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# WHO Flutool for planning and costing maternal influenza vaccination

PILOT VERSION 1.0



DEPARTMENT OF IMMUNIZATION, VACCINES AND BIOLOGICALS

Family, Womens's and Children's Health (FWC)

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### **1. INTRODUCTION**

Seasonal influenza causes considerable morbidity and mortality worldwide. Two pathogens – influenza A and B viruses – cause outbreaks, usually during the winter. Seasonal influenza is particularly dangerous for pregnant women for two reasons:

- **1.** there is a significant excess occurrence of pneumonia in pregnant women over other populations;
- 2. there is a reduced likelihood of prematurity in infants born to vaccinated women.

Vaccines have been developed against influenza A and B viruses and are a useful form of prevention against seasonal influenza in pregnant women. Governments are considering different approaches to reducing the incidence of seasonal influenza among pregnant women through antenatal care (ANC):

- **1**. vaccination year-round or seasonal vaccination during five months;
- 2. vaccination during routine ANC versus supplementary immunization activities (SIAs).

In order to facilitate decision-making on these interventions, programme managers and policymakers need information on the projected costs of introducing influenza vaccine to pregnant women. The FLUtool has been developed to assist governments to estimate the costs of influenza vaccine introduction for pregnant women and is described in detail in this user guide.

### 2. WHAT THE FLU COSTING TOOL IS COSTING OUT FOR INFLUENZA VACCINE INTRODUCTION

The costing tool enables the user to estimate the value of incremental (additional) resources required to add the influenza vaccine to an existing programme for pregnant women. That is, it estimates only the value of new resources needed and does not include the cost of other goods and services (e.g. transport) already being used for other vaccines or for ANC (shared costs). For example, the tool does not estimate the cost of transporting influenza vaccine if this is part of the same transport used to deliver other vaccines from the central warehouse to the periphery in the country.

The quantity of resources required to introduce influenza vaccine to national immunization programs (NIPs) will differ from other vaccines since it targets pregnant women through ANC. The coverage for this vaccine will depend on the percent of total pregnant women that attend ANC. In countries where the percentage of pregnant women that attend ANC services is low, then a campaign approach that involves outreach will be needed. The FLUtool enables the user to estimate the additional resource requirements based on the specific strategy that will be used for the country.

The FLUtool provides estimates of several cost measures:

- **1**. total costs of adding the influenza vaccine to specific regions/provinces or at the national level;
- 2. cost per immunized pregnant woman (IPW).

It differentiates **recurrent** (operational) and **capital** costs as well as **financial** and **economic** costs. It also present expenditures required for initial investments required for the influenza vaccine introduction.

#### Cost components of maternal influenza vaccination

The FLUtool allows the user to estimate the costs of activities that take place during the introduction of maternal influenza vaccination into a national immunization programme. These activities include the following: procurement of vaccines and injection supplies, micro-planning, training, social mobilization and IEC (information, education, communication), purchase of cold chain equipment, service delivery of vaccines to target population, monitoring and evaluation, supervision, and waste management.

In the following section, the differences between types of costs are discussed.

#### **Recurrent costs**

Recurrent costs are the value of resources that last less than one year (Table 1). These include programme costs such as the value of personnel time, transport, maintenance, monitoring and evaluation, and supervision, as well as the costs of short-term training activities that last less than a year (i.e. do not include material development and initial training).

Table 1.	Vaccination	activities and	associated	recurrent costs
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Vaccination activity	Recurrent costs		
Vaccine procurement and storage	Vaccines, injection supplies, freight, clearance, insurance and taxes		
IEC	Health personnel time, printing, production of leaflets, posters, radio and television spots		
Service delivery	Health personnel time, per diem expenses, transport		
Supervision	Supervisor time, driver time, per diem expenses, transport		
Monitoring and evaluation	Vaccination cards, tally sheets, surveillance		
Waste management	Fuel for incinerators		

#### Capital costs: introduction costs, supplemental cold chain and other equipment

Capital costs are the value of resources that last longer than one year, such as cold chain equipment and vehicles. The capital goods and services used in influenza vaccination include initial investments such as introduction costs (micro-planning, initial training and social mobilization/ IEC material development) as well as additional cold chain equipment, vehicle requirements, and incinerators (Table 2). Capital costs in the FLU tool are found under the worksheets:

- 1) Introduction Costs,
- 2) Supplemental Cold Chain,
- 3) Other.

Table 2. Vaccination activities and associated capital costs

Vaccination activity	Costs
Vaccine procurement and storage	Additional cold chain equipment requirements
Introduction	Micro-planning, initial training, curriculum development, IEC material development/sensitization meetings
Waste management	Additional incinerators
Other transport	Additional vehicles, motorcycles, boats, bicycles, etc.

Calculation of capital costs differs from calculation of recurrent ones since these are annualized and/or discounted depending on the purpose of the analysis and whether financial or economic costs are preferred.

#### Financial and economic costs

Both financial and economic costs are calculated in the FLUtool. The user can choose which one is most appropriate depending on the objective of the analysis. If users wish to know the additional costs incurred by the Ministry of Health, for instance, they should focus on the financial cost calculation. **Financial costs** are the value of resources to the buyer and include the value of actual resources purchased for the influenza vaccine introduction, such as injection supplies, outreach allowances and per diem, and resources used in training and developing new communication materials.

**Economic costs** comprise the value of all outlays for the vaccine introduction, as well as those already paid for by the Ministry of Health and other sources of financing (e.g. the salaries of health personnel, vaccines paid for by partners, and time of volunteers). This analysis is useful if users are interested in evaluating the share of different sources of finance for the vaccine introduction. For example, users may want to know the share of total costs financed by the Ministry of Health, external partners, clients and the community. This analysis gives a more complete picture of resources that are tied up in the provision of the new vaccine, and their opportunity costs and should be used if a cost-effectiveness or cost-benefit analysis is to be conducted.

**Capital costs** are calculated differently depending on whether financial or economic costs are being estimated. When calculating financial costs, straight-line depreciation is used in the calculation of capital costs. That means that the cost of the item is annualized by dividing it by the useful life-years of the item. For example, if cold chain equipment could be expected to last for 10 years, the total cost would be divided by 10. Straight-line depreciation assumes that capital goods are used up equally over the useful time period of the item. For economic costs, capital goods are discounted as well as annualized. This type of depreciation assumes that people prefer to use goods and services now rather than in the future.

Table 3 presents a comparison of resources included in cost estimation based on whether financial or economic costs are being calculated. For micro-planning, for instance, the value of personnel time spent in meetings is included in economic costs but not in financial costs.

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