

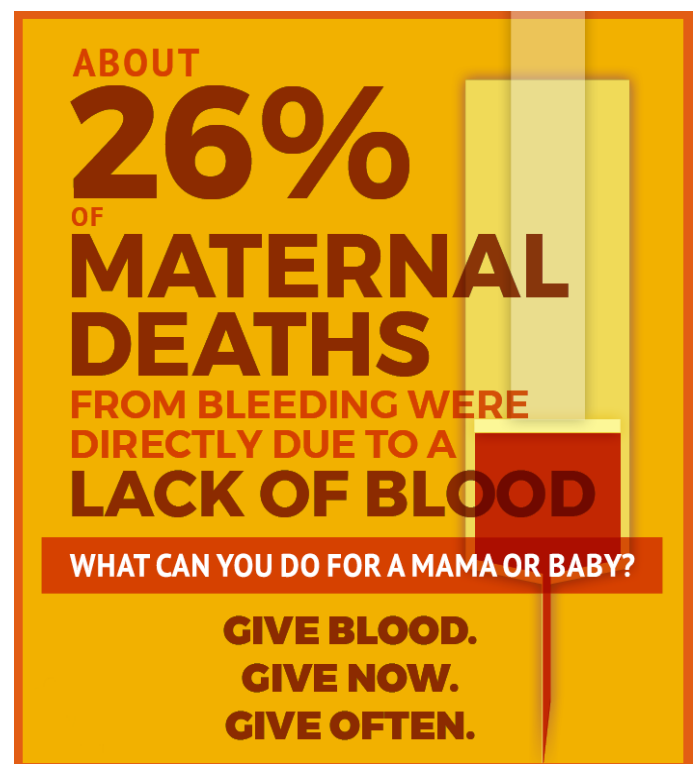


In 2015, an estimated 303,000 women died worldwide from complications related to pregnancy and childbirth<sup>1</sup>. Around two-thirds of these maternal deaths (66%) occurred in sub-Saharan Africa<sup>1</sup>, with severe bleeding as the leading direct cause accounting for nearly 24.5% of maternal deaths in this region<sup>2</sup>.

Key interventions to reduce maternal deaths from severe bleeding are skilled birth attendance, which includes the enabling environment to provide skilled care (e.g. availability of all essential drugs, supplies and equipment), and ensuring the availability of quality emergency obstetric care<sup>3,4</sup>. Blood is needed for caesarean sections and blood transfusions; two essential components of comprehensive emergency obstetric care<sup>3,5</sup>.

Women who haemorrhage while pregnant or around the time of delivery are at high risk of dying because once bleeding has started, death can occur in around two hours<sup>3,6</sup>. **It is crucial for women to have rapid access to adequate, safe, and affordable blood for transfusion<sup>3</sup> among other strategies to prevent maternal deaths from**

haemorrhage. Despite considerable progress made in recent years, a survey by the World Health Organization (WHO) shows that the African region has yet to meet the required need for blood and blood products<sup>7</sup>.



Source: Bates, I., Chapotera, G. K., McKew, S., & van den Broek, N. (2008). Maternal Mortality in sub-Saharan Africa: the contribution of ineffective blood transfusion services. *BJOG: An International Journal of Obstetrics and Gynaecology*, 115(11), 1331–9.

## THE WORLD HEALTH ORGANIZATION'S INTEGRATED STRATEGY FOR SAFE AND EFFECTIVE USE OF BLOOD INCLUDES<sup>8</sup>

- Establishment of a centralised, nationally-coordinated blood transfusion service
- Collection of blood only from voluntary unpaid blood donors from low-risk populations
- Testing of all donated blood, including for transfusion-transmissible infections (TTIs)
- Reduction in needless transfusions through the effective clinical use of blood

Go to [www.who.int/bloodsafety](http://www.who.int/bloodsafety) for more on WHO's recommendations on blood safety, developing a national blood system, and the clinical use of blood

## ACHIEVEMENTS OF NBTS

- Tanzania's National Blood Transfusion Service (NBTS) has more than **tripled** the total collection of **blood units** between 2005 and 2016 from 52,0009 to 196,735 units<sup>10</sup>
- Development of important **guidelines** such as the [Clinical Guideline for Appropriate Use of Blood and Blood Products](#)<sup>9,11</sup>
- Quality assurance: All blood samples are screened for TTIs at the zonal centres<sup>10</sup>

## CHALLENGES FACED BY NBTS

### 🌀 Unmet need for blood:

- An estimated 36% of all blood need is currently being met<sup>10</sup>
- Tanzania NBTS has set a target of 230,000 blood units and a total of 196,735 blood units were collected. They were, therefore, successful in meeting 86% of the target in 2016.<sup>10,12</sup>

### 🌀 Sustainability:

- Operations are mainly donor funded<sup>9</sup>

### 🌀 Donor recruitment:

- Increase in reliance on family replacement donors from 10%-15% (five years before 2016) to 21% (2016)<sup>12</sup>

### 🌀 Legal framework:

- Legal framework currently not in place<sup>9</sup>

### 🌀 Blood safety:

- More than 15% (30,297) of all blood units donated were discarded in 2016 due to TTIs (14.8%) and non-conformities (0.7%)<sup>10,12</sup>

### 🌀 Communication:

- Tanzania needs more up-to-date and publically accessible information

**AT LEAST 10  
WHOLE BLOOD UNITS  
PER 1,000 POPULATION  
ARE NEEDED ANNUALLY**



**3.6 BLOOD UNITS  
PER 1000 POPULATION WERE  
COLLECTED IN TANZANIA IN 2016**

**GIVE BLOOD TO SAVE  
A MAMA AND A BABY!**

## ACTIONS TO ADDRESS CHALLENGES

- Increase the supply of laboratory-testing equipment<sup>12</sup>
- Train transfusion staff in blood safety<sup>12</sup>
- Increase blood components production to 100%<sup>9</sup>
- Strengthen voluntary blood donor campaigns
- Strengthen communication and feedback mechanisms between NBTS, local government authorities and medical stores department<sup>12</sup>
- Develop cost-recovery plans, new-donor proposals and private-partnership plans<sup>9</sup>
- Draw on lessons learned from other countries<sup>12</sup>



## ORGANISATION OF THE TANZANIA NATIONAL BLOOD TRANSFUSION SERVICE

Established national policy	Yes, in 2005 <sup>13</sup>
Enacted legislative framework	In development <sup>14,15</sup>
Blood system: centralised or decentralised	Largely centralised; coordinated through seven zonal centres <sup>13</sup> . NBTS collects blood at the zonal centres and sometimes in collaboration with the local government teams. <sup>10</sup>  NBTS was established in 2004 <sup>16</sup>
<b>Blood supply by Tanzania's NBTS</b>	
Total population of Tanzania	54,200,000 (mid-2016) <sup>17</sup>
Estimated blood needed (units)	542,000 units <sup>17,18,a</sup>
Blood units collected by NBTS	196,735 units (2016) <sup>11</sup>
Estimated blood needed per 1,000 population	10 units per 1,000 population <sup>18</sup>
Blood units collected by NBTS per 1,000 population	3.6 units per 1,000 (2016) <sup>17,10,a</sup>
<b>Donor population</b>	
Voluntary unpaid donors <i>WHO recommendation: 100%</i>	No data available for 2016. It was, however, about 80% within the Tanzania NBTS network in 2014 <sup>19</sup>  No data on voluntary unpaid donors in hospitals <sup>19</sup>
Family replacement donors	Within the Tanzania NBTS network it is about 21% (2016). <sup>12</sup> Most of the hospitals do practice family replacement blood donation <sup>19</sup>
<b>Blood use towards maternal, newborn, and child health</b>	
Percentage of safe blood used for maternal, newborn, and child health	Over 70% was distributed to pregnant women and children under-five years of age (12% and 59%, respectively) in 2016 <sup>10</sup>
<b>Blood Safety and Screening</b>	
Blood tested for transfusion-transmissible infections	Yes, blood screened for HIV, Hepatitis B and C, and syphilis <sup>20</sup>
Percentage of TTIs among all blood units collected	Total: 14.8% <sup>12</sup> Hepatitis B: 6.2% <sup>12</sup> Syphilis: 3.1% <sup>12</sup> HIV: 2.9% <sup>12</sup> Hepatitis C: 2.6% <sup>12</sup>
Percentage of TTIs by donor population	Voluntary, unpaid donors: 12.7% <sup>12</sup> Family replacement donors: 21.5% <sup>12</sup>

To find out more about Tanzania's National Blood Transfusion Service and where you can donate blood, please visit: [www.nbts.go.tz/](http://www.nbts.go.tz/)



## Notes

<sup>a</sup> The World Health Organization recommends that the minimum level of blood needed is 1% or 10 units per 1,000 population<sup>18</sup>. For 2016, the estimated population in Tanzania was 54.2 million (mid-2016)<sup>17</sup> and an estimated 196,735 units of blood were collected between January-December 2016<sup>19</sup>. The units collected per person was therefore  $196,735 \text{ units} / 54,200,000 = 0.003629796$  units per person. Therefore the units collected per 1,000 people was  $0.003629796 \times 1,000 = 3.629797048$  units per 1,000 population (rounded to 3.6).

## References

1. World Health Organization, UNICEF, UNFPA, The World Bank, & the United Nations Population Division. (2015). Trends in Maternal Mortality: 1990 – 2015. Estimates by WHO, UNICEF, UNFPA, The World Bank Group and the United Nations Population Division. Geneva: WHO.
2. Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A.-B., Daniels, J., Metin Gülmezoglu, A., Temmerman, M., & Alkema, L. (2014). Global Causes of Maternal Deaths: A WHO Systematic Analysis. *The Lancet Global Health*, 2(6), e323 - e333.
3. Bates, I., Chapotera, G. K., McKew, S., & van den Broek, N. (2008). Maternal Mortality in sub-Saharan Africa: the contribution of ineffective blood transfusion services. *BJOG : An International Journal of Obstetrics and Gynaecology*, 115(11), 1331–9.
4. World Health Organization. (2004). *Making Pregnancy Safer: The Critical Role of the Skilled Attendant: A Joint Statement by WHO, ICM and FIGO*. Geneva: WHO.
5. World Health Organization, UNICEF, UNFPA, & Averting Maternal Death & Disability, & . (2009). *Monitoring Emergency Obstetric Care: A Handbook*. Geneva: WHO.
6. Family Care International Inc & Gynuity Health Projects. (2006). *Postpartum Hemorrhage: A challenge for safe motherhood*. New York: Family Care International, Inc. & Gynuity Health Projects.
7. World Health Organization Regional Office for Africa. (2017). Current Status on Blood Safety Availability in the WHO African Region: Report of the 2013 Survey. Brazzaville: WHO Regional Office for Africa.
8. World Health Organization. (2009). *Aide-memoire: Blood Safety for National Health Programmes*. Geneva: WHO.
9. National Blood Transfusion Services Tanzania. (2013). Presentation: Status of Implementation of Quality Management System. In *Evidence for Action National Blood Transfusion Service Regional Exchange and Learning Visit, September 16-20 2013*. Dar es Salaam, Tanzania.
10. Juma, A. National Blood Transfusion Services Tanzania, Personal Communication, 24 May 2017
11. Ministry of Health, Community Development, Gender, Elderly and Children [United Republic of Tanzania]. (2015). *Clinical Guideline for Appropriate Use of Blood and Blood Products*. Nairobi: Ministry of Health, Community Development, Gender, Elderly and Children.
12. Ministry of Health, Community Development, Gender, Elderly and Children [United Republic of Tanzania]. (n.d.). *National Blood Transfusion Service Blood Collection Report: January-December 2016* Dar es Salaam: Ministry of Health, Community Development, Gender, Elderly and Children.
13. Ministry of Health [Tanzania]. (2005). *Tanzania National Blood Transfusion Service Policy Guidelines*. Dar es Salaam: MoH.
14. Centers for Disease Control and Prevention. (2008). Progress Toward Strengthening Blood Transfusion Services - 14 Countries, 2003-2007. *MMWR Weekly*, 57(47), 1273–7.
15. Juma, A. National Blood Transfusion Services Tanzania, Operations Officer. Personal Communication, 16 April 2014.
16. Centers for Disease Control and Prevention. (2011). Progress Toward Strengthening National Blood Transfusion Services - 14 Countries, 2008-2010. *MMWR Weekly*, 60(46), 1578–1582.
17. Population Reference Bureau. (2016). 2016 World Population Data Sheet. Washington DC: PRB
18. World Health Organization. (2010). *Towards 100% Voluntary Blood Donation: A Global Framework for Action*. Geneva: WHO.
19. Juma, A. National Blood Transfusion Services Tanzania, Operations Officer. Personal Communication, 2 June 2015.
20. National Blood Transfusion Services Tanzania. (2013). Presentation: National Blood Transfusion Service Regional Exchange and Learning Visit. In *Evidence for Action National Blood Transfusion Service Regional Exchange and Learning Visit: September 16-20 2013*. Dar es Salaam, Tanzania.

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