# Comparing Clinic Retention Between Residents and Nonresidents of Kibera, Kenya

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We are grateful to Chung et al who, in response to our article, brought forward several interesting issues regarding retention in care and drop-out from antiretroviral treatment (ART) programs in urban slum settings.[1] Our article presented research performed at the African Medical and Research Foundation (AMREF) clinic in Kibera, one of Africa's largest informal settlements, which showed that being a Kibera resident was significantly associated with ART program drop-out. Additionally, the Cox proportional hazard ratio for dropping-out among Kibera residents was 2.45 ($P = 0.05$), as compared with non–Kibera residents (result not presented in the original article). Chung et al did not find that Kibera residents who attended their study clinic at the Coptic Hope Centre had a higher loss to follow-up (Cox proportional hazard ratio: 1.02) than non–Kibera residents, and thus "caution against the conclusion that residing in Kibera or any urban slum is a risk factor for poor retention."

However, there are important differences in terms of geographical location, patient catchment area, and resources that make this comparison difficult. First, the Coptic Hope Centre clinic is located outside Kibera, whereas the AMREF clinic is located right in the centre of Kibera. Second Chung et al argue that: "Some residents are middle class Kenyans with a yearly salary and not necessarily day laborers with low income." The Kibera population has not previously been well described in terms of sociodemographics and in our retrospective study; we lacked valid data on socioeconomic variables. However, our preliminary data from an ongoing prospective cohort study of HIV patients on ART at the AMREF Kibera clinic support our experience that most patients live under extremely poor conditions. Out of 515 ART patients enrolled so far in our prospective study, only 16% are employed, the other 84% are doing casual labor, are unemployed, or self-employed. Further, only 5% of the respondents have higher education (postsecondary school). Hence, our different findings are likely attributable to selection of more motivated and possibly less vulnerable patients from Kibera seeking care at the Coptic Hope Centre.

Secondly, Chung et al speculate that patients dropping-out from the AMREF program might have sought care at a PEPFAR-funded clinic instead; however, the AMREF program at the Kibera clinic likewise receives funding from PEPFAR via CDC). We lack quantitative data on reasons for loss to follow-up, but our qualitative in-depth studies among HIV patients who have dropped out from the ART program in Kibera suggest that aside from death, migration, and the occasional patient changing provider, poverty and lack of food appear to be the major barriers to retention in an ART program in Kibera.[2] The time spent on clinic visits is considered better used to look for job opportunities, and taking ART is not perceived compatible with hunger and an empty stomach. In our forthcoming prospective study we will be able to further analyze determinants of retention in care.

In addition, we used a more conservative definition of drop-out, 90 days, in order not to over estimate drop-out and to account for short-term migration in the mobile population of Kibera. Chung et al used 30 days as the cut-off. The Coptic Hope Centre clinic included only treatment-naive patients from the age of 15 years, whereas we included both treatment-naive and treatment-experienced patients above the age of 18 years. Our results might thus

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be underestimating the probabilities of drop-out as compared with Chung's study design. It is therefore very difficult to make any formal comparisons between the 2 cohorts.

Third, Chung et al bring up the issue of geographical proximity to the clinic as a problem for retention. Because HIV-related stigma is an important problem in Kenya, people can be deterred from seeking care at specific HIV clinics close to home where they cannot enter anonymously. This is, however, not the case at the AMREF clinic because it is an integrated health care clinic with a general out-patient department where the same staff serves all patients on a first-come, first-served basis, regardless of HIV status. We think that this in fact reduces health-seeking–related stigma at the AMREF clinic, contrary to the beliefs by Chung et al who have performed their studies at the Coptic Hope Centre clinic, which is an infectious diseases clinic. The number of staff, services available, and the opening hours may also differ.

Kibera residents have several treatment options and may change clinics according to needs and preferences. The "competitive" situation this creates between clinics can be counterproductive and indeed increase the risk of drop-out. Our results are valid for the AMREF clinic in Kibera and points at challenges for the health system to retain patients in care, which are specific to a clinic located within an urban informal settlement, where poverty and mobility rates are exceptionally high. Similar problems are still a reality for many ART clinics in high-HIV prevalence, low-income, and urban Sub-Saharan African settings today. It would, therefore, be interesting to look at gains and cost-effectiveness of retention in care in relation to different models of care and add-on services that are offered, which we hope to include in our future studies.

## REFERENCES

1. Unge C, Sodergard B, Ekstrom AM, et al. Challenges for scaling up ART in a resource-limited setting: a retrospective study in Kibera, Kenya. *J Acquir Immune Defic Syndr*. 2009;50:397–402.
2. Unge C, Johansson A, Zachariah R, et al. Reasons for unsatisfactory acceptance of antiretroviral treatment in the urban Kibera slum, Kenya. *AIDS Care*. 2008;20:146–149.