# PEER REVIEW HISTORY

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## ARTICLE DETAILS

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| **TITLE (PROVISIONAL)** | Longitudinal cohort study of the impact of specialist cancer services for teenagers and young adults on quality of life: outcomes from the BRIGHTLIGHT study |
| **AUTHORS** | Taylor, Rachel; Fern, Lorna; Barber, Julie; Alvarez-Galvez, Javier; Feltbower, Richard; Lea, Sarah; Martins, Ana; Morris, Stephen; Hooker, Louise; Gibson, Faith; Raine, Rosalind; Stark, Dan; Whelan, Jeremy |

## VERSION 1 – REVIEW

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| **REVIEWER** | Victoria White<br>Deakin University<br>Australia |
| **REVIEW RETURNED** | 14-Apr-2020 |

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| **GENERAL COMMENTS** | Thank you for asking me to review this paper which I found very interesting to read and learn of their research findings. The study reports results of a large longitudinal research project to assess outcomes including quality of life in a sample of teens and young adults (TYA) with cancer from the United Kingdom (UK). Strengths of the study are: large sample, longitudinal design, assessment over a three year interval involving 5 assessment points, use of a standardised measure of quality of life (QoL) and a strong analytic approach. Contrary to expectations the study finds that QoL is higher in those TYA patients not treated in a specialist TYA centre (non-TYA-PTC), although there was some suggestion that QoL of those patients treated in these specialist centres improved more quickly than QoL for those at non-TYA centres. The authors discuss possible reasons for this finding highlighting areas for further investigation. The study is novel and will be of interest to those working in the area of AYA oncology care and health administrators. However several areas of the text need to be addressed to strengthen the paper before it is published.<br>1) For those that are not familiar with the way the UK health system is structured, some information is needed regarding the delivery of care within a health care trust. For readers outside the UK it would be of interest to understand the age restrictions on patients attending paediatric centres (is 19 the cut off age?) and how the organisation of health care trusts influences the delivery of TYA care. In the limitations section of the Discussion the authors state: “For example, a Trust which included multiple hospitals could only have specialist TYA services in one therefore a young person receiving care in one of the other hospitals was assumed to have had access to specialist TYA services”. Does this mean that a young person attending any hospital in this trust would be classified as attending an TYA-PCT? Additionally in the conclusions the author state “Young people who receive some |

care in both a children’s or adult cancer unit and at a TYA-PTC also have an improvement in QOL, but the rate of improvement was less and QOL remained lower than for young people treated in a single type of organisation.” This is the first time that the author mention childrens or adult cancer unit and that others not at a TYA-PTC were at a single type of organisation. To make sense of these statements and the study findings, information on the type of hospitals included in the different categories, and how care is delivered is needed.

2) Following on from this, what sort of hospitals were the non-TYA-PTC patients treated in? Can they be described in terms of their provision of cancer care—are they specialist tertiary hospital? Are they paediatric hospitals that are not associated with the AYA specialist centres? A description of the type of hospitals in the three categories would be useful in assessing the implications of the study’s findings.

3) The Some-TYA-PTC group seem to fare the worse in terms of QoL on most measures compared to both the no TYA group and the all TYA group. This group also had a mean difference in QoL physical functioning greater than 8 (compared to the non TYA group) which seems to reach the clinically significant threshold. While there is some discussion regarding reason for this, at the moment the point that this group fares worse than the other groups seems to be lost in the text.

4) Presentation of results: I found the information in the figures presented in the supplementary information, more useful and informative in understanding what was going on regarding change in QoL for the three groups then the tables in the body of the text. I would suggest that the authors include these graphs in the main body of the paper. To accommodate this suggestion, I think information in Tables 2 and 4 could be combined and it may be possible to include the information in Table 3 in this new table as well.

5) The Discussion suggests that part of the reason for the findings may concern patient attending more than one hospital. Can information be provided regarding the number of hospitals people attended?

6) It doesn’t seem that the authors have controlled for any treatment factors in their analyses. Is this the case? I wondered if people having chemotherapy or major surgery were more likely to have lower QoL at recruitment and wondered if it was possible to examine this issue. If treatment data is not available, should this be noted at a limitation?

7) The authors conclude in the abstract “Receipt of some or all care in a TYA-PTC was associated with poorer QOL soon after cancer diagnosis, but a more rapid improvement in QOL 3-years after diagnosis. However, these changes were small and may not be clinically significant.” It is important to note here and in the conclusions to the paper that by the end of the study QoL in the non TYA group was still higher than QoL in the TYA groups.

8) Table 1: can you provide a % distribution for some age categories so we can see the age distribution across the groups.

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| | Also the category of single/divorced is a bit strange for this age group, can the divorced be separated here please.<br>9) The authors discuss the impact of people dying in their analyses, can they provide some information on how many participants died during their study and whether this was similar across the three groups. |

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| **REVIEWER** | Michael Osborn<br>Women's and Children's Hospital (North Adelaide) & Royal Adelaide Hospital<br>AUSTRALIA |
| **REVIEW RETURNED** | 05-May-2020 |

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| **GENERAL COMMENTS** | Thank you for the opportunity to review this report of the primary outcome of the Brightlight study, namely the evaluation of the impact of specialist TYA care on quality of life. The authors are to be congratulated on the enormous effort that went into this study, as well as being one of the first national groups to champion the importance of rigorously evaluating cancer services for TYA.<br><br>The key finding that quality of life was highest for patients receiving no TYA-PTC care is highly counter-intuitive. Once again, the authors are to be commended for presenting this data honestly, as well as their post-hoc analyses to determine whether certain biases may have influenced this outcome. I agree that there may have been an unidentified systematic difference in patients receiving no, all or some TYA-PTC care, and it is unfortunate that this was unable to be elucidated in the post-hoc analysis. In hindsight, it is interesting to postulate whether quality of life was the best outcome measure to evaluate, although I agree that it was a very reasonable choice given the primacy that this measure is given in the psychosocial literature. Perhaps analysing unmet needs, satisfaction with care, or experiences of care (see White et al's national survey of experiences of care in Australian AYA (JAYAO, 2018)) may have painted a different picture about the value of specialist TYA care. I will be very interested to see how these results influence the direction of TYA services in the UK, and will also be fascinated to hear about the secondary outcomes of the Brightlight study.<br><br>The manuscript has a number of other strengths, including:<br>- Analysis of quality of life out to 36 months (which is longer than most studies)<br>- The large numbers of patients accrued suggest that the data is representative. The authors downplay the numbers, but capturing 20% of the national total is excellent<br>- A wide range of hospitals were included. It would be interesting to see whether there was any variation in QOL data based on how well-established the unit was, differences in their multidisciplinary team make-up, and so forth. That said, I do appreciate that low numbers in individual centres and the confounding effect of greater complexity in quaternary centres would limit such an analysis.<br><br>I have a small number of minor suggestions, as follows:<br>- Page 3 Line 35: I'm not sure that it's accurate to say "Lower survival rates [in TYA] than younger children have fuelled…" While survival rates in TYA are lower than younger children in some specific cancer types, TYA have comparable 5-year survival to younger children when the groups are analysed as a whole (eg |

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| | NCRAS data in UK). Although this might seem pedantic, I would suggest saying “Lower survival rates than younger children in several common cancer types have fuelled ….”<br>- Page 3 Line 47 states “Specialised UK National Health Services (NHS) for young people with cancer have been mandated in England since 2005…” While this question may reflect my unfamiliarity with how the terminology is used, is it correct to refer to TYA services as “National Health Services (NHS) for young people with cancer?” My understanding was that the NHS referred to the broader health care system in England. Please double-check that the terminology is being used correctly in this sentence.<br>- Page 4 Line 53 (and later): Is “in-patient” usually hyphenated in the UK? I would usually write it without the hyphen, ie “inpatient”<br>- Page 5 Line 15: “NHS digital” – should digital be capitalised, ie “NHS Digital”?<br>- Page 6 Line 30 states “The extent and patterns of missing QOL data over time was examined…” Consider “were” instead of “was”<br><br>I have a couple of other thoughts which don’t necessarily require a response from the authors. I was interested in the suggestion in the discussion that the better quality of life reported in NO-TYA-PTC care vs the other groups “could reflect young people rating themselves by comparison with the other people they could see being treated for cancer outside of a TYA-PTC, including older adults.” On a related note, I wonder whether the strong emphasis placed on the unique issues faced by TYA with cancer by PTC staff may have heightened patients’ awareness of these problems in comparison to the NO-TYA-PTC group, and consequently lowered their perception of their quality of life while the NO-TYA-PTC group remained comparatively unaware of such concerns. Alternatively, I wonder whether the excellent advocacy undertaken by the Teenage Cancer Trust and TYA clinicians (over the same time that the Brightlight study was being conducted) may have enhanced non-PTC healthcare providers’ appreciation of TYA issues. Consequently, non-PTC clinicians may have been more likely to address psychosocial issues in TYA, fertility and so forth than they used to in decades prior. This may have somewhat diluted the benefits of being treated in a PTC.<br><br>In conclusion, Brightlight was an important study, and once the minor issues suggested in the dot-points above have been addressed, I would strongly support the publication of this manuscript. |

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| **REVIEWER** | Pandora Patterson<br>Canteen Australia, Australia<br>Cancer Nursing Research Instiute, The University of Sydney, Australia |
| **REVIEW RETURNED** | 03-Jul-2020 |

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| **GENERAL COMMENTS** | Thank you for the opportunity to review the manuscript, “Longitudinal cohort study of the impact of specialist cancer services for teenagers and young adults on quality of life: Outcomes from the BRIGHTLIGHT study”. This paper is an interesting and well thought-out investigation of how specific age-appropriate and multidisciplinary cancer services may impact the quality of life of TYAs (13-25 yrs). As the authors note, there has been limited work which actually describes the impacts of such services; on the whole, this is a comprehensive and well-written paper which makes a significant, novel contribution to the literature |

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| | on models of care for young people diagnosed with cancer. I have only a few minor comments about points that could be clarified or expanded on (see below).<br>Given that this journal is neither TYA- nor cancer-specific, it would be useful to outline the unique challenges and needs experienced by TYAs with cancer, and how those are addressed by TYA-PTCs- at present, this is mentioned quite broadly (i.e. “the distinct impact of cancer on young people’s wellbeing, such as in the physical, psychosocial and developmental domains”; “age-appropriate environments and multi-disciplinary teams”). It would also be useful to give some indication of how the decision about where a TYA receives care is made- it’s mentioned that age is a factor, but do other factors (e.g. illness severity, psychosocial needs) influence this?<br>Minor points from the introduction: some parts of the opening paragraph could be more clearly phrased (e.g. the first sentence) and better referenced (e.g. that survival is lower than in younger children).<br>Both the methods and results are clearly presented and explained. It is briefly noted that QOL was selected as the main outcome following consultations with patients and professionals- if there’s space, I would be interested in their reasoning behind this decision.<br>The discussion is comprehensive, acknowledging both study limitations and different possible explanations for findings. The authors mention differences between this cohort and those TYAs not recruited- a reference is given for this, but it would also be useful to briefly outline how these groups differ.<br>I wish the authors the best of luck with the revisions of their paper. |

## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Victoria White

Thank you for asking me to review this paper which I found very interesting to read and learn of their research findings. The study reports results of a large longitudinal research project to assess outcomes including quality of life in a sample of teens and young adults (TYA) with cancer from the United Kingdom (UK). Strengths of the study are: large sample, longitudinal design, assessment over a three year interval involving 5 assessment points, use of a standardised measure of quality of life (QoL) and a strong analytic approach. Contrary to expectations the study finds that QoL is higher in those TYA patients not treated in a specialist TYA centre (non-TYA-PTC), although there was some suggestion that QoL of those patients treated in these specialist centres improved more quickly than QoL for those at non-TYA centres. The authors discuss possible reasons for this finding highlighting areas for further investigation. The study is novel and will be of interest to those working in the area of AYA oncology care and health administrators. However several areas of the text need to be addressed to strengthen the paper before it is published.

- Thank you for reviewing our manuscript and making your suggestions. We hope we have answered these to your satisfaction.

1) For those that are not familiar with the way the UK health system is structured, some information is

needed regarding the delivery of care within a health care trust. For readers outside the UK it would be of interest to understand the age restrictions on patients attending paediatric centres (is 19 the cut off age?) and how the organisation of health care trusts influences the delivery of TYA care. In the limitations section of the Discussion the authors state: “For example, a Trust which included multiple hospitals could only have specialist TYA services in one therefore a young person receiving care in one of the other hospitals was assumed to have had access to specialist TYA services”. Does this mean that a young person attending any hospital in this trust would be classified as attending an TYA-PCT? Additionally in the conclusions the author state “Young people who receive some care in both a children’s or adult cancer unit and at a TYA-PTC also have an improvement in QOL, but the rate of improvement was less and QOL remained lower than for young people treated in a single type of organisation.” This is the first time that the author mention childrens or adult cancer unit and that others not at a TYA-PTC were at a single type of organisation. To make sense of these statements and the study findings, information on the type of hospitals included in the different categories, and how care is delivered is needed.

- We have expanded the introduction to give a more detailed description of how healthcare is delivered in England and specifically for TYA. Additional text has been added in the limitations to clarify that TYA receiving care in a TYA-PTC but not the hospital where the specialist unit is based would therefore be assigned incorrectly. The last point about children’s or adult care was included initially in the study design where we describe the categories and additional text has been added.

2) Following on from this, what sort of hospitals were the non-TYA-PTC patients treated in? Can they be described in terms of their provision of cancer care—are they specialist tertiary hospital? Are they paediatric hospitals that are not associated with the AYA specialist centres? A description of the type of hospitals in the three categories would be useful in assessing the implications of the study’s findings.

- The additional information included in the introduction clarifies the hospitals included in each category.

3) The Some-TYA-PTC group seem to fare the worse in terms of QoL on most measures compared to both the no TYA group and the all TYA group. This group also had a mean difference in QoL physical functioning greater than 8 (compared to the non TYA group) which seems to reach the clinically significant threshold. While there is some discussion regarding reason for this, at the moment the point that this group fares worse than the other groups seems to be lost in the text.

- Additional text has been added in the results highlighting this point.

4) Presentation of results: I found the information in the figures presented in the supplementary information, more useful and informative in understanding what was going on regarding change in QoL for the three groups then the tables in the body of the text. I would suggest that the authors include these graphs in the main body of the paper. To accommodate this suggestion, I think information in Tables 2 and 4 could be combined and it may be possible to include the information in Table 3 in this new table as well.

- All the figures have been presented in the paper (figures 1-4a-d), the supplemental file only contains the DAG matrix and data tables. As suggested tables 2 and 4 have been combined.

5) The Discussion suggests that part of the reason for the findings may concern patient attending more than one hospital. Can information be provided regarding the number of hospitals people attended?

• These data are currently not available but it has been noted to be considered in future analysis to further refine the categories.

6) It doesn't seem that the authors have controlled for any treatment factors in their analyses. Is this the case? I wondered if people having chemotherapy or major surgery were more likely to have lower QoL at recruitment and wondered if it was possible to examine this issue. If treatment data is not available, should this be noted at a limitation?

• The BRIGHTLIGHT severity scale took treatment burden into consideration as well as stage at diagnosis. However, this is a very valid point to raise as a potential confounding variable, therefore we included treatment as a latent variable into the DAG matrix and re-ran the analysis. This did not change the factors we needed to adjust for. We have updated the DAG matrix in the supplemental file to reflect this.

7) The authors conclude in the abstract "Receipt of some or all care in a TYA-PTC was associated with poorer QOL soon after cancer diagnosis, but a more rapid improvement in QOL 3-years after diagnosis. However, these changes were small and may not be clinically significant." It is important to note here and in the conclusions to the paper that by the end of the study QoL in the non TYA group was still higher than QoL in the TYA groups.

• The text in the abstract has been amended to reflect this, but in the main body of the paper this was already in the conclusion: "Young people who receive some care in both a children's or adult cancer unit and at a TYA-PTC also have an improvement in QOL, but the rate of improvement was less and QOL remained lower than for young people treated in a single type of organisation."

8) Table 1: can you provide a % distribution for some age categories so we can see the age distribution across the groups. Also, the category of single/divorced is a bit strange for this age group, can the divorced be separated here please.

• We have included a proportion in age categories but there were only 2 young people reporting as being divorced so we cannot present this separately due to confidentiality reasons

9) The authors discuss the impact of people dying in their analyses, can they provide some information on how many participants died during their study and whether this was similar across the three groups.

• There is a second paper in preparation which describes survival across the cohort and the three levels of TYA care, this paper also describes the number of patients dying and so we will not report it here.

Reviewer: 2
Michael Osborn

Thank you for the opportunity to review this report of the primary outcome of the Brightlight study, namely the evaluation of the impact of specialist TYA care on quality of life. The authors are to be congratulated on the enormous effort that went into this study, as well as being one of the first national groups to champion the importance of rigorously evaluating cancer services for TYA.

• Thank you for taking the time to review our manuscript.

The key finding that quality of life was highest for patients receiving no TYA-PTC care is highly counter-intuitive. Once again, the authors are to be commended for presenting this data honestly, as well as their post-hoc analyses to determine whether certain biases may have influenced this outcome. I agree that there may have been an unidentified systematic difference in patients receiving no, all or some TYA-PTC care, and it is unfortunate that this was unable to be elucidated in the post-hoc analysis. In hindsight, it is interesting to postulate whether quality of life was the best outcome measure to evaluate, although I agree that it was a very reasonable choice given the primacy that this measure is given in the psychosocial literature. Perhaps analysing unmet needs, satisfaction with care, or experiences of care (see White et al's national survey of experiences of care in Australian AYA (JAYAO, 2018)) may have painted a different picture about the value of specialist TYA care. I will be very interested to see how these results influence the direction of TYA services in the UK, and will also be fascinated to hear about the secondary outcomes of the Brightlight study.

• Thank you for your comment. QOL was chosen as the primary outcome based on young people's involvement from the onset in the study design. We also collected data on satisfaction, mental health, social support, illness perception, health status and experience of care (please see Taylor et al 2019, BMJ Open paper for details on this). This paper is reporting the primary outcome, QOL, and the other outcome measures will be reported in due course.

The manuscript has a number of other strengths, including:
- Analysis of quality of life out to 36 months (which is longer than most studies)
- The large numbers of patients accrued suggest that the data is representative. The authors downplay the numbers, but capturing 20% of the national total is excellent
- A wide range of hospitals were included. It would be interesting to see whether there was any variation in QOL data based on how well-established the unit was, differences in their multidisciplinary team make-up, and so forth. That said, I do appreciate that low numbers in individual centres and the confounding effect of greater complexity in quaternary centres would limit such an analysis.

• Thank you for your comment. The number of Trusts/hospitals young people attended would not make it feasible to undertake analysis at this level. However, how established a TYA unit was during recruitment is a factor which will be included in the secondary analysis we are undertaking to understand the SOME-TYA-PTC group.

I have a small number of minor suggestions, as follows:
- Page 3 Line 35: I'm not sure that it's accurate to say "Lower survival rates [in TYA] than younger children have fuelled…" While survival rates in TYA are lower than younger children in some specific cancer types, TYA have comparable 5-year survival to younger children when the groups are analysed as a whole (eg NCRAS data in UK). Although this might seem pedantic, I would suggest saying "Lower survival rates than younger children in several common cancer types have fuelled …."

• This has been changed as suggested.

- Page 3 Line 47 states "Specialised UK National Health Services (NHS) for young people with cancer have been mandated in England since 2005…" While this question may reflect my unfamiliarity with how the terminology is used, is it correct to refer to TYA services as "National Health Services (NHS) for young people with cancer?" My understanding was that the NHS referred to the broader health care system in England. Please double-check that the terminology is being used correctly in this sentence.

• The sentence has been amended.

- Page 4 Line 53 (and later): Is "in-patient" usually hyphenated in the UK? I would usually write it without the hyphen, ie "inpatient"

• This has been changed (and the manuscript checked so it is consistent throughout.

- Page 5 Line 15: “NHS digital” – should digital be capitalised, ie “NHS Digital”?

• Digital has been amended

- Page 6 Line 30 states “The extent and patterns of missing QOL data over time was examined…” Consider “were” instead of “was”

• This change as been made.

I have a couple of other thoughts which don’t necessarily require a response from the authors. I was interested in the suggestion in the discussion that the better quality of life reported in NO-TYA-PTC care vs the other groups “could reflect young people rating themselves by comparison with the other people they could see being treated for cancer outside of a TYA-PTC, including older adults.” On a related note, I wonder whether the strong emphasis placed on the unique issues faced by TYA with cancer by PTC staff may have heightened patients’ awareness of these problems in comparison to the NO-TYA-PTC group, and consequently lowered their perception of their quality of life while the NO-TYA-PTC group remained comparatively unaware of such concerns.
Alternatively, I wonder whether the excellent advocacy undertaken by the Teenage Cancer Trust and TYA clinicians (over the same time that the Brightlight study was being conducted) may have enhanced non-PTC healthcare providers’ appreciation of TYA issues. Consequently, non-PTC clinicians may have been more likely to address psychosocial issues in TYA, fertility and so forth than they used to in decades prior. This may have somewhat diluted the benefits of being treated in a PTC.

• We have added a sentence to reflect your first observation (about lowering their perception of QOL). However, other data we collected on the cohort does not suggest non-PTC clinicians were addressing psychosocial issues. These data are being reported elsewhere.

In conclusion, Brightlight was an important study, and once the minor issues suggested in the dot-points above have been addressed, I would strongly support the publication of this manuscript.

• Thank you again for reviewing our paper.

Reviewer: 3
Pandora Patterson

Thank you for the opportunity to review the manuscript, “Longitudinal cohort study of the impact of specialist cancer services for teenagers and young adults on quality of life: Outcomes from the BRIGHTLIGHT study”. This paper is an interesting and well thought-out investigation of how specific age-appropriate and multidisciplinary cancer services may impact the quality of life of TYAs (13-25 yrs). As the authors note, there has been limited work which actually describes the impacts of such services; on the whole, this is a comprehensive and well-written paper which makes a significant, novel contribution to the literature on models of care for young people diagnosed with cancer. I have only a few minor comments about points that could be clarified or expanded on (see below).

• Thank you for taking the time to review our manuscript.

Given that this journal is neither TYA- nor cancer-specific, it would be useful to outline the unique challenges and needs experienced by TYAs with cancer, and how those are addressed by TYA-

PTCs- at present, this is mentioned quite broadly (i.e. “the distinct impact of cancer on young people’s wellbeing, such as in the physical, psychosocial and developmental domains”; “age-appropriate environments and multi-disciplinary teams”). It would also be useful to give some indication of how the decision about where a TYA receives care is made- it’s mentioned that age is a factor, but do other factors (e.g. illness severity, psychosocial needs) influence this?

- We have added text to the introduction to clarify what makes a TYA unit different to a child/adult unit. We had included in the introduction that those over 19 years were supposed to be given a choice but additional text has been added for clarification.

Minor points from the introduction: some parts of the opening paragraph could be more clearly phrased (e.g. the first sentence) and better referenced (e.g. that survival is lower than in younger children).

- Thank you for this observation, we have made some changes to the text to reflect your comments.

Both the methods and results are clearly presented and explained. It is briefly noted that QOL was selected as the main outcome following consultations with patients and professionals- if there’s space, I would be interested in their reasoning behind this decision.

- The editor has requested a PPI section so this information is included.

The discussion is comprehensive, acknowledging both study limitations and different possible explanations for findings. The authors mention differences between this cohort and those TYAs not recruited- a reference is given for this, but it would also be useful to briefly outline how these groups differ.

- Additional text has been added to give an example.

I wish the authors the best of luck with the revisions of their paper.

- Thank you again for reviewing our paper.

## VERSION 2 – REVIEW

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| **REVIEWER** | Victoria White<br>Deakin University<br>Australia |
| **REVIEW RETURNED** | 24-Aug-2020 |

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| **GENERAL COMMENTS** | The authors have been responsive to my earlier comments and have addressed my concerns. Overall, my points have been addressed and I do not have any further comments or questions.<br>a minor point<br>the text "A Trust may comprise of one or several hospitals, each providing different or similar services, depending on local need[15]." is repeated at the end of the third paragraph in the introduction. |

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| **REVIEWER** | Michael Osborn<br>Royal Adelaide Hospital, Australia |
| **REVIEW RETURNED** | 31-Aug-2020 |

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| **GENERAL COMMENTS** | Thank you for the time and effort that you have put into revising your manuscript. As previously mentioned, I think this is an important study to publish.<br>I have only one minor comment. In my initial feedback, I noted that "Page 3 Line 51 states "Specialized UK National Health Services (NHS) for young people with cancer have been mandated in England since 2005..." While this question may reflect my unfamiliarity with how the terminology is used, is it correct to refer to TYA services as "National Health Services (NHS) for young people with cancer"? My understanding was that the NHS referred to the broader health care system in England. Please double-check that the terminology is being used correctly in this sentence."<br>The authors replied that "The sentence has been amended", but it does not appear that this is the case. Could you please either confirm that the terminology was being used correctly in your original manuscript/current revision or consider amending the sentence to read something like: "Specialised services for young people being treated for cancer within the National Health Service (NHS) have been mandated in England since 2005 by National Institute for Health and Clinical Excellence (NICE) guidance[3]."<br>Apologies if this seems pedantic. Once this point is clarified, I would be happy to recommend that the manuscript be accepted. |

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| **REVIEWER** | Pandora Patterson<br>Canteen, Australia<br>Cancer Nursing Research Institute, the University of Sydney, Australia |
| **REVIEW RETURNED** | 24-Aug-2020 |

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| **GENERAL COMMENTS** | Thank you to the authors for their revisions of the paper, which seem to adequately address reviewers' previous comments. I note that the section "The delivery of cancer care for TYA in England" (which was expanded in response to reviewer requests) could be revised to improve clarity and flow. It is currently a bit difficult to follow- especially the first paragraph in this section (e.g. some sentences are oddly phrased and hard to understand; the last sentence is repeat |

## VERSION 2 – AUTHOR RESPONSE

Reviewer: 1
Victoria White

The authors have been responsive to my earlier comments and have addressed my concerns. Overall, my points have been addressed and I do not have any further comments or questions.
• We would like to thank the reviewer for taking the time to review our manuscript a second time.

A minor point the text "A Trust may comprise of one or several hospitals, each providing different or similar services, depending on local need[15]." is repeated at the end of the third paragraph in the introduction.
• Thank you for pointing out this error. We have removed one of these sentences

Reviewer: 2
Reviewer Name: Michael Osborn

Thank you for the time and effort that you have put into revising your manuscript. As previously mentioned, I think this is an important study to publish.
- Thank you for re-reviewing our paper and for your recommendation.

I have only one minor comment. In my initial feedback, I noted that "Page 3 Line 51 states "Specialized UK National Health Services (NHS) for young people with cancer have been mandated in England since 2005..." While this question may reflect my unfamiliarity with how the terminology is used, is it correct to refer to TYA services as "National Health Services (NHS) for young people with cancer"? My understanding was that the NHS referred to the broader health care system in England. Please double-check that the terminology is being used correctly in this sentence." The authors replied that "The sentence has been amended", but it does not appear that this is the case. Could you please either confirm that the terminology was being used correctly in your original manuscript/current revision or consider amending the sentence to read something like: "Specialised services for young people being treated for cancer within the National Health Service (NHS) have been mandated in England since 2005 by National Institute for Health and Clinical Excellence (NICE) guidance[3]." Apologies if this seems pedantic. Once this point is clarified, I would be happy to recommend that the manuscript be accepted.
- We thank the reviewer for their vigilance and apologise for not amending the sentence. We have changed the text as it has been suggested.

Reviewer: 3
Reviewer Name: Pandora Patterson

Thank you to the authors for their revisions of the paper, which seem to adequately address reviewers' previous comments. I note that the section "The delivery of cancer care for TYA in England" (which was expanded in response to reviewer requests) could be revised to improve clarity and flow. It is currently a bit difficult to follow- especially the first paragraph in this section (e.g. some sentences are oddly phrased and hard to understand; the last sentence is repeated). Other than this, I am generally satisfied with the quality of the manuscript and revisions.
- Thank you for reviewing our paper for a second time. We have amended the first paragraph in this section believe it is now easier to read and understand.