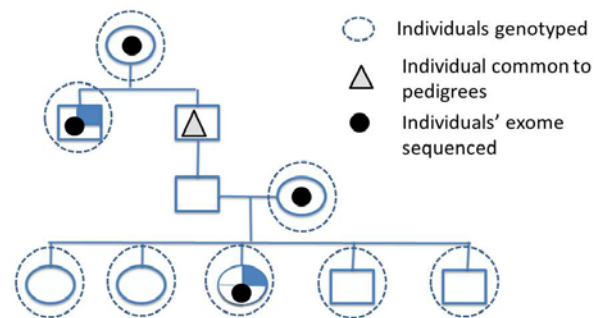


## HEREDITY IN BURKITT LYMPHOMA

Good research spawns more research, as new questions are defined. The EMBLEM Study has already brought into focus the question of the contribution of genetics to the causation of Burkitt Lymphoma (BL). Though most cases of BL occur sporadically (one affected child in a family with no history of BL), 15 families that have multiple BL cases have been spotted in Tanzania. Sometimes these have occurred in full siblings and sometimes over a generation or two (as in uncle and nephew). This suggests genetic susceptibility.



In June 2013, Nicholas Hu, an EMBLEM intern, tested the feasibility of mapping families with multiple BL cases using modern GPS technology ([Nicholas HU](#)). In the same year, EMBLEM initiated collaboration with investigators in the U.S. to study these multiple BL case families. Samples from eight subjects from a trans-generational family (see pedigree above) have been genotyped and the genetic relationships were confirmed using Mendelian checks. Samples from four family members, including two BL cases, are undergoing whole exome sequencing. These studies represent small but landmark steps in understanding the genetic basis of BL in Africa.

*Esther Kawira, Editor*

## EMBLEM UGANDA

In Uganda, 475 (300 males, 175 females) potential cases have been spotted. Of these, 269 were eligible and 248 (154 males and 94 females) were enrolled.

A third clinician training was held in Lira for 23 health workers from the Lango sub-region to sensitize local health workers about BL. Mobile phone text messaging with BL messages has been initiated to complement this effort.

Enrollment of controls from the 12 pilot villages was completed, paving way for methodological studies about the most valid method for control selection.

## EMBLEM KENYA

In Kenya, 315 (200 males, 115 females) potential cases have been spotted. Of these, 126 were eligible and 115 (80 males and 35 females) were enrolled.



**Dr Kawuma administering a questionnaire**



**Dr Tobias at the clinician's training.**

BL health awareness meetings were held at district hospitals in Rongo and Uriri Districts and at the Sony Sugar Health Center. Altogether, 95 health workers were sensitized. The immediate outcomes of these meetings were seven case referrals, including two cases from the districts covered by the talks. Similar to Uganda, a mobile phone text messaging health education component has been introduced, and five of the cases were from individuals who received a text message.

EMBLEM welcomed a new hospital administration at Homa Bay Hospital with a pledge to work with them as well as with the outgoing administration.

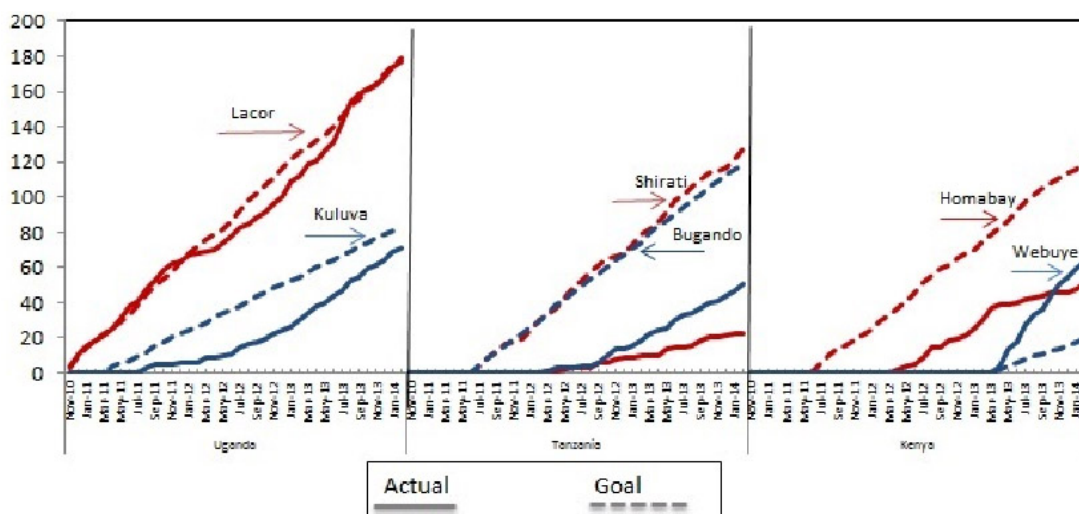
## EMBLEM TANZANIA

In Tanzania, 333 (187 males and 146 females) potential cases have been spotted. Of these, 78 were eligible and 74 (44 males and 30 females) have been enrolled in the study.

The Tanzanian team is reviewing reasons for continuing low case accrual relative to the numbers projected from historical case accrual (see graph below). The reasons include an actual decline in the number of cases due to concomitant decrease in prevalence of causal factors (not apparent in Uganda or Kenya) or missing of cases due to non-referral. Mr. Colin Chao, the new EMBLEM Senior Technical Supervisor, travelled to Arusha to meet Dr. Mbulaiteye, the EMBLEM PI at NCI, for a planning meeting. In general, it was agreed that case spotting and referral activities should be streamlined before control enrollment is initiated.

## EMBLEM GOALS

EMBLEM monitors actual BL accrual rates against historical rates averaged over 10 years before EMBLEM commenced. The graph below shows trends from February through January 2014. Uganda actual accrual rates are close to or catching up to historical rates. In Tanzania, actual rates lag behind historical rates. In Kenya, actual rates in Webuye catchment area have overtaken the historical rates, suggesting that cases previously missed in that region are now being diagnosed. Rates in Homa Bay catchment area lag behind historical rates.



Monitoring actual versus historical accrual rates helps the EMBLEM teams to review and adjust their fieldwork strategies.

EMBLEM Newsletter is a monthly on-line publication based on contributions of the EMBLEM Study staff.

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