



**Pan American
Health
Organization**



*Regional Office of the
World Health Organization*

Guidelines for using the VIC Tool

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This tool has been specially designed for the PAHO Pro-Vac initiative to support the estimation of the incremental costs of new vaccine introductions in Latin America and the Caribbean.

Guidelines for Using the VIC Tool

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Guidelines for Using the VIC Tool

A. Introduction

The VIC tool is a simplified costing tool for determining the financial and economic “Cost of Program(s)” associated with the introduction of a new vaccine. The VIC is:

- Specifically designed for immunization programs;
- Can be integrated with financial planning activities;
- Links with Cost-Effectiveness Models.

It is also a costing model developed based on prior experience: PAHO Plans of Action, established WHO/UNICEF protocols, and existing tools (cMYP, WHO-Choice, etc.) and with the input from international consultants and experts such as Lara Wolfson. It has also been developed at PAHO with the input from regional consultants and experts, including Victor Gomez Serna for the Cold Chain, and with early feedback from countries such as Bolivia & Guatemala.

The main worksheets of the VIC tool are the following:

- Index: where the user can see a list of the VIC main worksheets and use hyperlinks to go to these sheets, where the user also has hyperlinks to go back to the index or other relevant sheets;
- User Inputs: were the user inputs the data that correspond to his specific immunization plan;

1. General Information

[Back to workbook](#)

| | |
|--------------|--------------------------|
| Country Name | Bolivia |
| Country Code | BOL |
| Scenario | New Vaccine Introduction |

- Economic: where there are examples for deriving economic costs from financial costs;

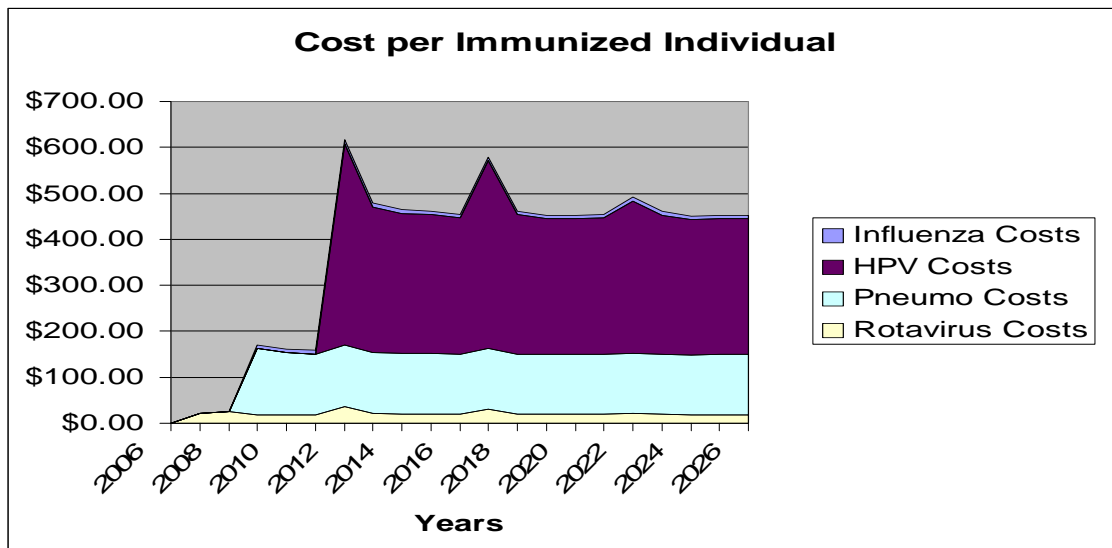


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- Costs: where the user can see the cost outputs of the VIC in terms of resource requirements, overall program costs, specific vaccine costs, base costs and transaction costs, and capital and recurrent costs;

| | | | | | |
|--------------------------------------|-------------|-----------------|--------------------|--------------------|---------------------|
| Sum | (\$) | \$53,892 | \$1,856,841 | \$4,967,917 | \$12,997,088 |
| Cost per Individual Immunized | (\$) | | \$21.31 | \$25.04 | \$170.66 |

- Charts output: where the key costs outputs are seen in graphic form;



- Linking instructions: containing the information to link the VIC with Disease Burden models and calculate the Cost-Effectiveness ratios.

The VIC has some limitations:

- It will only cover the incremental cost of four new vaccines;
- It is not a comprehensive costing tool for the total EPI program;
- It does not generate full financial forecasts for planning, but only financial and economic forecasts for disease cost effectiveness research and analysis;
- It does not automatically optimize resources for the desired outcomes. This has to be done by trial and experience.

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B. Detailed VIC instructions for data input

- Only cells in **yellow** can be edited.
- Please ensure every cell has information

1. General Information

- ✓ **Country Name** – This cell is a pull-down menu. Please select the country to work on from this list. All pre-configured projections and assumptions will be filled in based on this entry.
- ✓ **Country Code** – Three letter code. This is pre-filled based on **Country Name**
- ✓ **Scenario** – Description of the vaccine introduction
- ✓ **First Year of Projections** – This is the first year of the projection. It is the earliest a vaccine may be introduced. Additional areas may include the year preceding, in order to capture costs (such as surveillance) that precede vaccine introduction.
- ✓ **Responsible Officer for the Costing Tool** – Contact information for the person working with this tool.

2. Demographics

| Population Projections | 2006 | 2007 | 2008 | 2009 | 2010 |
|---------------------------|-----------|-----------|-----------|-----------|------------|
| Total Population | 9,353,848 | 9,524,568 | 9,694,230 | 9,863,010 | 10,031,005 |
| Births | 264,076 | 263,472 | 262,786 | 262,061 | 261,316 |
| Surviving Infants | 251,302 | 251,219 | 251,031 | 250,776 | 250,470 |
| Women of Childbearing Age | 2,330,673 | 2,385,839 | 2,441,944 | 2,498,163 | 2,553,878 |
| Children under 5 years | 1,243,197 | 1,245,028 | 1,244,982 | 1,244,127 | 1,243,247 |
| Children 5 to 15 years | 2,280,787 | 2,299,558 | 2,315,976 | 2,331,001 | 2,345,310 |
| Over 65 years | 428,093 | 439,988 | 452,281 | 465,409 | 479,688 |
| 15 to 24 years age | 1,823,765 | 1,870,021 | 1,916,607 | 1,961,527 | 2,003,280 |
| Health Care Workers | 23,104 | 23,526 | 23,945 | 24,362 | 24,777 |

- ✓ **Population Projections** – Various immunization cohorts and their populations by year over the period for the projection and the preceding year. *This data is pre-filled based on the country selected.* These figures may be changed as necessary.
- ✓ **Tradiational Vaccine Coverage Estimates** – Percent coverage of the target populations for DPT-containing and measles-containing vaccines. These serve as a benchmark for vaccines that may target the same cohorts.



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3. Vaccine Sections

3a. Rotavirus Vaccine

Target Population Births

| Type of Vaccine | Doses per schedule | Vial Size | Packed Volume | Injection Syringes | Re-constitution Syringes | Freight | Taxes | Surcharges/ Fees | Buffer Stock |
|-------------------------|--------------------|-----------|---------------|--------------------|--------------------------|-------------|---------|------------------|--------------|
| | No. | No. | (cc) | Y / N | Y / N | (%) of Base | | | (%) |
| Rotavirus | 2 | 1 | 260 | N | Y | 12.00% | 1.50% | 3.00% | 10% |
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Price per Dose (USD\$) | | | | | | | | | |
| | \$7.200 | \$7.200 | \$7.200 | \$7.200 | \$7.200 | \$7.200 | \$7.200 | \$7.200 | \$7.200 |
| Coverage Objectives (%) | | | | | | | | | |
| | 33% | 75% | 91% | 92% | 94% | 95% | 95% | 95% | 95% |
| Wastage Objectives (%) | | | | | | | | | |
| | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |

- ✓ **Target Population** – A pull-down menu of the cohorts listed in the Demographics section. Accurately selecting the target population is essential for the calculations.
- ✓ **Type of Vaccine** – The name of each vaccine. This is pre-filled and cannot be changed.
 - **Doses per Schedule** – The number of doses required for a fully immunized individual.
 - **Vial Size** – The number of doses in each vial.
 - **Packed Volume** – The volume (in cubic centimeters) that the vaccine requires, per dose, in its shipped packaging.
 - **Injection Syringes** – A [Yes/No] pull-down menu. Select [Yes] if the vaccine requires an injection syringe for its administration.
 - **Reconstitution Syringes** – A [Yes/No] pull-down menu. Select [Yes] if the vaccine requires an syringe for reconstitution prior to use.
 - **Freight** – The freight cost of the vaccine, as a percentage of the base unit cost of the vaccine.
 - **Taxes** – The taxes assessed on purchases of vaccine, as a percentage of the base unit cost of the vaccine.
 - **Surcharges/Fees** – Any fees or surcharges that are applied to the acquisition of the vaccine (such as the Revolving Fund 3%). This is entered as a percentage of the base unit cost of the vaccine.
 - **Buffer Stock** – The number of doses for a buffer stock of vaccine, as a percentage of the total doses administered per year.
 - **Annual Buffer Stock Growth** – A [Yes/No] pull-down menu. Select [Yes] if the buffer stock fluctuates with the number of doses administered.



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- **Price per Dose** – The unit cost of the vaccine, per dose, in USD\$. Please enter the estimated price for the full projection period.
- **Coverage Objectives** – The proportion of the target population that will receive the vaccine, by year over the full projection period.
- **Wastage Objectives** – The proportion of the doses acquired that are not administered and are wasted.
- ✓ **Injection Equipment** – The costs associated with injection and reconstitution syringes for the specific vaccine. For rotavirus, the injection syringe is crossed out since the vaccine is administered orally.
 - **Unit Price** – The unit cost of the syringe in USD\$. This single price will be used for the full projection period.
 - **Freight** – The freight cost of the syringe, as a percentage of the base unit cost of the syringe.
 - **Taxes** – The taxes assessed on purchases of syringe, as a percentage of the base unit cost of the syringe.
 - **Surcharges/Fees** – Any fees or surcharges that are applied to the acquisition of the syringe (such as the Revolving Fund 3%). This is entered as a percentage of the base unit cost of the syringe.
- ✓ **Use only discretionary spending?** – This is a [Yes/No] pull-down menu. All areas of the tool allow for discretionary spending to be attributed to each vaccine. If [Yes] is chosen, only the discretionary amounts will be used, bypassing any calculated costs. If [No] is chosen, the discretionary amounts will be *added* to the calculated costs.
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – There should be no capital or recurring expenses for the vaccines or their syringes. Additional injection supplies should be accounted for in **4. Additional Injection Supplies**.

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4. Additional Injection Supplies

| Injection Equipment | Unit Price | Freight | Taxes | Surcharges/ Fees |
|-------------------------|------------|---------------------------|-------|------------------|
| | (\$) | (% of Base Vaccine Price) | | |
| Safety boxes (5 Litres) | \$0.0600 | 12.0% | 1.5% | 3.0% |

| General Injection Supply Information | |
|--------------------------------------|---------|
| Wastage on injection equipment | (%) 5% |
| No. syringes per safety box | (#) 100 |

Use only discretionary spending?

N

| Discretionary Costs | 2007 | 2008 | 2009 | 2010 |
|---------------------|---------|---------|---------|---------|
| Rotavirus | | | | |
| Recurring | \$9,000 | \$9,000 | \$9,000 | \$9,000 |
| Capital | | | | |
| Pneumococcus | | | | |
| Recurring | | | | |
| Capital | | | | |
| HPV | | | | |
| Recurring | | | | |
| Capital | | | | |
| Influenza | | | | |
| Recurring | | | | |
| Capital | | | | |

All supplies which are necessary for the administration of vaccines and ensuring safe injection. Examples: Cotton, alcohol and safety boxes, and other items necessary for the disposal of used equipment.

- ✓ **Injection Equipment** – The costs associated with safety boxes.
 - **Unit Price** – The unit cost in USD\$. This single price will be used for the full projection period.
 - **Freight** – The freight cost, as a percentage of the base unit cost of the syringe.
 - **Taxes** – The taxes assessed on purchases, as a percentage of the base unit cost of the syringe.
 - **Surcharges/Fees** – Any fees or surcharges that are applied to the acquisition of the safety box (such as the Revolving Fund 3%). This is entered as a percentage of the base unit cost.
- ✓ **Use only discretionary spending?** – This is a [Yes/No] pull-down menu. All areas of the tool allow for discretionary spending to be attributed to each vaccine. If [Yes] is chosen, only the discretionary amounts will be used, bypassing any calculated costs. If [No] is chosen, the discretionary amounts will be *added* to the calculated costs.
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.



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- **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
- **Guidelines** – Additional injection supplies that may be captured under discretionary estimates include cotton, alcohol or other supplies for the safe handling, administration, and disposal of the vaccines or syringes.

5. Cold Chain

| | | |
|--|-------|--------|
| Shipments to Country from Manufacturer per Year | | |
| Rotavirus | (#) | 4 |
| Pneumococcus | (#) | 4 |
| HPV | (#) | 4 |
| Influenza | (#) | 4 |
| Central Level | | |
| Total Cold Chain Capacity | (m 3) | 25.00 |
| Total Capacity in Use | (m 3) | 20.00 |
| Number of Vaccine Disbursements to State per Year | (#) | 4 |
| State Level | | |
| Number of Facilities | (#) | 9 |
| Average Cold Chain Capacity per Facility | (m 3) | 20.00 |
| Average Capacity in Use per Facility | (m 3) | 12.00 |
| Number of Vaccine Disbursements to Municipalities per Year | (#) | 4 |
| Municipal Level | | |
| Number of Facilities | (#) | 327 |
| Average Cold Chain Capacity per Facility | (m 3) | 0.1000 |
| Average Capacity in Use per Facility | (m 3) | 0.0500 |
| Number of Vaccine Disbursements to Health Center per Year | (#) | 6 |
| Health Centers | | |
| Number of Facilities | (#) | 1,200 |
| Average Cold Chain Capacity per Facility | (m 3) | 0.0500 |
| Average Capacity in Use per Facility | (m 3) | 0.0250 |
| Additional Information | | |
| Fuel Price per Liter | (\$) | \$0.50 |

Equipment and other resources related to the proper cold storage of vaccines at all levels (i.e. government and local). Examples: Thermometers, cold rooms, vaccine warehouses (cold), refrigerators, spare parts, associated electricity costs, fuels, and repair and maintenance services.

- ✓ **Shipments to Country from Manufacturer per Year** – The number of times shipments of each vaccine are received at the central level from the manufacturer. This helps determine the maximum volume required at central cold storage facilities.
- ✓ **Central Level** – Criteria for central level storage
 - **Total Cold Chain Capacity** – The maximum cold storage at the central level, in cubic meters.
 - **Total Capacity in Use** – The maximum space occupied under the current immunization schedule, in cubic meters.
 - **Number of Distributions to State per Year** – How many times per year are vaccines distributed to state-level storage facilities.



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This helps determine the maximum volume required at state-level cold storage facilities.

- ✓ **State Level** – Criteria for state level storage
 - **Number of Facilities** – The number of states or state-level facilities.
 - **Average Cold Chain Capacity per Facility**– The average storage capacity of a state-level facility, in cubic meters.
 - **Average Capacity in Use per Facility** – The average peak storage space occupied in state-level facilities under the current immunization schedule, in cubic meters.
 - **Number of Distributions to Municipalities per Year** – How many times per year are vaccines distributed to municipal-level storage facilities. This helps determine the maximum volume required at municipal-level cold storage facilities.
- ✓ **Municipal Level** – Criteria for municipal level storage
 - **Number of Facilities** – The number of municipalities or municipal-level facilities.
 - **Average Cold Chain Capacity per Facility**– The average storage capacity of a municipal-level facility, in cubic meters.
 - **Average Capacity in Use per Facility** – The average peak storage space occupied in municipal-level facilities under the current immunization schedule, in cubic meters.
 - **Number of Distributions to Health Centers per Year** – How many times per year are vaccines distributed to health centers. This helps determine the maximum volume required at health centers.
- ✓ **Health Centers** – Criteria for health center storage
 - **Number of Facilities** – The number of health centers performing immunizations in the country.
 - **Average Cold Chain Capacity per Facility**– The average storage capacity of a health center, in cubic meters.
 - **Average Capacity in Use per Facility** – The average peak storage space occupied in health centers under the current immunization schedule, in cubic meters.
- ✓ **Use only discretionary spending?** – This is a [Yes/No] pull-down menu. All areas of the tool allow for discretionary spending to be attributed to each vaccine. If [Yes] is chosen, only the discretionary amounts will be used, bypassing any calculated costs. If [No] is chosen, the discretionary amounts will be *added* to the calculated costs.
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.



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- **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – Equipment and other resources related to the proper cold storage of vaccines at all levels (i.e. government and local)
 - **Examples:** Thermometers, cold rooms, vaccine warehouses (cold), refrigerators, spare parts, associated electricity costs, fuels, repair and maintenance services.

6. Surveillance and Laboratory

| | | |
|--|--------|-------------|
| Rotavirus | | |
| Capital Cost of Equipping the Central Lab for Rotavirus | (\$) | \$15,000.00 |
| Pre-Vaccine Surveillance Rate (% of Cohort) | (%) | 15.00% |
| Post-Vaccine Surveillance Rate (% of Cohort) | (%) | 15.00% |
| Test costs per sample | (\$) | \$1.00 |
| Year of Introduction of Surveillance | (year) | 2005 |
| Pneumococcus | | |
| Capital Cost of Equipping the Central Lab for Pneumococcus | (\$) | \$2,000.00 |
| Pre-Vaccine Surveillance Rate (% of Cohort) | (%) | 10.00% |
| Post-Vaccine Surveillance Rate (% of Cohort) | (%) | 1.00% |
| Test costs per sample | (\$) | \$1.00 |
| Year of Introduction of Surveillance | (year) | 2008 |
| HPV | | |
| Capital Cost of Equipping the Central Lab for HPV | (\$) | \$2,000.00 |
| Pre-Vaccine Surveillance Rate (% of Cohort) | (%) | 10.00% |
| Post-Vaccine Surveillance Rate (% of Cohort) | (%) | 1.00% |
| Test costs per sample | (\$) | \$1.00 |
| Year of Introduction of Surveillance | (year) | 2009 |
| Influenza | | |
| Capital Cost of Equipping the Central Lab for Influenza | (\$) | \$2,000.00 |
| Pre-Vaccine Surveillance Rate (% of Cohort) | (%) | 1.00% |
| Post-Vaccine Surveillance Rate (% of Cohort) | (%) | 0.05% |
| Test costs per sample | (\$) | \$1.00 |
| Year of Introduction of Surveillance | (year) | 2000 |

Activities related to the notification and investigation of cases, sample dispatches to appropriate laboratories, laboratory tests related to the identification of biological samples, computer equipment and support related to the above activities, information systems to support analysis and decision making, and all other related materials. Example: Laboratory support, shipping of samples, related manuals of laboratory methods, etcetera.

- Surveillance and Laboratory costs are calculated based on the test costs per sample and the rate of tests performed. As well, the variation in surveillance rates before and after introduction of the vaccine can be accounted for. The initial introduction of surveillance also carries the capital cost of equipping the lab to perform the tests. This cost will be applied in the year surveillance begins.



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- ✓ **Capital Cost of Equipping the Central Lab** – The cost of establishing the capacity to perform the tests at the central lab(s).
- ✓ **Pre-Vaccine Surveillance Rate** – The number of tests performed as a percentage of the total target cohort, prior to the introduction of the vaccine. This is usually higher in pre-vaccine introduction years.
- ✓ **Post-Vaccine Surveillance Rate** – The number of tests performed as a percentage of the total target cohort, following the introduction of the vaccine.
- ✓ **Test cost per sample** – The costs of kits or reagents, per sample tested.
- ✓ **Year of Introduction of Surveillance** – The year in which surveillance starts. This should precede the introduction of the vaccine by at least a year.
- ✓ **Use only discretionary spending?** – This is a [Yes/No] pull-down menu. All areas of the tool allow for discretionary spending to be attributed to each vaccine. If [Yes] is chosen, only the discretionary amounts will be used, bypassing any calculated costs. If [No] is chosen, the discretionary amounts will be *added* to the calculated costs.
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – Activities related to the notification and investigation of cases, sample dispatches to appropriate laboratories, laboratory tests related to the identification of biological samples, computer equipment and support related to the above activities, information systems to support analysis and decision making, and all other related materials
 - **Example:** Laboratory support, shipping of samples, related manuals of laboratory methods, etcetera.

7. Training

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|----------|----------|------|
| Rotavirus | | | | |
| Recurring | \$0 | \$20,000 | \$10,000 | \$0 |
| Capital | \$0 | \$10,000 | \$0 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |



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All training activities carried out, regardless of Area of Action, and associated materials (including printing and copying); training in any area related to immunization, and associated transportation costs and per diems of participants. Examples: Training in cold chain maintenance, vaccine delivery, and/or computer programs, training films and lectures, etcetera.

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – ALL training activities, regardless of Area of Action, and associated materials (including printing and copying); training in any area related to immunization, and associated transportation costs and per diems of participants
 - **Examples:** Training in cold chain maintenance, vaccine delivery, and/or computer programs, training films and lectures, etcetera.

8. Social Mobilization

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|----------|----------|------|
| Rotavirus | | | | |
| Recurring | \$0 | \$5,000 | \$5,000 | \$0 |
| Capital | \$0 | \$20,000 | \$10,000 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |

Social activities and community participation events, public activities related to promoting immunization, including the preparation of public service announcements and other promotional material. Examples: Radio announcements, flyers, ads, promotional films, public workshops, activities associated with public mobilization for national immunization days, etc

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.



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- **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
- **Guidelines** – Social activities and community participation events, public activities related to promoting immunization, including the preparation of public service announcements and other promotional material
- **Examples:** Radio announcements, flyers, ads, promotional films, public workshops, activities associated with public mobilization for national immunization days, etc.

9. Operating Costs

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|---------|---------|---------|
| Rotavirus | | | | |
| Recurring | \$0 | \$5,000 | \$5,000 | \$5,000 |
| Capital | \$0 | \$5,000 | \$0 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |

Costs or activities and items associated with the management of and support to the infrastructure in providing effective functioning of daily immunization services for meeting the goals of the Expanded Program for Immunization; salaries and per diems, activities for distribution of vaccines to local regions from central warehouse (if applicable) and associated costs, vehicles, fuel, etcetera. Examples: All salaries and per diems of personnel associated with the EPI, fuel, vehicle maintenance, and spare parts,

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – Costs or activities and items associated with the management of and support to the infrastructure in providing effective functioning of daily immunization services for meeting the goals of the Expanded Program for Immunization; salaries and per diems, activities for distribution of vaccines to local



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regions from central warehouse (if applicable) and associated costs, vehicles, fuel, etcetera

- **Examples:** All salaries and per diems of personnel associated with the EPI, fuel, vehicle maintenance, and spare parts.

10. Supervision

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|---------|---------|---------|
| Rotavirus | | | | |
| Recurring | \$0 | \$5,000 | \$5,000 | \$5,000 |
| Capital | \$0 | \$5,000 | \$0 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |

Activities associated with the management and direction of staff involved in the implementation of immunization activities at all levels, as well as, associated manuals for administration and guidelines for job performance , national/regional meetings, activities related to the mobilization of EPI personnel, and associated transportation costs and per diems of supervisors. Examples: Routine visits to health centers, monitoring of immunization coverage, regional meetings, staff meetings for updates, management of office and field staff, oversight of cold chain personnel for proper functioning of cold chain.

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
- **Guidelines** – Activities associated with the management and direction of staff involved in the implementation of immunization activities at all levels, as well as, associated manuals for administration and guidelines for job performance , national/regional meetings, activities related to the mobilization of EPI personnel, and associated transportation costs and per diems of supervisors



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- **Examples:** Routine visits to health centers, monitoring of immunization coverage, regional meetings, staff meetings for updates, management of office and field staff, oversight of cold chain personnel for proper functioning of cold chain.

11. Evaluation

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|---------|---------|---------|
| Rotavirus | | | | |
| Recurring | \$0 | \$5,000 | \$5,000 | \$5,000 |
| Capital | \$0 | \$5,000 | \$0 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |

Work/time and/or studies related to the assessment of all aspects of the EPI. Examples: The assessment of the operation and delivery system of the EPI, review of personnel performance, the review of the achievement of objectives and goals by defined periods of time, and the associated potential for improvement in the performance of operations/personnel.

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
- **Guidelines** – Work/time and/or studies related to the assessment of all aspects of the EPI
- **Examples:** The assessment of the operation and delivery system of the EPI, review of personnel performance, the review of the achievement of objectives and goals by defined periods of time, and the associated potential for improvement in the performance of operations/personnel.



Guidelines for Using the VIC Tool

12. Research

| Discretionary Costs | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|---------|---------|---------|
| Rotavirus | | | | |
| Recurring | \$0 | \$5,000 | \$5,000 | \$5,000 |
| Capital | \$0 | \$5,000 | \$0 | \$0 |
| Pneumococcus | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| HPV | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |
| Influenza | | | | |
| Recurring | \$0 | \$0 | \$0 | \$0 |
| Capital | \$0 | \$0 | \$0 | \$0 |

Planning of special studies not directly related to the other Areas of Action. Examples: Studies of missed opportunities (for vaccination), cost-effectiveness of delivery systems, cost-benefit studies, etcetera.

- ✓ **Discretionary Costs** – For this activity, only discretionary costs are used. There is no calculated estimation of costs. Please enter the capital and recurring costs associated with each vaccine. This information should may be available from Plans of Action or similar data sources
 - **Recurring** – Recurring discretionary costs, in USD\$ for the whole projection period.
 - **Capital** –Capital discretionary costs, in USD\$ for the whole projection period.
 - **Guidelines** – Planning of special studies not directly related to the other Areas of Action
 - **Examples:** Studies of missed opportunities (for vaccination), cost-effectiveness of delivery systems, cost-benefit studies, etcetera.

C. Other VIC related instructions

1. Notes on classification by types of cost

- Capital costs include a portion of buildings and vehicles attributed the EPI, plus costs of training, cold chain equipment and spare parts. Capital costs can also be defined as products that last more than one year.
- Recurrent costs include salaries and/or per diems of the immunization team and supervisors, vaccines and vaccine shipment; transport including fuel; allowances and vehicle maintenance; maintenance of the cold chain; injection equipment, and running costs of health facilities (kerosene, electricity, and stationary).



Guidelines for Using the VIC Tool

2. Financial versus Economic costs

- Financial costing is prepared to forecast program costs for planning purposes. Financial costs are the ones actually paid but reflect duties, taxes, subsidies and other market conditions (distortions for economists) that may not be internationally comparable.
- Economic costing is done to estimate costs for research and analysis. Economic costs are comparable and exclude distortions. Based on financial costs, a conversion factor is used to convert into economic costs. Cost standardization and separating duties, taxes, etc. from base price may in some cases avoid using a conversion factor. Costs are in constant terms, net of inflation. Cost increases are used if in contracts or similar.
- For economic analysis, the ultimate goal is economic costing, however to support improved planning VIC can be expanded on the basis of financial costing.

3. Final steps for costing

- Calculate economic costs: Use opportunity costs or shadow prices (economic) versus price paid (financial) by using shadow prices or conversion factors.
- Annualizing capital costs: Annualized (economic) versus yearly ledger cost (financial). Capital costs should be equally spread over their useful life by “annualizing” its costs, using an annualization rate or the right financial function.
- Discounting total costs: Discounted total cost flows (economic) versus actual cost flows (financial) are to be done over 20 years, at 3%, constant or single rate.
- Linking with Disease Burden Model(s): Integrate with cost-utility calculations (DALYs, QALYs) for calculating a Cost-Effectiveness ratio.

To perform the objective cost-effectiveness calculations, and obtain a C/E ratio, several key costs and other data in both the program costs model (VIC) and the applicable Disease Burden models, must be calculated on the same basis. For this to happen the information must either be copied and pasted between the VIC and the Disease Burden model or a few links between the two models must be established. The relevant VIC cells are for Population data, Epidemiological data and Costs, as mentioned in the “linking” worksheet of the latest VIC tool.



Guidelines for Using the VIC Tool

Annex A: Discretionary costs

The use of discretionary costs was the method set up for the VIC worksheet to include all necessary costs for the new immunizations program. In many cases the vaccination costs are known and there are standards, but in other cases and countries there is the need for the additional flexibility provided by the discretionary costs.

The YES/NO option of the discretionary costs exists in several cells or areas in the VIC Input worksheet, as in the four vaccinations, in the additional injection supplies, cold chain, surveillance and laboratory, etc. Other VIC cells / areas can only include discretionary costs, i.e. there are no standards to be applied and the countries always have to input their own numbers. This happens with training, mobilization, operating costs, supervision, evaluation, and research.

The rules to be used in the option menu: “Use only discretionary spending / costs” are the following:

- Y/YES = only discretionary spending / costs are used and nothing more is included, no standard costs;
- N/NO = standard costs calculated in other VIC worksheets are used + the discretionary spending / costs included in this worksheet;
- If N/NO is chosen, but no discretionary spending / costs are input, in this case the total costs are only the standard costs calculated in other VIC worksheets.

Examples:

Example of NO: In the Rotavirus vaccine – 3rd: the reconstitution syringe usually has a standard price of, but in country, for a specific reason it must also include a cost of, Here the choice is: Use only discretionary costs = N/NO and the additional costs are included in discretionary costs.

Example of NO: Additional injection supplies – 4: Safety boxes normally have a standard price of, but in country, for a specific reason it must also include a cost of, Here the choice is: Use only discretionary costs = N/NO and the additional costs are included in discretionary costs.

Example of YES: Additional injection supplies – 4: Safety boxes normally have a standard price of, but in country, for a specific reason it was decided to purchase other safety boxes, with another price. Here the choice is: Use only discretionary costs = Y/YES and the specific safety boxes costs are included in discretionary costs.