Examples of data analysis

Number of Suspect Cases with LP

Percent

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Bacterial Meningitis by Month, Hospital X, 2010

Number of Suspect Meningitis Cases with a Lumbar Puncture

Percent of Cerebrospinal Spinal Fluid (CSF) Samples

Expected: ≥ 20%

Target = 75%

Ensure Data Security

- The most common causes of data loss and corruption are malicious software, hardware failure, and accidental actions by people using the data. All of these can be prevented by:
  - using computers that are password protected
  - making sure the computer has the latest security patches and antivirus updates
  - scanning routinely for viruses
  - backing up the IB-VPD data and other document files at least monthly
  - keeping back-up data files on the same computer or server as the working database
  - logging off from the computer when done working on it
  - keeping a data logbook of back-up data files including when back-ups are done and locations of back-up files

- Data and chronologically file each copy of the data file
- If patient names or other identifiable information are included on any forms or electronic data, the following procedures should be used to keep the information confidential:
  - restricting data access to authorized individuals
  - developing rules for who can and cannot access the data with the surveillance and lab focal points, and putting the rules in writing
  - storing all CRF/CIFs and other original documents in a secure area such as a locked room or a locked file cabinet
  - knowing and following any additional privacy rules for the health center

- Check with your clinical and laboratory focal persons to ensure that any other electronic data files related to IB-VPD surveillance are backed-up, secured, and protected against computer viruses

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Contacts

Hospital surveillance coordinator:

Hospital laboratory coordinator:

Focal person for data management & reporting:

Please refer to these sources for additional information about IB-VPD surveillance:

http://www.who.int/nutrition/surveillance/resources/en/index.html

Data Management and Analysis Tips for Invasive Bacterial Vaccine Preventable Diseases (IB-VPD) Surveillance

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Data management

Clinical samples

Ministry of Health

Use the Global Information and Surveillance Bulletin to compare IB-VPD surveillance across countries and regions:

http://www.who.int/nutrition/surveillance/resources/en/index.html

Examples of data analysis

Number of Laboratory-Confirmed Meningitis Cases with Meningococcal (Nm) Vaccine Introduction, Hospital X, 2004-2010

Vaccines:

- Haemophilus influenzae type b (Hib), Streptococcus pneumoniae (Spn), and Neisseria meningitidis (Nm)

Examples of data analysis

Number of Laboratory-Confirmed Meningitis Cases with Meningococcal (Nm) Vaccine Introduction, Hospital X, 2004-2010

Vaccines:

- Haemophilus influenzae type b (Hib), Streptococcus pneumoniae (Spn), and Neisseria meningitidis (Nm)

Examples of data analysis

Number of Laboratory-Confirmed Meningitis Cases with Meningococcal (Nm) Vaccine Introduction, Hospital X, 2004-2010

Vaccines:

- Haemophilus influenzae type b (Hib), Streptococcus pneumoniae (Spn), and Neisseria meningitidis (Nm)
Enquiring Data

Before entering the data:
- Review each CRF/CIF to verify that core data variables are complete (see "Core Variables").
- If the CRF/CIF is missing information that should be available, such as onset date or initial diagnosis, follow up with clinical or laboratory focal point immediately. Before entering the data:

Entering Data

When entering the data:
- Take your time to ensure accurate data entry.
- Stop and check to make sure there are no mistakes.
- If the data entry application notes an error, be sure to review the data before proceeding.
- If the data entry application notes an error, be sure to review the data before proceeding.
- If you are uncertain of the information, contact the clinical or laboratory focal point immediately.

Cerebrospinal Fluid
- Number of samples collected (#) (If Y, record DD/MM/YY)
- Bacterial growth on culture:
  - CSF: Staphylococcus aureus, Escherichia coli, and other (specify: )
  - CSF (strep) meningitis? (Yes/No/Unk)
  - CSF: Neisseria meningitidis?
  - CSF: Haemophilus influenzae? (Yes/No/Unk)
  - CSF: H. influenzae meningitis? (Yes/No/Unk)
  - CSF: Neisseria meningitidis meningitis? (Yes/No/Unk)
  - CSF: Other meningitis? (Yes/No/Unk)
- CSF Gram stain:
  - CSF: Gram stain positive?
  - CSF: Gram stain negative?
  - CSF: Gram stain not done?
- CSF culture result?:
  - CSF: Haemophilus influenzae positive, Haemophilus influenzae meningitis? (Yes/No/Unk)
  - CSF: Other meningitis? (Yes/No/Unk)
  - CSF: Gram stain not done?
  - CSF: Gram stain positive?
  - CSF: Gram stain negative?

Cranial Nerve Function
- CSF: Abnormal cranial nerve function: Yes/No/Unk
  - CSF: Facial nerve function: Yes/No/Unk
  - CSF: Oculomotor nerve function: Yes/No/Unk
  - CSF: Trochlear nerve function: Yes/No/Unk
  - CSF: Trigeminal nerve function: Yes/No/Unk
  - CSF: Abducens nerve function: Yes/No/Unk
  - CSF: Oculomotor nerve function: Yes/No/Unk
  - CSF: Trochlear nerve function: Yes/No/Unk
  - CSF: Trigeminal nerve function: Yes/No/Unk
  - CSF: Abducens nerve function: Yes/No/Unk

Analysis of Data
- Use standard Case Report Form (CRF) or Case Formulation (CF).
- Regularly check to make sure all data are entered.
- Keep a data logbook of suspected errors and missing data to use in back to the source documents to confirm the findings.
- Keep of all data sources related to the patient.
- Regularly review the data logbook to see if there are any data that still cannot be found.
- Work with clinical and laboratory focal point to determine the best way to obtain that information.
- Ensure all forms related to a patient include the unique medical record/patient ID number.
- Work with doctors, nurses and laboratory staff to complete CRF/CIFs.
- Ensure that all data entered into electronic record are accurate.
- If the CRF/CIF is missing information that is not available, such as onset date or initial diagnosis, follow up with clinical or laboratory focal point immediately.
- Make sure that you receive all the data that are needed to complete the CRF/CIF.
- Update the data logbook with the following: next available, such as patient outcome or laboratory results, document the missing variables
- Missing sample identification numbers should be entered into electronic record.
- Error analysis the B-PD to evaluate the quality of, understanding the disease-related trends, and share the results with key stakeholders.
- Randomly check the quality of entered data.
- Before enquiring the data, monthly on the CSF sample logging into laboratory records within 1 hour of the lumbar puncture.
- Monthly number of suspected meningitis cases with a lumbar puncture performed (per 100,000).
- Monthly % of CSF samples logged into laboratory records within 1 hour of the lumbar puncture.
- Monthly % of CSF samples from patients with Pyogenic meningitis (e.g., a temperature of 45°C) confirmed meningitis, confirmed meningitis, meningitis, meningitis, meningitis, meningitis, meningitis, meningitis.
- Monthly % of CSF samples from patients with Pyogenic meningitis (e.g., a temperature of 45°C) confirmed meningitis, confirmed meningitis, meningitis, meningitis, meningitis, meningitis, meningitis, meningitis.
- Always create a back-up of the dataset before running the analyses to protect the original dataset and to increase after the enquiring the data.
- After enquiring the data:
- Maintain an easily accessible documentation of data sources used to complete CRF/CIF (e.g., laboratory records, medical reports, CRF/CIF).
- CRF/CIF paper copies and other records of data sources should be kept in a safe place for future reference.
- If data sources include documents that need to be returned to other departments (e.g., medical records), indicate in the data logbook where the document is sent.