

IMPACT OF COVID-19 ON UK RADIOTHERAPY ONE YEAR ON

Action Radiotherapy Flash Survey 10 – 14 May 2021

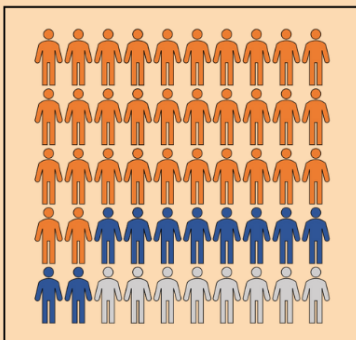
229 Responses

March 2021 IPPR report: Only a 14% drop in radiotherapy procedures due to the pandemic (least reduction in all cancer treatment modalities).

70% of respondents said there is/will be a serious covid-induced cancer backlog problem



"We have worked harder and longer than ever before in my 20-year career to keep treatments going and keep up with referrals and demand. Staff exhaustion is a huge worry"



65% said that the pressure of the pandemic or the recovery has caused themselves or colleagues to consider leaving the radiotherapy profession



disagreed or strongly disagreed that the Government response to the covid-induced cancer backlog has been sufficient



disagreed or strongly disagreed that the radiotherapy service is equipped to tackle the radiotherapy patient backlog.

"The pandemic has highlighted how important Radiotherapy is in Cancer treatment and at the same time highlighted how underfunded and ignored Radiotherapy is"

Action Radiotherapy Flash Survey: 10th – 14th May 2021

The charity Action Radiotherapy undertook a flash survey of radiotherapy professionals between 10-14th May 2021, to understand the current issues being faced by the UK radiotherapy service and their patients and to understand what solutions radiotherapy services can offer to help deal with the Covid-induced cancer backlog.

The survey was conducted using Google Forms and contained 38 questions. The survey was distributed to radiotherapy professionals via the Action Radiotherapy Daily News email list and by social media (Twitter, Facebook and Instagram) over 5 days.

A similar survey undertaken a year previously was shown to produce highly representative data, for instance when compared with government data published months later. This was therefore considered a valuable tool to provide accurate and honest real time data.

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SUMMARY OF RESULTS

PHE figures show that **13,700 fewer patients** have been treated with radiotherapy in first 9 months of the pandemic. **70% of respondents fear this backlog is/will be a serious problem.**

91% of respondents said that radiotherapy should play a significant or very significant role in the Covid induced cancer backlog.

77% disagreed or strongly disagreed that the Government and NHS leader's response to the covid-induced cancer backlog has been sufficient.

74% disagreed or strongly disagreed that the radiotherapy service is equipped to tackle the radiotherapy patient backlog.

73% of respondents said that they had seen an increase in the number of palliative patients.

70% said they had seen a shift in diagnosis of their patients to later stages of cancer.

30% said that some patients were still actively waiting for treatment that had been disrupted due to the pandemic.

There has been no real improvement over the last year in those departments working with poor or very poor IT (23%).

24% of respondents reports their departments were still unable to or had not yet been commissioned to deliver SBRT.

78% of respondents said that morale amongst the team was lower or a lot lower than before the pandemic.

65% of respondents said that the pressure of the pandemic or the recovery has caused themselves or colleagues to consider leaving the radiotherapy profession.

Introduction

It has been over one year since the first UK national lockdown was implemented and NICE guidance¹ were issued for changes in radiotherapy on March 28th 2020. Since then there have been multiple Covid-19 waves with different national and local measures and the roll out of the vaccine programme, all aiming to reduce the spread of the virus in order to save lives and to avoid the NHS being overwhelmed by patients. All of the efforts to suppress the virus have had a profound effect on cancer care.

In April 2020, at the start of the pandemic, Action Radiotherapy undertook its first flash survey after hearing from front line radiotherapy professionals who were concerned about the workforce and their patients. The survey was conducted after the publication of the NICE COVID-19 rapid guidelines: delivery of radiotherapy¹ which promoted the use of the RADs (Remote, Avoid, Delay, Shorten) principle to help plan individual patient treatment with a priority list (1-5) adapted from guidance issued by NHSE. The results of the survey² gave a grim picture of patients treatment being delayed and the concern that caused radiotherapy professionals, there was increased radiotherapy machine capacity due to lack of patients and the workforce did not have access to adequate PPE and basic IT to allow remote working.

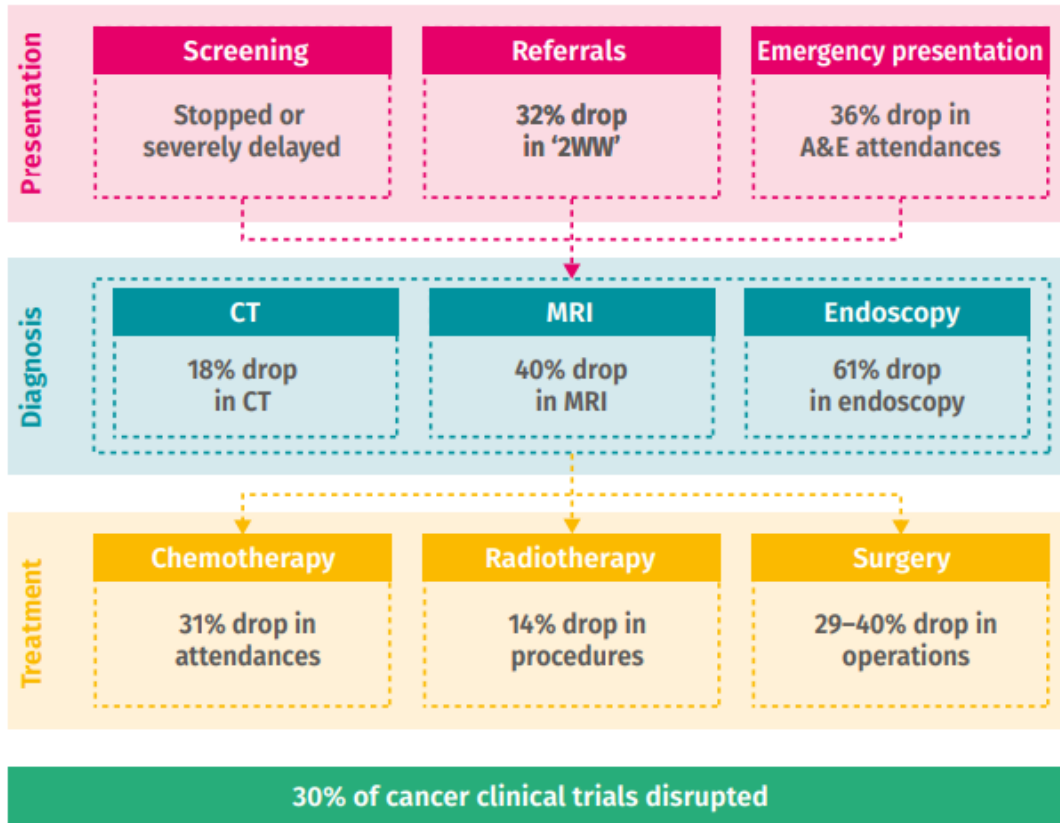
It was immediately clear that radiotherapy should not be avoided or delayed and must continue through Covid-19 as it could be Covid-secure. Radiotherapy is needed in 50% of cancer patients and is involved in 40% of cures and could be used as substitute for other cancer treatments such as surgery which are less resilient to Covid-19. This is time critical treatment; for every 4-week delay in cancer treatment on average there is a 10% reduction in survival.³ It was also immediately clear that the service pre-Covid was stretched to the limit and would be unable to deal with a Covid-19 induced cancer backlog if this was allowed to grow. The UK radiotherapy workforce worked individually and collectively to bring in innovation and flexibility to rapidly adapt complex workflow patterns and deliver effective care during Covid-19 and support patients. The front-line workforce have been truly terrific, often with staff reduced as they were redeployed to Covid-19 wards and often unacknowledged as clapping for carers meant Covid-19 treatment was seen as the only treatment.

Radiotherapy services have been maintained and herculean efforts made to ensure patients are treated on time despite social distancing and infection control measures often meaning only 80% capacity is available. The IPPR report⁴ shows that there has only been a 14% drop in radiotherapy procedures compared to 31% in chemotherapy and 29-40% in surgery (figure 1). Sadly however, the disruption across cancer care caused by the measures put in place for Covid-19 has resulted in a growing cancer patient backlog (figure 1).⁴ In radiotherapy alone, now in May 2021, we know from analysing the radiotherapy dataset (RTDS), published by PHE⁵ that since April 2020 to the most recent data available, January 2021, the number of radiotherapy episodes (patients) has been lower each month compared to the corresponding month the year before, resulting in approximately 13,700 fewer radiotherapy patients treated in this 9-month period, see figure 1. We know that these patients are part of growing covid-induced cancer backlog.

The results of this Action Radiotherapy Flash survey, conducted between 10-14th May 2021, aims to gain an updated understanding on what is happening in the radiotherapy service and to assemble solutions put forward by front line staff to the covid-induced cancer backlog.

FIGURE 2.1

Disruptions to cancer services in 2020 due to the Covid-19 pandemic



Source: CF analysis

Figure 1: IPPR State of Health and Care – The NHS Long Term Plan after Covid-19 showing the disruption to cancer services in 2020 due to the Covid-19 pandemic⁴

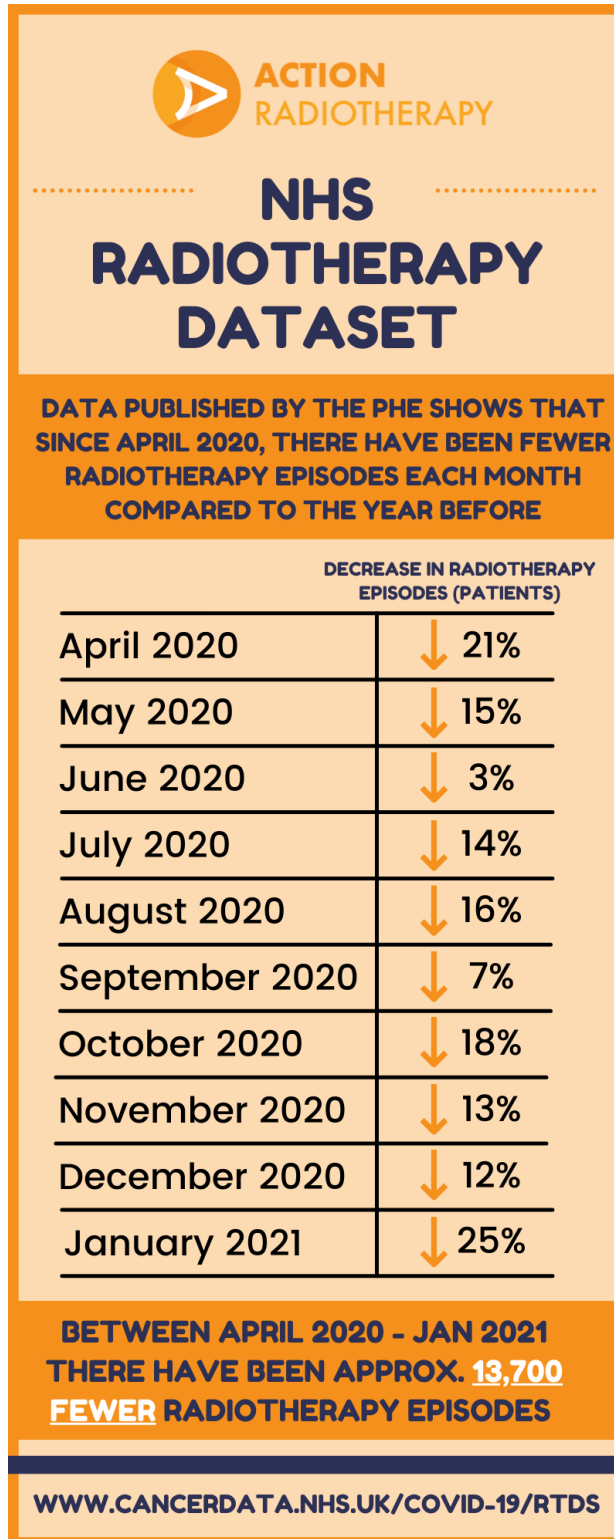


Figure 2: Analysis of the radiotherapy dataset (RTDS)⁵

1 www.nice.org.uk/guidance/ng162

2 www.appgrt.co.uk/publications

3 blogs.bmj.com/bmj/2020/11/05/counting-the-invisible-costs-of-covid-19-the-cancer-pandemic

4 www.ippr.org/files/2021-03/state-of-health-and-care-mar21.pdf

5 www.cancerdata.nhs.uk/covid-19/rtds

Survey Results: Multiple Choice Questions

There were 229 responses submitted to Action Radiotherapy’s flash survey, with 7 incompletes due to not working in a radiotherapy centre, 222 have been analysed for this report.

Respondents

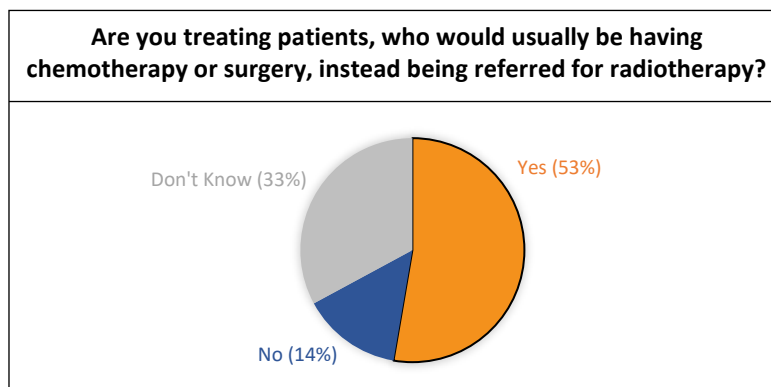
97% of respondents work in the NHS and represent all parts of the country and devolved nations. **77%** of responders are therapeutic radiographers (who make up 50% of the radiotherapy workforce) and other multidisciplinary professionals were represented including medical physicists, dosimetrist, clinical oncologist, and engineers. **16** radiotherapy service managers responded and **6%** of responses were from staff at satellite centres, the rest being from main centres. The full break down of the respondents can be found in Appendix 1.

Personal Protective Equipment (PPE)

Respondents were asked to rate their access to appropriate PPE on a scale of 1, no access to appropriate PPE to 5, excellent access to PPE. 62% responded that they had excellent access to PPE and 3 respondents (1.3%) rated their access 2 out of 5. The average response was 4.5, this has improved since the flash survey in April 2020 where the average response was 3.9, but it does mean that some people are still experiencing problems accessing appropriate PPE.

Additional Referrals

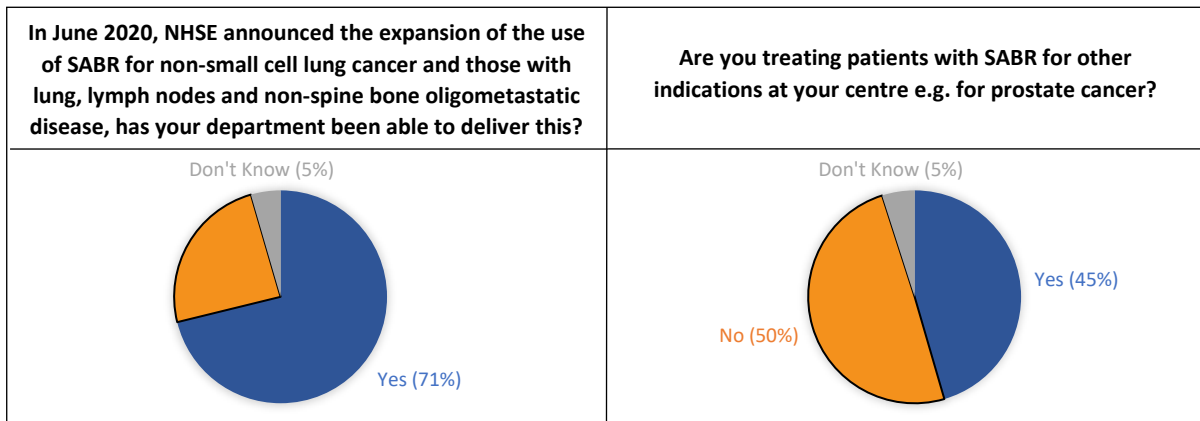
During the pandemic we know that radiotherapy has been used instead of surgery and chemotherapy in some instances, we asked respondents if they were treating patients who would usually be having these treatments and 53% responded ‘Yes’.



Stereotactic Ablative Radiotherapy (SABR)

The use of advance precision radiotherapy with SABR, prior to Covid-19 had been actively restricted by NHSE to just over half of radiotherapy centres. However, this technology was ideal during the pandemic, reducing time patients spent in hospital, improving survival and acting as a substitute for surgery. In June 2020, following an open letter to the Secretary of State for Health, signed by the radiotherapy community, NHSE announced the expansion of the use of SABR for non-small cell lung cancer and those with lung, lymph nodes and non-spine bone oligometastatic disease. This brought forward this expansion to all centres to be achieved by April 2021. However, this survey found that by May 2021 only 72% of respondents said that their department had been able to deliver this with 24% saying that their department had not been able to deliver this. Half of respondents also said that they

were not treating patients with SABR for other indications such as prostate cancer and only 46% said that they are treating patients with SABR for other indications.



Respondents were asked to give reasons that their departments were not able to deliver SABR in either of the above circumstances, a summary of the reasons is given below:

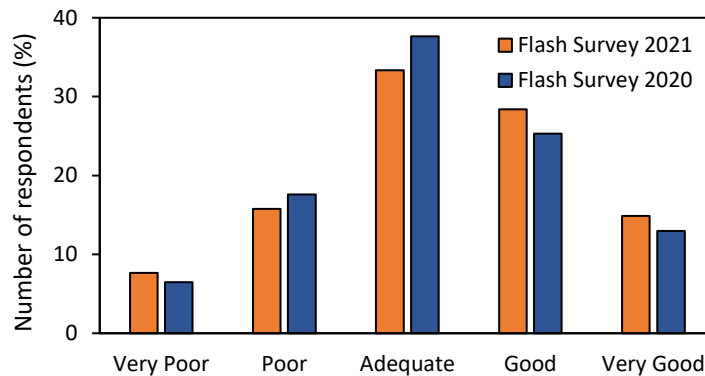
- Not commissioned
- Staffing issues
- Commissioning delays
- We are in the process of implementing SABR, first patient is this week
- Awaiting funding and full support for implementation
- Awaiting RTQA sign off
- We are not commissioned for this. We are hoping to take part in the PACE C trial which will allow us to treat eligible randomised patients.
- Stopped from taking part in PACE trial when SABR was first 'removed' from us, so now need to catch up a few wasted years development!
- Lack of leadership
- Machine/Staff availability

IT to support remote working, radiotherapy planning and networking

Respondents were asked about their centres IT capabilities to facilitate remote working, radiotherapy planning and networking, **23% of respondents reported poor or very poor IT infrastructure.**

Comparing this to our flash survey last year, it shows that there have not been improvements in IT capabilities over the last year. In the graph below, the orange bars represent the responses from this year's survey (orange) compared to 2020 (blue).

To what extent is the IT infrastructure at your centre capable of facilitating remote working, radiotherapy planning and networking?



National Institute for Health and Care Excellence (NICE) Guidelines

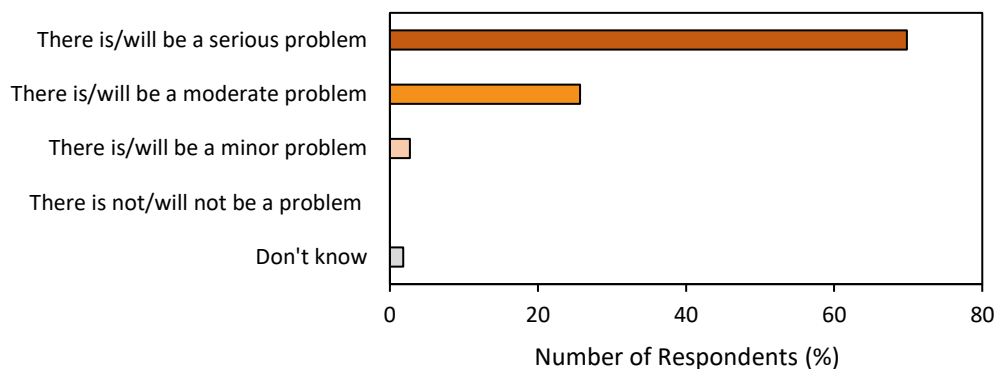
On 28th March, NICE issued COVID-19 rapid guideline: delivery of radiotherapy (www.nice.org.uk/guidance/ng162). These recommended the use of the RADS (Remote, Avoid, Defer, Shorten) principle to help plan individual patient treatment with a priority list (1-5) adapted from guidance issued by NHSE. We asked respondents if they believed these guidelines were appropriate, should still be in place how much of the guidelines were their departments realistically able to employ. 42% of respondents thought that the guidelines were about right with 15% saying they were too restrictive, however, **38% do not think the guidelines should still be in place** compared to 22% who think that they should be (41% answered that they did not know).

The Covid-Induced Cancer Backlog

We asked respondents, who are front-line staff in radiotherapy departments, about the covid-induced cancer backlog in general and the Governments response to it.

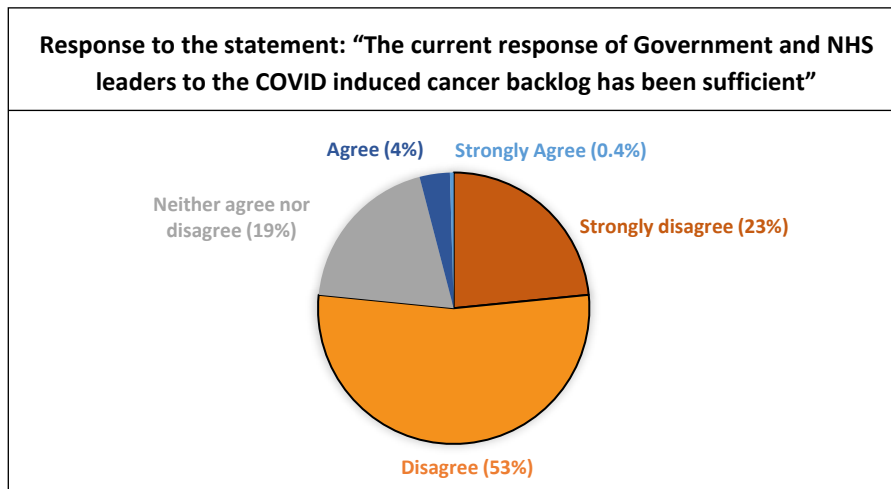
Firstly, we asked how serious they thought the covid-induced cancer backlog is or will be. No respondents replied that there is not or will not be a problem and **70% replied that there is or will be a serious problem.**

How serious do you think the problem of the covid-induced cancer backlog is/will be?



Respondents were also asked if they thought that the Government and NHS leader’s response to the covid-induced cancer backlog has been sufficient, they were asked to rate from ‘Strongly Disagree’ to ‘Strongly Agree’ about the statement “The current response of Government and NHS leaders to the

COVID induced cancer backlog has been sufficient". Only 3.4% agreed or strongly agreed that the response had been sufficient and **77% disagreed or strongly disagreed**.



Several reports have recently used the 62-day wait target as a metric to say that cancer services are running at a pre-pandemic level, we asked respondents if they thought this metric was the best way to measure the number of patients in the cancer backlog. **44% replied no, they did not believe that the 62-day wait target is the best measure of the number of patients in the cancer backlog**. Some suggestions and comments on the metrics that should be used are:

- Recording Initial presentation with more advanced cancers (record staging and compare w/ previous years)
- Necessary but too simplistic to give a full picture. Need several other metrics based on reason for delay and possible impact on outcomes to get a clearer picture
- Waiting time for diagnostic procedure leading to diagnosis
- Number of referrals vs monthly capacity for new starts
- Multiple metrics are needed across primary and social care as well as waiting times
- Stratified approach e.g. access for diagnosis and screening
- 62 day needs to be used in conjunction with tracking diagnosis numbers going forward compared with pre Covid years and pre Covid trends
- Extent of disease. Taking patient history. 62 is only looking at the problem from when they were seen, not the issue of whether they should have been seen sooner
- My concern is that the 62 target is not clinically relevant for all patients & could lead to inappropriate scheduling to meet the target
- Need a metric that identifies number of patients that have not come into system due to lack of access to GP / screening etc as this will impact on later surge in high grade cases

Radiotherapy and the Covid-Induced Cancer Backlog

As well as being asked questions about the covid-induced backlog broadly, respondents were also asked about how the backlog has affected patients attending their centre.

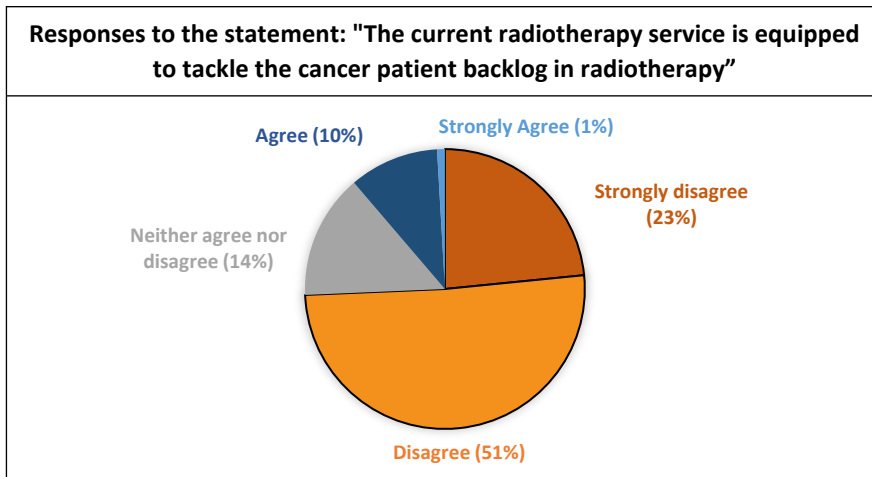
- 73% of respondents said that they had seen an increase in the number of palliative patients
- 70% said they had seen a shift in diagnosis of their patients to later stages of cancer

- 30% said that some patients were still actively waiting for treatment that had been disrupted due to the pandemic

Survey Question	Number of respondents (%)		
	Yes	No	Don't Know
Have you seen an increase in the number of palliative patients at your centre?	73%	10%	17%
Have you seen a shift to later stages of diagnosis in the patients at your centre?	70%	5%	25%
Do you still have patients, whose radiotherapy treatment had been disrupted due to the pandemic, actively waiting for treatment?	30%	40%	30%

Sadly, the Action Radiotherapy April 2020 survey gave insights into these outcomes, with 65% of respondents saying they were concerned or extremely concerned about the disruption to patient's treatment at the start of the pandemic.

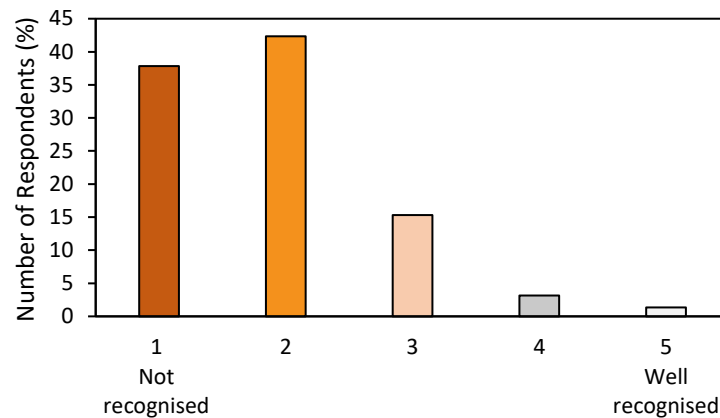
In this May 2021 survey, respondents were also asked if they thought that the "the current radiotherapy service is equipped to tackle the cancer patient backlog in radiotherapy", **74% of respondents disagreed or strongly disagreed that the radiotherapy service is equipped to tackle the radiotherapy patient backlog.**



The Role of Radiotherapy and the Covid-induced cancer backlog

Respondents were asked about the role radiotherapy can play in bringing down the cancer backlog waiting list caused by the pandemic, with **91% saying that it should play a significant or very significant role** and no respondents answering that it has no significant role. However, when asked to rate on a scale of 1 (not recognised) to 5 (well recognised), 38% of respondents said that this is not recognised by government and NHS leaders with the average score being 1.9.

Response to “To what extent do you think Government and NHS leaders recognise the role radiotherapy should play in bringing down cancer backlog waiting lists?”

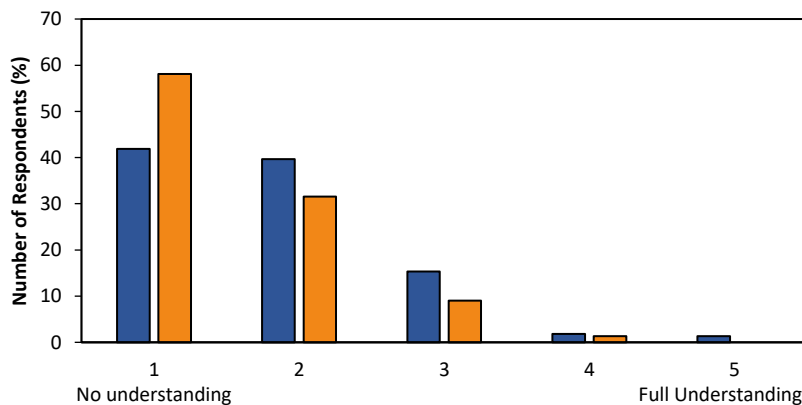


Not only do respondents think that the Government and NHS leaders don't recognise the potential of radiotherapy to bring down the cancer backlog waiting list, **more than half (54%) strongly disagreed that the current level of funding is enough to tackle the cancer patient backlog in radiotherapy.**

Appreciation of effect of current situation in radiotherapy on cancer patients and the workforce

The radiotherapy workforce felt that the Government do not understand how the current situation is impacting cancer patients or the workforce. When asked to rate from 1 (no understanding) to 5 (full understanding) if they felt the Government understand the impact of the current situation on cancer patients, 42% answered no understanding and when asked the same question about the impact on workforce, 58% answered no understanding. The average rating was 1.8 and 1.5, respectively.

Do you feel that the Government understand the impact of the current situation in radiotherapy on cancer patients (blue) and on the workforce (orange)?

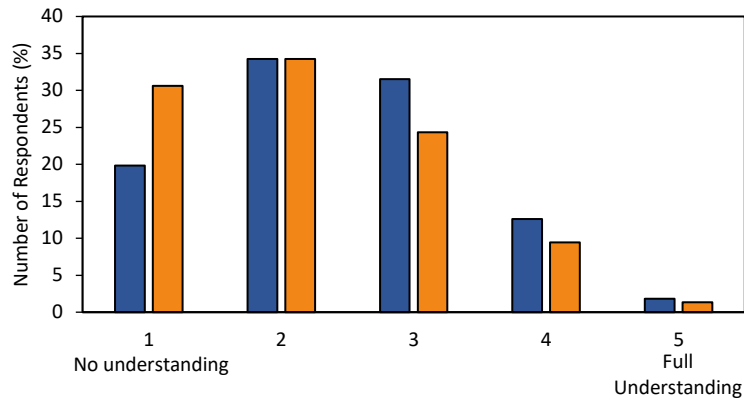


The same question was asked in the April 2020 survey, with very similar outcomes. The average response rating for the Government understanding on patients was the same as this year's result (1.8), whilst the understanding on patients was marginally higher at 1.7 compared with 1.5.

We also asked the same question in relation to senior NHS management, the average score was slightly higher for the understanding on patients (2.4) and on workforce (2.1), there was still 20% who

answered that senior NHS management had no understanding on the effect on patients and 31% on the workforce.

Do you feel that senior NHS managers understand the impact of the current situation in radiotherapy on cancer patients (blue) and on the workforce (orange)?

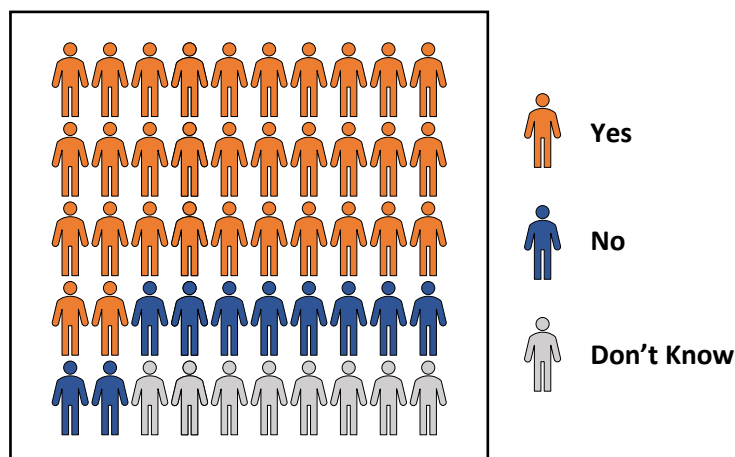


Finally, the respondents were asked if they think radiotherapy services receive sufficient funding that adequately reflects its clinical importance as a cancer treatment, **62% rated that the service was underfunded** on a scale of 1 – 5 (underfunded to well-funded). The average score was 1.5 with only one respondent rating the service as well funded reflecting its clinical importance.

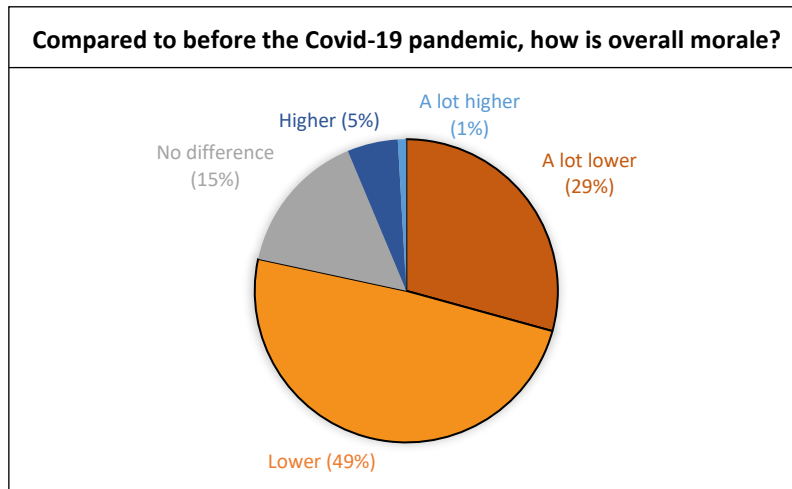
Workforce Morale

Finally, respondents were asked about the how the pandemic has affected workforce morale. **65%** of respondents said that the pressure of the pandemic or the recovery has caused themselves or colleagues to **consider leaving the radiotherapy profession**, with only 19% saying they or colleagues were not thinking of leaving the profession.

Has the pressure of the pandemic or the recovery caused you or any of your colleagues to consider leaving the radiotherapy profession?



And finally, **78%** of respondents said that morale amongst the team was lower or a lot lower than before the pandemic. This has increased as the pandemic has continued, in the 2020 flash survey, 52% said that morale was lower or a lot lower than before the pandemic.



Survey Results: Free Text Answers

As part of the survey, respondents were asked 4 questions with the free text answer option, comments fell broadly into categories for each question and below is a summary of the answers.

What ways of working in radiotherapy have been an advantage during the pandemic?

Firstly, overwhelmingly, an advantage that most respondents (approximately 118) commented on was the implementation of home or flexible working and the upgrade of electronic communication channels. These advantages included more people at multidiscipline team meetings and better organisation of meetings, flexibility with appointment times when clinics had been telephone led and general efficiency.

Next, a lot of respondents were grateful for their routine remaining, having contact with their colleagues and in their department felt like it was “teams pulling together”. It was also noted that there was more time for patients because of no waiting lists and reduced workflow.

Another advantage that was commented on was introduction of shorter fractionations and “Our ability to adopt new guidance and shorted treatment course where appropriate for the patients benefit”. For example, 5 fractions for breast treatment. These were done in line with guidelines, but many respondents felt like this was fast tracked by the pandemic and this was an advantage.

Finally, moving to paperless working was seen as an advantage by a lot of respondents. Some felt that “*red tape had been removed*” which had helped “*push through our paperless system which is almost up and running completely now and is use for SABR patients*”.

What problems have you faced in your radiotherapy department during the Covid-19 pandemic?

Almost half of the respondents commented on workforce shortages being a problem that they have faced during the pandemic, this was due to staff having to self-isolate, being redeployed to Covid-19 wards and shielding. Lack of adequate PPE was mentioned by a number of respondents with some noting that this is no longer an issue, however, it was noted that the reason for the inadequate supply was due to a “*misunderstanding of job role leading to incorrect advice regarding PPE*”.

Another problem was in a lot of responses was the effect of cleaning and social distancing on time and space. Capacity on machines was limited because of the extra cleaning needed and the already limited space was reduced further with the need for social distancing such as room capacity limits with one respondent suggesting that there needs to be “additional appointment times to take into account additional cleaning and changing in the room has had an impact with capacity”.

A lot of the free text answers commented on the morale of the workforce, from the question on the survey above we know that morale overall is much lower than before the pandemic. Some comments expanded on this and explained that it was due to worry of contracting and transmitting the virus (and the knock-on effect to family), no space for breaks, lack of understanding by senior colleagues and burn out or fatigue with one respondent saying “*We have worked harder and longer than ever before in my 20-year career to keep treatments going and keep up with referrals and demand. Staff exhaustion is a huge worry.*”

Patient treatment delay has had a negative impact on the workforce with one commenting “*Patients more unwell due to screening ceasing, delays in presentation and/or referral: this has a negative effect not only on patients and their families but also on the mental health and resilience of staff; particularly the less experienced staff who were not used to treating patients with such advanced disease*”. Many

responses included comments of patients presenting later with more advanced disease and the fact that they have had to delay some treatments such as prostates, that they felt could have been treated.

A lot of respondents also felt like there was a lack of communication and mixed messages from management, this was particularly regarding changes to guidelines or *“lack of information and clarity of information from the government about the situation and how back logs etc will be managed.”*

Another problem noted by respondents was the increased patient anxiety with a lot of this stemming from difficulties communicating due to less face-to-face contact with one respondent commenting that *“for lots more patients we are the first health professional they have met after being diagnosed”*. Another reason that a lot of respondents mentioned was the fact that patients had to attend appointments for treatment alone.

Another category that appeared, echoing the results of the survey above, was the poor IT and remote working infrastructure. This included limited licenses, paper heavy work and the availability of basic equipment such as headsets or speakers.

Finally, the anticipation of workload and catching up was noted as a problem by many respondents with some saying that capacity is terrible, and overtime is being used to try and treat additional patients that are coming through.

In your opinion, what immediate or innovative solutions can be implemented in radiotherapy to tackle the covid-induced cancer backlog?

The solutions suggested by respondents fell broadly into the following categories:

- Increased working hours

A lot of respondents suggested weekend and evening working was needed to tackle the covid induced backlog, however, many caveated this suggestion with the need for more funding for extra staff for these hours and not all respondents thinks this is possible with one writing that they are *“unable to extend working days due to staff shortages so more staff will lead to extending capacity and decreasing wait times”*

- Increased workforce

Many respondents commented on the lack of staff and that one solution would be to recruit more with other ideas including recruitment drives for university students, allowing overseas recruitment, funding for training staff with a lot commented this needs to be long-term and sustainable.

- Utilise the skills of the workforce

Some suggestions for solutions to the covid-induced cancer backlog included utilising radiographer skills in more advanced practice roles or to increase radiographer led services.

- Networking of centres

Using centres with spare capacity to treat patients if a nearby centre is over capacity was suggested, improving networking between departments to load balance and planning to be centralised so that it can be carried out by other centres with remote access if they have capacity.

- Equipment and Software

A lot of respondents said that they need more radiotherapy machines (linacs), upgrades to equipment to ensure efficiency, replacement programmes for linacs, investment in AI outline software solutions and better stocks of spare parts within radiotherapy centres to reduce downtime.

- Utilise private sector capacity

Some radiotherapy professionals feel that the private sector needs to be utilised to increase capacity.

- Cancer pathway improvements

A lot of respondents felt that improvements were needed across the whole pathway. This included better forecasting of workflow from GP referral, support in the diagnostic pathway, patient timeframes adhered to by all disciplines, the full diagnostic service needs to be up to pre-pandemic levels, increase funding to allow patients to be fast tracked, national campaigns to urge patients to see GPs when necessary and one person suggested “*modelling of the backlog versus pathways into the different treatment options may help identify where resources may need to be supported as opposed to a blanket wide approach?*”

- Hypofractionation

Respondents feel that departments should continue with shortened fractions where appropriate and identify other sites that would benefit to help tackle the cancer backlog. Other suggested that funding is needed to support SABR to improve the roll out.

- Bureaucracy

Some respondents suggested the need to “*Keep NHSE out of commissioning radiotherapy*” and that there was a need for “*rapid commissioning and appropriate reimbursement*”. And Trusts should be held to account on funding / budgets for radiotherapy departments.

- Radiotherapy profile

The results of the flash survey have made it clear that the radiotherapy workforce feel that there needs to be more awareness of radiotherapy with one respondent “*recognition that this is a valuable service which has kept going and delivering treatment and care throughout the pandemic*”.

Is there anything else that you'd like to tell us about?

Some direct quotes are shown below:

- *I think there needs to be more scrutiny of cancer services at national level and not just cancer wait targets. E.g. equipment replacement programs, investment in IT infrastructure, funding to support staffing levels. Trusts penalise RT over cancer surgery and we are seen as less vital. I think the pandemic has proven RT depts ability to adapt and deliver significant change.*
- *It is incredibly sad that the government and the NHS in general does not recognise us as a profession and there is a lot more to the NHS and cancer care than just doctors, nurses and chemotherapy*
- *Morale was low to start with but Covid has definitely made it worse. Patients very appreciative of staff and their efforts but unfortunately not reflected in support given by majority of senior managers*

- *Radiotherapy work hard and get very little recognition*
- *I think the pandemic has forced many staff to rethink their priorities and will result in staff losses/retirements etc going forward. I myself will soon be leaving a direct role in radiotherapy after 35 year's service.*
- *How Radiotherapy is commissioned makes it difficult to comply with development and providing the right services for patients*
- *Team have benefitted from feeling very supported by our Trust (hence increased morale) but I am aware this is unusual from talking to colleagues around the country*
- *No recognition that although some treatments were deferred, most radiotherapy departments continued to treat patients throughout the pandemic. We are the forgotten profession- all attention on doctors and nurses as usual*
- *RT should be equal to chemo in funding, innovation encouraged and new workforce trained to tackle the rising numbers. It's very effective for many patients.*
- *The 1% pay rise was such an insult. Band 5s don't even make around £25k - how is that reflective of how hard they work?*
- *COVID has exacerbated and already unsupportable situation within RT - years of underfunding at the 'coal face' is now beginning to show across the board - staff are running on empty and more and more is being asked of them - feels like there is no end in sight!!!*
- *The pandemic has highlighted how important Radiotherapy is in Cancer treatment and at the same time highlighted how underfunded and ignored Radiotherapy is. How woefully unprepared we were for this situation has had a massive impact of staff morale and departmental happiness. Nothing has been learned from this. Another wave of infection would show that nothing has changed. PPE is available in abundance but is poor quality and the plastic waste is soul destroying. The increase in Palliative patients is seemingly ignored by those higher up. How are we supposed to find the time in the day to treat these extra patients, how is staff mental health being prioritised? Telling us we can watch a webinar on mental health and wellbeing is pointless when there is no time in which to do it and the entire team are staying 1-2 hours past their home time every single day. I am sad for the current students who are rotating through our department at the moment.*
- *After 23 years I want to leave the NHS absolutely no thanks or gratitude for what we have done this year. Only going to get worse with backlog*
- *Very difficult time for profession*
- *The COVID response did give us some breathing space to prepare and implement things to benefit our patients when they come back, e.g. embed paperless working, implement SABR. However, we are waiting for our storm to hit. As the COVID wave dies down we are bracing ourselves for our Tsunami and there won't be resources diverted to help us. You can't redeploy staff to do our jobs.*

Appendix 1: Survey Respondents

Do you work in a Radiotherapy centre?

	Number of Respondents (%)
Yes, in the NHS	97
Yes, in the private sector	2

Where is your centre located?

	Number of Respondents (%)
England	87
Wales	7
Northern Ireland	2
Scotland	4

In which region of England is your Centre?

	Number of Respondents (%)
South West	17
Greater London	23
South East	13
North West	12
West Midlands	10
East Anglia	8
Yorkshire and the Humber	7
East Midlands	9
North East	1

What is your current occupation?

	Number of Respondents (%)
Therapeutic Radiographer	77.0
Medical Physicist	11.3
Dosimetrist	5.0
Clinical Oncologist	2.7
Engineer	0.9
Quality Manager	0.5
University Lecturer	0.5
Management role	0.5
Student therapeutic radiographer	0.5
Radiotherapy Quality Manager	0.5
Healthcare Science Support Worker	0.5
Planning Radiographer	0.5

Are you a Radiotherapy Services Manager?

	Number of Respondents (%)
No	93
Yes	7

Do you primarily work in a main centre or a satellite centre?

	Number of Respondents (%)
Main centre	94
Satellite centre	6

Appendix 2: Survey Questions

1. Do you work in a Radiotherapy centre?
2. Where is your centre located?
3. What is your current occupation?
4. Are you a Radiotherapy Services Manager?
5. Do you primarily work in a main centre or a satellite centre?
6. Please estimate how many hours of spare machine capacity you have at your radiotherapy centre, per day?
7. Additional referrals: Are you treating patients, who would usually be having chemotherapy or surgery, instead being referred for radiotherapy?
8. In June 2020, NHSE announced the expansion of the use of SABR for non-small cell lung cancer and those with lung, lymph nodes and non-spine bone oligometastatic disease, has your department been able to deliver this?
9. What are the reasons your centre is not using SABR for non-small cell lung cancer and those with lung, lymph nodes and non-spine bone oligometastatic disease?
10. Are you treating patients with SABR for other indications at your centre e.g. for prostate cancer?
11. What are the reasons your centre is not using SABR for indications such as prostate cancer?
12. How do you rate your access appropriate personal protective equipment (PPE)?
13. To what extent is the IT infrastructure at your centre capable of facilitating remote working, radiotherapy planning and networking?
14. What ways of working in radiotherapy have been an advantage during the pandemic?
15. What problems have you faced in your radiotherapy department during the Covid-19 pandemic?
16. Do you believe the NICE guidelines (NG162) using the RADS (Remote, Avoid, Defer, Shorten) principle to help plan patient treatment, were appropriate?
17. Do you believe the NICE guidelines (NG162), using the RADS (Remote, Avoid, Defer, Shorten) principle, should still be in place?
18. What percentage of the NICE guidelines NG162 were you realistically able to employ in your department?

19. How serious do you think the problem of the covid-induced cancer backlog is/will be?
20. Do you believe the 62-day wait target is the best measure of the number of patients in the cancer backlog?
21. What metric do you believe is more appropriate than the 62-day wait, to measure the number of patients in the cancer backlog?
22. Consider the statement "The current response of Government and NHS leaders to the COVID induced cancer backlog has been sufficient" Do you:
23. Have you seen an increase in the number of palliative patients at your centre?
24. Have you seen a shift to later stages of diagnosis in the patients at your centre?
25. Do you still have patients, whose radiotherapy treatment had been disrupted due to the pandemic, actively waiting for treatment?
26. Consider the statement "the current radiotherapy service is equipped to tackle the cancer patient backlog in radiotherapy" Do you:
27. How significant a role should radiotherapy treatments play in bringing down cancer backlog waiting lists caused by the pandemic?
28. To what extent do you think Government and NHS leaders recognise the role radiotherapy should play in bringing down cancer backlog waiting lists?
29. Consider the statement "The current level of funding is enough to tackle the cancer patient backlog in radiotherapy" Do you:
30. In your opinion, what immediate or innovative solutions can be implemented in radiotherapy to tackle the covid-induced cancer backlog?
31. Do you feel that the Government understand the impact of the current situation in radiotherapy on cancer patients?
32. Do you feel that the Government understand the impact of the current situation on the radiotherapy workforce?
33. Do you feel that senior NHS managers understand the impact of the current situation in radiotherapy on cancer patients?
34. Do you feel that senior NHS managers understand the impact of the current situation on the radiotherapy workforce?
35. Do you think radiotherapy services receive sufficient funding that adequately reflects its clinical importance as a cancer treatment?
36. Has the pressure of the pandemic or the recovery caused you or any of your colleagues to consider leaving the radiotherapy profession?
37. Compared to before the Covid-19 pandemic, how is overall morale?
38. Is there anything else that you would like to tell us about?