**Calculating Immunization Coverage Indicators**

The complete RHIS curriculum is available here:

[https://www.measureevaluation.org/our-work/](https://www.measureevaluation.org/our-work/routine-health-information-systems/rhis-curriculum)

[routine-health-information-systems/rhis-curriculum](https://www.measureevaluation.org/our-work/routine-health-information-systems/rhis-curriculum)

**5.2.4**

**Exercise on Practicing Data Analysis, Step 2**

Instructions

For immunization programs (see Excel file **Handout 5.2.4b**), coverage and dropout rates are used as indicators of the availability, accessibility, and use of services, as well as other program characteristics.

* Penta1 coverage indicates availability of access to and initial use of immunization services by children.
* Penta3 coverage indicates continuity of use by parents, client satisfaction with services, and capacity of the system to deliver a series of vaccinations.
* Penta1 to Penta3 dropout rates indicate the quality of services as perceived by parents and the quality of communication between parents and health workers.

1. Calculate the following:
   1. Penta1 coverage rate in 2014
   2. Penta3 coverage rate in 2014
   3. Penta1–Penta3 dropout rate in 2014
2. Specify in column “N” the quality of access (good or poor) depending on the value of the DTP1 coverage (“good” is defined, in this exercise, as Penta1 coverage >=80% in the target age group, and “poor” corresponds to a Penta1 coverage in the target age group < 80%).
3. Specify in column “O” the quality of utilization (good or poor) depending on the value of the dropout rate (“good” is defined, in this exercise, as a dropout rate in the target age group < 10%, and “poor” corresponds to a dropout rate in the target age group >=10%).
4. Categorize the problem present in each area in 2014. There are four situations:

|  |  |
| --- | --- |
| **1: No problem** | Dropout rates are low = **good** utilization  Penta1 coverage is high = **good** access |
| **2: Problem** | Dropout rates are high = **poor** utilization  Penta1 coverage is high = **good** access |
| **3: Problem** | Dropout rates are low = **good** utilization  Penta1 coverage is low = **poor** access |
| **4: Problem** | Dropout rates are high = **poor** utilization  Penta1 coverage is low = **poor** access |

1. The next step is to decide the area (listed in column “a”) that should receive top priority when starting to implement the identified solutions. Participants should complete column “P,” writing the order of priority (i.e., the number of the problem category: 1, 2, 3, or 4).
2. Upon completion of calculations, as a group, brainstorm about the differences in coverage between regions and possible causes. Discuss what action managers can take if coverage and dropout indicate problems.

**Formulas for Calculating Immunization Coverage from Health Facility Data**

Routine coverage estimates are calculated using statistics collected by health workers.

|  |  |  |
| --- | --- | --- |
| Penta1 coverage = | Number immunized by 12 months with Penta1 in 2014 | x 100 |
|  | Number of surviving infants < 12 months of age in 2014 |  |

|  |  |  |
| --- | --- | --- |
| Penta3 coverage = | Number immunized by 12 months with Penta3 in 2014 | x 100 |
|  | Number of surviving infants < 12 months of age in 2014 |  |

|  |  |  |
| --- | --- | --- |
| Penta1-Penta3 dropout rate = | Doses of Penta1 administered – Doses of Penta3 administered | x 100 |
|  | Doses of Penta1 administered |  |

**Identifying Problems and Their Possible Causes**

|  |  |
| --- | --- |
| **Problems** | **Possible Causes of Problems** |
| Parents do not bring children in for additional immunizations (utilization problem). | 1. Health workers have not clearly explained to parents what vaccinations are due, when they are due, and why they are needed. 2. Health workers do not understand what vaccinations are due, when they are due, and why they are needed. 3. Barriers discourage parental return (e.g., hours of clinic operation, cost, and long waits). 4. Health workers do not clearly explain to parents when vaccinations are administered at the clinic. 5. Health workers have not shown parents respect or conveyed an interest in the child’s health. |
| Children and mothers are not immunized when coming to the clinic for sick visits (utilization problem). | 1. Health workers forget to check records or ask about what vaccines and doses a child/mother has received. 2. Health workers do not understand the contraindications for immunizations or health workers do not understand that immunizations may be given to mildly ill children. 3. Health workers fail to explain to parents that it is often acceptable to immunize a mildly ill child. 4. Immunizations are not available on that day. 5. Immunization supplies are not available. |
| Health workers cannot determine what immunizations a child has received (utilization problem). | 1. Health workers forget to remind parents to bring the immunization card. 2. Clinic records are not organized so that it is easy to find a child’s records. |
| Children are not receiving all vaccines that they are eligible to receive during a visit (utilization problem). | 1. Health workers do not understand what vaccinations are due, when they are due, and why they are needed. 2. All immunizations are not available or offered at the clinic on the same day. 3. Supplies of some immunizations are not sufficient. |
| Children never come to the clinic to begin immunization (access problem). | 1. The clinic is located too far away. 2. Clinic hours are not convenient or are not understood by the community. 3. Outreach activities are too infrequent, or their timing is not understood by the community. 4. Cultural, financial, racial, gender, or other barriers are preventing use of immunization services. |

Adapted from World Health Organization (WHO). (2002). Increasing immunization coverage at the health facility level. Geneva, Switzerland: WHO. Retrieved from <http://apps.who.int/iris/handle/10665/67791>

