Mucosal specimen collection, processing and assay - Experience from a resource-limited setting in Kenya (P04.16)

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KAVI has developed both clinical and laboratory capacity – including trained personnel and specific equipment – for mucosal immunological studies. KAVI subsequently transferred knowledge and skills in mucosal sample collection, processing and assay to personnel at the following African research centres: University of the Western Cape in South Africa, University of Malawi in Blantyre, University of Nairobi in Kenya, University of Kigali in Rwanda, Makerere University in Uganda, Walter Reed Army Institute of Research in Abidjan, and UVRI in Entebbe, Uganda.

DISCUSSION
We have established which mucosal sample collection devices are acceptable to volunteers for repeated mucosal specimen collection, and yield the best mucosal immunological data. These methods have subsequently been employed in HIV vaccine clinical trials to assess vaccine-induced mucosal immunological responses. While rectal sampling among lower risk participants showed the lowest rate, we observed a progressive improvement in uptake over time, likely to be attributable to staff experience. There is need for further research to better understand the reasons for uptake and refusal of rectal sampling in this group, and to understand how this type of sampling can be made more acceptable to study participants. KAVI has developed clinical and laboratory capacity - both personnel and equipment - for mucosal immunological studies. KAVI is conducting successful mucosal studies technology transfer to African research sites. This South-South technology transfer may have unique advantages: it is thus necessary to appraise this to determine benefits and areas for improvement.

CONCLUSION
Mucosal sample collection and processing from various mucosal compartments and by various sampling techniques is possible in a resource-limited setting. HIV-relevant immunological responses are detectable in both genital and non-genital mucosal compartments. There is the hope that immunological responses to candidate HIV vaccines would also be detectable at mucosal sites. South-to-South collaborations for technology transfer in mucosal immunological studies are feasible and should be encouraged. As the field of HIV vaccine development evolves, techniques for mucosal immunological studies are likely to evolve too, hence the need for continued North-South, North-North and South-South consultations and collaborations.

REFERENCES
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