Maintaining Sustainable Production of Influenza Vaccine to Promote Pandemic Preparedness: Influenza Vaccine Supply Hubs

Claudia Nannei & Shoshanna Goldin
DCVMN AM 2018 - 31 October 2018

World Health Organization
Road towards preparedness

Holistic approach to influenza vaccination and preparedness

- **Surveillance**: Data on strains, prevalence per risk groups, BoD
- **Evidence based policies**: Seasonal influenza vaccination policy
- **Demand**: Vaccine uptake
- **Supply**: Industry motivated to produce vaccines
- **Preparedness**: Industry has capacity for pandemic
Seasonal influenza vaccination and pandemic preparedness

- Regulatory capacity
- Distribution plans and systems (i.e. cold chain, ancillary supplies)
- Monitoring systems
- Health workforce familiarity in administering vaccine
- Public trust in influenza vaccines
- Identified target groups and ability to reach them
- Rapid deployment of supplies in an emergency context
Our best ally for influenza prevention and response

- Influenza vaccines decrease morbidity and mortality for seasonal and pandemic influenza
- Vaccines offer cost effective coverage
- New technologies may offer the potential for improved vaccines
- Currently sub-optimal and limited antivirals... vaccines remain our best tool
Global Action Plan for Influenza Vaccine’s Goal and Objectives

Concerning situation in 2006: low production capacity & mostly in HICs

10 year strategy to reduce anticipated global shortage & inequitable distribution of vaccines in the event of an influenza pandemic

Goal: Capacity to produce enough vaccine to immunize 70% of the global population with 2 doses = ~10 billion doses

Objectives:
I. Increase evidence based seasonal vaccine use
II. Expand vaccine production & regulatory capacity
III. Further research & development for better vaccines
Technology Transfer within GAP

- Main funding provided to WHO by the US HHS
  - Funded also by the Governments of Canada, Japan and the UK.

- Grants and technical assistance provided to 14 LMICs vaccine manufacturers

- Manufacturers agreed to provide 10% of their real time influenza vaccine production capacity to WHO in the event of a pandemic.

- Seed funding complemented by national investment (on average every $1 provided resulted in $17 local investment)

- Combined expected production capacity from these manufacturers will result in >>1.135 billion doses of pandemic vaccine
### Increase in Production Capacity

<table>
<thead>
<tr>
<th>Situation in 2006</th>
<th>Situation Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>500M doses of seasonal vaccine capacity</td>
<td>1.5B doses of seasonal vaccine capacity</td>
</tr>
<tr>
<td>1.46B doses of potential pandemic vaccine capacity</td>
<td>6.37B doses of potential pandemic vaccine production</td>
</tr>
<tr>
<td>Production capacity mostly limited to HICs</td>
<td>Production capacity expanded to LMICs</td>
</tr>
<tr>
<td></td>
<td>GAP grantees have 8 pandemic vaccines (2 PQ) &amp; 3 seasonal vaccines (1 PQ) licensed in 6 countries (more expected by 2019).</td>
</tr>
</tbody>
</table>
What Now?

- Final consultation held in November 2016
- GAP Advisory Group identified the following issues as requiring continued WHO leadership:
  - Technical assistance for manufacturers
  - Facilitation of influenza vaccine R&D and vaccination strategies
  - Identify root causes of influenza vaccination hesitancy
  - Generate more evidence on vaccine effectiveness in specific risk groups
  - Identify innovative ways of addressing global pandemic influenza preparedness
WHO Global Strategy for Influenza (draft)

- Vision: Attainment of the highest possible influenza prevention, control, and preparedness to contribute to health for all people
- Aims at establishing an overarching umbrella for all WHO activities related to influenza preparedness and response
- Will guide global influenza work from 2019-2030
- Comments received from member states, industry, and beyond
Global production capacity survey

- Previously, WHO monitored global production capacity using data mainly from IFPMA Members.
- Currently, WHO is organizing the next assessment (2019), including DCVMs
- Please, stay tuned!

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFR</td>
<td>2.0</td>
<td>1.9</td>
<td>1.9</td>
<td>2.6</td>
<td>3.4</td>
<td>3.8</td>
<td>3.9</td>
<td>3.7</td>
<td>3.7</td>
<td>4.8</td>
</tr>
<tr>
<td>AMR</td>
<td>173.2</td>
<td>211.6</td>
<td>199.7</td>
<td>201.2</td>
<td>231.7</td>
<td>255.6</td>
<td>252.0</td>
<td>267.7</td>
<td>310.9</td>
<td>267.7</td>
</tr>
<tr>
<td>SEAR</td>
<td>1.3</td>
<td>1.6</td>
<td>2.1</td>
<td>4.7</td>
<td>8.6</td>
<td>8.2</td>
<td>7.6</td>
<td>8.7</td>
<td>9.3</td>
<td>9.2</td>
</tr>
<tr>
<td>EUR</td>
<td>110.3</td>
<td>111.1</td>
<td>144.2</td>
<td>148.3</td>
<td>108.4</td>
<td>102.8</td>
<td>94.1</td>
<td>98.7</td>
<td>109.7</td>
<td>106.2</td>
</tr>
<tr>
<td>EMR</td>
<td>3.3</td>
<td>3.8</td>
<td>4.9</td>
<td>8.8</td>
<td>6.7</td>
<td>6.1</td>
<td>5.2</td>
<td>5.2</td>
<td>6.7</td>
<td>10.9</td>
</tr>
<tr>
<td>WPR</td>
<td>63.8</td>
<td>76.9</td>
<td>80.5</td>
<td>83.3</td>
<td>108.6</td>
<td>112.6</td>
<td>111.9</td>
<td>107.9</td>
<td>93.6</td>
<td>87.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>353.9</td>
<td>406.9</td>
<td>433.3</td>
<td>448.9</td>
<td>467.4</td>
<td>489.1</td>
<td>474.7</td>
<td>491.9</td>
<td>533.9</td>
<td>485.9</td>
</tr>
</tbody>
</table>
Maintaining a Sustainable Supply of Influenza Vaccines in LMICs

**Context:**

- Seasonal influenza vaccination is increasing across the Middle East, coasts of sub-Saharan Africa, and middle/upper–middle income countries in Asia.
- Government identification of target groups and investment in free influenza vaccines for those target groups produces the best coverage and distribution.
- Risk communication strategies and cost benefit analyses are needed to sustain and increase demand.
Supply Hubs for Influenza Vaccine

WHO convened a pilot Working Group that identified the following priorities to ensure sustainable local production and procurement of seasonal influenza vaccines:

- Harmonization of policies to support **sustainable national procurement**
- Engagement with **key partners for potential procurement** (i.e. Partnership for Influenza Vaccine Introduction, UNICEF, ASEAN Vaccine Security Working Group, etc)
- **Realistic forecast of demand**
- Prequalification for large scale export
- Encourage **new pooled procurement models**
Where could DCVMN lead?

- Facilitate development of capacities for strategic business planning aimed at domestic and international markets

- Continue to create opportunities for sharing lessons learned among members (including branding, marketing, reliable distribution networks etc.)

- Engage in international initiatives to contribute to pooled procurement (Unicef, PIVI, ASEAN vaccine security...
DCVMN and Pandemic Preparedness

- Be the voice of DCVMs in the international discussions on pandemic preparedness for all pathogens, including influenza
- Advocate for sustainable influenza vaccine production capacity in DCVMs (to maintain global pandemic preparedness)
DCVM’s Role

- Unique positioning to be attuned to and serving country and context-specific needs (fingers on the pulse!)
- Responsive to emerging innovations (technology, supply, and financing models)
- Catering for targeted needs (i.e. cholera, typhoid, etc)
- Opportunities for partnerships with non-traditional stakeholders
- Engaging with WHO early and often
- Stay healthy!
Thank You!

Claudia Nannei  
nanneic@who.int

Shoshanna Goldin  
goldins@who.int