

# Blood management at Volta Regional Hospital (VRH, now Ho Teaching Hospital), Ho, Ghana: a quality improvement project.

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## Background:

- VRH (subsequently Ho Teaching Hospital) is the main referral centre for south-east Ghana's population of over 2.4 million people. **Demand for blood products is high** with frequent presentations of severe anaemia due to malaria, Sickle Cell Disease (SCD), polytrauma and postpartum haemorrhage. A very limited pool of voluntary donors means **blood stocks are low**. Resource constraints limit the capacity for accurate blood screening, creating significant risks for transfusion-associated infection and morbidity.
- In 2017 Dhariwal et al(1) found that 48% of blood products at VRH were not issued in concordance with the NBSG\*(2) National Guidelines. In 2018 we built on this study by **implementing a new blood product request form**, aiming to reduce inappropriate transfusions and optimise stocks. This required as a minimum (outside of emergencies), a pre-transfusion Hb and an NBSG Guideline-recognised product indication, before blood could be issued.
- In addition, we re-formed a **specialist Sickle Cell Disease clinic**, to improve the quality of life of people with SCD & further reduce the demand for transfusions, by commencing **hydroxycarbamide for patients with severe phenotype HbSS disease**.

## Results:

- 161 products were issued to 98 patients: 81% whole blood, 17% packed red cells and 2% fresh frozen plasma (FFP).
- Following introduction of the new blood product request form in 2018, **non-concordance with NBSG National Guidelines was significantly reduced:- 32% compared to 48% pre-intervention (P=0.001)**. Fig. 1 shows this improvement was consistent across all involved clinical specialties.
- In addition, weekly **blood usage was reduced by 33%** (72.3 vs 48.5 units/week, Fig. 2) compared to pre-intervention.
- Over the study period, 15 of 47 patients seen in the reinstated SCD clinic with severe phenotype HbSS were successfully started on hydroxycarbamide.

## Conclusion:

**Making the blood product request form comply with the NBSG Guidelines led to a significant increase in concordance of requests with these guidelines, and a subsequent reduction in blood usage. Encouragingly, this reduction appears to have been maintained and the SCD continues to flourish.**

## Selected References:

- 1), Dhariwal A., Allotey E., Fisher A., & Bates E. Adherence to clinical guidelines for use of blood components at tertiary hospital in Ghana, ISBT Science Series, 2018 0 1-1
- 2).Acquaye, J., Damale, N., Laryea, C., Ekem, I., Aniteye, E., Ansah, J., Asamoah-Akuoko & Owusu-Ofori S. National Guidelines for the Clinical Use of Blood & Blood Products in Ghana, 2013 \*National Blood Service Guidelines

