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T-REC consortium partners presenting the project in Harare, Zimbabwe in October 2011

## Building the research capacity of blood transfusion services in Africa

Blood transfusion services in Africa have many unique features, yet evidence used to guide their practice has been almost exclusively generated by wealthy countries in Europe and North America. International transfusion guidelines are often inappropriate for African countries, where services struggle with critical shortages of blood supplies and high rates of communicable diseases such as malaria. Blood needs to be safe, and given at the right time to the right patient. In wealthy countries, there are systems for exactly matching the supply and demand and for tracking each unit of blood. In most developing countries, the over-riding problem is blood shortages, compounded by a lack of resources for appropriate screening techniques.

T-REC is a consortium of researchers and health practitioners who will work over the next four years to increase indigenous research capacity in blood transfusion services in Ghana and Zimbabwe to do their own research.

Blood transfusions carry infection risks such as hepatitis B, malaria and HIV and should only be used as a life-saving measure. Blood donations that screen positive for infection should be rejected but in Africa, where infections are common, this means that potentially much donated blood may be wasted. Blood bank directors have a difficult balance to strike between ensuring blood is safe and providing enough blood to meet demand. Many unnecessary deaths occur in sub-Saharan Africa because the supply of blood for transfusion is insufficient. For example, 26% of deaths from maternal haemorrhage in Africa are due to non-availability of blood.<sup>1</sup> The inability of Africa's transfusion services to provide enough safe blood has serious clinical and public-health consequences, in a region where severe anaemia is a major cause of mortality in young children and haemorrhage is responsible for one third of maternal deaths. Improving the supply of safe blood in Africa will have a direct positive impact on the likelihood of the region

achieving targets for all three health-related Millennium Development Goals.

**“Although the need for blood is universal, in Africa and the developing world the pattern of blood usage differs markedly from that of the Western world. It is important we have an evidence base to make sure we get our blood services right in Africa, not using things that have only been tried and tested in the Western world.”**

*Justina Ansah, Director of the National Blood Service, Ghana, July 2011*

Despite the fact that blood occupies a significant place in the symbolism, rituals and beliefs of many cultures in sub-Saharan Africa,<sup>2,3</sup> a recent literature review confirms that the quantity and quality of research into barriers to blood donation is very poor.<sup>4</sup> Better knowledge about ways of recruiting blood donors in Africa, and more research into what motivates different types of blood donors, is badly needed and is a priority research area for African transfusion service directors.<sup>5</sup>

### T-REC: building African research capacity

T-REC is a four-year, EU-funded project to strengthen the research capacity of blood transfusion services in Africa. The project was successfully launched in Accra, Ghana on 5–6 July 2011 and in Harare, Zimbabwe on 5 October 2011. The launch meetings were dedicated to introducing the aims and purpose of T-REC to a range of people, including many health professionals, policy makers and researchers from medical institutions and government departments in Ghana and Zimbabwe.

The partners in T-REC are: the Ghana National Blood Service; National Blood Service Zimbabwe; African Society for Blood Transfusion; Liverpool School of Tropical Medicine, UK; University of Copenhagen, Denmark; and the University of Groningen, Netherlands.

### What is T-REC doing?

T-REC is supporting transfusion services in Africa to strengthen their own research capacity by



“Blood transfusion is a hugely important issue for all health services and it is very expensive so we have to get it right. It is neglected in terms of having evidence-based practice.”

**Imelda Bates, Principal Investigator and Project Leader, Liverpool School of Tropical Medicine, July 2011**

providing training and forging research collaborations between researchers, educators, transfusion prescribers, managers and policy makers, using expertise from Africa and the EU. The project proactively promotes the use of evidence to influence policy and practice.

T-REC is working in three main ways.

- Two Ghanaian and two Zimbabwean PhD students have been chosen through open competition to undertake research in their countries about blood transfusion topics. Their PhD projects will focus on clinical and laboratory aspects of blood transfusion and studies of cost-effectiveness. Close mentoring by EU and African academics will facilitate the students' development into leaders in blood transfusion research.
- T-REC is providing bursaries to 60 local undergraduate and postgraduate students in medicine, science, nursing, social sciences and media in Ghana and Zimbabwe. Students will work with the Ghana Blood Transfusion Service (GBTS) and the National Blood Service Zimbabwe (NBSZ), and undertake collaborative blood transfusion projects.
- T-REC is supporting the Komfo Anokye Teaching Hospital in Kumasi, Ghana, as they extend their already successful Professional

“Research in all fields is very important as it enables evidence-based policies to be in place. It helps policy makers look at their various activities and realign according to the findings of the research projects. In Africa we are lacking that evidence.”

**David Mvere, Chief Executive Officer of the National Blood Service Zimbabwe and Secretary General for the African Society for Blood Transfusion, July 2011**

Diploma in Project Design and Management (DPDM) to blood transfusion staff in Kumasi, Accra and Harare. This means providing training for 40–50 blood transfusion professionals through a one-year, in-post research project. The projects will address priority gaps in knowledge about transfusion services in Africa.

T-REC aims to integrate research into the mainstream activities of blood transfusion organisations. We hope to strengthen research systems, infrastructure and networks within and between blood transfusion services and academic institutions in Africa and internationally. More information is available on our website, [www.t-rec.eu](http://www.t-rec.eu)

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