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**Control/Tracking Number:** 18-A-2122-ASTMH

**Activity:** Abstract

**Current Date/Time:** 4/2/2018 10:48:08 AM

**Lesson learned: Development of National Archive of Malaria Slides (NAMS) in the Democratic Republic of Congo (DRC)**

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**Abstract:**

The accuracy of malaria diagnosis by microscopy has been a challenge in health facilities in the DRC due to inadequate training, quality assurance, and maintenance of microscopy skills. In order to improve quality assured malaria microscopy in the DRC, MalariaCare supported the Institut National de Recherche Biomédicale (INRB) and National Malaria Control Program to develop the National Archive of Malaria Slides (NAMS). This slide bank will be used for microscopy training, supervision and proficiency testing. 51 blood samples of *P. falciparum*, non-*falciparum*, mixed infections and negatives were collected in the DRC from May 2016 through June 2017. The NAMS protocol was developed by the INRB in collaboration with MalariaCare following the WHO protocol and approval by an ethics board. As there was no *P. vivax* present during blood collection, 200 validated *P. vivax* slides were purchased externally. All slides were developed at the INRB and barcode labels were applied to each

slide. Two slides per donor were selected for slide validation by six WHO-accredited level 1 microscopists in the DRC and Mali. Each blood donor was validated by PCR to confirm malaria infection and species. The quality of each slide was validated. Microscopy detection of infection showed high sensitivity (98%) and specificity (100%) when compared to PCR, whereas microscopy species detection was 84% (range: 74% - 90%) concurrent with PCR.

Among 51 blood donors, there were 3 discrepancies between the PCR and microscopy results and these were excluded from the slide bank. The remaining 48 donor samples were accepted and used to produce 18,369 fully validated malaria slides. The DRC NAMS will be used for national and regional malaria microscopy training and can be used throughout the country to perform proficiency testing and on-site supervision. The NAMS will be an important tool in the DRC's efforts to improve the quality of clinical care and also will assure the ability to develop new generations of laboratory specialists as the country moves towards improved case management and control of malaria.

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**Category (Complete):** Malaria - Diagnosis

**Presentation Preference (Complete):** Poster

**Keyword (Complete):** Malaria ; Slide bank ; Diagnostic

**Disclosures (Complete):**

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