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## Prevention of transfusion-transmitted parasitic infections: Preventing transfusion-transmission of malaria in Africa

Transfusion-transmitted parasitic diseases remain a major obstacle to the provision of safe blood products for support of patients in many parts of the world. Transfusion-transmitted malaria in parts of Africa provides an example of the magnitude of this issue. Studies have demonstrated that 14-28% of the patients presenting for transfusion in Ghana are susceptible to transmission of malaria through the blood products that they receive. Screening of blood donations to prevent transmission is not feasible, as this could eliminate up to 50% of the donated blood products in a region where blood availability and supply is an issue. Recently developed methods for treating blood products prior to transfusion to inactivate pathogens that may be present have been implemented in various regions of the world. *In vitro* testing has demonstrated the efficacy of these processes for a number of bacterial, viral and parasitic agents. Until recently, however, the processes have been limited to treatment of platelet and plasma blood products. In regions of sub-Saharan Africa and other parts of the world, whole blood that has not been separated into components represents the major transfused product, which is given primarily for treatment of conditions such as post-partum bleeding, traumatic injury or support of patients with sickle cell disease. The ability to prevent transmission of disease in this setting would require treatment of all components of blood and preferably whole blood in order to keep the process simple and remain cost-effective. This presentation will focus on results from a clinical study on the prevention of transfusion transmitted malaria in Ghana and report the results of a clinical investigation of this approach and subsequent implementation of this method in large scale in the region. In addition, applicability to other disease transmission events for bacterial, viral and parasitic agents will be discussed.

### Biography

Raymond P Goodrich received his BS in Chemistry from Ohio State University and a PhD in Chemistry from California Institute of Technology. As the Executive Director of the Infectious Disease Research Center (IDRC) at Colorado State University, he has responsibility for oversight of the Biopharmaceutical Manufacturing and Academic Resource Center (BioMARC), Regional Bio-containment Laboratory (RBL) and the Research Innovation Center (RIC). He also holds a faculty appointment as Professor in the Department of Microbiology, Immunology and Pathology at Colorado State University and an Adjunct Professor of Chemistry at Ohio State University. He has worked in medical research for over 29 years during which he has managed research staff and development programs in the fields of transfusion and transplantation medicine and pathogen reduction technologies. He has been awarded over 58 patents covering technology in these areas and has co-authored over 200 peer reviewed articles and abstracts.

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