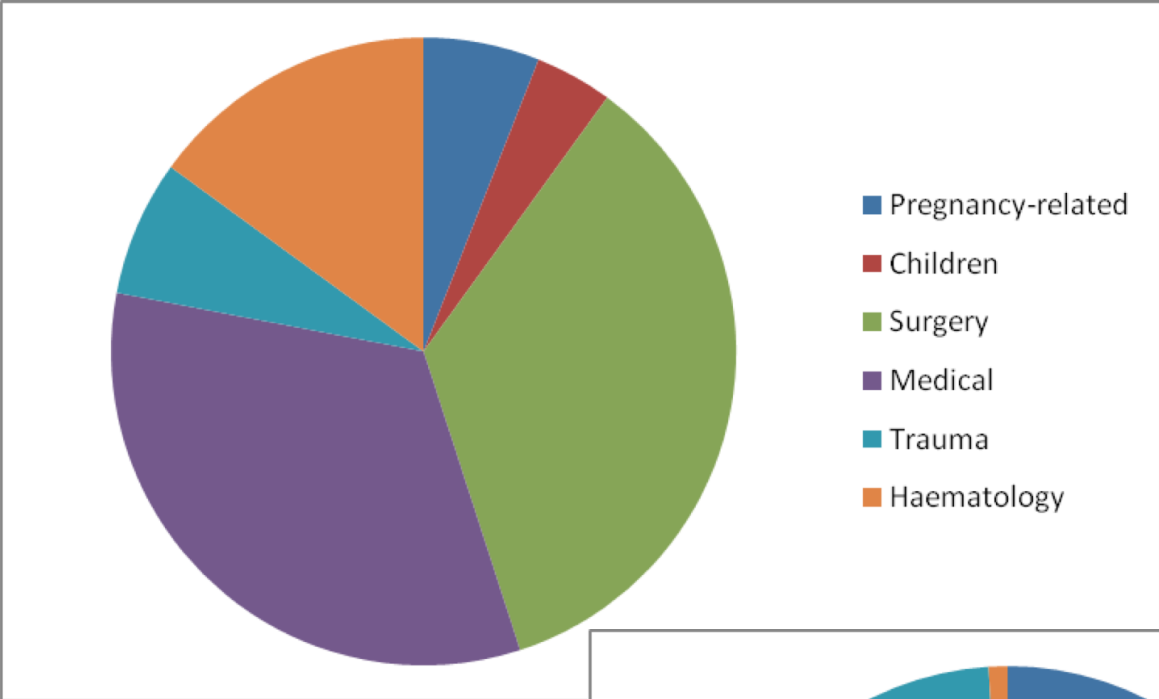


# Issues for transfusion

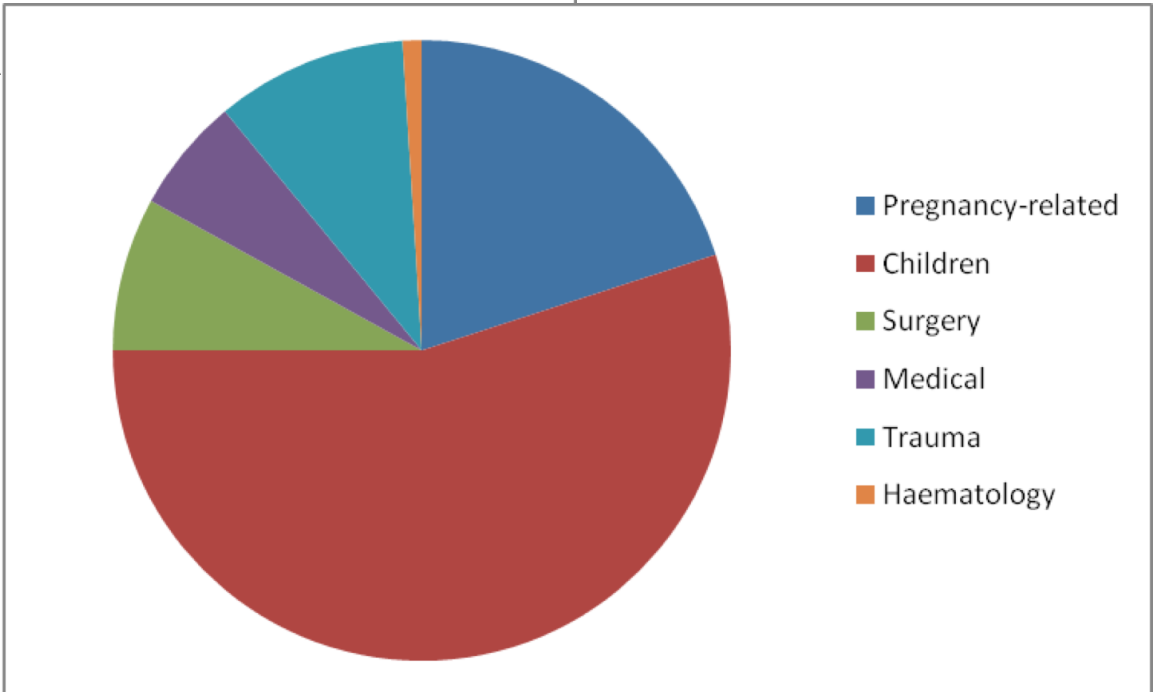


- Who? (needs Tx)
- How ? (volume)
- When (timing)
- What? (supportive strategies)

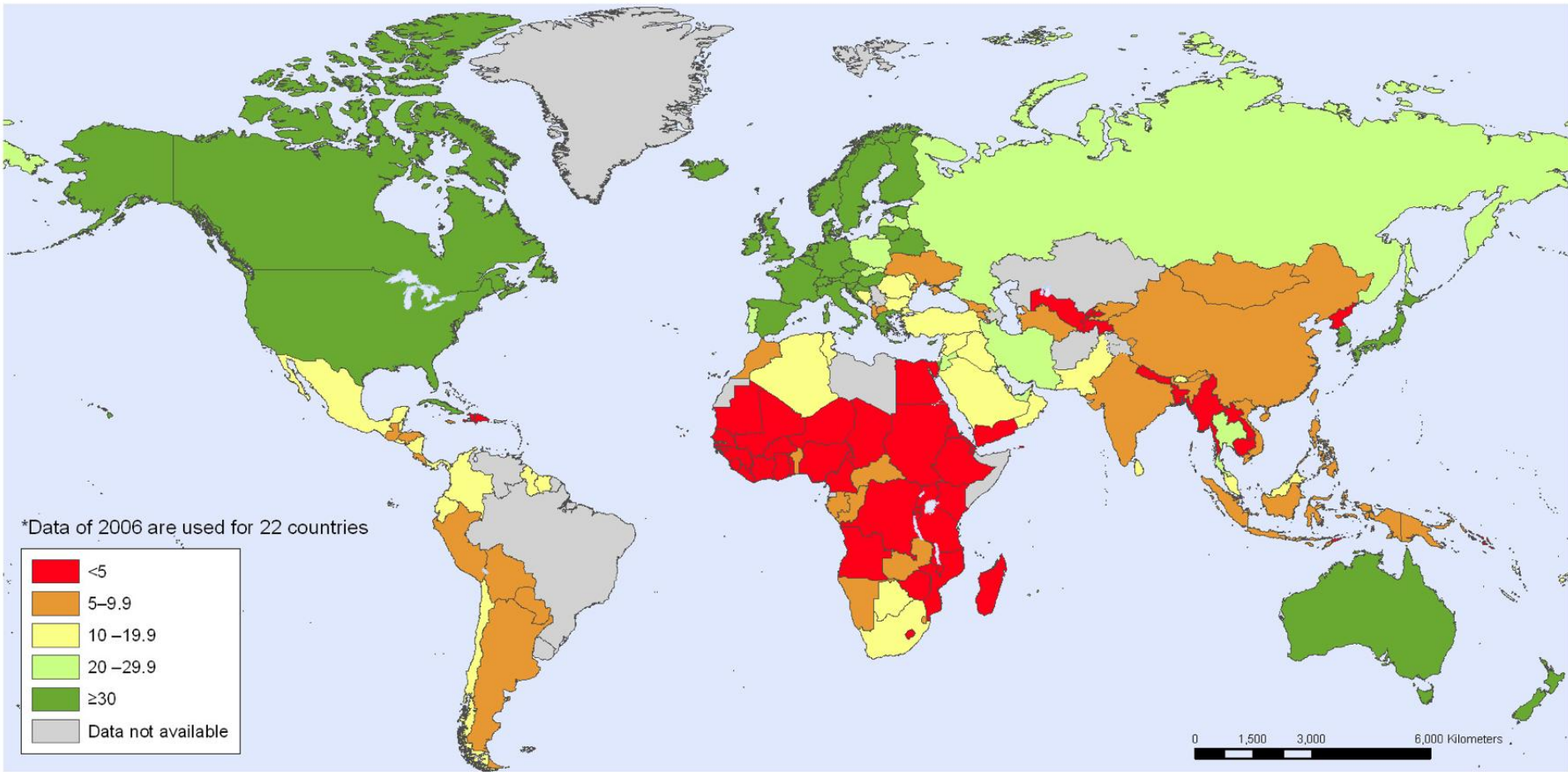
# Demand for blood



## USA Vs Africa



# Blood donations per 1000 population, 2007\*



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
Map Production: Blood Transfusion Safety (BTS)  
World Health Organization

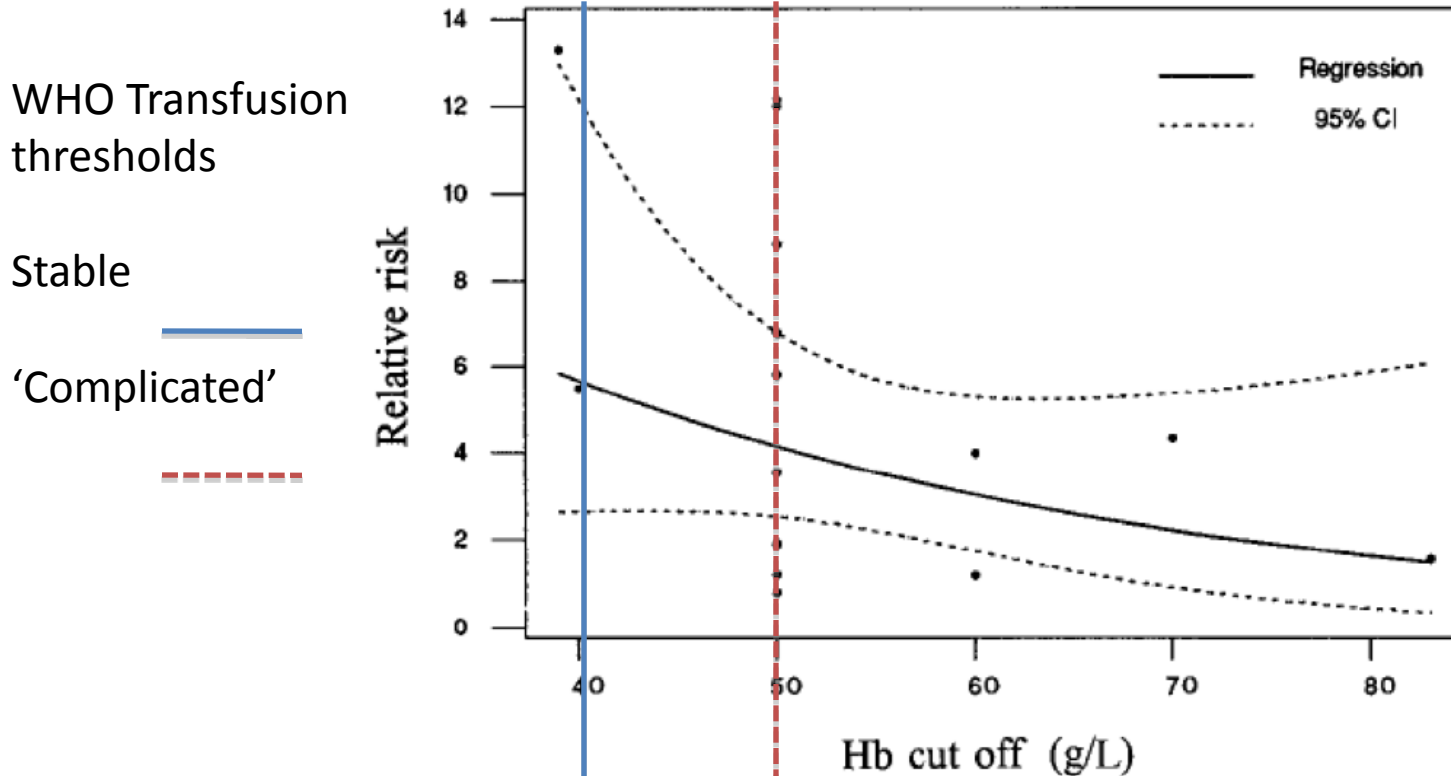


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# Severe anaemia in sub Saharan Africa: the context

- Severe anaemia- major cause of paediatric admission
- 5/1000 children < 5 years die each year of SA
- In SAA most commonly due to *P. falciparum*
- Up to 50% hospitalized children receive a transfusion
- Children aged < 2 years most frequently affected
- Case fatality rates of 6% to 18%

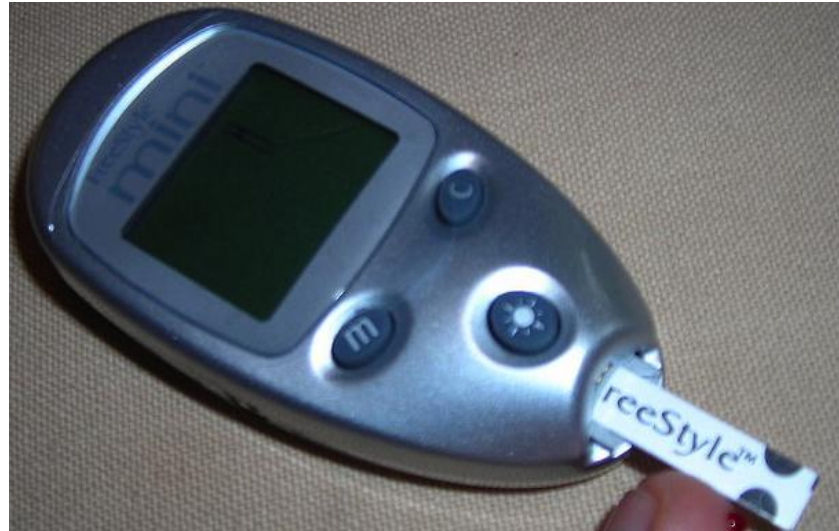
# WHO needs transfusion?



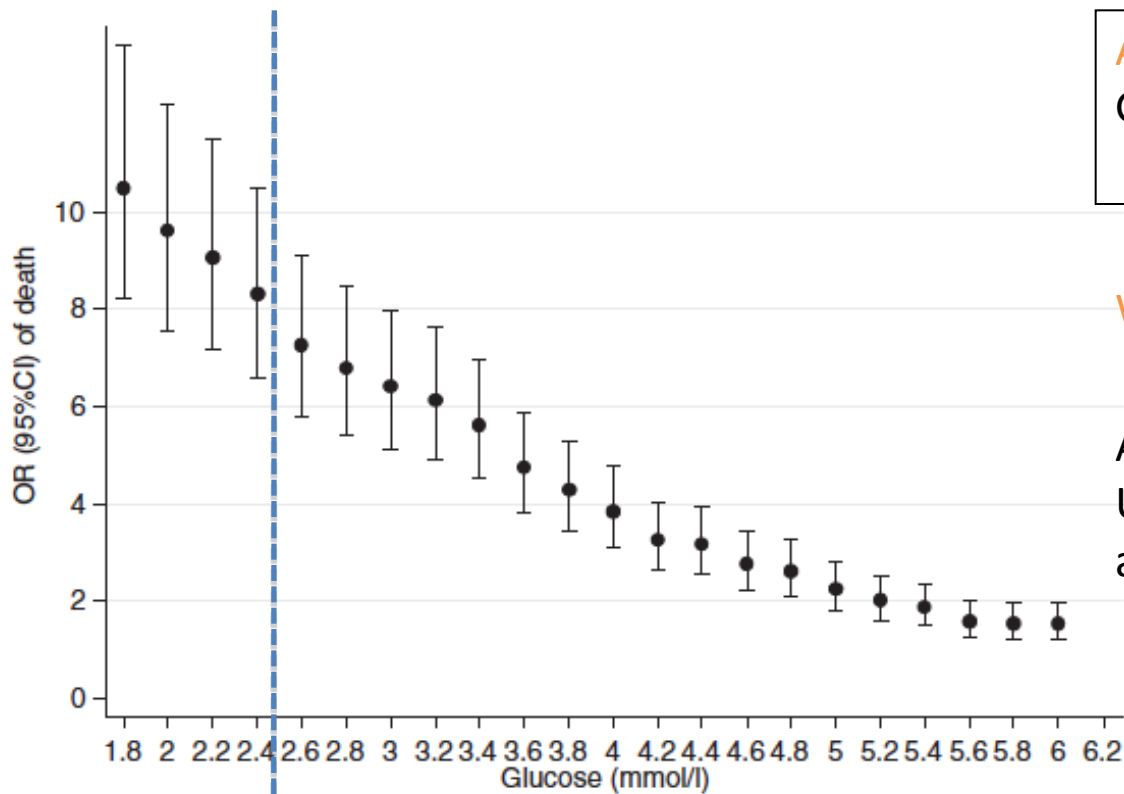
Brabin et al 2001: Review of evidence: Haemoglobin and relative risk of death: need for a trial

Meremikwu, M et al 2000 Cochrane review: need for a trial

# Glycaemic control



# Hypoglycaemia: evidence based treatment threshold?



Achoki et al 2009  
Glucose level VS odds of death

Wilcox et al 2010:  
Similar conclusions Mali

Accuracy of handheld glucometers:  
Underestimation in mod – severe  
anaemia Mann et al 2007

WHO treatment guideline: thresholds currently recommended



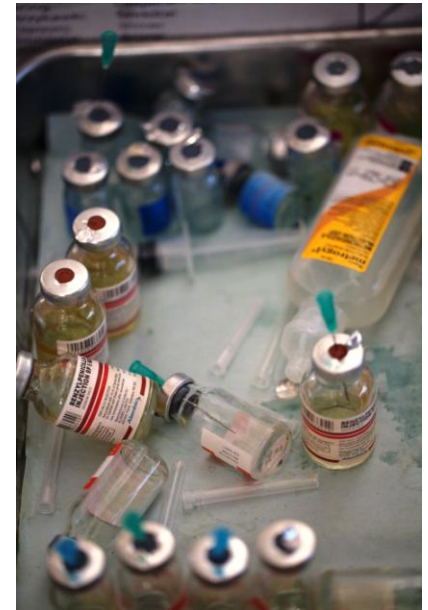
# Simple treatments: evidence base?



✓ FEAST trial



Oxygen



Transfusion

Glycaemia correction

Antibiotics





# Major focus for last 10 years.....

## Clinical Research

Hypothesis driven

Phase I/II trials

- ✓ Severe malaria
- ✓ Severe anaemia
- ✓ Sepsis
- ✓ Severe malnutrition



# What defines severe malaria in African children ?

## Severe malaria syndromes

Cerebral  
Malaria



Severe  
anaemia

