

INFORMATION ANALYSIS OF ROTAVIRUS GROUP 1



ACKNOWLEDGEMENT

- Countries should be applauded for initiating a timely, consistent and relatively effective surveillance system with regular submission of data to the regional level



Premise

- Epidemiologic Surveillance data should be useful enough for:
 - Providing evidence towards the burden of disease for justifying vaccine introduction
 - Measuring the impact of the vaccination programme
 - Determining circulating serotypes in the country and secular changes in the serotypes



METHODOLOGY

- YEAR 2008 SELECTED BECAUSE IT HAS SUMMARY DATA
 - Other years had data by months or by sentinel sites
- ANALYSIS OF DATA FROM 10 COUNTRIES AVAILABLE IN THE DATABASE PROVIDED



ANALYSIS OF VARIABLES

- Variables used:
 - Summary of hospitalizations for children < 5 yrs
 - Summary of hospitalizations for diarrhoea in children < 5 yrs
 - Suspected cases of rotavirus diarrhoea
 - Suspected rotavirus diarrhoea- specimens tested
 - Confirmed rotavirus cases
 - Deaths



Analysis of variables

- **Assumptions:**
 - Surveillance data from all countries is complete
 - Surveillance data is representative of the country
 - Standardized case definitions for diarrhoea and suspected rotavirus diarrhoea used by all countries
 - All countries use the same criteria and modalities for testing



Analysis of variables

- **Assumptions:**

- All specimens taken were tested
- Criteria for hospitalization for diarrhoea in all countries is the same
- Countries have more data than that presented in the summaries (individual case summaries)
- Surveillance reporting done by standardized Epidemiological weeks



Missing variables

- Number of suspected cases with specimens taken
- Number of visits to the A&E and clinics to assist with determining burden of the illness and rate of severity of illness requiring hospitalization
- Deaths reported specifically as follows:
 - total number of deaths in < 5 yrs
 - deaths from all diarrhoea
 - Rotavirus specific deaths



Inconsistencies

- Vast difference in the rate of testing for rotavirus (range 47- >100%)
 - Rota tested greater than number of suspected rota cases for one country
- Great differences between countries in the rate of suspicion of rotavirus diarrhoea (range 12 – 100%)
 - Some countries consider every diarrhoea in < 5 yrs as a suspected rota and do testing for all cases



Inconsistencies

- Use of a suspected rota case definition eliminates possibilities of atypical cases even before testing is done
- Only one country reported deaths and it was zero



Concerns

- Missing data variables from one country in the list
- Accuracy of some of the data questionable
- Population incidence and prevalence as well as case fatality rate from rotavirus diarrhoea cannot be accurately determined



Types of analysis which can be done

- Secular trends for hospitalizations from diarrhoea and rotavirus diarrhoea
- Proportion of hospitalized children < 5 yrs with diarrhoea (i.e cause specific hospitalization)
- Proportion of hospitalized diarrhoeal cases suspected to be due to rotavirus
- Positivity rate for rotavirus of samples from hospitalized diarrhoeal cases tested



Use of data for monitoring impact of vaccination

- Available data can be used to monitor impact of vaccination by determining the trend in hospitalization for:
 - Total diarrhoeal cases in children <5 yrs
 - Suspected rotavirus diarrhoeal cases.



Rotavirus Surveillance Data Flow

- Data generated in hospitals then summarized and submitted to regional then national levels for aggregation
- Review for completion and accuracy usually done at the national level but should be done at all levels (field and regional)
- Clinical and laboratory surveillance data not in tandem- lab data must be timely to facilitate completion of the case investigation and summary forms



Difficulties/Issues in Data Flow

- Junior staff usually assigned to do sample collection and completion of the forms- this leads to incomplete data collection and rejection of some samples
- Same person often responsible for data collection, reporting and quality control
- Quality control not implemented at all levels of the data flow
- Person assigned for data collection often has several other competing duties



Difficulties/Issues in Data Flow

- Surveillance system may be too cumbersome/difficult. Needs to be simplified as much as possible
- Timeliness of results from the lab may be an issue - child discharged and data not entered; missed opportunity for adequate infection control measures; dedication/ commitment of staff not maintained
- Type of database used may limit the accuracy of the information (manual vs. electronic)



Factors to Improve Data Flow

- Hospitals need dedicated epidemiologists to assume responsibility for the surveillance
- Rotavirus surveillance should be integrated into the routine surveillance system and not viewed as a PAHO project
- Standardized guidelines for surveillance must be in place and training done in its use
- Clear flowcharts on lines of communication
- Supervision and monitoring must be institutionalized (routine)



Factors to Improve Data Flow

- There must be “Buy-in” by all stakeholders to generate interest; also personal interest of the responsible person through use of the data for research and publication
- On-going sensitization of new staff (doctors, nurses, lab staff)
- Public health training must be included at all levels and medical/ nursing schools for emphasis of its importance



Factors to Improve Data Flow

- Each health care worker must see themselves as surveillance officers also
- Sample collection to be facilitated (availability of collection containers, sensitization of parents; provision / exchange of diapers)
- Computerized database with provision of equipment and training at all sentinel sites
- On-going feedback and guidance to the field surveillance points from the national coordination level



ACTION PLAN- OUTLINE

- Action 1-
- Review and amend the data collection tool taking into consideration the missing variables highlighted and to standardize data collection in countries for meaningful analysis and comparison
- Timeframe- 3 months
- Responsibility- PAHO



ACTION PLAN- OUTLINE

- Action 2
- Each country to review their data, identify areas of deficit and develop an individualized action plan to improve data management
- Timeframe- 6 months
- Responsibility- EPI/ Surveillance country focal points



ACTION PLAN- OUTLINE

- Action 3
- Capacity building at field, regional and national levels- training, infrastructure, logistics, monitoring and evaluation
- Time frame- 6-12 months
- Responsibility- Country focal point



ACTION PLAN- OUTLINE

- Action 4
- External evaluation of existing surveillance systems for validation and recommendation for improvement
- Timeframe- 6-12 months
- Responsibility- PAHO



- Thank you for your kind attention
 - Gracias por su atencion
 - Dank u wel voor uw attentie

