
VACCINE PREVENTABLE DISEASES

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**IMMUNISATION CURRICULUM REVIEW AND UPDATE
WORKSHOP**

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EPI TARGET DISEASES

THREE ORIENTATIONS OF GLOBAL & NATIONAL IMMUNIZATION PROGRAMS

- *1) Achieve & sustain high immunization coverage;*
- *2) Establish reliable disease surveillance;*
- *3) Implement disease eradication and elimination initiatives*

EPI TARGET DISEASES

EPI “expands” from just being a vaccination programme to ***disease prevention, control and eradication programs*** as for Poliomyelitis, Neonatal Tetanus, Measles and others (meningitis)

EPI TARGET DISEASES

Current challenges and strategies to boost EPI

- **MDG (Millennium Development Goals):**
 - *4th Goal: Reduce by two thirds the Mortality Rate among children <5*
 - *5th Goal: Improve Maternal Health*
 - **GIVS (Global Immunization Vision & Strategy):**
 - *Protecting more people in a changing world*
 - *Introducing new vaccines and technologies*
 - *Integrating immunization in the health systems' context*
 - *Immunizing in the context of global interdependence*
 - **RED (Reaching Every District):**
 - *reaching “unreached” as an operational strategy*
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EPI TARGET DISEASES

	TARGET DISEASES
Diseases covered by Traditional EPI	Tuberculosis, Diphtheria; Tetanus (MNT); Pertussis; Polio; Measles
EPI + YF	Tuberculosis, Diphtheria; Tetanus (MNT); Pertussis; Polio; Measles; Yellow Fever
EPI + diseases to be prevented by relatively new vaccines	Tuberculosis, Diphtheria; Tetanus (MNT); Pertussis; Polio; Measles Hepatitis B; <i>Haemophilus influenzae</i> type b
EPI + diseases to be prevented by vaccines in the pipeline	All above plus: Rotavirus acute diarrhoea; Pneumococcal lower respiratory infections; Human papilloma virus (for cervical cancer); Meningitis A, etc.

EPI TARGET DISEASES:

Tuberculosis

- Causing about **3 million deaths p.a. worldwide**, most deaths occurring in poor settings of Africa, Asia and Latin America
 - **HIV/AIDS and multi-drug resistant TB** worsened burden of the disease
 - BCG at birth will reduce the morbidity and mortality among children
 - Vaccine efficacy to prevent **TB meningitis or miliary TB** in children varies: **75 to 85%**.
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EPI TARGET DISEASES:

Diphtheria

- Disease affects mainly 5-15years old children
 - Causes swelling of neck, heart failure, breathing paralysis
 - Global diphtheria deaths 2002: 5000
- Diphtheria toxoid in DPT is highly effective
- **Control strategies** include routine immunization and surveillance
 - Global DPT3 coverage 2004 - 78%;
AFR 2004 - 69%
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EPI TARGET DISEASES

Pertussis (Whooping Cough)

- Globally 45m.cases & 400 000 deaths occur annually.
 - The disease is extremely contagious where people live in crowded conditions/poor nutrition
 - Pertussis is most dangerous in children <1
 - CFR in African countries can reach 15%
 - If not controlled, it may spread and cause massive outbreaks and contribute to the high IMR
 - **Strategies to control pertussis** in the African countries:
 - Routine childhood immunizations;
 - Surveillance methods (zero reporting, outbreak investigation, case based data collection, etc.)
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EPI TARGET DISEASES:

Maternal and Neonatal Tetanus (MNT)

- **Elimination in Africa targeted by 2005**
 - **Elimination to be certified if every district registers <1 NT case per 1000 live births**
 - **Strategies to achieve this goal:**
 - increasing routine TT imm. of <1 children
 - increasing routine imm. coverage of CBA & pregnant women
 - conduct supplemental immunisation in high risk districts
 - ensuring clean deliveries
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EPI TARGET DISEASES:

Measles

- Most contagious disease known (by overcrowding/poverty)
 - Remains a leading cause of death among children:
 - Global deaths from Measles in 2003 - 530 000
 - Deaths in African Region** of WHO - 252 000 (48%)
 - **WHO target-2005** to reduce mortality by 50% (base - 1990)
 - **MDG target:** reduce mortality in <5s by 2/3s in 2015 (base-1990) measured by routine Measles vaccination coverage level achieved
 - **Strategies for control Measles** in 45 priority countries (**31 in AFRO**) include:
 - Routine vaccination** coverage in <1 children of >90%;
 - Second opportunity** of vaccination in >5 children
 - SIAs** (Suppl. Imm. Activities) aiming at >90%
 - Surveillance:** outbreak/case inv.; virological test, zero reporting
 - Clinical management of cases:** Vit A (prevents blindness/reduces deaths by 50%)
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EPI TARGET DISEASES:

Poliomyelitis

- Poliomyelitis is an acute infection. There are three polioviruses: 1, 2 and 3; ***type 1 is the usual source of epidemics and of paralysis.***
 - The virus invades the nervous system, and can cause total paralysis in a matter of hours. It enters the body through the mouth and multiplies in the intestine.
 - One in 200 infections leads to ***irreversible paralysis*** (usually in the legs). Among those paralyzed, 5-10% die when their breathing muscles become immobilized.
 - There is no cure for polio, ***it can only be prevented*** by immunization (routine and NIDs)
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EPI TARGET DISEASES:

Poliomyelitis

Polio surveillance requirements:

- **Case definition:** Any child <15y with AFP or any person with paralytic illness suspected to be polio
 - AFP to be included in monthly surveillance reports. The AFP detection rate should **2 per 100 000** <15y;
 - **All AFP cases <15 yrs should be reported immediately, investigated within 48 hours and two stool specimens** collected 24-48 hours apart and within 14 days of paralysis onset;
 - Specimen to be forwarded to laboratory within 3 days
 - **Zero reporting** should be introduced at all levels;
 - All outbreaks to be **investigated within 48 hours**;
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EPI TARGET DISEASES:

Yellow Fever (YF)

- YF is a viral disease, endemic in 33 countries in tropical Africa and 11 countries in South America
 - YF is a public health concern causing 200 000 cases/30 000 deaths annually
 - Cases/deaths are underreported in Africa due to weak surveillance system especially in the area of laboratory diagnosis
 - YF is characterized with a high CFR which may reach 50% or more
 - An infection confers lifelong immunity
 - **Strategies for control as per YF Strategic Plan (includes routine & emergency immunization and disease surveillance).**
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EPI TARGET DISEASES:

Hepatitis B (Hep B)

- HepB is a major public health problem worldwide
 - Approximately 2 billion persons are infected with HepB virus (HBV)
 - HBV is second only to tobacco as a known human carcinogen. HBV is found in blood, saliva, semen, vaginal fluid.
 - The disease is highly endemic in Africa
 - 60-90% of persons have been infected by adulthood, of which 5-25 % are chronic carriers
 - HepB imm. prevents mother-child transmission resulting in chronic liver disease later in life
 - **Control strategies include early child immunization (highly effective and safe), hygiene, screening of donated blood, sex education.**
 - ***Introduction of this vaccine is supported by GAVI (36 countries in AFR) and national governments: target-2005***
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EPI TARGET DISEASES:

***Haemophilus influenzae* Type b INFECTION (Hib)**

- Hib is an important cause of childhood meningitis and major cause of bacterial pneumonia in infants & <5s in developing countries.
- The causative agent, *Haemophilus influenzae* type b, is one of the 6 types (a, b, c, d, e and f) of strains of the bacteria causing almost all systemic infections (95%).
- Even with proper treatment 3-25% of affected children may die.
- Hib accounts for 1/4 of severe pneumonia cases in <5s in developing countries where estimated 2-3 million cases and 400,000-700,000 deaths from Hib pneumonia occur each year.

Control Strategies include:

- **Use of safe and effective (90-95%) vaccines. Since 1998, WHO has recommended that Hib vaccine be included in EPI in all countries.**
 - **Following use of Hib vaccines into EPI, Hib disease has largely disappeared in Australia, Canada, New Zealand, USA and W/Europe**
 - ***Introduction of this vaccine is supported by GAVI (36 countries in AFR) and national governments: target-2005.***
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EPI TARGET DISEASES:

from GIVS' perspective

Estimated number of deaths due to rotavirus, meningococcus & pneumococcus:

In 2002- 2.1 million of which 1.1 million were children:

- **Pneumococcal disease deaths in <5:.....**
716 000
 - **Meningococcal disease deaths in <5:.....**
10 000
 - **Rotovirus disease deaths in <5:**
402 000
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EPI TARGET DISEASES:

The way forward

- *Achieve & sustain high routine immunisation coverage;*
 - *Establish reliable disease surveillance;*
 - *Accomplish disease eradication and elimination initiatives: Poliomyelitis, Measles, MNT*
 - *New vaccine development & research*
 - *Pre- and in-service training*
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Thank You

The text 'Thank You' is rendered in a bold, sans-serif font. Each letter is filled with a different color from a rainbow spectrum: 'T' is magenta, 'h' is red, 'a' is orange, 'n' is yellow, 'k' is lime green, 'Y' is blue, and 'u' is purple. The letters are positioned on a white surface, casting soft, grey shadows to the left and slightly forward, giving them a three-dimensional appearance. A thin, gold-colored horizontal line is located above the text, and another is located below it.