**REPORT ON HPV VACCINATION IN UGANDA**

**BY**

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**Introduction**

Human Papilloma Virus (HPV) is a sexually transmitted infection and is a common cause of cervical cancer in women. Cervical cancer is the 2nd most common cancer in women globally with an estimated 493,000 incident cases and 273,000 deaths each year (Cutts FT, et al : 2007). Cervical cancer is a leading cause of death among women with cancers in Uganda. In Uganda, the annual incidence is estimated at 45.5 per 100,000 and a mortality rate at 29.3 per 100,000, (Solomon D et al 2002). The World Health Organisation (WHO) projects that without immediate action, the global number of deaths from this disease will increase by nearly 80% by 2030, mostly in low-and middle income countries, Uganda inclusive. Fortunately, the disease can easily be prevented through HPV vaccinations, screening and treatment. A vaccine to prevent cervical cancer was approved and licensed in USA in 2004 and in Uganda in 2007. In Uganda, a demonstration project under PATH has been implemented in conjunction with Ministry of Health and Reproductive Health to deliver the vaccine to girls aged 10-15 years in Ibanda and Nakasongola districts, each testing a different delivery approach. The program was a great success, with more than 20,000 getting fully vaccinated (received all the 3 doses). The purpose of the demonstration Project was to document the best strategy for HPV vaccination of the target population and for adoption in the roll out or scale up Nationwide. The findings from the demonstration indicate that a ‘mix’ or Hybrid was more appropriate or best strategy with a high coverage and affordable cost, (acceptable and feasible).

The vaccine is very safe, effective and widely accepted among the communities and the girls themselves.

**Justification for HPV vaccination**

Clinical trials indicate that vaccines against HPV 16 and18 are at least 95% effective in preventing persistent HPV infection and greater than 92% effective in preventing type-specific precancerous lesions when given prior to exposure to the virus (Schiller et al, 2008). HPV vaccines are prophylactic and the largest impact of vaccination is expected to result from high coverage of young adolescent girls before exposure to sexual intercourse.

**Strategic Plan for Cervical Cancer Prevention and Control in Uganda (2010-2014)**

Following the endorsement of Memorandum between Ministry of Health and PATH, a Five year Strategic Plan for Cervical Cancer Prevention and Control was developed.

**Priority areas of the strategic plan are:**

* Public education and Advocacy
* Prevention of Human Papilloma Virus (HPV)- primary prevention through vaccination of girls (10-14 years)
* Screening and Treatment of cervical pre-cancerous lesions (Secondary Prevention)
* Treatment of cervical cancer
* Programme Monitoring and evaluation

**Vision, Goal, and objectives of implementing HPV vaccination project in Uganda**

**Vision:** Ugandan women free from Cervical Cancer

**Goal:** To reduce HPV Incidence and or prevalence and mortality, improve quality of life and survival rates through education and advocacy and HPV vaccination of young girls.

**Objectives:**

* Raise awareness and advocate for HPV vaccination among 10 year old girls as a means of preventing cervical cancer in Uganda.
* Build institutional and technical capacity of health workers at all levels in HPV vaccination..

**PATH Demonstration Project**

Uganda was among the countries selected by PATH to undertake an HPV vaccine demonstration project. The Ministry of Health in collaboration with PATH implemented an HPV demonstration project to assess the feasibility, acceptability and cost of delivering HPV vaccine in two selected districts. Nakasongola and Ibanda districts participated in the demonstration project, each testing a different delivery approach. The demonstration project suggested that the vaccination of girls is broadly acceptable and feasible. Nakasongola district tested the delivery of HPV vaccine through the Child Health Days - plus but specifically identifying girls by age and Ibanda used the School-Based Approach in which girls were identified basing on class in primary five (Primary 5).

The demonstration project was a success; the vaccine was highly acceptable in communities .The advantage of school based approach was that follow-up of vaccinated girls was much better, there was minimal disruption of the school program while the CDP based strategy was less costly though had difficulties with determining the right age of the targeted girls, adherence to dose schedules with girls who miss out on vaccinations was a challenge.



 **HPV VACCINATION SCALE UP IN 12 DISTRICTS - 2012**

Under Phase 1, following the successful implementation of the demonstration project in Ibanda and Nakasongola, 12 additional districts namely: Bududa, Busia, Mityana, Rukungiri, Kayunga, Kamwenge, Isingiro, Oyam, Lira, Ntungamo Nebbi and Katakwi were added for introduction of HPV vaccination while Nakasongola and Ibanda were catered for under the Bridging phase by MSD Merck Co. Merck also donated HPV vaccine supply to the 12 districts for a two year period, 2012 and 2013.

**Goal**

The overall goal for scale-up HPV vaccination in the 14 districts is to reduce HPV infection and subsequently cancer of the cervix.

**Objectives**

1. Vaccinate girls in primary 4 and 10 year old girls who are out of school in the selected districts, achieving coverage of at least 80% annually.
2. Make use of the community engagement mechanisms such as VHTs for mobilization and sensitization about HPV vaccination to increase community awareness, acceptance and participation.
3. Strengthen health and education systems to accommodate HPV vaccination program.
4. Ensure sustained demand, delivery and use of HPV vaccines through advocacy for cervical cancer prevention in Uganda.

Expected outcome will be reported in terms of the proportion of health facilities able to accommodate HPV vaccines as well as the percentage of girls vaccinated for HPV.

The overall health outcome will be reduction in the incidence and prevalence of HPV infection by sero-type in the general population including vaccinated and non-vaccinated girls.

**Vaccination Approach used in the 14 districts**

**The Hybrid strategy** - It was named hybrid because it resulted from a combination of two demonstration vaccine delivery strategies from the two districts of Nakasongola and Ibanda**. Based on this therefore, all girls in primary 4 irrespective of age and 10 year old non schooling girls are targeted for HPV vaccination.** All vaccinations doses have to be completed within one calendar year to minimize loss to follow up.

**The HPV immunisation schedule consists of three doses.**

- 1st Dose – at first contact with the girl

- 2nd Dose - 2 months after 1st dose

- 3rd dose - 4 months after 2nd dose or 6 months from 1st dose

HPV vaccination in twelve districts started in September 2012 with each of the districts expected to provide 3 doses of HPV to each of the girls in the target group.

Preparatory activities were undertaken at both National and District levels to prepare for the actual implementation of the exercise.

**HPV VACCINATION RESULTS IN THE 12 DISTRICTS FOR 1ST, 2ND AND 3RD DOSE VACCINATIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **HPV VACCINATION AMONG GIRLS FOR FIRST AND SECOND ROUND DOSES** |  |  |  |  |
| Vaccination of girls started toward the end of the year with the first dose being administered end September 2012 |
| and the 2nd dose in November with shortage of vaccines leading to 2 districts of Lira and Nebbi |  |  |
| Postponing the vaccinations for 2nd dose to march 2013. |  |  |  |  |  |  |
| **Round 1 results**  |  |  |  |  |  |  |  |  |  |  |
| District | 9yrs | 10 yrs | 11yrs | 12yrs | 13yrs | 14yrs | >15yrs | **Total** |  |  |  |
| Bududa | 127 | 798 | 535 | 1109 | 681 | 277 | 121 | 3648 |  |  |  |
| Busia | 939 | 1621 | 1520 | 2230 | 1083 | 680 | 92 | 8165 |  |  |  |
| Isingiro | 340 | 1389 | 1059 | 1968 | 1370 | 916 | 312 | 7354 |  |  |  |
| Kamwenge | 239 | 743 | 855 | 1468 | 1160 | 652 | 255 | 5372 |  |  |  |
| Katakwi | 102 | 604 | 576 | 1016 | 614 | 342 | 121 | 3375 |  |  |  |
| Kayunga | 522 | 2016 | 1681 | 1795 | 692 | 159 | 57 | 6922 |  |  |  |
| Lira | 620 | 2513 | 2033 | 2590 | 1459 | 396 | 69 | 9680 |  |  |  |
| Mityana | 867 | 1776 | 1189 | 1389 | 435 | 236 | 71 | 5963 |  |  |  |
| Nebbi | 188 | 1044 | 775 | 1731 | 1698 | 1060 | 407 | 7374 |  |  |  |
| Ntugamo | 411 | 1669 | 1316 | 1909 | 1275 | 668 | 377 | 7625 |  |  |  |
| Oyam | 594 | 1681 | 1685 | 2845 | 1600 | 500 | 107 | 9012 |  |  |  |
| Rukungiri | 403 | 1629 | 1029 | 1447 | 828 | 417 | 117 | 5870 |  |  |  |
| **Total** | 5352 | 17483 | 14253 | 21497 | 12895 | 6303 | 2106 | **79889** |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Total girls vaccinated** | **79889** |  |  |  |  |  |  |  |  |  |
| Eligible girls(UBOS Figures) | 64119 |  |  |  |  |  |  |  |  |  |
| **Coverage(%)** |  | **125%** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Round 2 results**  |  |  |  |  |  |  |  |  |  |  |
| District | 9yrs | 10 yrs | 11yrs | 12yrs | 13yrs | 14yrs | >15yrs | Total |  |  |  |
| Bududa | 127 | 657 | 461 | 985 | 596 | 285 | 95 | 3206 |  |  |  |
| Busia | 789 | 1329 | 1570 | 2 083 | 1033 | 369 | 64 | 7237 |  |  |  |
| Isingiro | 180 | 668 | 584 | 1023 | 835 | 513 | 170 | 3973 |  |  |  |
| Kamwenge | 176 | 598 | 719 | 1439 | 1122 | 644 | 170 | 4868 |  |  |  |
| Katakwi | 73 | 704 | 565 | 993 | 609 | 332 | 115 | 3391 |  |  |  |
| Kayunga | 307 | 1603 | 1298 | 1392 | 588 | 119 | 14 | 5321 |  |  |  |
| Lira | 202 | 957 | 1646 | 2036 | 1980 | 1133 | 336 | 8290 |  |  |  |
| Mityana | 673 | 1303 | 852 | 771 | 336 | 102 | 33 | 4070 |  |  |  |
| Nebbi | 52 | 259 | 572 | 904 | 1369 | 1190 | 787 | 5133 |  |  |  |
| Ntugamo | 415 | 1400 | 1186 | 1749 | 1055 | 616 | 298 | 6719 |  |  |   |
| Oyam | 615 | 1384 | 1801 | 2646 | 1241 | 534 | 137 | 8358 |  |  |  |
| Rukungiri | 281 | 625 | 548 | 573 | 281 | 124 | 77 | 2509 |  |  |  |
| Total | 3890 | 11487 | 11802 | 16594 | 11045 | 5961 | 2296 | **63075** |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Total girls vaccinated** | **63075** |  |  |  |  |  |  |  |  | 0 |
| Eligible girls(UBOS Figures) | 64119 |  |  |  |  |  |  |  |  |  |
| Coverage(%) |  | **98.40%** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Round 3 results**  |  |  |  |  |  |  |  |  |  |  |
| **The vaccinations were carried out between March & August 2013 for the districts that implemented the exercise** |
| District | 9yrs | 10 yrs | 11yrs | 12yrs | 13yrs | 14yrs | >15yrs | **Total** |  |  |  |
| Bududa |   |   |   |   |   |   |   |   |  |  |  |
| Busia | 234 | 696 | 1138 | 1 354 | 1526 | 921 | 336 | 6205 |  |  |  |
| Isingiro |   |   |   |   |   |   |   |   |  |  |  |
| Kamwenge | 102 | 162 | 356 | 622 | 782 | 533 | 166 | 2723 |  |  |  |
| Katakwi | 74 | 704 | 565 | 793 | 609 | 332 | 115 | 3192 |  |  |  |
| Kayunga | 380 | 778 | 1198 | 1390 | 1205 | 488 | 144 | 5583 |  |  |  |
| Lira |   |   |   |   |   |   |   |   |  |  |  |
| Mityana | 466 | 604 | 101 | 412 | 130 | 7 | 2 | 1722 |  |  |  |
| Nebbi | 34 | 171 | 362 | 596 | 1100 | 962 | 592 | 3821 |  |  |  |
| Ntugamo | 131 | 695 | 1019 | 1366 | 1537 | 817 | 395 | 5960 |  |  |  |
| Oyam | 217 | 1456 | 1710 | 2133 | 1622 | 784 | 254 | 8176 |  |  |  |
| Rukungiri | 343 | 1529 | 1214 | 1096 | 861 | 397 | 230 | 5670 |  |  |  |
| **Total** |   |   |   |   |   |   |   | **43052** |  |  |  |
| Only districts 9 out of 12 districts have given third dose to the girls as at August 2013 |  |  |  |
| **Total girls vaccinated** |  | **43052** |  |  |  |  |  |  |  |  |
| Eligible girls for 9 districts(UBOS Figures) | 48,055 |  |  |  |  |  |  |  |  |
| Coverage(%) |  |  | **90%** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| BUDUDA District did not implement 3rd dose vaccination |  |  |  |  |  |  |
| ISINGIRO did not implement 3rd dose vaccination  |  |  |  |  |  |  |  |
| LIRA -was still implementing the 3rd dose vaccination at the time of the report |  |  |  |  |
| MITYANA - had shortage of HPV vaccine during implementation |  |  |  |  |  |  |

**LESSONS LEARNT FROM HPV VACCINE DEMONSTRATION PROJECT**

Lessons learnt from the HPV vaccine demonstration project provided an opportunity for improved implementation and these were used during the process of scaling up to 12 additional districts.

1. Formative research, which was done before the vaccinations, was very critical in identifying the key issues for HPV vaccine delivery such as delivery strategy elements, communication and advocacy strategy, training needs, identification of stakeholders, assessment of the health and education systems among others and these needed to be addressed before introduction.

2. Government endorsement for a new vaccine like HPV was very important for its acceptance and successful implementation at all levels.

3. Comprehensive and effective educational materials and community sensitisation create an enabling environment for acceptability.

4. Implementing the HPV vaccination project provided the opportunity to assess and strengthen health care systems such as the cold chain, knowledge and skills of health workers in vaccine management, data management and immunisation in general.

5. Targeted training of persons involved in programme implementation is essential for programme success such as health workers, teachers and community leaders.

6. Joint planning meetings promoted close collaboration between the departments of health and education and encouraged a cooperative environment during vaccination sessions.

7. Schools can be used as a venue for HPV vaccinations

8. Selecting girls for HPV vaccination based on their grade/class in school may be easier to implement

9. HPV vaccines can be integrated into the existing management and administration strategies used for routine immunisations

10.Adding HPV vaccine to an existing, funded health programme, such as Child Days Plus, can reduce recurrent programme cost

**LESSONS LEARNT FROM HPV IMPLEMENTATION IN 14 DISTRICTS (Current)**

1. Use of school Health system makes it easier to implement HPV vaccination.
2. Strong Donor Partner involvement especially in resource mobilisation.
3. Supportive District leadership throughout the implementation.
4. Strong stakeholder collaboration ie with Ministry of Education and Sports (MOES).
5. Sensitisation of the community on HPV has led to demand for more services ( more Screening sites at Health Facility level demanded for and training of health workers to provide the services)
6. Synchronisation of activities is paramount- vaccinations for the specific doses should be done during the planned month- not overlapping and hence difficulty in compiling coverage for a particular dose round i.e HPV 1st dose coverage, HPV 2nd dose coverage etc.
7. Receptive community and high awareness on services on cancer prevention.
8. Demand from other districts that were not implementing

**CHALLENGES**

1. Inadequate funding for implementation for certain activities, (i.e no budget for teachers, waste management).
2. Denominator problems ( UBOS gives low figures versus high school enrolment figures and changing Headcount)
3. There was inadequate funds to print the monitoring tools – HPV Cards, registers and tally sheets for the 2nd cohort.
4. Difficulty in synchronizing implementation due to logistical challenges ie districts should receive HPV vaccines during the planned period for implementation of the scheduled dose. Isingiro district lacked adequate vaccine storage capacity and hence did not implement HPV 3rd dose. Bududa did not implement due to inadequate funding availability by then.
5. Difficulty in getting the reports/data for all rounds within the expected period due to varying levels of actual implementation.
6. Central supervisors’ non-participation in monitoring and supervision of the implementation of 3rd dose and vaccination of Girls of 2nd cohort in March 2013.
7. Low coverage for 3rd dose as some of the schools closed early before vaccinations were conducted.
8. False rumours about HPV made some communities resistant
9. Inadequate monitoring tools – HPV registers, cards, tally sheets for implementation.
10. Implementation in some districts coincided with MOES examination schedule and some schools had closed early for holidays.

**WAYFORWARD**

1. Need to review the HPV monitoring tools (Tally sheets).
2. Print and distribute the monitoring tools to all the 14 districts for vaccination of the new cohort (Registers, tally sheets, cards).
3. Support Central level Monitoring and Supervision of district level activities for district level monitoring and supervision of implementation
4. Donation regulation should be streamlined (Supplies such as Ads- as a donation from donors)
5. Appropriate synchronisation of planned activities across all districts to avoid clashing with MOES examination schedule and other Stakeholders adherence to the plan to enable all districts to implement at the planned period. This will facilitate reporting within the stipulated period and sharing of reports with other stakeholders.
6. Effective social mobilisation to reduce rumours and misconceptions.
7. Review of the appropriate denominator to use ( HPV Target population).
8. As an opportunity, districts have been advised to integrate HPV activities into routine immunisation as currently GAVI ISS funds are being provided to all districts for improvement of routine immunisation services. The funds are being sent to districts quarterly.
9. Uganda has applied to GAVI for introduction of HPV vaccination for girls Nationwide in 2015. The proposal has already been submitted to GAVI. The country is waiting for final approval of the proposal for introduction in 2015.