EXPLORING AUTOMATION OF VIRAL LOAD RESULT TRANSMISSION FROM REFERENCE LAB TO ELECTRONIC MEDICAL RECORD SYSTEMS IN CENTRAL KENYA

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The transmission of viral load results from the Kenya National Reference Laboratory (NRL) database to Electronic Medical Records (EMR) at health facilities has been suboptimal in Central Kenya. Out of 11,422 available results, only 1,907 (17%) were available on EMR as at July 2017. Of the results available on EMR an estimated 10% had data transcription errors following manual data entry of each record. To mitigate this problem, a Microsoft.net integration software Viral Load Automation Tool (VLAT) version-1.2 (2017) was developed by CHS to automate this process.

The VLAT was piloted in 6 county and sub-county health facilities in Central Kenya. The number of viral load results (VL) uploaded into the EMR were compared before (February – July, 2017) and after (August 2017 - January 2018) VLAT implementation. Wilcoxon rank-sum test of medians and Poisson regression analyses were done to compare the VL tests upload incident rate ratios (IRR) and 95% confidence intervals pre and post migration.

The total number of VL results uploaded was 3,059 (31.3%) pre-migration and 10,276 (97.7%) post-migration. There was a significantly higher median number of viral load results uploaded into the electronic medical record (EMR) system post-migration compared to pre-migration: 2130 (Inter Quartile Range: 164 – 2710) vs. 500 (IQR: 418 – 618), p<0.001. The rate of VL results upload into EMR in post-migration was over 3 times that of pre-migration period; IRR = 3.36 (95% CI 3.23 – 3.50), p<0.001. Results adjusted for number of active clients at each site were similar; IRR = 3.14 (95% CI 3.01 – 3.27), p<0.001.

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