**Enabling patients to be partners in research – how to ensure publically funded applied health services research is fit-for-purpose**

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**Design of study:** Qualitative research

**Purpose:** Public engagement is considered a key element in healthcare research by UK and international funders to ensure research is relevant and achieve patient-centred outcomes. Without it, most applied or translational research is left unimplemented. Current guidance on engagement is limited. We report a model of integrating patients in research co-produced with end-users.

**Methods:** Available guidelines on patient and public involvement (PPI) were reviewed. We enlisted the help of local and national service user groups to recruit 7 patient participants to a 6-year mixed methods programme of DR screening research.

**Results:**

*Model:* Initial topic areas were identified by the research team for iterative development with the PPI group in consultative workshops. Questions were refined and selected as achievable by the lay group members. Information in suitable formats was developed to enable understanding. During workshops PPI members identified additional information required to enable their decision making. Qualitative researchers acted as ‘research connectors’ to communicate clinical and research context (eg. screening pathways, perceptions of risk, challenges to delivery). A minimum of three half day sessions was required before concluding a topic.

 A group with mixed ages, social and professional backgrounds was essential for a balanced discussion. Funding at agreed levels was required.

*Outcomes:* The PPI group has been running effectively for 5 years with high retention. The group directly inputted into: selection of candidate covariates for the risk prediction model, setting an acceptable risk threshold, prioritising research by identifying key patient-centred outcomes. Measures to improve screening attendance and study recruitment were suggested by observing screening clinics and the RCT consent process.

**Conclusions:**

The process of engaging with patients is iterative and the following factors are crucial to success: well defined questions developed by group members, consistent presence of academic experts in the topic, facilitation by non-experts acting as ‘research connectors’. We demonstrate public engagement is not a tick box exercise, it empowers patients and enables research outcomes that are mapped to patient needs.

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