**Acknowledgment:**

The authors would like to thank all research study participants, US National Institutes of Health (NIH) the Study Sponsors; Grant number AI 069530, all research study members, Mulago hospital PMTCT staff, Professor Josaphat Byamugisha, Professor Philippa Musoke, Ms. Lindy Ann Wright, Makerere University-Johns Hopkins Research Collaboration Administrators, and Uganda Ministry of Health.

**Conflict of interest**

The authors declare that they have no conflict of interest.