Supplementary Table 1: Operating Characteristics for multiple Anal HSIL Screening Strategies for WLHIV according to Age group

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ***SENS*** | ***SPEC*** | ***PPV*** | ***1-NPV***1 |
| **Screening Strategies** | **n** | **Estimate (95% CI)** | ***p*-values**2 | **n** | **Estimate (95% CI)** | ***p*-values**2 | **n** | **Estimate (95% CI)** | ***p*-values**2 | **n** | **Estimate (95% CI)** | ***p*-values**2 |
| **Single Screening Test** |  |  |  |  |  |  |  |  |  |  |  |  |
| Cytology Age>45 years Age<45 years | 4713 | 79% (64%, 89%)100% (75%, 100%) | 0.099 | 12346 | 50% (40%, 59%)50% (35%, 65%) | >0.999 | 9936 | 37% (28%, 48%)36% (21%, 54%) | >0.999 | 7123 | 14% (7%, 24%)0% (0%, 15%) | 0.112 |
| HPV-APTIMA Age>45 years Age<45 years | 4713 | 74% (60%, 86%)85% (55%, 98%) | 0.713 | 12346 | 69% (60%, 77%)61% (45%, 75%) | 0.360 | 7329 | 48% (36%, 60%)38% (21%, 58%) | 0.387 | 9730 | 12% (7%, 21%)7% (1%, 22%) | 0.517 |
| HPV-HC2 Age>45 years Age<45 years | 4713 | 74% (60%, 86%)77% (46%, 95%) | >0.999 | 12346 | 61% (52%, 70%)61% (45%, 75%) | >0.999 | 8328 | 42% (31%, 54%)36% (19%, 56%) | 0.658 | 8731 | 14% (7%, 23%)10% (2%, 26%) | 0.756 |
| **Triage (Both screening tests positive)** |  |  |  |  |  |  |  |  |  |  |  |  |
| Abnormal Cytology *AND* |  |  |  |  |  |  |  |  |  |  |  |  |
| HPV-APTIMA+ Age>45 years Age<45 years | 4713 | 66% (51%, 79%)85% (55%, 98%) | 0.308 | 12346 | 78% (70%, 85%)72% (57%, 84%) | 0.419 | 5824 | 53% (40%, 67%)46% (26%, 67%) | 0.630 | 11235 | 14% (8%, 22%)6% (1%, 19%) | 0.243 |
| HPV-HC2+ Age>45 years Age<45 years | 4713 | 62% (46%, 75%)77% (46%, 95%) | 0.512 | 12346 | 73% (64%, 81%)74% (59%, 86%) | >0.999 | 6222 | 47% (34%, 60%)45% (24%, 68%) | >0.999 | 10837 | 17% (10%, 25%)98% (2%, 22%) | 0.282 |
| **Co-testing (One or more positive screening tests)** |  |  |  |  |  |  |  |  |  |  |  |  |
| Abnormal Cytology *OR* |  |  |  |  |  |  |  |  |  |  |  |  |
| HPV-APTIMA+  Age>45 years Age<45 years | 4713 | 87% (74%, 95%)100% (75%, 100%) | 0.324 | 12346 | 41% (32%, 50%)39% (25%, 55%) | >0.999 | 11441 | 36% (27%, 45%)32% (18%, 48%) | 0.704 | 5618 | 11% (4%, 22%)0% (0%, 19%) | 0.326 |
| HPV-HC2+  Age>45 years Age<45 years | 4713 | 91% (80%, 98%)100% (75%, 100%) | 0.568 | 12346 | 37% (29%, 47%)37% (23%, 52%) | >0.999 | 12042 | 36% (27%, 45%)31% (18%, 47%) | 0.707 | 5017 | 8% (2%, 19%)0% (0%, 20%) | 0.565 |

SENS=Sensitivity, SPEC=Specificity, PPV=Positive Predictive Value, NPV=Negative Predictive Value

1 1-NPV, or false omission rate

2 Fisher’s exact test comparing test characteristic according to age group.