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## Clinical Trials in the Brain Tumour Population: Challenges and Strategies for the Future

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## Abstract

**Purpose of review:** This review identifies challenges and barriers to successful development of drugs in neuro-oncology trials at the preclinical, clinical and translational stages that we believe has contributed to poor outcomes for patients over the last 30 years.

**Recent findings:** Several key strategies have been proposed by leading groups to address these and improve patient outcomes. Better preclinical testing using more sophisticated and clinically relevant models is needed. A greater focus on assessing blood-brain barrier penetrance and targeting key biological processes such as tumour heterogeneity and immune response is vital. Adopting innovative trial designs permitting faster results and addressing key issues (including molecular heterogeneity and combinatorial approaches) is highly desirable. A stronger translational focus is also clearly needed. Implementation of these strategies is already starting to occur. Maintaining and increasing these novel approaches will require coordinated efforts between clinicians, scientists, industry and funding/regulator bodies.

Keywords: Brain tumour; Challenges; Innovations; Trials.

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