Implementation of organized HPV-based screening programs

Sandra van Dijk
The Netherlands
From cytology based to HPV based screening

<table>
<thead>
<tr>
<th></th>
<th>Untill 2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>30 - 60</td>
<td>30 – 60 (65 HPV+)</td>
</tr>
<tr>
<td>Method</td>
<td>Clinical sample GP</td>
<td>Clinical sample GP Selfsampling non-responders</td>
</tr>
<tr>
<td>Test</td>
<td>Cytology</td>
<td>HPV HPV+/Cytology</td>
</tr>
<tr>
<td>Follow-up 6 month</td>
<td>ASCUS/LSIL</td>
<td>HPV+</td>
</tr>
<tr>
<td>Referral Gynaecologist</td>
<td>HSIL&gt;</td>
<td>HPV+ and ASCUS&gt;</td>
</tr>
</tbody>
</table>
hrHPV testing
Cytology triage testing
Follow-up smear
Self-sampling
## Results

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>referral rate total</td>
<td>1.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>referral rate direct</td>
<td>0.93%</td>
<td>2.60%</td>
</tr>
<tr>
<td>referral rate indirect</td>
<td>0.79%</td>
<td>1.00%</td>
</tr>
<tr>
<td>followed referral total</td>
<td>91%</td>
<td>75%</td>
</tr>
<tr>
<td>followed referral direct</td>
<td>91%</td>
<td>77%</td>
</tr>
<tr>
<td>followed referral indirect</td>
<td>76%</td>
<td>69%</td>
</tr>
<tr>
<td>detection screening programme total</td>
<td>0.99%</td>
<td>1.25%</td>
</tr>
<tr>
<td>detection screening programme direct</td>
<td>0.69%</td>
<td>1.00%</td>
</tr>
<tr>
<td>detection screening programme indirect</td>
<td>0.27%</td>
<td>0.25%</td>
</tr>
<tr>
<td>PVV total</td>
<td>56.3%</td>
<td>34.7%</td>
</tr>
<tr>
<td>PVV direct</td>
<td>71.5%</td>
<td>38.4%</td>
</tr>
<tr>
<td>PVV indirect</td>
<td>7.2%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
Framework

Ministry of Health

Centre for Population based screening (CvB)

Screening organization

Professionals (GP and screeningslabs)

Advise CvB
Program committee consisting of representatives of professionals
Advice Program committee Workgroups
Renewed programme: Phases

Decisionmaking phase (2 years)

Preparation phase (3.5 years)
• Tenders; HPV, selfsampling, labs
• Organisation screenlaboratories
• Set up information technologies
• Framework tasks and responsibilities professionals
• Guidelines GP, pathology, gynecology
• Development communication and education materials

Implementation phase (8 months)
• Set up and testing laboratories (testing with old samples)
• First lab testing IT and workflow low volume (2.000)
• Education of professionals (HPV/cytology)

Transition
Transition

2016 stop cytology screening program

- Concentration of invitations before september
- Recall in september
- Informing clients that cytology screening stops
- Informing GP to stop taking smears in december
- Labs could finish cytology in january
- Old IT system closed on 20th of january
- Migration of data on 21th of january in new IT system
letter and folder; basic information

HPV Infection

Usually, the body is able to clean up the virus on its own

Sometimes, the body does not clean up the virus in the cells

What can the results be?

About four weeks after the screening, you will receive a letter with the results. You can get the following results:

- **No HPV**: You do not have an increased risk of cervical cancer. Further testing is not necessary. You may participate in the screening again in the next round of invitations.
  - 91% get this result.

- **HPV detected, no abnormal cells**
  - You will receive another invitation for a smear test at the family doctor after six months. We then check once again to ensure that no abnormal cells are present.
  - 5% get this result.

- **HPV and abnormal cells detected**
  - Further examination by a gynecologist is necessary. He/She will decide whether treatment is necessary.
  - 2% get this result.

- **Unclear**
  - A new smear test is required. Please make an appointment with your family doctor for this in about six weeks after your first smear test.
  - In 2 out of 100 women, the smear test is inconclusive.
QA in primary hrHPV screening

Characteristics 1st hrHPV screening programme
- Five test sites representing five different regions
- All test sites similar hrHPV test equipment
- Two sample flows (clinical samples, self samples)
  - Large daily throughput, each lab 450 samples daily
  - Low prevalence

→ fast adjustments if required

- Specific attention to QA in primary hrHPV screening
  - Performance over time
  - Performance in different regions
  - Performance in relation to other testsystems
QA in triage cytology screening

Characteristics 1st hrHPV screening programme
- Increased abnormal cytology
- HPV-bias (influence of knowledge HPV on cytology)
- Increased referral

→ fast adjustments if required

- Specific attention to QA in triage cytology screening
  - Instructions and learning effect HPV-bias
  - Referrals over time
  - Referrals in different regions
Continuous process of optimizations

- Investigating possibilities to decrease unnecessary referrals, for example by adding genotyping to our triage (2022)
- Stronger position self-sampling, by sending them out to non-responders and all first-invited-women (2023)
- Preparing for HPV-vaccinated women in screening program (2023)
- Lowering barriers for participation (2021)
- Dealing with consequences of the COVID19-pandemic
More?

Website:
www.rivm.nl/en/topics

Feasibility report (organization, finances, support)
Framework new screening
Folders for the participants

Sandra.van.Dijk@rivm.nl