

## **Figure 1 - Addressing the challenges to design and deliver PBT clinical trials**

- i] Identify the scientific question** – Determine the primary aim of the proposed study
- ii] Clinical trial design and methodology** – Develop a network of clinical trial units to work with investigators to optimise study design.
- iii] Patient and public involvement and equipoise** – Use the very strong Patient and Public Involvement in CTRad and site specific groups. Detailed assessment of patient and clinician equipoise.
- iv] Disease specific trial development** - Engage with the NCRI Clinical Study groups (CSG) for each tumour site. CTRad will host PBT trials workshops.
- v] Collaboration and development** - Facilitate MalMM and accelerate study development. Encourage the next generation of clinical trial leaders and facilitate senior mentoring. Engage with other countries to identify the opportunities for international recruitment.
- vi] Radiotherapy Quality Assurance** - Work with the UK RTTQA group to optimise support for the planned clinical studies
- vii] Engagement with funding bodies** – Work with funders to optimise and prioritise opportunities to fund academic PBT clinical trials.
- viii] Translationally rich clinical trials** – Evaluate novel therapies in combination with PBT radiotherapy including embedded translational research