Use of Machine-Aided HIV Risk Classification to Improve HIV Testing Services.

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BACKGROUND

Kenya has one of the largest HIV epidemics globally, with women constituting 62% of the 1.3 million people (15+ years) living with HIV. In 2024, Kenya has achieved 97% in 1st 95 in knowledge of HIV status with 80% among adolescents , 68% AYP and 72% Children. The objective was to identify an efficient HIV screening and testing strategy

METHODS

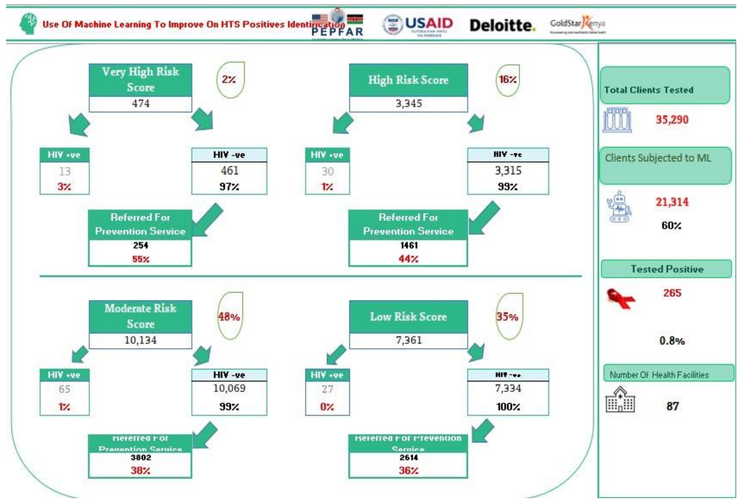
A cross-sectional data review was done on outcomes of machine-aided HIV risk stratification in 95 health facilities supported by USAID Tujenge Jamii project across 4 counties in Kenya. The program trained healthcare workers on the use of machine-aided HIV risk screening in health facilities using electronic medical records at the HIV testing points in the general population

AI Machine aided HIV screening demonstrated a higher HIV positivity rate compared to the counselor-only manual screening tool.

RESULTS

Between April 2023 and June 2024 From machine learning the very high risk, 217 (9%) tested HIV pos, 315 (3%) from the high risk,388 (1%) of the medium risk and 141(1%) from the low risk. The 9% and 3% positivity among the Very high risk and very risk categories were significantly higher compared to 14% client screened eligible with 530,431 clients tested by following a counselor manual guided screening tool where 5,649 (1.1%) tested HIV positive.

Machine aided screening & Testing outcomes



ML Screening Guide

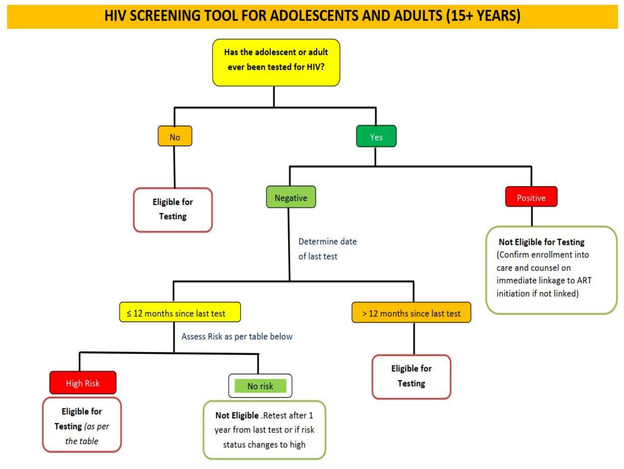
Low Risk : Medium Risk : High Risk : Highest Risk

CONCLUSIONS

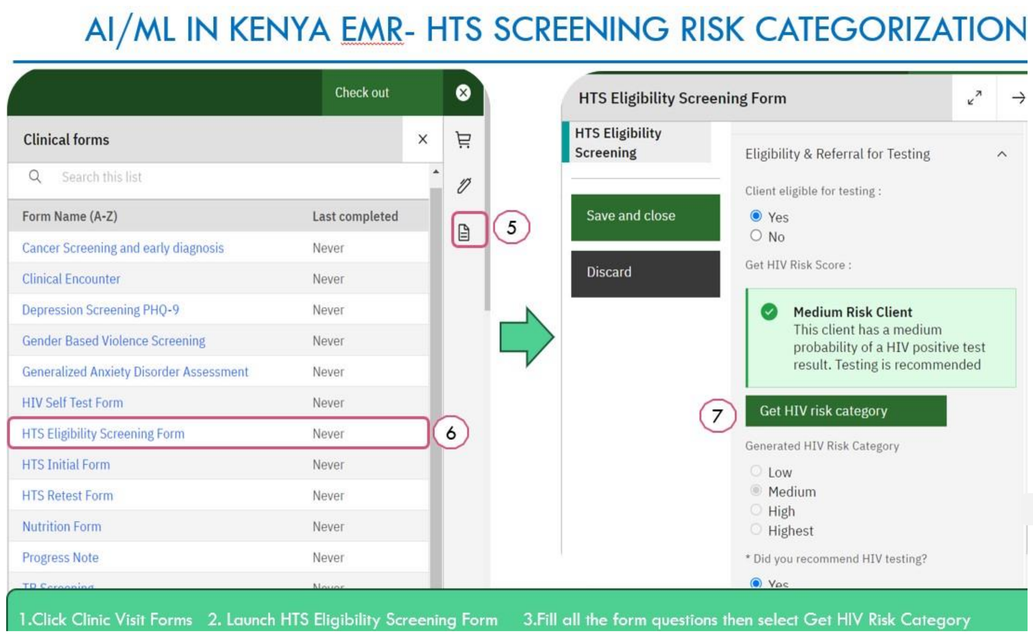
Machine-aided HIV risk classification provides an opportunity to improve HIV identification and efficiency, Machine learning screening scaleup is key as we work towards closing the last HIV identification gap. AI provides opportunities to improve testing for prevention and treatment .

ACKNOWLEDGMENTS

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The Manual HIV Screening Guide
Eligible : Not Eligible



Comparing AI and Manual Screening Outcomes (Apr 2023 - Jun 2024)

April-2023-June 2024	AI Machine learning guided HIV positivity				Manual tool counselor guided HIV eligiblity screening positivity
AI Risk ⟹	HHR	HR	MR	LR	Positvity
AGYW (17,072)	3.0%	0.8%	0.6%	0.4%	0.40%
ABYM (4,242)	5.0%	1.4%	0.8%	0.3%	0.20%
AYP (21,314)	3.0%	1.0%	0.6%	0.4%	0.30%

*Adolescent and Young People (AYP)
*Adolescent Boys and Young Men(ABYM)
*Adolescent Girls and Young People(AYP)

AI MLCodes :Very High Risk (VHR)
:High Risk (HR)
:Moderate Risk(MR)
:Low Risk(LR)

PEPFAR U.S. President's Emergency Plan for AIDS Relief
USAID KUTOKA KWA WATU WA MAREKANI
Deloitte.
GoldStar Kenya Empowering communities for better health