

Africa's Lifeline: Why Investing in Sustainable Blood and Plasma Systems is a Health, Economic, and Security Imperative

Position Paper
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Blood: The Lifeline of Resilient Health Systems

A stable and sufficient blood supply is fundamental to the resilience and effectiveness of any healthcare system; it underpins the ability to respond to routine medical needs, emergencies, surgeries, childbirth complications, and the treatment of chronic illnesses such as cancer and sickle cell disease. Without it, the consequences are fatal and often tragic.^[1]

Each life lost translates to grieving families, lost productivity, and increased burdens on already strained health systems. Economically, the ripple effects include higher long-term healthcare costs, reduced workforce participation, and diminished national development potential. Furthermore, inadequate blood access disproportionately affects the most vulnerable populations, deepening health inequities and undermining public trust in health services. In contrast, a well-functioning blood system is not just a health intervention it is a cornerstone of social stability, economic resilience, and national security.

Beyond Donation: Building the Full Blood Ecosystem

While regular blood donations are essential, they represent just one part of a broader, interconnected ecosystem. Ensuring universal access to safe, high quality blood requires:

- **Robust healthcare infrastructure** capable of collecting, testing, storing, and distributing blood safely.
- **Sound policy and regulatory frameworks** to standardize and enforce safety, quality, and ethical practices.
- **Integration of blood services into national health strategies**, ensuring long-term sustainability and alignment with broader health goals.

At the core of this ecosystem is the urgent need for sustainable financing. Governments must take the lead through strategic investments, well-structured budgets, and robust accountability systems. However, they cannot do it alone. Expanding the reach, equity, and capacity of lifesaving blood services across the continent requires strong partnerships—with the private sector, civil society, and international organizations working together to drive meaningful, lasting impact.

The Reality on the Ground: Fragile Systems and Unsustainable Dependence

Despite progress, significant gaps persist across much of Africa. Blood supply in several countries remains below the WHO-recommended threshold of 10 units per 1,000 population, and 19 out of 39 countries report that less than 50% of their donations are from voluntary, non-remunerated blood donations (VNRBD).^{[1] [2]}

Compounding the challenge is an overreliance on external funding. Many blood transfusion services still rely heavily on donor aid to support essentials from infrastructure and equipment to reagents and operational costs.^[3] Yet this funding is rapidly shrinking: projections show a steep decline from USD 80 billion

in 2021 to approximately USD 24 billion by 2025, with external financing still accounting for nearly 30% of total health expenditures in some countries.^[4] As a result, many countries are already facing serious consequences: interruptions in blood testing and availability, disrupted supply chains, delays in life-saving transfusions, and a concerning resurgence of family or replacement donations.

These disruptions lay bare the vulnerability of donor-dependent systems and underscore the urgent need to transition toward more resilient, domestically financed models. Without sustained, long-term investment in national blood systems, equitable access to safe blood will remain out of reach for many, placing the health and lives of millions at continued risk.

Blood, Budget, and Beyond: Unlocking Sustainable Healthcare Financing in Africa

If Africa is to address its current challenges and ensure the long-term sustainability of blood systems; a deliberate shift toward strengthening and diversifying domestic healthcare financing mechanisms is needed. This can be done via exploring the following strategic approaches:

1. Strengthening Domestic Resource Mobilization

Governments must recognize blood services as a critical component of essential healthcare infrastructure and ensure dedicated, ring-fenced funding within national budgets. Despite the landmark Abuja Declaration of 2001 which urged African nations to allocate at least 15% of national budgets to the health sector, many countries continue to significantly fall short, with some investing as little as 5-7%.^{[4] [5]} Achieving sustained and adequate financing for blood services requires not only strong political will and high-level leadership but also consistent support across all levels of government.^[4] Promising examples are emerging. With support from a USAID program, Liberia, Malawi, and Rwanda developed sustainable financing strategies using a three-tier approach: investment cases, integration into health planning which includes integration of blood service needs into routine government budgets, and revenue generation. Liberia has now increased its annual blood budget from \$50,000 to \$500,000, while Malawi created its first national blood investment case, improving budget visibility



and allocation. These successes show that with the right approach, countries can shift toward resilient, domestically funded blood systems.^[6]

2. Innovative Financing Mechanisms

To ensure the sustainability and accessibility of blood services, African governments should explore innovative financing mechanisms that integrate blood services into national health insurance schemes and implement equitable cost-recovery models.

a. Integration into National Health Insurance Schemes:

Incorporating blood services into national and community health insurance schemes offers a dual benefit: it protects patients from financial hardship and creates a sustainable funding stream for blood systems. By covering the costs of blood collection, processing, and transfusion, this approach reduces reliance on out-of-pocket payments and donor support. An example is Rwanda's community-based health insurance scheme, Mutuelles de Santé, which has achieved over 90% population coverage. This system includes essential services like blood testing and transfusion, significantly expanding access to care, enhancing financial protection, and supporting the long-term sustainability of health services while also reducing the risk of catastrophic health spending for households.^[7]

b. Implementation of Equitable Cost-Recovery Models:

Transparent and equitable cost-recovery mechanisms can enhance the financial sustainability of blood services.^[8] These models should be designed to avoid excluding vulnerable populations from access to necessary blood transfusions. Revenues generated through cost recovery should be reinvested into strengthening blood systems, particularly at the primary healthcare level, to ensure equitable access across all communities. An example here is South Africa. The country's blood services operate on a cost-recovery model, where the Ministry of Health covers the costs for public sector patients, and private sector patients are billed through their health insurance. This model ensures the sustainability of blood services while maintaining accessibility.^[9]

3. Fostering Public-Private Partnership

Collaboration with private sector entities can bring valuable innovations, financing, and operational efficiencies to national blood systems, strengthening their capacity and sustainability. One notable example is Rwanda's partnership with Zipline, whose autonomous drones have transformed blood delivery across the country. By reducing transport times from hours to just minutes, especially in critical situations such as postpartum haemorrhage (PPH) during childbirth, this innovation has significantly improved emergency response. As a result, Rwanda has seen a 51% reduction in in-hospital mortality from PPH, underscoring the life-saving potential of technology-driven public-private partnerships.^[10] Another example is Kenya's partnership with

Terumo Blood and Cell Technologies, aimed at introducing whole blood automation technology. This initiative is part of the country's broader strategy to modernize its blood transfusion services enhancing efficiency, improving quality, and ensuring the long-term sustainability of its national blood system.^[11]

4. Strengthening Monitoring, Accountability and Political Commitment

To translate plans into action and secure sustained funding. Achieving this requires involvement of key stakeholders, including civil society, development partners, private sector among others to hold governments accountable. Transparent reporting and inclusive oversight mechanisms can help maintain momentum, foster public trust, and drive continuous improvement in national blood systems.

Unlocking the Value of Plasma: A Strategic Health and Economic Imperative for Africa

One of the most promising solutions to Africa's underutilization of blood resources and limited access to plasma-derived medicinal products (PDMPs) lies in plasma fractionation the industrial process of separating plasma into therapeutic proteins such as immunoglobulins, clotting factors, and albumin.^[12] These products are essential for treating immune deficiencies, autoimmune diseases, and bleeding or coagulation disorders.

Currently, only about 66% of blood collected in low- and middle-income countries is processed into components, and PDMPs remain largely unavailable or unaffordable.^{[13] [14]} In Africa, the challenge is more acute: large volumes of recovered plasma are discarded due to the lack of local fractionation facilities. This results in significant resource wastage and limits the region's ability to meet growing demand for life-saving treatments.

From Waste to Wealth: Plasma as a Revenue-Generating Asset

Establishing plasma fractionation capacity presents a game-changing opportunity. By processing plasma locally, countries can reduce dependency on expensive imports, meet domestic health needs, and generate income through the export of surplus PDMPs. With the global plasma fractionation market valued at USD 37.31 billion in 2024, Africa must shift its perspective that plasma is not just a clinical by-product, but a strategic economic and health asset.^[15] Investing in this sector can enhance the resilience of blood systems, support economic growth, and improve access to life-saving therapies.

To unlock this potential, Africa must take deliberate and strategic steps toward establishing a sustainable plasma fractionation ecosystem:

1. Laying the Groundwork: Conduct National and Regional Feasibility Studies:

Governments and Regional Economic Communities (RECs) should begin by conducting comprehensive feasibility assessments to evaluate plasma collection volumes, infrastructure readiness, market

potential, and operational requirements. These insights will help determine whether national or regional approaches offer the most cost-effective path forward and ensure alignment with broader health and development goals.

2. Go Farther Together: Establish Regional Fractionation Hubs

Plasma fractionation demands major financial investment, sophisticated infrastructure, and regulatory oversight but the return on investment can be high. Beyond improving access to PDMPs, it can generate revenue and reduce costly imports. Rather than each country building its own facility, a regional hub model, coordinated through entities like the African Medicines Agency (AMA), can maximize efficiency and equity. Pooling plasma and sharing infrastructure ensures economies of scale and access for even smaller or resource-limited countries—delivering both clinical impact and economic returns.

3. Build Trust Through Strong Regulation

Robust regulatory frameworks and quality systems are non-negotiable for safe and effective plasma-derived therapies. However, a critical gap remains: many decision-makers lack awareness of the technical complexities involved in blood and plasma systems. Closing this knowledge gap is essential to galvanize the political and financial support needed.

Countries must align their regulations with international standards and invest in the technical capacity of national regulatory authorities. From plasma collection to pharmacovigilance, a clear and well-enforced regulatory environment builds trust, protects patients, and supports the safe scale-up of domestic production.

4. Accelerate Progress Through Strategic Technology Partnerships

Africa does not have to build this alone. Collaborations with experienced global fractionation organisations can fast-track progress by bringing in technical know-how, infrastructure expertise, and innovation. These partnerships also offer significant opportunities for local capacity strengthening developing skilled workforces, transferring technology, and enhancing regulatory systems. Well-structured partnerships grounded in mutual benefit and long-term vision will be crucial to achieving sustainability, local ownership, and resilience in plasma production.

Africa's Blood Economy: From Scarcity to Sovereignty

Africa's blood ecosystem stands at a pivotal moment. Once seen solely as a medical necessity, blood and particularly plasma must now be recognized as a strategic asset for health security, economic growth, and national sovereignty. The continent can no longer afford to waste its most precious resource. By investing in resilient blood systems, scaling up plasma fractionation, and forging smart, mutually beneficial partnerships, Africa can turn clinical waste into economic value and transform donor dependence into self-sufficiency. As declining donor funding poses real challenge it also opens the door to bold reimagination and innovation. This is Africa's chance to take ownership of its blood economy, grounded in sustainable financing, strong political leadership, and regional collaboration.

Every drop matters. Now is the time to lead, to build, and to claim the full potential of Africa's blood and plasma systems for health, for equity, and for the continent's future.

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