Vaccines Workshop

Presenters
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Introduction
A vaccine is a biological preparation that provides active acquired immunity to a particular infectious disease.

A vaccine typically contains a biological preparation from disease-causing microorganism, or since the beginning of the 21st century, made synthetically that resembles it. This preparation is often made from weakened or killed forms of the microbe, its toxins, or one of its surface proteins. The agent stimulates the body's immune system to recognize the agent as a threat and starts producing antibodies against it, so as to further recognize and destroy any of the microorganisms associated with that agent that it may encounter in the future.

Vaccines can be prophylactic (to prevent or ameliorate the effects of a future infection by a natural or "wild" pathogen), or therapeutic (to fight a disease that has already occurred, such as cancer).

The administration of vaccines is called vaccination. Vaccination, along with sanitation and clean drinking water, are public health interventions that have been responsible for improved health outcomes globally. The development of safe and efficacious vaccination against diseases that cause substantial morbidity and mortality has been one of the foremost scientific advances of the 21st century. We now have vaccines to prevent more than 20 life-threatening diseases, helping people of all ages live longer, healthier lives. Immunization currently prevents 2-3 million deaths every year from diseases like diphtheria, tetanus, pertussis, influenza and measles and potentially COVID-19.

The implementation of vaccines as part of large, systematic immunization programs also have started to address health inequities between low and high resources. Vaccine access does however remain unequal and the full potential of vaccines largely untapped.

The COVID-19 pandemic has caused significant morbidity and economic decline and have put a large emphasis on the success of vaccination programs. Consensus is that the only way out of this pandemic is through the implementation of a broadly effective vaccine, as part of a coordinated effort.

Governments are under increasing pressure to stem the tide of economic and human destruction caused by COVID-19 and ensuring public confidence in both the safety and effectiveness of COVID-19 vaccines remains critical to achieving high vaccine uptake during vaccine roll out.

As COVID-19 vaccines become increasingly available for use, immunisation service providers can take early steps to prepare for vaccine introduction.

Many questions on how the vaccine and its roll out however remain unanswered. Questions such as:

1. How much should we spend on vaccines in order to ensure enough are made?
2. How can we ensure vaccines are distributed fairly?

3. How fast can vaccination against COVID-19 make a difference?
4. What will the likely long term economic and health impact be?

Join us to explore these questions and investigate possible answers

Who should attend this workshop?

1. Pharmacists / scientists responsible for:
   - performing the due diligence on a vaccine dossier
   - compilation and submission of a vaccine dossier
   - manufacturing of vaccines
   - compilation of the PI / PIL (SmPC) of a vaccine
2. Pharmacists assembling their 2021 CPD portfolio.
3. Marketing / Commercial Managers preparing marketing and advertising material for vaccines
4. Medical Advisors requiring an update on the scientific basis of vaccinology and immunology
5. Training Managers needing an update on the scientific basis of vaccinology and immunology
6. Logistics and Warehouse Planners & Decision Makers involved in current and future vaccine warehousing and distribution
7. Funder representatives involved in the funding of vaccine programs

Course Format

Online on Microsoft Teams

Course Outcomes

At the end of this workshop the attendee will:

1. Be able to discuss the different types of vaccines
2. Know the scientific basis of the development of vaccines
3. Understand vaccination programmes
4. Understand the different immune responses to vaccination
5. Be aware of the process of AEFI reporting
6. Appreciate the societal and economic impact of vaccination programs
7. Understand the vaccine supply chain process and challenges
8. Understand the potential societal and economic impact of the proposed COVID-19 vaccine program
9. Understand the challenges impacting the COVID-19 vaccine program

Day 1: 25 March 2021 (9:00 – 16:00)

Using science to know better when conspiracy theories are rife

Objectives

1. Review the different types of vaccines
2. Understand the scientific development of vaccines
3. Discuss the available vaccination programmes in SA

4. Understand the body's immune response to vaccination
5. Review the pharmacovigilance system in place for reporting AEFIs

Agenda

1. Introduction to vaccines
2. Types to vaccines
   - Live attenuated vaccines
   - Inactivated vaccines
   - Subunit vaccines
   - Toxoids
   - Conjugated vaccines
   - DNA vaccines
   - Recombinant vector vaccines
3. Development of vaccines and approval process
   - Technology and phases of development
   - Formulation
   - Dossier development and registration
4. Vaccination programmes
   - State
   - Private
5. Immunisation
   - The innate immune response
   - The adaptive immune response
6. AEFIs reporting (pharmacovigilance)

Day 2: 26 March 2021 (9:00 – 16:00)

Jab Economics: Vaccine Program Impact & Practical Roll Out Considerations

Objectives

6. Review the impact of vaccines as healthcare intervention
7. Review the challenges to the introduction of vaccines
8. Discuss the potential impact of the COVID-19 vaccines program
9. Review the vaccine supply chain
10. Discuss the potential challenges impacting the COVID-19 vaccines program

Agenda

1. Impact of vaccines – Health, Economic and Social Perspectives
2. Vaccine Program Roll Out
   - Funding
   - Introduction into the population
   - Commercial Challenges

3. The potential health and economic value of COVID-19 vaccination
4. Vaccine Supply Chain
    - Supply chain requirements
    - General challenges
    - COVID vaccines challenges
5. Equitable access to COVID-19 vaccines
    - Decision making under uncertainty – Comparison between historical vaccines programs and the COVID-19 vaccines program
    - Vaccine Nationalism
    - COVID-19 vaccine allocation
    - COVID-19 vaccine funding