

A DESIGN APPROACH TO INCREASE MINORITY BLOOD DONATIONS AND COMBAT THE RISKS OF CLIMATE CHANGE ON SICKLE CELL DISEASE PATIENTS

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INTRODUCTION

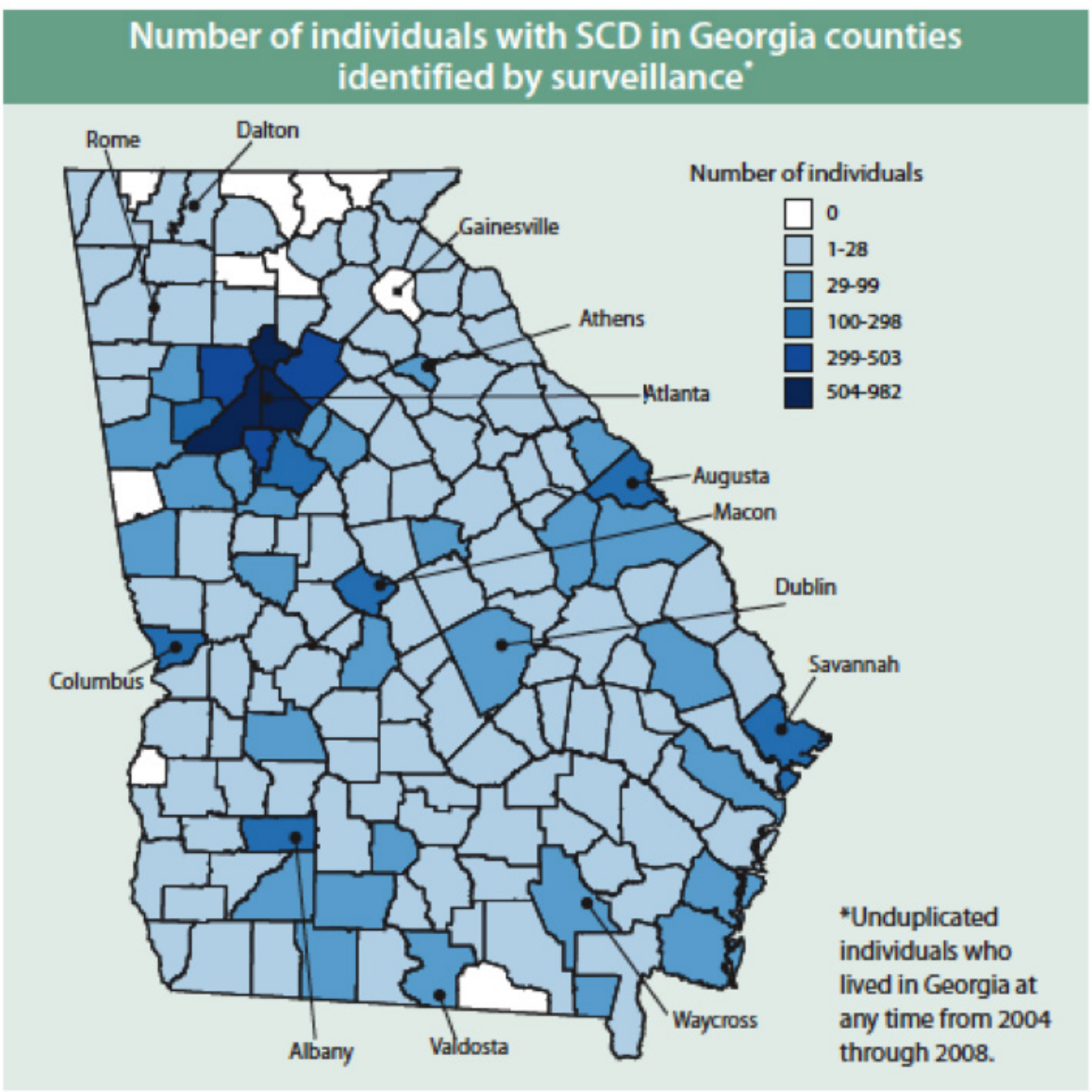
Sickle cell disease (SCD) is a chronic condition that causes red blood cells to form a sickle shape. These sickled cells block blood vessels and restrict oxygen delivery throughout the body. This causes SCD patients to suffer from organ failure and chronic pain crises.¹⁻⁴ SCD is a genetic condition that predominantly affects African Americans (AAs) in the United States. However, environmental factors related to climate change,⁵ such as extreme temperatures⁶ and air quality,⁷ are associated with the severity of disease complications.

Blood transfusions are an important therapy for patients who are experiencing SCD complications. A blood transfusion is a process that introduces healthy red blood cells and blood components from a donor to a recipient.⁸ A diversity of blood donors is critical to ensuring that the procedure is accessible to patients. To reduce the chances of complications from the procedure, the blood donor and blood recipient should have phenotypic similarities.^{3, 9}

AAs are underrepresented in the total blood donation pool. AAs are less likely to donate blood than other minority populations and whites.¹⁰ There is a need to increase AA blood donation to help reduce complications from blood transfusions. However, increasing donations has complexities of its own. Many research studies have focused on barriers to AA blood donations and recognize the need to strategize around those barriers and find pragmatic solutions.^{4, 11-15,16}

Goal: Reduce complications from blood transfusions by increasing minority blood donations (MBD).

Study objective: Synthesize research articles to inform intervention strategies for increasing MBD.

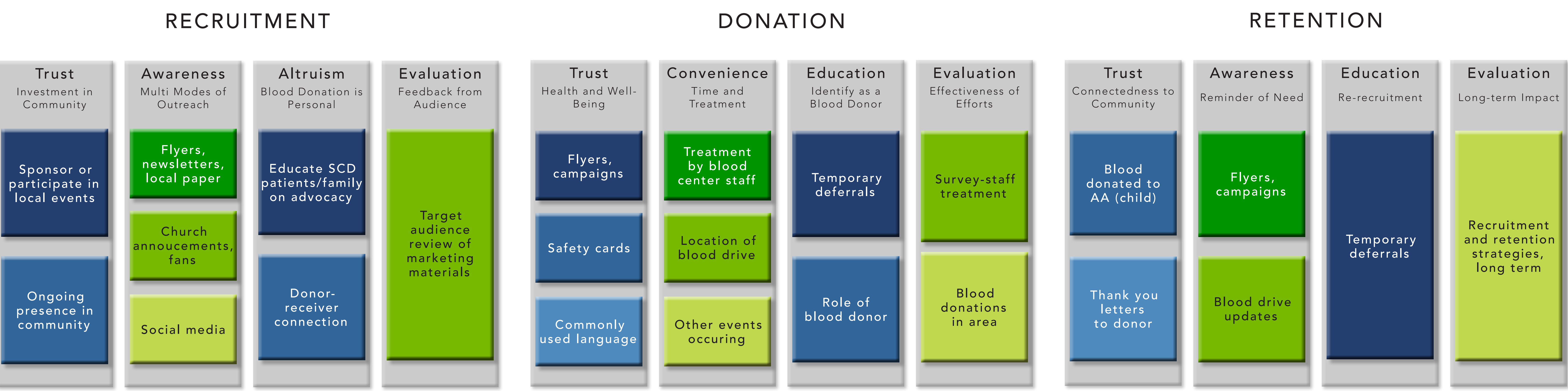


METHODS

I conducted a comprehensive review to compile evidence on motivators and barriers associated with AA blood donation, as well as strategies for increasing AA blood donations. I utilized PubMed, Medline, and CINAHL to identify relevant articles. Fourteen articles were identified and reviewed for prominent themes. The themes were then synthesized into conceptual “pillars” for each stage of blood donation. The pillars and stages served as the foundation for the strategic planning tool.

RESULTS

I identified the stages and pillars of AA blood donation. The data was synthesized to create a strategic planning tool that will be utilized as the foundation for community outreach efforts.



CONCLUSION

The effects of climate change are likely to increase the frequency and severity of disease complications requiring blood transfusion in individuals with SCD. In order to ensure transfusion safety, it is important that community advocates, patients, and providers strategize to increase blood donations among AAs.

This study synthesized scientific literature and translated it into practical resources for the community. Translating scientific research for community partners provides an evidence-based foundation to inform an organization’s practice and strategic planning.

We intend to disseminate the findings to help mitigate the added burden that climate change may create for patients with SCD.

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