

WHO Smallpox secretariat

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Smallpox vaccine stockpile

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**World Health
Organization**

Brief history of WHO vaccine stockpile

1977

- Post-eradication: vaccine donation from different countries ~200 million doses. Kept in Geneva and Lausanne.

1986

- WHO sent back the vaccine to countries. Only 5 million doses were kept in Geneva

2004

- Ad-Hoc Orthopoxvirus Committee recommended a stockpile of 200 million doses

2008

- Vaccine donation from USA, France, UK, Germany and New Zealand

2013

- UK funds, WHO procured additional ACAM2000 = 300.000 doses
- Japan pledged 1 million doses LC16m8

SAGE consultation

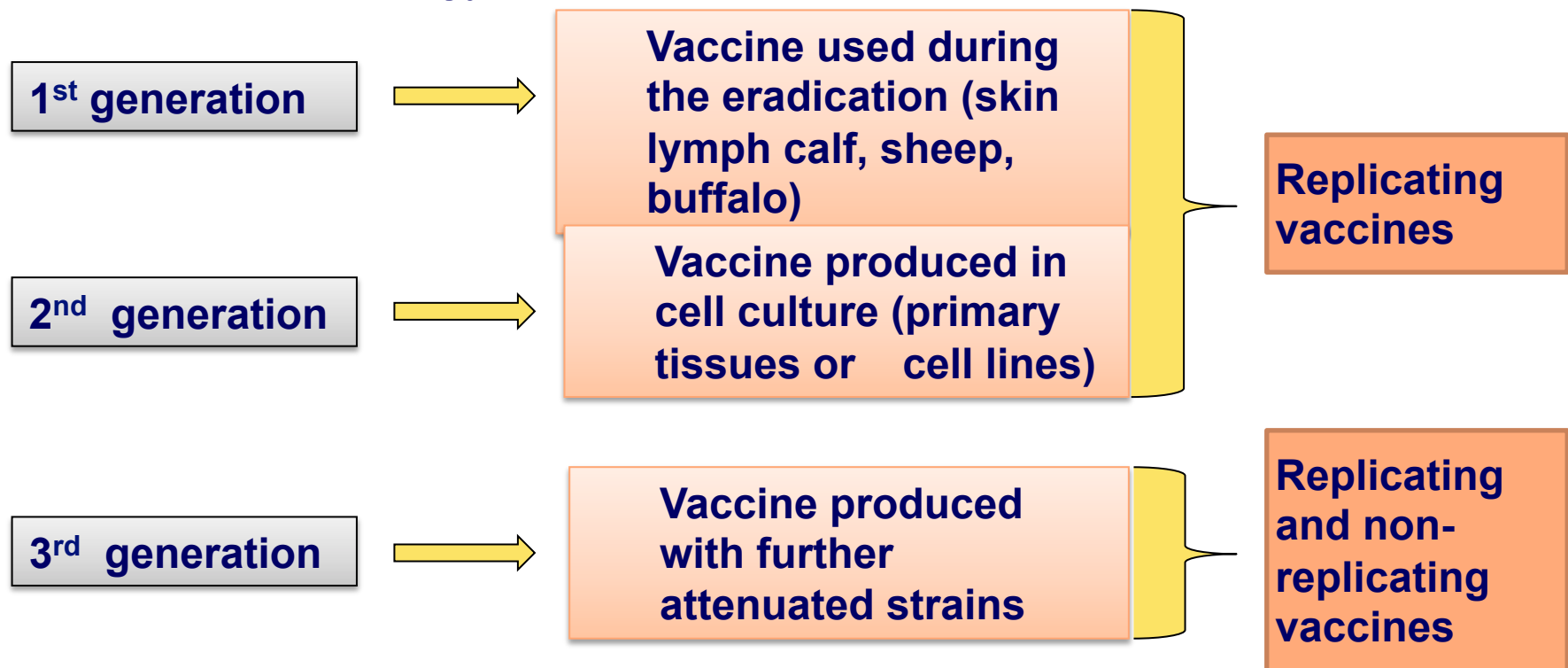
- 1. *Need to update recommendations:*** Last recommendation on vaccine stockpile was made by the Ad-Hoc Orthopoxvirus Committee in 2004
- 2. *New vaccines:*** further attenuated are available. LC16m8, MVA. These vaccines are not currently in WHO stockpile
- 3. *WHA 2014:*** dates for destruction of variola virus will be discussed and therefore further research for safer vaccines will also be reviewed

SAGE consultation 17-18 September

- **Composition: smallpox, virology, immunology, vaccinology, public health, ethics and regulatory experts**
- **Independent review of all clinical data on efficacy, safety and effectiveness**
- **Regulatory status of all available vaccines**
- **Provide advice on vaccine recommendations, composition and size of the stockpile**

Smallpox vaccines (1st, 2nd, 3rd generation)

During the 1990-2010 research review Advisory Committee Variola Virus Research (ACVVR) 2011, there was consensus to use more technical terminology



WHO stockpile composition

Country/manufacturer	Location	Type of vaccine	Vaccine stock in doses
USA (donation)	USA	VetVax, ACAM2000, Imvanex?	20,000,000
Germany (donation)	Germany	Vaccine used during eradication	2,000,000
United Kingdom (donation)	UK	Vaccine used during eradication	4,000,000
France (donation)	Under negotiation	Vaccine used during eradication	5,000,000
Japan (donation)	Under negotiation	LC16m8	1,000,000
New Zealand	New Zealand	Vaccine used during eradication	10,000
Russia, Iran, Germany, Belgium and Netherlands	WHO, Switzerland	Vaccine used during eradication	600,000 (0.01ml) ~ 2.4 million doses (0.0025ml)
Sanofi-Pasteur	WHO, Switzerland	ACAM2000	300,000
Total =			35,000,000

Country vaccine stockpiles

Country	Vaccine stock in million doses	Type of vaccine
WHO	35	Vaccine used during the eradication + ACAM2000
USA	200-300	Dryvax, WetVax + ACAM2000+ Imvanex
Germany	100	Vaccine used during eradication
United Kingdom	80	Vaccine used during eradication+ ?
France	60	Vaccine used during eradication
Russia	?	Vaccine used during eradication
Japan	30	LC16m8
China	30	Vaccine used during eradication
Netherlands	20	Vaccine used during eradication
Other countries	50-100	Vaccine used during eradication
Total	605-755	

Production capacity

Company	Country	Vaccine	Vaccine stock in million doses / year
Sanofi-pasteur	USA	ACAM2000	150
		DryVax/WetVax	0
Kaketsuken	Japan	LC16m8	80
Microgen	Russia	Live, inactivated and oral	?
Bavarian Nordic	Denmark/Norway	Imvanex/Imvamune	20
RIVM	Netherlands		5
Total			255