**EXPLORING THE TRANSLATIONAL CHALLENGE FOR MEDICAL RADIATION APPLICATIONS AND PROTECTION RESEARCH**

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The problem being addressed in the study

This study aimed to identify key barriers to innovation and to the translation of medical applications of ionising radiation and associated radiation protection research to clinical practice and also to inform the development of a framework with which to address the current lack of innovation transfer.

How the study was performed

A Delphi methodology was employed to gain consensus. In the first round a multidisciplinary panel of 20 generated a range of statements regarding barriers to translation. The subsequent two Delphi rounds called upon a broader panel of 130 to rate the extent to which they agreed with each statement as a key translational challenge via a 6-point Likert Scale (from 1=Strongly Disagree to 6=Strongly Agree). Consensus was defined as median ≥4 with ≥60% of responses in the upper tertile of the scale. Stability of responses was assessed via Wilcoxon Matched Pairs Signed Rank Test.

The important results

A highly satisfactory retention rate of 63.8% occurred across Delphi rounds. Consensus was reached for 60 statements, of which 55 statements showed good stability in responses and ten statements were identified as the highest priority challenges with ≥80% Agree/Strongly agree (these ten statements were under the following themes: Basic Research=3, Commercial Development=1, Clinical Implementation=2, Education & Training=4).

The conclusion of the study

A lack of interoperability, insufficient resources, unsatisfactory education and training, and the need for greater public awareness were identified as principal translational challenges.

The translational and innovative aspects of the work

Project findings will facilitate the development of a tailored innovation transfer framework for radiation research which addresses the identified challenges.

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