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Grant ID:



College of Radiographers Industry Partnership Research Grant

Final Report Form

Please use the tab key to move to next question

1. Principal Investigator	Adam Ryder
2. Project Title	A survey study to investigate patient perceptions of whole-body imaging used in the diagnosis of myeloma
3. Amount of Grant	£1715.46
4. Did you spend the money as indicated in your proposal (if not why)?	
No. The budget in the proposal underestimated the required time release. However, the University and my employer (NHS) were able to provide printing and postage, freeing up funds of £291.56. These funds were combined with £121.39 of the travel and subsistence costs that were also in excess to provide an extra 15 hours of by out time, that my employer matched. £176 is still available for dissemination and conference costs in 2021.	
5. Did you reach your intended project outcomes (if not why)?	
Yes	
6. What are your significant findings?	
<p>Although whole-body imaging can elicit emotional and physical burdens, the myeloma group is highly accepting of the need for imaging.</p> <p>While all whole-body imaging modalities showed high acceptability, whole-body magnetic resonance imaging (MRI) was found to be significantly more claustrophobic and stressful than low-dose whole-body computed tomography or radiographic skeletal survey.</p> <p>With appropriate support, whole-body MRI is still achievable for the majority of myeloma patients.</p> <p>Staff interactions can have significant positive and negative effects on the acceptance and experience of whole-body imaging. Additionally, staff keeping patients informed before and during imaging increased acceptance.</p> <p>For some individuals living with myeloma, the physical manipulation required for radiographic skeletal survey is painful and presented a significant barrier to acceptance.</p> <p>A significant correlation was found between patients feeling 'in-control' of imaging and high acceptance scores. Methods of ensuring service-users maintain control throughout imaging should be explored.</p>	

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7. Have you submitted the work for publication (if so where)?

I am currently preparing a manuscript that will be submitted to Radiography for publication.

I have submitted an abstract for presentation at the UKIO 2021. This has been accepted for a short paper oral presentation

8. Have you presented the work at a national/international event (if so where)?

A poster presentation was accepted for the British Institute of Radiology's Annual Congress 4th - 6th November 2020.

[10.13140/RG.2.2.11357.64487](https://doi.org/10.13140/RG.2.2.11357.64487)

A poster aimed at informing the public of the research was submitted to my employers Patient and Public Involvement group for review. Both of these posters have been shared with two other NHS trusts that took part in the recruitment of study participants.

9. Please provide an executive summary of your work (two sides of A4 maximum)

N.B. If you already have a draft or final version of the proposed publication please attach this to the report.

Purpose

To investigate patient perceptions and acceptance of the three whole-body imaging modalities used for diagnosing myeloma; radiographic skeletal survey (RSS), low-dose whole-body computed tomography (LD-WBCT) and whole-body magnetic resonance imaging (WB-MRI). The secondary aim was to explore the factors affecting the acceptance of whole-body imaging for myeloma.

Methods and Materials

60 participants (median age = 58.5 years) were recruited from three NHS trusts and myeloma support groups via social media. They completed a survey that included scoring different aspects of their experiences of whole-body imaging on a 5-point rating scale. The Kruskal-Wallis test was used to analyse differences in the distribution of scores. Participants were invited to provide open text responses for thematic analysis.

Results

All modalities demonstrated high levels of acceptability (median score = 4). WB-MRI was perceived as more stressful ($p = 0.008$) and claustrophobic ($p = <0.001$) than RSS and LD-WBCT. Thematic analysis of open text responses showed patients understood the importance of imaging for diagnosis but were concerned about existing bone damage, pain experienced during imaging and the diagnostic outcome. The duration of WB-MRI had a negative effect on acceptance. Respondents were averse to the physical manipulation required for RSS, whilst remaining stationary was perceived as a benefit of LD-WBCT and WB-MRI. Staff interactions had both positive and negative effects on acceptance.

Conclusions

While myeloma patients perceived psychological and physical burdens associated with whole-body imaging, they accepted its role in facilitating diagnosis. Staff support has a significant influence on imaging

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