Mobilize, Deliver, Sustain: Lessons learnt and practical advice for effective HPV vaccine delivery in low- and middle-income countries

Deborah Watson-Jones, Katherine Gallagher, Carol Tevi-Benissan and D. Scott LaMontagne on behalf of the HPV Lessons Learnt project

Webinar

28 July 2016
Introduction and panelists

1. Review lessons: effective mobilisation, efficient delivery, pitfalls to avoid and sustainable models for HPV vaccines
2. Relay “stories from the field”
3. Four panelists:
   - Dr. Deborah Watson-Jones, LSHTM
   - Ms. Katherine Gallagher, LSHTM
   - Dr. Carol Tevi-Benissan, WHO AFRO
   - Dr. D. Scott LaMontagne, PATH
4. Question and Answers
Study objectives

1. Collate and synthesize lessons from completed HPV vaccine demonstration projects and national programmes (*LSHTM*)
   - Explore why some countries have not applied to Gavi, the Vaccine Alliance for HPV vaccine support
2. Generate recommendations on how HPV vaccine delivery can be successfully integrated into national immunisation programmes and on key drivers of costs (*LSHTM*)
3. Use creative mechanisms to disseminate the synthesized lessons and best practices, for HPV vaccine demonstration projects and national programmes (*PATH*)
Study methods

This review included:

• 46 countries (18 LIC, 22 LMIC, 5 UMIC, 1 HIC)
• 3 data-collection approaches:
  1. Systematic review (61 articles, 11 abstracts)
  2. Review of unpublished literature (188 reports)
  3. Key informant interviews (56 interviews)
• Data extraction was based on WHO’s new vaccine introduction guidelines
• Thematic analysis: Preparation, Communications, Delivery, Achievements, Sustainability, Value, Pitfalls
• Approved by LSHTM Ethics Committee

Available at: [http://www.rho.org/HPVlessons-map.htm](http://www.rho.org/HPVlessons-map.htm)
Study by numbers

- 46 low- and middle-income countries
  - 12 national introductions
  - 66 demonstration projects
- 92 distinct delivery experiences
- 120 years of cumulative vaccination experience
- >1,750,000 girls reached
- >1,400,000 girls fully vaccinated

92 delivery experiences: defined by the vaccination venue and target population within a specific project/programme (defined by funding source).
Mobilize, Deliver, Sustain: lessons learnt
If you have questions, please remember to submit them via the chat box before the Q&A session.
Mobilize: what works

Messages

• Specific training (health workers, teachers, community leaders) was necessary to ensure accurate messages were delivered

• 26/30 countries reporting training used ‘cascade’ training. Training duration varied: <1 day to 3 days. Supervision of training was necessary

• Key messages: HPV vaccine prevents cervical cancer, is safe, will not harm fertility, is endorsed by government, and neighbouring countries are delivering vaccine

Materials and tactics

• Interactive methods were more effective than non-interactive

• Most effective communication delivered by ‘credible influencers’: health workers, teachers, community leaders
Mobilize: acceptability & consent

Acceptability

- Low awareness of HPV/related disease
- Refusals: private schools, religious groups, anti-vaccine groups (8 projects/programmes each)
- Health worker hesitancy contributed to parental refusal to uptake in 4 countries

Consent

- 71/92 delivery experiences reported on consent procedures: 50% used opt-in and 30% used opt-out; some used a mixture or changed process
- 7 projects changed opt-in to opt-out: opt-in (where not standard EPI practice) increased rumours; lengthy consent decreased uptake

<table>
<thead>
<tr>
<th>Top 3 reasons for acceptance</th>
<th>Score</th>
<th>Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine is “good for health”</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Protection from cancer</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Protection from infection</td>
<td>16</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top 3 reasons for non-vaccination</th>
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<tbody>
<tr>
<td>Not aware of the programme</td>
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<tr>
<td>Absenteeism</td>
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<tr>
<td>Fear of adverse effects</td>
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Mobilize: what can go wrong

Timing and preparation

- Problems were reported if mobilization occurred less than a month prior to vaccination day
- Delays need to be anticipated e.g. in fund disbursement from the central level, training of health workers and other community mobilizers, printing of IEC materials
- Private schools needed more time/more information in order to organise their own consent procedures and parent-teacher meetings

Rumours

- Underestimation of negative media or inadequate engagement of community/religious or influential groups at national and local levels could lead to rumours
- Rumours on fertility or adverse events
- Rumour management needs to be rapid: tailored communication messages, endorsements by government officials, and dissemination of WHO safety statements

“Recovering trust is proving extremely challenging, despite involvement of national figures in medicine and entertainment”
Country 4 after a rumour on social media
Delivery
Deliver: experience to date

Delivery strategy and population selection

- 88% experiences involved schools; resource-intensive
- Targeting a grade simpler to implement than age, but can be challenging to communicate and calculate coverage
- 17 countries tested joint delivery (6 coverage estimates)
- Estimating target population for delivery challenging
- Common enumeration methods: school registers, MOE enrolment data, census data or survey estimates
- Some countries took headcount of eligible girls before vaccine delivery/during first dose to adjust estimates
- Uncertainty regarding: how to vaccinate HIV+ girls with 3 doses and HIV- with just 2 doses (19 countries)

“HIV positive girls are vaccinated with 2 doses alongside all other girls – we can't separate them” Country 16

### Delivery strategy for in-school and out-of-school girls

<table>
<thead>
<tr>
<th>Delivery strategy</th>
<th>Experiences (N=89)</th>
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</thead>
<tbody>
<tr>
<td>School only</td>
<td>24 27%</td>
</tr>
<tr>
<td>School + health facility</td>
<td>21 24%</td>
</tr>
<tr>
<td>School + health facility + outreach</td>
<td>25 28%</td>
</tr>
<tr>
<td>School + outreach</td>
<td>8 9%</td>
</tr>
<tr>
<td>Health facility only</td>
<td>6 7%</td>
</tr>
<tr>
<td>Health facility + outreach</td>
<td>5 6%</td>
</tr>
</tbody>
</table>

### Target population in school (N=75)

<table>
<thead>
<tr>
<th>Population</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>39 52%</td>
</tr>
<tr>
<td>Grade</td>
<td>23 31%</td>
</tr>
<tr>
<td>Age within a school grade(s)</td>
<td>13 17%</td>
</tr>
</tbody>
</table>
Deliver: uptake & coverage

Vaccine coverage
• Coverage data available from 60 of 92 experiences: 50 used 3-dose schedule, 10 used 2-dose
• 83% reported final dose coverage of ≥70%
• Minimal data from health facility-only strategies (5 experiences; 65-96%)

Uptake and dropout
• First-dose coverage: 64-100%
• Completion: 70-99%
• Majority reported drop-out rate of 10% or less
• Registers, cards, etc. helped track doses
Deliver: uptake & coverage

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Deliver: achieving high coverage

Factors correlated with high coverage experiences:

- Strategies using schools including good collaboration with education sector at national and local levels (limited data on health facility only strategies)
- Involvement of national immunisation programme in planning and implementation
- Targeted social mobilisation of out-of-school girls achieved uptake in this group
- Comprehensive social mobilisation, including use of ‘credible influencers’
- Use of vaccination registers and cards
- Delivering vaccine on schedule and within 1 school year

Factors correlated with low coverage:

- Ineffective coordination and planning with schools
- Rumours that caused schools to refuse vaccinators
- Urban areas with high exposure to negative media/mobile populations
- Other factors: delay in receipt of social mobilisation and school-delivery funds, not providing a second opportunity for girls who missed the first dose
Sustainability

If you have questions, please remember to submit them via the chat box before the Q&A session.
Sustain: the cost of delivery

Financing and costs

- 66 demonstration projects in 44 countries received vaccine and/or funding for delivery from GAP (n=30), Gavi (n=20), PATH (n=4), ACCF (n=3), other (n=9)
- Financing for national programmes provided by Merck, Gavi, ACCF or national governments
- Recurrent financial costs per dose:
  - 5 initial demos: US$ 1.11 - 2.10
  - 7 GAP demos: US$ 2.74 (mean)
  - 5 Gavi demos: US$ 3.10 - 9.21 (mean $6.05)
- Reported cost drivers of demos: staff and supervisor transport and per diems, social mobilisation activities

- Costs of delivery in national programmes projected to be lower than demos e.g. $2/dose
- Remains potentially unaffordable for Gavi ‘graduating’ countries
Sustain: scale-up

Barriers to scale-up

- 11/24 countries with demo experience have stated they will not scale up
- Uncertainty about future financing and on-going political commitment due to perceived expense of the school-based delivery strategy and uncertainty over the future expense of the vaccine
- Ineligibility for Gavi support is major barrier for some countries

Paths to scale-up

- 13/24 countries with demo experience plan to scale-up (~50% prefer a phased scale-up)
- During scale-up, countries seek to:
  - Acquire additional funding from partners for specific activities e.g. mobilisation
  - Test more ‘routine’ delivery strategies
  - Obtain more TA to fill capacity gaps especially in budgeting/forecasting
- Two countries stated long-term plans for sustainable financing of EPI with commodity taxes e.g. tobacco tax and a ring-fenced EPI budget using an ‘immunisation law’
Sustain: things to consider

The limitations of demos

• District selection not always nationally representative
• Small scale prevented assessing impact on cold chain and created challenges integrating with routine programme (EPI)
• National programmes will be cheaper to deliver than the cost per dose during a demonstration project
• Phased national introduction may maintain political will and funding commitments

Decisions during delivery may impact sustainability

• School-based vaccine delivery can achieve as good coverage as successful programmes in HIC e.g. Australia, England (resource-intensive)

• Very limited data on other delivery strategies
• Well-designed HPV programmes could be used to assess different delivery strategies, how to achieve high coverage in challenging areas, and learn about integration with national systems
• Innovative delivery schedules are being tested in 2 countries in order to try to ensure sustainability: vaccinating once every 12 months and vaccinating a multi-year cohort every few years
• Consistent eligibility criteria and consent procedures aids sustainability (easy to communicate, reduces rumours)
**Pitfalls**

- Lack of political commitment early in the process caused delays later in the programme
- Failure to coordinate early with national immunisation programme staff, the MOE and MOF led to planning, social mobilisation and delivery problems
- Not allowing enough time for planning led to poor decision-making, lack of availability of funds and untimely disbursement
- Not engaging, or engaging too late, with local community leaders derailed social mobilisation efforts in some cases
- Insufficient training of school staff/teachers and lack of a crisis communications plan perpetuated rumours
- Failure to engage sufficiently or early enough with private schools early led to resistance by school leaders and parents
- Limited focus on strategies to deliver HPV vaccine to out-of-school girls led to low coverage in that group
- Failure to correctly enumerate the target population/implement eligibility criteria resulted in difficulties in accurately estimating coverage
HPV Vaccine Lessons Learnt & Recommendations

Country voices

If you have questions, please remember to submit them via the chat box before the Q&A session.
Social mobilization

Ensure reaching key audiences

- **South Africa (school based):** the need to orient and mobilize teachers underestimated: not mobilized, not targeted
  
  *Action:* teachers retrained and more emphasis on teachers in second round

- **Madagascar:** private school principals/religious leaders at private, catholic schools not sufficiently targeted
  
  *Action:* extensive need to remobilize principals + convince religious authorities. Vaccination done outside school.

- **Colombia:** good acceptance until an AEFI event (mass fainting) triggered wide refusal
  
  *Action:* MOH reacted with swift formal investigation, communicated adequately, and programme now recovering from lower coverage levels
Delivery Strategies

- **South Africa**: school (health) vaccination
  - HPV vaccination included in school health programme (extra expenses still expensive)
  - Co-delivery with Puberty books, considering link with TT vaccination

- **Tanzania**: HPV demonstration
  - Year 1: Campaign delivery in school – *high coverage* – *expensive*
  - Year 2: Continuous vaccination in routine – mixed strategy (health facility and school as outreach activity). Using other interventions (e.g. deworming) to reach schools.

- **Argentina**: mixed strategies (school and health care facilities)
  - Provinces have autonomy to decide strategies (all have a mix) – no clear pattern what mix gives higher coverage

- **Chile**: extended schedule (0, 12 months)
  - First country to use annual vaccination schedule. In schools, linked to school health programme reaching coverage > 70%
Sustainability

- **Rwanda:**
  - Campaign mode in schools → routine outreach to schools
  - *Aim:* reducing direct costs (> 80% reduction)

- **Bhutan:**
  - Catch up in schools → health facilities (mixed) → school (mixed)
  - *Aim:* increase coverage from 73% to >90%

In order to reach programme objectives countries continue to adapt (mode, financing, etc.) even several years after introduction.
Question & Answer Session

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Resources (English, French, Spanish)

Visit http://www.rho.org/HPVlessons to find:

- Introductory video
- Project and thematic summaries
- Global map
- PowerPoint slide deck