***Track H2: Information systems for TB, programme monitoring and TB surveillance***

**Tuberculosis Case Finding Outcomes following automation of TB Screening Questions in the Electronic Medical Records; A case Study of Matata Hospital, Homa Bay County.**

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**Background**

Homa Bay County ranks high in tuberculosis (TB) and HIV burden in Kenya. Early detection and treatment are key in reducing transmission and mortality, hence the deployment of multiple diagnostic technologies for all ages. TB screening is low, with an average of 77% among outpatient clients seeking care. Non-standardized way of screening previously has been used before the automation and inclusion of Active Case Finding (ACF) questions in the outpatients and inpatients electronic medical record (EMR). To improve the quality and coverage of screening, we sought to evaluate the impact of automating TB-screening questions within hospitals outpatients’ EMR system in Matata, a private hospital in Homa Bay County.

**Methodology**

We conducted a retrospective comparative analysis of one healthcare facility’s TB screening outcomes among all clients and all age groups in the outpatient department for pre- and post-automation of the TB screening questions. We compared the workload vs the screening rates and ACF yield during the pre- and post-automation (Jan-August 2020 and Jan-August 2021). Charts were reviewed to outline characteristics before and after automation. We hypothesized that automation of the screening process would improve these outcomes. We used a statistical test (independent samples t-test) to compare the means of the two time periods, with a null hypothesis (H0) that there would be no significant difference between the means, and an alternative hypothesis (H1) that there would be a significant difference.

**Results**

Line charts indicated an upward trend of screening rate in both 2020 and 2021 with a higher ACF yield in 2021. The screening rate increased from 90% (n=24,234 out of 26,954 patients) in 2020 to 100 % (n=25,429 out of 25,429) in 2021) which is the national target goal. Active Case Finding average yield also improved from 9% (n=23 out of 255 presumptive cases) in 2020 to 19% (n=53 out of 273 presumptive cases) in 2021. A two-tail t-test of independence gave a mean difference of -149.375 with an observed value of -0.838 and a p-value of 0.416 (14 d.f, α =0.05) at a 95% confidence interval. We therefore rejected the null hypothesis that there would be no significant difference between in means.

**Conclusion**

The results of our analysis demonstrate that the automation of TB screening led to a substantial improvement in screening rates, achieving the National target goal of 100% screening. Moreover, the average yield of ACF also increased significantly, suggesting that the automation process effectively identified more cases of TB. Our findings provide valuable insights for healthcare facilities seeking to improve their TB screening programs, and emphasize the importance of automation in achieving high screening rates and improving ACF yield.