Rapid Geographic Risk Assessment and Model Development using GREAT and BRisk Applications

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Introduction

A major challenge for the FDA Center for Biologics Evaluation and Research (CBER) Office of Biostatistics and Epidemiology (OBE) is evaluating and responding quickly to emerging diseases that may impact the blood supply. When a new transfusion transmitted disease emerges, detailed information and knowledge about the disease is often limited, scattered across myriad sources, which complicates risk assessment for regulatory decision-making.

This interactive poster steps through the process of responding to an emerging disease using tools OBE developed, GIS-based Risk Evaluation and Assessment Tool (GREAT) and BRisk (Blood Risk), to expedite risk assessment and risk management, helping to assess potential policy options (blood testing or donor deferral) to protect the blood supply.

Interactive Experience: Use the Tools

A new transfusion-transmitted disease, Crimson fake disease, has emerged, and poses a risk to the U.S. blood supply. CBER needs to use BRisk and GREAT to evaluate potential responses.

Step 1: Use GREAT to identify regions of interest

Decision-makers would use GREAT to identify the regions that require deferral policies and/or blood testing.

Step 2: Use BRisk to compare policy options

Once the regions of interest have been identified, BRisk can be used to compute the transfusion transmitted cases for various policy options under consideration, in the example below, reducing transfusion transmitted cases by more than 90% in the United States.

Conclusions

The tools provide decision-makers with important information concerning identified threats and possible mitigations and assist in the development and evaluation of emerging donor deferral and blood screening policies.

Next steps include integrating BRisk and GREAT as well as migrating GREAT to the web.

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