

# **Towards equitable and sustainable availability of blood products in Zimbabwe: an analysis of strengths, weaknesses, opportunities and challenges**

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## **Abstract:**

Blood transfusion can be a lifesaving intervention in a number of medical emergencies. To attain sustainable and equitable availability of blood products, it is important to understand the strengths, weaknesses, opportunities, and challenges of the national blood services programme. We, therefore, with this letter to the editor, discuss some of the strengths, weaknesses, opportunities and threats to the Zimbabwean programme since its inception. Despite several strengths and opportunities that the national blood services of Zimbabwe (NBSZ) leverages on, we argue that among other challenges, donor shortages and an upsurge of transfusion transmittable infections in the eligible donor population continue to be the biggest threats to the achievement of the programme objectives. These can be addressed through expanding the blood donor base and the catchment area. Additionally, improving the level of knowledge and attitude towards blood donation in the communities is critical for driving the sustainable and equitable distribution of safe blood products to the population.

**Keywords:** Blood; Blood transfusion; Blood products; Healthcare

Dear Editor

Blood and blood products are listed as essential medicines by the World Health Organisation (WHO) [1]. Blood transfusion is a lifesaving intervention for numerous medical situations, both emergency and non-emergency. In Zimbabwe, the National Blood Transfusion Service Zimbabwe (NBSZ) is mandated by the Ministry of Health and Child Care (MoHCC) to collect, process, and distribute safe adequate blood and blood products. This letter discusses findings of a review conducted to assess the NBSZ' strengths, weaknesses, opportunities and challenges (SWOC) on the social lens to determine ways of sustainable and equitable availability of blood products to the population of Zimbabwe. This review is part of a larger review that aims to assess NBSZ SWOC across the political, legal, economic, environmental, technological and social (PLEETS) lenses. We searched for articles published in English on Google Scholar, PubMed, official public health websites operated by the government of Zimbabwe; and newspaper articles written and published within Zimbabwe. Table 1 presents our findings presented as strengths, weaknesses, opportunities and challenges in the Zimbabwe national blood services.

Several notable strengths were revealed especially on initiatives meant to promote and sensitize both prospective and current blood donors to be conscientious and unwavering in donating blood irrespective of geographical site. Facebook has partnered with the NBSZ to upsurge blood donations in the country [2]. The Government injected a sum of USD\$4,2 million subsidy into the NBSZ to waiver the cost of blood transfusion [3]. The NBSZ came up with several community outreach programs across the country to recruit additional blood donors and increase awareness for blood donation to match the increased demand of blood products. As an approach to augment this, the NBSZ has purposely assumed a cooperative position to enlighten, raise awareness and recruit as many blood donors as possible to increase the blood donor base to reach 1% of the country's population as articulated by WHO to garner blood sufficiency at all the times [4]. The NBSZ managed to overcome the challenges most of Sub-Saharan Africa faces around shortage and safety of blood by implementing robust diagnostics, blood donor screening algorithms for transfusion transmittable infections (TTI) in addition to donor enrolment and assessment form that also serves as a risk assessment tool and screens for high-risk behaviours in potential blood donors [5].

**Table 1:** Presentation of strengths, weaknesses, opportunities and challenges in the Zimbabwe national blood services

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Good engagement with blood donors.</li> <li>• Subscribing to WHO’s goal of obtaining blood from volunteer donors</li> <li>• Partnership with Facebook for advertising and informing the public on the importance of blood donations</li> <li>• Outreach programs targeting blood donors, with mobile groups across the whole nation</li> <li>• Hosting holiday blood drives pursuing both youths and adults to donate blood</li> <li>• Using youth-based programs such as Pledge 25 club</li> <li>• NBSZ participates incorporate wellness programs in collaboration with companies based in rural areas</li> <li>• Partnerships formed with like-minded organizations, for instance, The Junior Achievement Zimbabwe (JAZ) which has constructs that outspread to the rural communities.</li> <li>• The NBSZ has an all-encompassing approach for both rural and urban areas under its schools’ blood collection program</li> <li>• Robust blood donor screening algorithms for transfusion transmittable infections (TTI)</li> <li>• Media driven blood mobilization campaigns.</li> </ul>	<ul style="list-style-type: none"> <li>• High technical staff turnover</li> <li>• Lack of national blood transfusion policies</li> <li>• Shortages of up-to-date equipment and cold chain facilities</li> <li>• Poor donor retention systems</li> <li>• Poor quality and shortage of blood testing kits</li> <li>• Shortages of funds for procurement of consumables</li> <li>• Centralisation of offices in the country’s major cities.</li> <li>• Few and far from the community blood donation points, especially in rural areas</li> </ul>
Opportunities	Challenges
<ul style="list-style-type: none"> <li>• Further engagement with communities,</li> <li>• Repositioning of the NBSZ brand, team building, research on blood donor preferences and changing societal needs.</li> <li>• Establishing new national and multinational corporations</li> <li>• Engaging other social media platforms in addition to Facebook</li> <li>• Converting COVID-19 vaccination centres to blood donation points</li> <li>• Using COVID-19 platforms to develop policies for blood transfusion</li> <li>• Establishing partnerships with communities, local organizations, and religious and community leaders to recruit blood donors</li> <li>• Scaling up the existing virtual campaigns for blood drives</li> <li>• Engaging other telecommunication providers</li> <li>• Using election campaigning platforms</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of full alignment to organisational values and culture</li> <li>• Changing societal norms within the Zimbabwean population</li> <li>• Dealing with conflicting social beliefs that can hinder blood supply</li> <li>• Shortage of blood group O</li> <li>• COVID-19 pandemic</li> <li>• Power cuts affecting blood storage</li> <li>• High prevalence of HIV</li> <li>• Preferential delivery of blood and its products to paying private health facilities</li> <li>• Increased demand due to malaria-endemic</li> <li>• Depreciating road infrastructure</li> <li>• Transport shortages.</li> <li>• Knowledge gaps and misconceptions about blood donations.</li> <li>• High cost of blood production</li> </ul>

On the other hand, the systemic deficiencies upsetting the NBSZ include organizational challenges, inadequate funds, unsafe blood donations, outdated paraphernalia, low and or poor quality blood testing kits and an insufficient number of qualified staff [6]. Closure of the main sources of donors (schools and universities) during the COVID-19 pandemic was another challenge with the NBSZ reporting that the number of blood units had dropped by over 40% in 2020 relative to 2019 [7].

Some opportunities were also revealed. The NBSZ is in partnership with a few companies, including in rural areas, concerning blood donation which should be maintained, and new national and multinational collaborations established to increase the donor base. Since the NBSZ subscribes to WHO's goal of safe blood, transnational partnerships including sharing of excess supplies used in processing blood for transfusion can positively impact its operations [8]. Through these partnerships, the sharing of novel technologies and modernized scientific materials can benefit the NBSZ thus improve and strengthen their operations. Other social media platforms besides Facebook can be used to educate and motivate people regarding blood donation.

By scaling up the existing virtual campaigns for blood drives, the government and NBSZ have a distinctive opportunity to aid blood centres in swiftly reach a large audience in the areas most appropriate for them. Through the existing partnership with telecommunication companies, the NBSZ can send general reminders on the significance of donations well as remind donors when they will be eligible to donate again. This can also be scaled up to other telecommunication companies as well as through promotional messages.

With regard to challenges, as with the rest of the sub-Saharan African region, the demand for blood and its products is due to the high prevalence of anaemia because of malaria and pregnancy-related problems [9]. An upsurge of transfusion-transmissible infections like HIV-AIDS, Hepatitis B and C viruses, malaria and syphilis, especially in the population eligible to donate blood have all weighed down the donor base in Zimbabwe [10]. There have been intermittent shortages of essential materials needed to collect, test and store blood at the NBSZ in 2020 due to procurement challenges in importing consumables during the COVID-19 disruptions. Power cuts, and poor road infrastructure also remain important challenges.

Although there are numerous strengths and opportunities to strengthen equitable and sustainable availability of blood products in Zimbabwe, donor shortages and an upsurge of TTIs in the eligible

donor population continue to threaten the achievement of this program. There is a need to expand the donor base through targeted outreach programs. Further, the NBSZ, must urgently multisectoral collaboration between various relevant to be able to acquire high technology equipment necessary for these targets.

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