreeable compromise. During the pandemic, because we wanted to issue guidance swiftly to enable our members to keep their patients safe, our usual process of formal consultation was curtailed. The development process was led by teams of cancer site or radiology sub-specialty experts. We still consulted with our relevant board and committees and relevant stakeholder groups, albeit in a less formally structured manner than our usual process. Our guidance on asymptomatic testing (TRSH/12-**[INQ000118643]**, for example, went to the Society and College of Radiographers (SCoR), IPEM and the UK Chemotherapy Board (now the UK SACT Board) for informal consultation. Other organisations were asked and agreed to endorse this document, including The Royal College of Physicians and The Royal College of Pathologists. We kept NHSE and PHE aware of our activities throughout the pandemic period via informal discussion sessions (no agendas) with the NHS national specialty advisor for imaging and colleagues, and the NHSE Radiotherapy Clinical Reference Group. It is likely that guidance was also discussed during the regular meetings held between the RCR and the National Clinical Director for Cancer and the Chief Medical Officer for England, as mentioned in paragraph 7. The RCR is proud of the speed with which we and our members were able to take quick action to engage with the issues raised by Covid-19 and produce important information and guidelines to enable doctors in our specialties to continue to treat patients safely.

11. The RCR produced a large volume of clinical guidance for our members to advise them on specific actions to be taken, in line with national guidance, to diagnose and treat their patients whilst keeping them same from Covid-19. These covered a large range of sub-specialties and cancer sites, which was necessary because the diagnostic methods and treatment regimens vary significantly depending on, for example, what type of cancer a patient has and how advanced that cancer is. We produced Covid-19 guidance on: radiation therapy for breast cancer (TRSH/38-INQ000309037); management of urothelial cancer (TRSH/39-INQ000309038); lower gastro-intestinal response (TRSH/40-**INQ000408954)**; treating oesophago-gastric cancers (TRSH/41-INQ000309041); gynaecological cancer (TRSH/42-INQ000309042); head and neck cancer (TRSH/43-INQ000309043); follow-up Systemic Anti-Cancer Therapy (SACT) for melanoma (TRSH/44-INQ000309044); radioactive iodine treatment for thyroid cancer (TRSH/45-INQ000309045); treating uro-

oncology patients (TRSH/46-INQ000309046); neoadjuvant, adjuvant and definitive radiotherapy for managing newly-discovered soft tissue and bone sarcoma (TRSH/47-INQ000309047); pancreatic cancer (TRSH/48-INQ000309048); neuro-oncology treatment (TRSH/49-INQ000309049); emergency guidance for pre-operative breast radiotherapy (TRSH/50-INQ000309051); management of neuroendocrine tumours (TRSH/52-INQ000309053); prioritisation for radiotherapy of paediatric and teen and young adult patients with paediatric-type tumours (TRSH/53-INQ000309054); non-melanoma skin cancer (TRSH/54-INQ000309055); reduced fractionation in lung cancer patients treated with curative-intent radiotherapy (TRSH/55-INQ000309056); emergency guidelines for treating patients requiring adjuvant internal mammary chain radiotherapy in five fractions (TRSH/56-INQ000309057); additional guidance on managing unscheduled radiotherapy treatment interruptions in patients **(TRSH/17 - INQ000309014)**; stereotactic radiosurgery (TRSH/58-INQ000309059); managing acute oncology patients (TRSH/59-INQ000309060); ILROG emergency guidelines for radiation therapy of haematological malignancies (TRSH/60-INQ000309062); considerations for treating oesophageal cancer with radiotherapy (TRSH/61-INQ000309063); interim guidance on restarting elective work (TRSH/62-INQ000309064); radiotherapy for melanoma (TRSH/63-INQ000309065); A Rapid Review of Evidence and Recommendations from the SIOPE Radiation Oncology Working Group to help mitigate for reduced paediatric radiotherapy capacity during the Covid-19 pandemic or other crises (TRSH/64-INQ000309066); managing treatment gaps in radiotherapy for lung cancer **(TRSH/18 - INQ000309015)** and interim guidance for restarting elective work for interventional radiology services (TRSH/66-INQ000309068). Several of these guidance documents were updated during the pandemic to ensure the most up-to-date information was made available to our members. The updated versions can still be accessed via the RCR website. The RCR also contributed directly to the development of several rapid guidelines by the National Institute for Health and Care Excellence (NICE), including: NICE Covid-19 rapid guideline: delivery of systemic anticancer treatments (now withdrawn) (TRSH/67-INQ000309069); NICE Covid-19 rapid guideline: delivery of radiotherapy *(now withdrawn)* (TRSH/68-INQ000309070); and NICE Covid-19 rapid guideline: arranging planned care in hospitals and diagnostic services (now withdrawn) (TRSH/69-INQ000309071).

12. We welcome the UK Covid-19 Public Inquiry's (the Inquiry) work. The RCR is grateful to have the opportunity to provide evidence for Module 3 of the Inquiry. As per the request received by the Inquiry, our response has focused on the impact of the pandemic on healthcare in the UK.

13. In our response, we have mostly submitted evidence relating to the response to Covid-19 in England. This is because of the limited data the RCR collects itself for the devolved nations, which is primarily limited to our annual workforce censuses. We have also focused our response on colorectal cancer and ischaemic heart disease; it was not practical for the RCR to comment in detail on antenatal/maternity care or hip replacement surgery. General points made concerning, for example, the effect of cancelled or delayed appointments, may apply to these two conditions.

Impact of the Covid-19 pandemic on the diagnosis and treatment of conditions other than Covid-19

14. The RCR's members and Fellows are heavily involved in the diagnosis and treatment of colorectal cancer and the diagnosis of ischaemic heart disease. Colorectal cancers are diagnosed and staged via colonoscopy (performed by gastroenterologists), CT colonography or abdominal and pelvic CT (performed by clinical radiologists). They are mainly treated via surgery, chemotherapy and radiotherapy, the latter two being prescribed by clinical oncologists. Heart disease is often diagnosed by CT and MRI scans; both cardiologists and clinical radiologists specialising in cardiac imaging diagnose heart disease. Acute ischaemic heart disease can be treated with coronary artery thrombectomy and the insertion of coronary artery stents, although this is performed by cardiologists; while interventional radiologists perform the vast majority of this type of work for arterial disease elsewhere in the body, including in the cerebral arteries to treat stroke and the abdominal and leg arteries to treat aneurysms and blockages, there is little we can say authoritatively about the effect of Covid-19 on the treatment of ischaemic heart disease specifically.

15. Prior to the start of the Covid-19 pandemic, the NHS was already struggling with increasing waiting lists for both diagnostic tests and cancer treatment. NHS cancer waiting times and diagnostic waiting times data show that demand for both diagnostic testing and cancer care is increasing as the UK's population expands and as its age profile shifts upwards. Before the pandemic, the waiting list for elective care was already over 4.5 million. The effect of the pandemic was, in general, to exacerbate these pre-existing difficulties. The pandemic did not create delays to cancer diagnosis and treatment, but it did contribute to their growth.[2,3,4] Please see paragraphs 17-19 and 24-25 below for a summary of how

[2] Morris J. and Reed S. (2022) "How much is Covid-19 to blame for growing NHS waiting times?" *QualityWatch: Nuffield Trust and Health Foundation*
[3] Mallorie, S (2023) "What caused the UK's elective care backlog, and how can we tackle it?" *The King's Fund*
[4] The Health Foundation (2023) "The NHS waiting list: when will it peak?"

diagnostic waiting times and cancer waiting times changed throughout the course of the pandemic and thereafter.

16. In common with specialties across the whole NHS, our members struggled to deliver care during the pandemic, with a mixture of factors such as staff sickness, redeployment to the Covid-19 'frontline' and heightened infection control measures slowing or preventing services from running as they usually would. However, despite these significant challenges, radiology and oncology services were quick to adapt and ensure that patients could still be diagnosed and treated safely. Moreover, many of our members played a direct part in diagnosing and treating Covid-19 patients. Their collective efforts made a significant contribution to the NHS's ability to respond to the pandemic. The adaptations our members made to the pandemic are outlined in what follows.

Diagnosis

17. In radiology departments, the effects of the Covid-19 pandemic were mixed. As many elective operations and treatments were cancelled, and with fewer people attending A&E or coming forward with symptoms to their GP, radiologists' regular workloads decreased. Moreover, non-urgent cancer imaging was put on hold, as per RCR guidance, to reduce the chances of transmission. 'RCR guidance on non-urgent and cancer imaging during the coronavirus pandemic, 30 March 2020' set out actions the RCR advised radiology and oncology departments to take and the factors they should be aware of with regards to the decision-making process for the postponement or rearrangement of non-urgent imaging and of cancer imaging (TRSH/4-INQ000309039). In the first wave, from 1 April until 30 June 2020, volumes of CT and MRI were 37% lower than in the same period in 2019.[5] This meant that many radiologists were able to report all their scans within their contracted hours, and the backlog of scans that had preceded the pandemic was overcome. This was broadly the case for most hospitals across the country. Consequently, patients that had undergone their imaging investigation during the first wave received a diagnosis promptly. Subsequent waves also resulted in less routine activity (although the first wave was the most severe in terms of its impact on NHS activity).

18. There were challenges to departmental working practices, despite this reduction of diagnostic activity during the height of pandemic restrictions, however. With heightened infection control measures persisting in hospital settings during periods of high Covid-19

[5] Richards, M. (2020) "Independent review of diagnostic services for NHS England: Diagnostics: Recovery and renewal"

transmission, it took longer for each patient to be scanned. Fewer patients could be scanned, compared with normal practice.

19. Following the end of the pandemic, recovery of clinical activity meant the backlog of scans for interpretation and reporting quickly built up again. This is because patients who had not presented during the pandemic began to come forward after restrictions were lifted, many requiring imaging diagnoses. We speculate that the public felt safer to enter NHS sites once the pandemic ended and that they had, during the pandemic, felt they ought not add to the pressure the NHS was under by coming forward with any problems they had. Since the end of the pandemic, the long-term impacts of Covid-19, alongside many other factors, have led to ongoing challenges to meet the NHS's targets for diagnostics. In June 2023, 18% of patients had to wait over six weeks for a CT or MRI scan – far above both the 1% operational standard and the 3% who had to wait for over 6 weeks before the pandemic began.[6] This means that many patients are waiting longer to be diagnosed. Though these challenges existed before the pandemic, the effects of that pandemic exacerbated the challenges our specialties face.

20. When Covid-19 test kits were scarce, particularly at the beginning of the pandemic, clinical radiology services received some requests to perform CT scans to help diagnose patients with suspected Covid-19. The characteristic changes the virus could make to patients' lung architecture began to be recognised internationally, meaning that the presence of the virus could potentially be identified on a chest CT scan. Such requests were made by other doctors (rather than Government or the NHS), primarily surgeons. This was partly because of the potential risk of members of the surgical team contracting Covid-19 from infected patients during surgery and partly because of worries that the patient outcome from surgery would not be as good if they had COVID infection. Indeed, the Royal College of Surgeons (RCS) issued guidance recommending the use of CT scans of the chest in patients whose Covid-19 status was unknown and who were undergoing CT scans of the abdomen/pelvis.[7] On 12 March 2020, the RCR released guidance stating that the routine use of CT scans to diagnose Covid-19 infection was not justified (TRSH/5-INQ000309050). Our stance was in line with other international radiology Colleges. The RCR then supported on 27 March 2020 guidance acknowledging that CT scans of the chest may have a role in assessing the presence of Covid-19 in those patients who also required a CT scan of the

[6] Nuffield Trust (2023) Diagnostic test waiting times

[7] Royal College of Surgeons, Updated Intercollegiate General Surgery Guidance on COVID-19 (5 June 2020 update). Note that we do not have access to the original text.

abdomen, but that a high degree of uncertainty would remain and that a negative scan would not necessarily exclude the presence of Covid-19 (TRSH/6-INQ000309061). An update to this RCR guidance was later published on 26 June 2020, since by that stage it had become clear that the use of chest CT scans had little diagnostic value in this particular clinical setting (TRSH/8-INQ000309073). Separately, guidance published on 14 May 2020 stated that a pre-operative CT scan of the chest would not aid the detection of Covid-19 in asymptomatic, isolated and tested patients (TRSH/7-INQ000309072). The College's position was supported by a number of studies, including one published in the RCR's academic journal Clinical Radiology and authored by our Officers. This was the study by Mark Calloway and colleagues published in June 2020, titled 'A national UK audit for diagnostic accuracy of preoperative CT chest in emergency and elective surgery during COVID-19 pandemic'(TRSH/9-INQ000309074). Where no updated guidance was published, the initial guidance document remained in effect. Overall, this set of RCR guidance documents set out a consistent position by summer 2020, namely, that the use of CT scans of the chest had little additional value in making a confident diagnosis of the presence or absence of Covid-19 in patients about to undergo other treatment.

21. Similarly, due to Covid-19's propensity to cause blood clots in patients, clinical radiologists received many requests to perform CT chest scans to exclude blood clots in the arteries to the lungs in Covid-19 positive patients. These requests began to be received from mid 2020. An article published in *Clinical Radiology* in June 2020 discussed the potential usefulness of CT Pulmonary Angiogram (CTPA) for Covid-19 patients.[8] However, blood tests routinely used to suggest a diagnosis of pulmonary embolism were non-specific in Covid-19 cases, suggesting many more CTPAs would be requested with little diagnostic value. The British Society of Thoracic Imaging issued guidance stating that CT scans should only be used for this purpose in specific circumstances, rather than routinely.[9] Circumstances where its use was recommended included for severely ill Covid-19 patients where the outcome would influence a decision to initiate therapeutic anticoagulation.

22. In addition, during the pandemic fewer people sought appointments with their GP. This was due to patients wanting to avoid Covid-19 infection and to refrain from adding to the pressure on the NHS. Urgent suspected cancer referrals dropped by 28% between March

[8] S.S. Hare *et al.* "The continuing evolution of COVID-19 imaging pathways in the UK: a British Society of Thoracic Imaging expert reference group update". *Clinical Radiology* 75(6): P399-404

[9] British Society of Thoracic Imaging (2021) "Rationale for CTPA in Covid-19 patients, January 2021"

and August 2020 (equivalent to 340,000 patients).[10] Data from the National Cancer Registration and Analysis Service also shows that 30,589 fewer people were diagnosed with cancer in England from March-September 2020, compared to the same period in 2019 - a drop of 18.5%.[11]

23. This was compounded by the pausing of national breast, cervical, and bowel cancer screening programmes for three months (March-June 2020). The pausing of these programmes meant that fewer people were diagnosed with cancer by this pathway during the early months of the pandemic. The programmes recommenced in July 2020.

24. Early diagnosis of cancer is critical. Alongside initiatives from NHS England and the government, the RCR, with other leading cancer charities and professional bodies, produced tailored information for people with cancer, with the aim of keeping them safe and making them feel confident enough to come forward with their symptoms and attend their scheduled radiotherapy treatment. This was published on 18 May 2020. It outlined some precautions that staff would take to reduce the risks of Covid-19 infection to patients, such as asking them to wear a face mask, maintain social distancing, frequent hand washing and more (TRSH/10-INQ000309007).

25. Some of our members told us these factors resulted in patients presenting with more advanced, late-stage cancers during and after the pandemic, requiring more complex care. The RCR published a press release on 25 February 2021 urging patients to take up screening appointments and visit their GP with possible symptoms of cancer, following the publication of research that suggested that half of those with possible cancer symptoms during the first wave of the pandemic did not seek help (TRSH/11-INQ000309008). This is a difficult observation to corroborate or falsify, given the incompleteness of the data (it can take several years for such information to be fully processed and compiled; for the pandemic period, staging data on cancers is not yet complete) and the multiple datasets available (each using different methods). As recorded by the National Cancer Registration & Analysis Service's 'COVID-19 rapid cancer registration and treatment' dataset, between March and May 2020, the total number of cancers diagnosed fell by 36%. Of these, the proportion diagnosed at stage 1 or 2 (indicating that the cancer had not spread elsewhere in the body, which correlates positively with the patient's chance of survival) fell from 44% to 36%. The

[10] NHS England, Cancer waiting times – national time series Oct 2009-Jun 2023.
[11] National Cancer Registration and Analysis Service, Rapid cancer registration dataset, January 2018-November 2020 rapid registrations (Feb 2021 snapshot)

proportion diagnosed at stage 4 rose from 15% to 21%[12]. As the Nuffield Trust data shows, by May 2021, the total number of cancers diagnosed had returned to pre-pandemic levels; as of January 2023, they have exceeded pre-pandemic levels. Likewise, the proportion diagnosed at stages 1 and 2 has recovered. NHS England has a target of diagnosing 75% of cancers at stages 1 or 2 by 2028. This target is yet to be met, according to their CancerData dataset; 54% were diagnosed at this stage in 2019, and 52% in 2020.[13] It remains to be seen what the long-term effect of these delays to diagnosing patients with cancer will be on those patients' health.

Treatment

26. The pandemic also presented unique challenges in performing previously routine treatment for ischaemic heart disease, colorectal cancer, and other illnesses.

27. A combination of factors meant that fewer cancer patients were treated during the height of the pandemic. Investigations that were not thought to be urgent were postponed, people were reticent to come forward with symptoms that might indicate cancer, and screening programmes were halted.

28. The RCR published guidance on its website covering the testing for Covid-19 of asymptomatic patients attending oncology departments for elective treatment. Because these patients are often immunocompromised it was recognised that special care needed to be taken to reduce their risk of infection with Covid-19. This guidance recognised that risk of severe Covid-19 infection varied with the type of cancer a patient had (e.g., increasing in cases of haematological malignancy), as well as with their demographics; older, male, non-white, diabetic and obese patients were all at greater risk. It set out the rationale for testing, the suggested prioritisation for testing patients, data collection and more (TRSH/12-**INQ000118643)**

29. Cancer patients were classed as Clinically Vulnerable or Clinically Extremely Vulnerable (CV/CEV). The RCR followed national NHS England guidelines for CV/CEV individuals when producing its own information for patients. However, different hospitals interpreted the national guidelines in different ways, meaning it was difficult for staff and patients to behave consistently. Cancer centre Heads of Service also reported to the RCR their confusion regarding the inclusion criteria in the guidance for CV/CEV patients. This is not intended as a

[12] Nuffield Trust (2023), Cancer survival rates
[13] NHS England, CancerData staging data in England

criticism of that initial set of NHSE guidelines. Rather, at the start of the pandemic, there was huge uncertainty as regards the clinical picture for patients both with Covid-19 and, in this case, especially vulnerable to serious illness upon contracting it. Our members did not know which of their patient groups would be most vulnerable because at that stage nobody knew. Moreover, as Covid-19 prevalence rates varied across the country, the appropriate actions to be taken to protect CEV individuals in one area were likely to be different to those required in another area. The RCR produced its own guidance for patients and staff aimed at ameliorating any confusion (TRSH/13-INQ000309010), (TRSH/14-INQ000309011), **(TRSH/10 - INQ000309007)**. These did not contradict or supersede the national guidelines, but rather were designed to clarify and make them more patient-friendly. As knowledge about Covid-19 and its risk to patient groups grew, the picture became clearer. For example, it was only some time into the pandemic that doctors knew with confidence that patients with blood cancers were at greater risk from Covid-19 than patients with solid cancers. (Please note that because in some instances the original versions of relevant national guidelines are no longer publicly available online, we are unable to specify exactly which elements were changed over time as the clinical picture became clearer.)

30. The risk-benefit of different cancer treatments changed during the pandemic. Patients having curative or palliative systemic anti-cancer therapies (SACT, i.e., any drug treatment to treat cancer) were CEV or EV and were at greater risk of dying if they caught Covid-19. This is because these treatments usually suppress the patient's immune system, making them more vulnerable to infections. Patients having radiotherapy usually need multiple treatments and were at greater risk of exposure to Covid-19. Contracting Covid-19 after surgery was known to carry a high risk of mortality. Treatment recommendations for patients with cancer were therefore different to normal. These decisions were made following NHS England guidance,[14] which set out priority categories for cancer patients to be treated during the pandemic by surgery, Systemic Anti-Cancer Therapies (SACT), radiation therapy and proton beam therapy. These changes were necessary to protect cancer patients from Covid-19 as much as possible, whilst also delivering treatment for their cancer. The exact changes made to recommended treatment regimens varied by the type of cancer a patient had; this occurs standardly, since for example the radiation dose that is effective and safe to deliver to a tumour of the lungs may be different to that to a tumour of the stomach. The RCR subsequently in April 2020 submitted evidence to the House of Commons Health and Social Care Committee, in concert with the College of Radiographers, that summarised how routine

[14] NHS England (2020), Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer (version 2)

services had been impacted and how the changes instituted as per national NHSE guidance were affecting those services (TRSH/16-INQ000309013). The RCR also coordinated the production of clinical guidance for the treatment of many different types of cancer during the pandemic; these can be found in Appendix B.

31. Surgery is usually part of treatment for curable colorectal cancer. The increased risks of surgery compared to radiotherapy meant that in general fewer patients had surgery and more had radiotherapy with the intention of cure. The long-term effect of these changes is not yet known and data is still being collected. The RCR does not possess exact figures to demonstrate the proportion of patients that this change affected.

32. In hospitals, Covid-19-positive and Covid-19-negative cancer patients were kept separate as much as possible to prevent cross-infection. If a patient having SACT became Covid-19-positive their treatment was usually delayed until they had become Covid-19-negative. If a patient having radiotherapy became Covid-19-positive, treatment was paused if safe to do so. If not safe, for example when a treatment break would reduce chances of cure, Covid-19-positive patients were typically treated at the end of the day, after the Covid-19-negative radiotherapy patients had been treated. This was necessary for only a small number of patients per hospital.

33. Typically, hospitals responded to local spikes in Covid-19 by reverting to the protocols put in place during the first wave. The RCR promoted guidance tailored to the Covid-19 context, published by individual RCR members, to supplement our existing guidelines on interruptions in treatment. These supplements were published in April and May 2020. These set out recommended schedules for radiotherapy treatment in the event of an interruption to a planned course of treatment due to Covid-19 infection of the patient and/or the medical professionals. They also set out the recommended radiation dosage for these schedules. As is standard, the recommended treatment regimens varied by tumour site and stage. (TRSH/17-INQ000309014), (TRSH/18-INQ000309015).

34. With subsequent waves of Covid-19, as more was known about the virus and how to protect cancer patients, treatment regimens changed. Data showed that the risk of death from Covid-19 was lower for cancer patients treated with immunotherapy and targeted therapy than with chemotherapy. The rollout of Covid-19 vaccinations similarly affected risk-benefit calculations; cancer patients were a priority group for receiving vaccinations, which meant the risks of chemotherapy and surgery were lower than in earlier stages of the pandemic.

35. The effects on interventional radiology practice were significant, although the impact did vary from one hospital to another. In many units, much of the routine elective treatment stopped during the pandemic. Interventional radiologists undertook much of the procedural insertion of drainage tubes and biopsies, and in many hospitals, IRs provided services for the insertion of tubes into blood vessels, particularly on Covid-19 wards and in intensive care departments. Many patients requiring surgery had their procedures performed by IR as image-guided surgery; this reduced the risks of patient exposure to the virus as they were generally performed as day cases (TRSH/1-INQ000309006). More patients underwent image guided cancer ablation and direct injections of cancer treatments into their cancers, rather than undergoing surgery. One of our members wrote about this rise in visibility of their specialty during the pandemic in their article titled 'Interventional radiology (image-guided surgery) and Covid-19', which appeared in the RCR's Autumn 2020 newsletter (TRSH/19-INQ000309016). The author sets out the changes to IR practice during the pandemic, including those positive changes, such as the rapid mobilisation of a 24/7 service, and the negative changes, such as the remaining need for IR to be recognised as a specialty in its own right.

Use of the private sector

36. The private sector contributed to the response of both clinical radiology and clinical oncology services to the pandemic. Teleradiology companies traditionally take on excess reporting from NHS hospitals. Since imaging activity fell during the pandemic, the teleradiology companies' workload likely also decreased. The RCR liaised with teleradiology companies and some of these companies allowed radiologists who reported for them to use their home reporting workstations for NHS work. This was useful early on, when few radiologists had home working capability provided by their hospitals. It meant that radiologists could continue reporting scans for the NHS, even if they were isolating at home due to illness with Covid-19. This prevented the capacity of individual radiology departments from being reduced to a more significant extent than it would otherwise. Below in paragraphs 78 and 79, we provide data on by how much homeworking capacity grew during the pandemic. However, beyond these figures, the RCR is unable to quantify to what extent capacity was increased by this change because we do not ourselves hold data on this subject.

37. Many NHS hospitals frequently use mobile scanners in vans provided by private companies. These will be rented for a short period to cope with spikes in demand. During the

pandemic, these were appropriated and deployed by NHS England to where there was most need.

38. In clinical oncology, private hospitals were sometimes used as 'clean sites' with a smaller risk of catching Covid-19 than in acute hospitals. SACT services were moved to clean sites where this possibility was available.

Ante-natal radiology

39. Most ante-natal scanning is now performed by sonographers under the supervision of obstetricians and gynaecologists, so the RCR has little to say specifically with regards to the pandemic's impact on this service. The general points made above and below – including the impact of cancelled elective procedures, public reticence to access to healthcare, and Covid-19 infection prevention measures – most likely applied to ante-natal imaging also.

Summary

40. All these impacts on the ability of radiology and oncology services to diagnose and treat non-Covid-19 conditions exacerbated long-standing challenges arising due to years of workforce shortages. In 2019, there was a 19% shortfall in the clinical oncology workforce and a 33% shortfall in the clinical radiology workforce. The shortfall in the interventional radiology workforce was 37%. These figures are drawn from our 2019 workforce census reports (TRSH/20–INQ000309018) (TRSH/21-INQ000309019). Large shortfalls in both workforces remain in 2023.

Staffing

41. During the pandemic, the CR and CO workforces were significantly impacted. The RCR increased the frequency of its Heads of Service meetings from twice yearly to monthly during 2020 and every two months in 2021, to enable shared learning. At most meetings, during peaks of Covid-19 transmission, the Heads of Service would report that more staff were unavailable to work, with an impact on the service they could provide.

42. Staffing was affected in several ways:

- **a. Redeployment:** During the pandemic, some clinical oncologists and clinical radiologists at all levels, from specialty trainees to consultants, were redeployed to help treat patients with Covid-19. The RCR supported the redeployment of healthcare workers to cope with surges in demand during periods of peak Covid-19 transmission. However, we also stressed the need to balance this against the negative impacts of cancelled cancer treatments in our Faculty of Clinical Oncology's

position statement of 14 January 2022 (TRSH/22-INQ000309020). We also developed resources to support trainees to produce action plans for addressing gaps in training.

- b. In our 2020 clinical oncology workforce census, about half (52%) of cancer centres cited redeployment of trainees as a factor in their reduced capacity (TRSH/23-INQ000309021), though larger factors were staff sickness and shielding. It is important to note that additional time was lost on top of that lost to redeployment itself, as many staff who were redeployed to Covid-19 wards subsequently became ill and had to self-isolate. This had a knock-on effect on trainees, whose training was significantly disrupted. The RCR acted to minimise this disruption as far as was possible, as outlined in the section on training below. Many of our CR members reported the challenges they faced in readjusting to work on a ward, especially in such pressurised conditions as were present during the pandemic. The RCR's then-Medical Director, Membership and Business published his reflections in a blog on the RCR website (TRSH/24-INQ000309022).
- **c. Sickness/Self-isolation:** The RCR promoted national, NHS England guidance on the routine testing of healthcare workers for Covid-19 amongst our members. We also supplemented this guidance with further advice for healthcare workers in oncology departments specifically (TRSH/12-**[INQ000118643]**. Testing was critically important to protect patients and other healthcare workers. In monthly meetings with cancer centre Heads of Service and in dialogue with radiology department Clinical Directors, we were routinely informed of new staff sickness and self-isolation and the knock-on effect this had on service provision. Though some work could be conducted from home by oncologists and radiologists who had tested positive and were well, much work in oncology departments and diagnostic and interventional radiology services could not take place without staff being physically present in hospital. Home working by CRs and COs who had tested positive for Covid-19, or had been in contact with someone who was COVID positive, occurred at the discretion of individual doctors where they felt well enough, wanting to assist their colleagues and support patient care; to the best of our knowledge, there was no formal guidance on this. Many hospitals delegated certain of their clinical radiologists to work from home full-time, to ensure at least a proportion of their radiologist workforce could likely remain free from Covid-19 infection and illness. (This choice was determined by which radiologists had a workstation at home). We were told by departmental heads that, at any one time, a considerable number of their staff were off sick. Staff sickness therefore contributed to longer waiting lists for cancer diagnosis and treatment, including colorectal cancer, and tests for ischaemic heart disease, as

fewer staff were available to perform the necessary procedures. However, the exact impacts varied significantly from hospital to hospital. Guidance as regards home working for NHS clinicians was developed at the employer or even departmental level. National government guidelines on home working were not sector-specific. In general, trusts produced this guidance within the first wave of the pandemic – though as discussed in paragraphs 75-81, with radiology there were significant variations in the speed with which home working capabilities were realised between trusts and regions. As we set out below (paragraphs 75-77), initial RCR recommendations to allow for radiology home reporting were produced in March 2020. It remained the responsibility of employers to set up home reporting capabilities and set out employee guidelines for their use.

- **d. Shielding:** throughout the pandemic national or local advice and regulations were imposed by government to the effect that those at elevated risk of Covid-19 infection were advised to 'shield' – reduce social contact with others – even if there was no requirement on other people to do likewise. NHS staff could fall into this category. The RCR shared guidance produced by the NHS Staff Council that outlined employers' responsibilities to shielding staff,[15] and shared national guidelines for people whose immune systems means they were at higher risk. The effect of shielding on radiology and oncology services was similar to that of staff sickness and self-isolation: it meant that fewer staff were available to work in-person in hospitals, thus preventing care from being delivered as effectively as normal.

It is difficult for the RCR to provide a numerical estimate of the amount by which staffing levels varied across the UK. Staffing levels likely varied to significantly different extents between different regions and within the same region over time. Moreover, the pre- and post-pandemic workforce shortfalls, as reported in our annual census reports, demonstrate a deeply varied baseline of staffing levels in trusts across the country (see the tables in paragraph 5) (TRSH/1-INQ000309006) (TRSH/2-INQ000309017) (TRSH/20-INQ000309018) (TRSH/21-INQ000309019). Individual trusts, as the employers of clinical radiologists and clinical oncologists, would likely hold this data on the exact fluctuations in staffing levels.

43. The pandemic also had an impact on CRs' and COs' mental well-being. In a survey of our membership conducted in autumn/winter 2020, we asked our members whether the Covid-19 pandemic had had a negative impact on them. 53% of respondents said their well-being at work had been impacted by the pandemic and by the national lockdown. 42%

[15] NHS Staff Council (2020), Shielding guidance – updated 23 November 2020

reported suffering from mental health conditions such as stress, anxiety, burnout and depression related to or made worse by their work. 28% of the respondents to this question reported that the pandemic had seen their symptoms worsen. In a separate survey to our Insight Panel in February 2022, 60% of respondents reported that, over the course of the pandemic, their levels of burnout had become worse.[16] On the positive side, 40% of respondents to our 2020 membership survey reported feeling more valued as a doctor, and 60% reported some beneficial changes to their ways of working. Commonly identified positives included the use of online meeting technology and improved IT systems.

Examination and training

Training

44. During the pandemic, CR and CO trainees' education was interrupted. Many trainees and their trainers were redeployed to help treat Covid-19 patients; others were isolating, and some became ill. Initially training paused but the training community rapidly adapted to remote training methods. Much of the training in Clinical Radiology could then be delivered virtually (TRSH/25-INQ000309023).

45. The RCR worked to mitigate the impact of the pandemic on trainee's career progression. General Medical Council (GMC)-approved curricula were amended where possible to allow for trainee progression at Annual Review of Competency Progression (ARCP). ARCP is the review process that all doctors in postgraduate training roles undergo each year to assess their progress. The RCR developed resources to support trainees, trainers and annual review panels to understand how to apply the curriculum changes, and for identifying and producing action plans for addressing gaps in training. For example, the RCR modified the existing Supported Return to Training (SuppoRRT) programme forms so they could be used for Covid-19 redeployment or return to work following shielding. SuppoRRT was a pre-existing programme to aid doctors returning to a training programme following a period of time out.

46. New 'no-fault' ARCP outcomes were introduced for all specialties to allow for Covid-19 disruption to be recognised as a factor in trainees' progression. Outcome 10.1 recognised that the trainee had not achieved some required competencies as a direct result of Covid-19 (e.g., redeployment) but allowed them to progress to the next year of training with the expectation that competencies missed would be made up alongside future training. Outcome

[16] RCR Insight Panel survey results. Survey 2. stress and burnout. Further data available on request. The Insight Panel is a group of approximately 1,400 RCR members who have agreed to receive up to 2 short surveys from the College each month. It is generally reflective of the demographics of the membership as a whole.

10.2 was used where Covid-19 related disruption had had a greater impact and the trainees were given extra training time before being allowed to progress.

47. The increase in remote delivery of training also saw an increase in the sharing of training resources, such as online teaching, across regions. This has been beneficial as it has reduced duplication. However, it was, and continues to be, hampered by the use of different teaching and image sharing platforms in different regions.

48. The RCR also developed online teaching resources to support the delivery of training. These were specifically aimed at supporting the delivery of knowledge for the Fellowship of the Royal College of Radiologists (FRCR) examinations and intended to ease the burden on training programmes that would usually deliver in-person teaching. These are the examinations a doctor must successfully pass to become a consultant clinical oncologist or clinical radiologist.

49. The eligibility requirements for recruitment into CO were modified, allowing trainees to begin training in CO without having completed their full Membership of the Royal College of Physicians of the United Kingdom (MRCP(UK)) exams. These are examinations taken by trainees, which they must pass in order to progress to specialist internal medicine training. This decision was taken for all medical specialties and therefore was implemented for CO as well. The RCR developed resources, and created peer-support networks for affected trainees, working with the lead dean to ensure that everyone was aware of, and able to access, the funding that was made available to support these trainees. The removal of MRCP as a requirement for entry in 2021 and 2022 was a significant cause for concern for the trainees and for their Training Programme Directors (TPDs, those consultant doctors responsible for delivering the training of trainees in their trust or hospital). Trainees were concerned that without their MRCP(UK) qualification they would lack the same level of expert knowledge and skills that previous cohorts of trainees had developed. MRCP(UK) is additionally seen as a mark of excellence in a trainee and a significant milestone in one's journey towards becoming a consultant.

Examinations

50. The RCR put together a taskforce of examiners, Officers and core exams office staff to review exam delivery, regulations, policies and procedures and establish how to safely maintain exam services. There was much concern from UK trainees regarding impact on their progression through training should exams be cancelled.

51. All RCR exams were necessarily cancelled in April, May and June 2020. This affected close to 1,000 candidates. These cancellations were due to the need to comply with Covid-19 guidelines on social distancing.

52. Following a period of intensive review, consultation and planning, we released a revised exam schedule in June 2020, outlining the key exam changes for autumn 2020 sittings. These were as follows:

- Exams to move from paper to computer-based, with software varying dependent on exam type.
- Exams to be delivered in training programmes (usually hospitals) supported by local staff rather than the commercial exam venues previously utilised. This avoided mass gatherings to meet government advice and guidelines.
- Additional sittings introduced throughout 2020 and 2021 to keep up with demand and deliver exams to those that had their sittings cancelled.
- The clinical component of the Final FRCR Part exam in Clinical Oncology was cancelled for the remainder of 2020, with more significant changes required to that assessment to be implemented in 2021.
- The Clinical Radiology part 2B exam continued but moved to a fully virtual process. This included the exam viva, which previously took place in person. This required enabling software but was delivered successfully.

53. GMC approval was obtained for these changes. The aim was to balance the needs of candidates, minimise disruption to trainees' progression and keep people safe. In September 2020, a series of examinations were held successfully as per the above changes.

54. Further exam cancellations were necessary in early 2021. At this time, we, along with other Colleges, began to investigate proctoring – online invigilation – to enable candidates to sit exams in their own home. Although candidate performance was not significantly different to previous sittings, the proctored exams had procedural and operational issues and did not meet the suppliers own Service Level Agreements or the RCR's requirements to provide a fit-for-purpose experience for candidates. We therefore reverted to venue delivery for the remainder of exams delivered during Covid-19.

55. Cancellations continued to affect our international venues after UK exams were re-commenced due to stricter controls. There were also restrictions on travelling candidates

coming to the UK for exams if they were arriving from or travelling through a Covid-19 specified country or area from the PHE-published list of affected countries.

56. Throughout 2020 and 2021 there was a negative impact on the well-being of those involved in decisions and the facilitation of exams due to high levels of stress and change. The unsuccessful introduction of proctoring was particularly difficult for candidates, examiners and exams office staff. Continuing to run exams during Covid-19 was detrimental to the exams operational budget; the average cost to the RCR to run an exam pre-Covid-19 per candidate was £333, this almost doubled to over £650 in 2021.

57. There were some positives effects on examinations, the biggest being the opportunity to modernise internal processes and exam delivery. Fruitful clinician, examiner, and office staff relationships developed. We have retained many of the benefits of the exam changes, enabling growth without compromising on quality or integrity. We identified new, more flexible ways of delivering exams utilising technology which would have been years in development otherwise. We also networked more deeply and widely with other Colleges regarding troubleshooting, good practice and lessons learnt, facilitated by the Academy of Medical Royal Colleges.

RCR membership

58. The pandemic had minimal impact on the College's ability to register new members.

Infection prevention and control

Personal Protective Equipment (PPE)

59. Throughout the pandemic, the RCR supported the Government and NHS England with their national guidance for the use of PPE. The RCR did this by promoting this guidance to our members via our website and other communication channels. To supplement this, in partnership with the College of Radiographers, our expert clinician members also produced further guidance specific to our specialties, given the higher risk facing our patients (TRSH/26-INQ000309024), (TRSH/27-INQ000309025). This guidance recommended the level of PPE that radiologists and oncologists should be wearing for both aerosol generating procedures (AGPs) and non-AGPs and included advice for the removal of PPE.

60. On 1 May 2020, the RCR published our statement on the use of PPE. This supported national guidance on the use of PPE (TRSH/70-INQ000409261). That national guidance had been updated in April 2020 to include recognition of the need for individual an organisational risk assessments at a local level to inform where and what level of PPE is required; we duly

endorsed this recommendation and advised our members to follow local policies in respect of the application of national guidance. We updated this statement in December 2021, in response to Omicron and other Variants of Concern (VoC) to re-recommend the undertaking of risk assessments. We recommended that such assessments include a hierarchy of controls, such as an evaluation of the ventilation in the area, operational capacity, physical distancing and prevalence. Where an unacceptable risk of transmission remained following this risk assessment, we recommended that it might be necessary to consider the use of respiratory protective equipment (RPE) in clinical areas where suspected or confirmed Covid-19 patients were being managed. Please note that we are unable to append individual risk assessments; the RCR merely recommended these be produced and did not produce any ourselves. The RCR also fielded queries from our members relating to specific questions on the appropriate use of PPE in specific situations. Members were advised to consult the RCR and national guidance documents.

61. From the start of the pandemic, concerns were raised about national PPE guidelines which were seen to be issued later than other countries (e.g., Italy and China). At this early stage, PPE processes were being determined at a local level without national guidance and there were concerns about the effectiveness of this. For instance, in March 2020, guidelines issued by individual hospital were not recommending the use of surgical masks during routine contact with patients if they were asymptomatic.

62. National PPE guidance towards the start of the pandemic similarly generated confusion amongst our members. This was because of the lack of clarity around the clinical need for PPE, rather than due to inadequacies in the guidance itself. However, at the time the RCR did note that there were many sources of both formal and informal information and guidance around the use of PPE, which may have created some confusion (TRSH/73-INQ000409264). One area of clinical uncertainty towards the start of the pandemic, for example, was that we did not know to what extent Covid-19 infections could be transmitted through the air. Our members also told us that the guidance changed often towards the start of the pandemic, likely as we learned more about Covid-19 and how it was transmitted. We cannot here outline exactly how and in what way the national guidance changed because earlier versions of that guidance do not appear to still be available online. Guidance was eventually produced that specified the different level of PPE required for AGPs and non-

AGPs.[17,18] This raised question about what constituted an AGP, with many of our members expressing this to us as a concern (see paragraph 64). The RCR's own PPE guidance (TRSH/26-INQ000309024), (TRSH/27-INQ000309025) was reviewed each time national guidance was updated, given that it was based on that guidance, but it was never felt that changes were required because our guidelines were sufficiently comprehensive.

63. Supply of PPE was a concern in radiology departments, and emails about low stock supplies were frequent. It is likely that certain procedures would have been delayed or cancelled due to low stock supply. Particular concern was expressed in ultrasound (since staff would need to be in the room with patients), and AGPs or any procedure where the clinician needed to be near a patient's nose or throat. National guidance was strict around what constituted an aerosol generating procedure. The RCR's position statement on the use of PPE made it clear that our members needed an adequate supply of PPE to do their jobs safely, and that our members were concerned about the need for guidance around the appropriate use of PPE (TRSH/70-INQ000409261).

64. Issues were also raised about the type of PPE that certain clinicians had to wear. For instance, wearing the appropriate PPE for AGPs for long periods of time was challenging and made work significantly harder including for interventional radiologists. Some of our members were also unclear about what procedures were and were not classed as AGPs, and therefore fell under the relevant PPE guidelines. For example, as of 1 May 2020 naso-enteric tube insertions and image-guided lung biopsies were not nationally recognised as AGPs, despite involving close contact with the patient's airway (TRSH/70-INQ000409261). It is not clear whether this is still the case; the latest version of the guidance is withdrawn, though still available on the UK HSA website, and does not include these procedures.[19] On 15 May 2020, the RCR issued a statement highlighting guidance from Public Health Ontario, Canada, which included a list of procedures not thought to be aerosol generating (TRSH/73-INQ000409264). As mentioned in paragraph 62 above, much of this lack of clarity was the

[17] UK HSA, COVID-19: personal protective equipment use for aerosol generating procedures. Available at: https://www.gov.uk/government/publications/covid-19-personal-protective-equipment-use-for-aerosol-generating-procedures (last accessed 8 November 2023)
[18] UK HSA, COVID-19: personal protective equipment use for non-aerosol generating procedures. Available at: https://www.gov.uk/government/publications/covid-19-personal-protective-equipment-use-for-non-aerosol-generating-procedures (last accessed 8 November 2023)
[19] UK HSA, Infection prevention and control for seasonal respiratory infections in health and care settings (including SARS-CoV-2) for winter 2021 to 2022. Available at: https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control-recommendations

result of a lack of knowledge about Covid-19, its effects and modes of transmission, rather than failures with the available guidance itself.

65. Interpretation of IPC guidance varied significantly between local departments, as did the length of time they were implemented for in between the waves of Covid-19. Generally, departments would err on the side of caution and advise clinicians, patients, and visitors to wear more PPE rather than less. This did mean it took longer to treat patients. For instance, therapeutic radiographers had to change their PPE every time they entered the radiotherapy treatment room meaning each treatment took longer.

Ventilation, testing and visiting

66. Ventilation in large scanning rooms was generally good throughout the pandemic, especially in IR rooms. However, there were problems with ventilation in ultrasound departments, where clinicians were close to patients and ventilation infrastructure was poor.

67. Visitor restrictions had a notable impact on cancer patient's experience and clinician's ability to deliver patient-centred care. Prior to the pandemic, it was usual for a patient to be accompanied to clinic by relatives or friends. During the pandemic patients were seen alone and with doctors and patients usually wearing masks. This made communication more difficult. Similarly, patients were not allowed to be accompanied when attending chemotherapy units.

68. In the early stages of the pandemic, the limited availability of testing caused challenges in staffing levels. If a clinician was in contact with a Covid-19 positive patient, the immediate assumption was that they were also Covid-19 positive and thus sent home, depleting the number of working staff. For radiologists self-isolating in this way, if they had no access to a home reporting station, they were not able to contribute to the departmental workload.

<u>Healthcare provision and treatment</u>

69. RCR members, Clinical Oncology Officers and staff produced a series of guidance documents which advised on how to modify anti-cancer therapies and treatment plans. These were published quickly and updated throughout the pandemic when needed. Within three weeks of going live, the RCR online repository had 26 Clinical Oncology site-specific guidelines which have since been downloaded over 20,000 times.

70. The advice to delay or continue imaging services and/or treatment varied depending on the nature of the condition and on the characteristics of the patient, and therefore is difficult to summarise. A chronological list of guidance documents can be found in Appendix B.

71. Following the first wave of the Covid-19 pandemic, the RCR's Clinical Oncology Faculty produced guidance for oncology departments to recover, restore and reconfigure services (TRSH/28-INQ000309026). The guidance offered high-level advice, drawing on the good practice and new ways of working during the pandemic period, and included links to national guidance where appropriate. It included recommendations for continuing to keep patients safe from Covid-19 infection, encouraging patients to come forward to the NHS to receive diagnosis and treatment, returning to pre-pandemic working conditions with respect to training and continuing professional development (CPD), supporting staff where necessary with psychological support, reviewing the ongoing impact of changes to treatment regimens brought about during the pandemic, and considering opportunities for new and improved ways of working, such as via the continuance of virtual meetings.

72. Many imaging departments also trialled novel methods of service delivery during the pandemic. For example, a CT scanner located near an external hospital door and particularly if close to a car park might be designated as a Covid-19-free scanner for outpatient use. Patients would arrive in their car, wait in the car for their scan, be called to attend the scanner and then wait for a follow up period in their car. This minimised potential exposure to the virus and helped encourage more patients to attend for their imaging investigation.

73. The pandemic saw the emergence of new ways of working in both clinical radiology and clinical oncology. Many of these were positive innovations and have persisted since the pandemic. However, there were and remain disparities in where and how these new technologies and pathways were deployed.

74. In general, modern communications technology, including video conferencing and social media, allowed for rapid information-sharing so that new treatment paradigms could be agreed and implemented across the UK. The RCR's own online discussion forums saw large rises in contributions, with many of our members using these to discuss best practice and troubleshoot specific problems.

75. To enable continuity of services and social distancing, The RCR actively encouraged all radiology services to put in place mechanisms to allow radiologists to report images and to

attend Multidisciplinary Team Meetings (MDTMs) remotely and produced guidance to support this (TRSH/29-INQ000309027). Resources were developed to balance the urgent need for pragmatic home working solutions in response to Covid-19 and the quality of images needed for radiologists to interpret images.

76. The RCR advised initially that images could be reported out of necessity on non-dedicated diagnostic medical display systems through home reporting. This guidance was superseded in September 2020 after hospitals had sufficient time to supply their staff with diagnostic level equipment (TRSH/30-INQ000309029).

77. To support members with remote image reporting, the RCR also developed guidance on using a virtual desktop connection, designed to assess the overall usability of radiologists' home set up. The guidance recognised that Virtual Desktop Connections reduce the transmission bandwidth meaning the quality of images will be degraded even before being displayed (TRSH/31-INQ000309030). To ensure compliance with information governance, the RCR endorsed advice produced by NHSx, including on the use of secure messaging platforms, avoiding public WiFi for homeworking, and avoiding storing patient information on personal devices (TRSH/32-INQ000309031)

78. The pandemic saw a sharp rise in the use of home reporting. In our 2020 clinical radiology workforce census, we reported that half of all clinical radiologists had home working capability (TRSH/33-INQ000309032). This has since risen to 80% (TRSH/1-INQ000309006). However, already in 2020, this capability varied appreciably between UK nations and regions, with only 25% of radiologists in Northern Ireland possessing the ability to report scans from home (see the 2020 census report). National and regional disparities persist today. These are likely the result of the different financial situations of each trust, with the large initial cost of setting up home-working capabilities a likely barrier to implementation. The RCR aimed to address this disparity by producing guidance setting out the benefits of home working capabilities and the necessary equipment, staffing, IT support and governance required to make it a success (TRSH/71-INQ000409262).

79. During the pandemic in 2021, there was a 147.6% increase in the availability of remote access image viewing and reporting platforms. The remote access systems were most used for elective (96%) or emergency (79%) imaging. 72% used remote access systems for MDT meetings, and 51% for teaching and training. 78% of centres felt the impact of the pandemic had a positive impact on the roll out of home reporting services. This data is drawn from an

article published in the RCR's academic journal, *Clinical Radiology* in June 2021 and authored by RCR staff and elected Officers (TRSH/34-INQ000309033).

80. Several radiology clinical directors flagged the lack of funding, information technology support and senior-level support as barriers to the roll out of homeworking as this was being expanded. Clinical directors indicated huge variability in homeworking practices with some hospitals and health boards using it for on-call work only, while CR consultants at other hospitals and health boards worked from home two to three days per week. Investment in IT systems could vary significantly between regions and hospitals. The variable nature of these beneficial provisions has highlighted the need for up-to-date IT systems to be implemented at all centres nationwide.

81. One of the issues reported with home reporting was with ISP bandwidth. Home internet packages often have much lower levels of bandwidth compared with a hospital imaging department. This meant that images would take a long time to load on home reporting systems, and often the images would be of poor quality, limiting a radiologist's capacity to interpret them. This may have been exacerbated by existing inequalities in internet connectivity across different regions of the UK, though the RCR cannot provide quantitative evidence to this effect. To address this problem, many hospitals made funding available to upgrade radiologists' home systems.

82. RCR members were concerned about treating patients with Covid-19, especially in acute care services where the risk of developing Covid-19 was higher. This was more of an issue at the start of the pandemic when PPE supplies were poor, and guidance was being developed at a local level.

83. Due to endoscopy procedures being paused, the use of diagnostic swallow imaging examinations to diagnose possible upper GI cancers increased. Members raised concerns as this technique had potential to generate aerosols by triggering a cough or necessitate the use of suction.[20]

84. In radiology departments, where feasible, certain scanners were identified to image Covid-19 positive patients. Where there were not enough scanners, the Covid-19 positive patients were generally scheduled to be scanned at the end of the list if possible to limit the

[20] Goldman, A. *et al.* (2021) Adapting the modified barium swallow: modifications to improve safety in the setting of airborne respiratory illnesses like COVID- 19, *Abdominal Radiology* 46:3058–3065

disruption to the flow of patients through the department due to the extent of cleaning required after imaging of a Covid-19 positive patient.

85. The pandemic had a disproportionate impact on individuals from particular socio-economic and demographic groups. This included both patients and RCR members. The unequal effects were not specific to oncology or radiology, but rather experienced by patients and healthcare professionals across the NHS as a whole. It is important to note that the RCR does not hold specific data to substantiate this point, and that these reflections are drawn from the memory of RCR staff and members. The pandemic exacerbated existing inequalities in patient attendance, for example, since lockdown restrictions and social distancing measures made visiting one's GP or attending emergency or elective appointments to receive a scan less simple and more intimidating for people (as mentioned previously). Another example would be the shift towards virtual (video) or telephone consultations, which may have excluded those patients who lacked home internet access or a mobile telephone. In times where lockdown restrictions meant that travel via public transport was made more difficult, some patients who did not own their own car may have been unable to attend appointments.

Other concerns or issues

86. We would like to emphasise that our members in clinical radiology and clinical oncology responded to the pandemic extremely well. During an enormously challenging time, radiology and oncology services adapted quickly and effectively to ensure they could continue to operate as far as was safe and possible during the pandemic. This was facilitated by enhanced cooperation across hospitals and between specialties.

87. No new formal monitoring of members mental health and well-being took place during this period. The College continued to develop and collect information from the Membership Survey, which included questions relating to well-being and mental health. To support members during this period, the Oncology Registrars Forum compiled a cross-Faculty list of externally produced well-being resources and links to support members.

88. The pandemic also had a significant impact on cancer research. Most clinical cancer research staff were redeployed to work in clinical trials of Covid treatments. Cancer trials were therefore stopped, and their recovery has been slow.

89. Below is a non-comprehensive summary of recommendations the RCR would make in the event of a future pandemic to improve oncology and radiology services and to maintain care and treatment for patients.

a. Expand workforce capacity – including clinical oncologists, clinical radiologists, and interventional radiologists - which will support patient care in a future pandemic.
b. Expand equipment capacity within the NHS, including radiotherapy equipment, imaging scanners and interventional radiology procedure rooms with access to day case beds. PPE provision and an efficient testing system should be planned with procedures in place to make them readily available.
c. Synthesise the knowledge we already have, including the increased risks of immunosuppression of different anti-cancer treatments. This would enable more rapid and confident treatment decision-making in the event of another pandemic. This should be done before any subsequent pandemic occurs.
d. Develop more robust procedures or networks for providing mutual aid- the process for moving patients between hospitals at short notice. Transferring patients between hospitals (for example if one hospital is in an area of infection rates) was very difficult in the absence of prior protocols and agreements.
e. Provide more services on 'green sites' away from areas of infection.
f. Optimise ventilation in all imaging rooms in radiology departments to ensure the continuity of services. While this was largely in place for large scanners during the pandemic, smaller ultrasound rooms did not have good ventilation.
g. Ensure effective IT systems and home-working capabilities are more widespread with home reporting stations available to all radiologists.

Statement of Truth

90. We believe that the facts stated in this witness statement are true. We understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

Personal Data

Signed: Dr Stephen Harden

Personal Data

Signed: Dr Tom Roques

Dated: Friday 9 February 2024