INTEGRATED DISEASE SURVEILLANCE
AND RESPONSE SYSTEM (IDSRS)
KHYBER PAKHTUNKHWA

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Outline

- Situation in Khyber Pakhtunkhwa
- Rationale for Establishing IDSRS
- IDSRS and IHR 2005
- Innovative Solution
- Central Hub of Disease Surveillance
- List of Priority Diseases
- Project Key Interventions & Tasks
- Institutional Arrangements
- Project Management Structure
- Role of Districts
- Enabling Health Care Providers
- Results
- Scale up
Situation in Khyber Pakhtunkhwa

- **High communicable disease burden in KP**
  - (5.6 million cases reported in 2015)

- **Natural Disaster** (Floods and Earthquakes)
- **Complex Emergencies** in province leading to health problems (IDP crises, Afghan Refugees influx etc)

- **Existing health information systems**
  - **Vertical** with no horizontal linkages
  - **Monthly reporting** systems with no mechanism of immediate reporting
  - Verticality resulting in **wastage of resources**

1. District Health Information System (DHIS) Khyber Pakhtunkhwa
# Existing Information Systems

<table>
<thead>
<tr>
<th>Name</th>
<th>Reported Number of diseases</th>
<th>Setup</th>
<th>Frequency of Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI</td>
<td>9</td>
<td>Vertical</td>
<td>Weekly</td>
</tr>
<tr>
<td>AFP/Polio</td>
<td>1 (+2)</td>
<td>Vertical</td>
<td>Immediate</td>
</tr>
<tr>
<td>Malaria</td>
<td>2</td>
<td>Vertical</td>
<td>Monthly</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>1</td>
<td>Vertical</td>
<td>Monthly</td>
</tr>
<tr>
<td>TB</td>
<td>1</td>
<td>Vertical</td>
<td>Monthly</td>
</tr>
<tr>
<td>DHIS</td>
<td>19 + 23NCD</td>
<td>Decentralized</td>
<td>Monthly</td>
</tr>
</tbody>
</table>

Rationale for Establishing IDSRS

- **Immense curative cost** against **minimal preemptive cost**

- **No effective communicable disease surveillance system**
  - *Non Availability* of standard list for notifiable diseases, its SOPs, guidelines & monitoring mechanism
  - *Lack of effective linkage* of information/surveillance systems with actions
  - Detection and response to outbreaks; only offered to individual events based on reports from random sources

- **No mechanism at the provincial level for laboratory confirmation of outbreaks**
IDSRS and IHR 2005

International Health Regulations (IHR) Legal Framework to:

Prevent, protect against, control and provide public health response; to spread of diseases

Pakistan is IHR signatory and bound to attain following minimum IHR core capacities:

- Legislation
- Points of Entry
- Risk Communication
- Preparedness
- Surveillance
- Response
- Laboratory
- Coordination

Indirectly Covered by IDSRS

Directly Covered by IDSRS
What is the innovative solution?

Integration of different existing reporting systems through technologically innovative real time reporting mechanisms

System linked with public health reference lab

Supplemented by capacity building endeavors at district and sub-district level
IDSRS – Central Hub of Surveillance

IDSRS / DSRU

- N.P for FP and PHC
- Integrated Vector Management
- DHIS
- T.B
- EPI
- WHO
- NIH
- HIV/AIDS

IDSRS – Central Hub of Surveillance
List of Priority Diseases

Respiratory Diseases
- Acute (upper) respiratory infections
- Acute Lower Respiratory infection i.e. Pneumonia
- Severe Acute Respiratory Infection (Susp. H1N1, H5N1, H7N9, MERS-CoV)

Gastrointestinal Diseases
- Acute Watery Diarrhea/ Suspected Cholera
- Bloody Diarrhea
- Acute Diarrhea (other than Cholera)
- Suspected Enteric/Typhoid Fever
- Suspected Acute Viral Hepatitis

Vector Borne Diseases
- Suspected Malaria
- Suspected Dengue Fever
- Suspected Dengue Hemorrhagic Fever

Vaccine Preventable Diseases
- Suspected Crimean Congo Hemorrhagic Fever
- Cutaneous Leishmaniasis
- Visceral Leishmaniasis

Other diseases
- Suspected Meningitis
- Chronic Viral Hepatitis (B & C)
- Pyrexia Of Unknown Origin
- OTHER UNUSUAL DISEASES
Project Key Interventions

1: Establish Baseline
2: Develop and Deploy Surveillance Protocols
3: Development of Web based Surveillance System
4: Capacity Building of Health Care Providers
5: Stock up Necessary Medicine & Supplies
6: Establishment of Provincial Public Health Reference Lab
7: Surveillance and Instant Response Begins
8: Immediate (Real Time) / Weekly reporting of any potential outbreak
9: Continuous Monitoring and hands on mentoring
10: End Line Report
## Project Tasks

<table>
<thead>
<tr>
<th>Major Tasks</th>
<th>Status Till date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Survey</td>
<td>Established</td>
</tr>
<tr>
<td>Surveillance Protocols</td>
<td>Developed</td>
</tr>
<tr>
<td>Web and app based surveillance system</td>
<td>Developed</td>
</tr>
<tr>
<td>Capacity building of health care providers</td>
<td>On going</td>
</tr>
<tr>
<td>Public Health Reference Lab</td>
<td>Site selected. Proposal submitted to P&amp;D and donor funding sought</td>
</tr>
<tr>
<td>Medicine and supplies (stock up)</td>
<td>On going – need based</td>
</tr>
<tr>
<td>Surveillance and response system developed</td>
<td>Developed and testing in progress</td>
</tr>
<tr>
<td>Real time reporting started</td>
<td>Ready to be started</td>
</tr>
<tr>
<td>Continues and hands on monitoring</td>
<td>Under Development</td>
</tr>
</tbody>
</table>
Institutional Arrangements IDSRS

**WHO**

**Provincial Steering Committee**
- Provincial Disease Surveillance & Response Unit (PDSRU) / PMU IDSRS

**District Oversight Committee**
- District Health Office
- District Headquarter Hospital

**Sub District Level**
- PHC Facilities
- Other Hospitals & selected Pvt Facilities
- Focal points in all wards

**KMU**

**NIH**

**One Health**

**Vertical Programmes**
Provincial Management Unit

- Devise and establish IDSRS Protocols
- Train District Health Officials on IDSRS
- Capacitates Lab
- Provides Medical Supplies for Epidemic Response
- Coordination with PDSRU and all stakeholders
- Data analysis, Interpretation and Generation of Reports and Weekly Bulletin
- Technical Backstopping to Districts in Surveillance and Response
- Assisted Monitoring of District Level Performance
- Follow up

Director General Health Services

Director Disease Surveillance

Coordinator Surveillance

Deputy Directors Disease Surveillance

03 Surveillance Officer

01 Finance Officer

01 Data Reporting Officer

01 IT/Communication Officer
Role Of District

- Alert generation and case response
- Data generation through web based IDSRS System
- Early detection of outbreaks
- Constitution of Rapid Response Teams
- Conducting field investigations and response activities
- Coordination with all line departments and provincial unit
- Involving community in IDSRS through local bodies/Local NGOs/support groups
- Follow up
Enabling Health Care Providers

- **Detect patients** at the earliest through
  - Building capacity
  - Availability of field manual
  - Provision of standard, updated case definitions

- **Detect outbreaks** before they emerge; by
  - Setting standard thresholds for alerts
  - Provision of sample collection kits
  - Developing linkage of reference lab with response teams
  - Development of procedure for information sharing

- **Respond to outbreaks** when they emerge; by
  - Notification of response teams
  - Mechanism for involving concerned departments
  - Stockpiling of medicines and supplies
  - Developing follow up mechanisms
Results

- Baseline survey on Surveillance Outbreak Response Management System (SORMAS) by KMU
- Consolidated Guidelines developed
- IDSRS Field Manual developed
- First provincial public health reference lab to be made in KP
Results

03 Training of Trainers completed
Results

Web portal for IDSRS developed and operational: http://epimis.kphealth.pk/

 Expanded Program On Immunization
Department of Health, Khyber Pakhtunkhwa

Vision:
Solving Information Integration Challenges by Recording Health data and events and transferring them into useful information for management and performance.
Results

E-Surveillance Health information system based on Android App for real time reporting is developed.
Results

Site for First-ever Provincial Public Health Reference Lab being selected

Site inspection team at Khyber Medical University, Peshawar
Results

DISEASES OUTBREAKS (APR-NOV 2016)

- **Nowshera Measles**: 3 cases
- **Nowshera Diphtheria**: 1 case
- **Haripur CCHF**: 1 case
- **Haripur Dengue**: 1 case
- **Haripur Measles**: 1 case
- **Karak Leishmaniasis**: 1 case
- **Karak AWD**: 1 case
- **Karak Diphtheria**: 3 cases
- **Lakki Marwat Leishmaniasis**: 1 case
- **Lakki Marwat Pertussis**: 1 case
- **Lakki Marwat Diphtheria**: 2 cases
- **D.I.Khan Measles**: 1 case
- **Nowshera Measles**: 3 cases
- **Nowshera Diphtheria**: 1 case
- **Haripur Measles**: 1 case
- **Haripur Dengue**: 1 case
- **Haripur CCHF**: 1 case
- **D.I.Khan Measles**: 1 case
Recognition

- Executive Director NIH Pakistan and team coming to Peshawar for studying IDSRS
- Partnership with Public Health England for support in IDSRS
- Health Services Academy inviting IDSRS for presentation in Annual Public Health Conference
Scale-up Interventions

- Recognizing the Importance Creation of Posts for Director and 02 Deputy Directors for Disease Surveillance at Provincial level

- Proposal regarding establishment of Public Health Lab endorsed by DoH and submitted to P&D dept

- Development of PC-I for IDSRS

- Discussions with PHE and CDC for technical and financial assistance
IDSRS needs to be operated in all 25 districts

Support ends in June 2017 where systems will start comprehensive operation close to when its near to ends

System needs monitoring/evaluation at a sustained pace

Laboratory needs perpetual support, at least, in initial phase

Regular refreshers for Health personnel and a continued supply of resources are required

Extension and expansion of IDSRS all over the province

Expectations from community
Thank You