

Improving retinoblastoma outcomes through a stage-based intervention model

Motivated by the summary of the global burden of blindness by Rupert Bourne and colleagues (December, p e339),¹ we believe an opportunity exists to reduce preventable blindness and potentially loss of life through development of interventions informed by public health theory. Retinoblastoma—a diagnosis that affects not only vision but also survival for many individuals—is the most common intraocular tumour of childhood. Although approaches that improve how health care is delivered have been a focus for management of paediatric oncology in low-income and middle-income settings, this essential focus is not sufficient. We propose a comprehensive approach to improve paediatric oncology outcomes in low-resource settings through a stage-based model that incorporates both social determinants of health and health behaviour theory.

Social determinants are the lived conditions (ie, social and economic) that influence wellbeing, and environmental influences on behaviour are those assessed with the health behaviour theory. Stages of change models (ie, those that recognise health behaviour as a series of progressive steps leading to sustained behaviour,

rather than a one-off event) have been used in cancer screening programmes within diverse economic and cultural settings.^{2,3} However, health behaviour models can guide all programmatic steps from the definition of the problem through to intervention planning, implementation, and assessment.⁴

Some childhood cancers, such as retinoblastoma, are almost uniformly curable with timely diagnosis and appropriate treatment in settings with adequate resources, but high morbidity remains in many resource-poor settings.⁵ A health behaviour framework would keep local acceptability, suitability, feasibility, and sustainability in view. Insight from the Precaution Adoption Process Model⁶ could guide community health workers from a stage of unawareness of the importance of eye screenings to engagement in screenings with a straightforward light reflex test and prompt referrals. Use of the stages of change model⁷ could support families who are fearful of stigma surrounding removal of the eye (the precontemplation part of the model) through to acceptance of an orbital prosthesis (the maintenance part of the model). Attentiveness to social determinants of health and health behaviour models could inform treatment abandonment prevention strategies⁸ by acknowledgment of the complex interplay between personal, environmental, and behavioural factors, with interventions that might not necessarily depend on costly advances.⁹ By combining components from such

models (appendix), optimum health interventions can be prioritised to overcome disease-specific and context-specific barriers to cure.

Application of social determinants of health and health behaviour theory to paediatric oncology interventions in low-resource settings has the potential to improve community support and subsequent survival outcomes.

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See Online for appendix