

2014

**Standard Operating Procedures (SoPs)**  
**for**  
**Prevention & Control of Dengue**



Department of Health,  
Government of the Punjab

## Message from Chief Minister Punjab Muhammad Shahbaz Sharif



It gives me immense pleasure and a feeling of accomplishment to be at this milestone where we have set a benchmark for the entire world; a benchmark for overcoming and controlling of Dengue epidemic. This milestone seemed impossible at one stage but we had no choice but to fight against this calamity. With the blessings of benevolent Almighty, I was fortunate to be able to lead the Government machinery for one of the greatest public mobilizations for social sector in the world.

Dengue is a social problem and can be overcome only by including all segments of the society in the anti-dengue drive. Service to ailing humanity is not less than worship. Therefore, every Department and person should fulfil their responsibility to save the people from dengue. In the past, an effective strategy was adopted for overcoming worst dengue epidemic of the history which helped in controlling dengue. All Government Departments were fully active for coping with dengue and due to vigorous awareness campaigns and the measures taken by the government; this fatal disease had been controlled.

Taking it a step ahead, comprehensive Standard Operating Procedure (SOPs) for Government infrastructure to fight against dengue on regular basis has been developed. I must appreciate the efforts of Health Department for this commendable effort. I believe that it will serve as reference book in the Government set up to ensure that Dengue doesnot prevail again in any part of the province. This is certainly a great endeavour and I must personally thank all team members who have worked hard for developing this great piece of work under the dynamic leadership of Mr. NaveedAkramCheema, Chief Secretary, Punjab.

## Message from the Chief Secretary



This nation has shown great temperament and fighting spirit against Dengue epidemic. Government of Punjab had responded to this challenge with unimagined courage and determination. As a result, we did not only take over this catastrophe, but in the next few years there were unbelievable success recorded against Dengue.

At this phase in the fight against Dengue, it was inevitable to devise a sustainable mechanism in the Governmental infrastructure so that this epidemic phenomenon does not upsurge again. For this very purpose, Government of Punjab is publishing these SOPs. This will help Government to develop a viable mechanism by ensuring smooth distribution of duties and roles. This will define role of each department and concerned officials.

Once again we have to defeat dengue in the province, concerned departments and all segments of the society will have to play their effective role for this purpose. Anti-dengue campaign will be continued as a movement with national spirit. Every department and person will have to discharge their responsibility for protecting the people from dengue.

In the end, I must appreciate Health Department for this wonderful effort and pay my gratitude to the team who worked hard on this magnificent product under dynamic leadership of Mr. Babar Hayat Tarar, Secretary Health.

## Message from Advisor to Chief Minister on Health



It gives me a great pleasure to write these few words on achieving this very important milestone. In the recent past, the Punjab Government has overcome the epidemic of the Dengue under the dynamic leadership of Mian Muhammad Shahbaz Sharif, Chief Minister, Punjab. During the war against dengue all Departments of the Punjab Government contributed to their full potential. In order to document the efforts of the various departments, the Chief Minister, Punjab directed to compile all these efforts in the shape of Standard Operating Procedures (SOPs) which will serve as a reference for future strategies.

Here I would like to appreciate the Health Department for this wonderful effort and pay my appreciation to the team who worked hard on this superlative product under self-motivated leadership of Mr. Babar Hayat Tarar, Secretary Health.

Moreover, I would also like to thank to the efforts extended by all other experts namely Professor Faisal Masud, Vice Chancellor, King Edward Medical University and Professor Wasim Akram, Incharge Dengue Research & Development Cell. Without passionate efforts of these experts, it was hard to accomplish this landmark. My thanks are also due to the other staff who provided invaluable support in making this document a reality.

## **Acknowledgement**

The task was undertaken on the directions of Mian Muhammad Shahbaz Sharif, Chief Minister, Punjab so that guidelines and SOPs related to eradication of dengue could be consolidated and fine-tuned through input from all stakeholders.

We take this opportunity to express our profound gratitude and deep regard to Mr. Khawaja Salman Rafique, Advisor to Chief Minister on Health for his mentoring, exemplary guidance and continuous encouragement throughout the course of development of these SOPs; without that it would have been impossible to complete this task.

We are very much indebted to Prof. Dr. FarkhandaKokab, Chairperson, Working group for her support and valuable guidance which helped us remain focused on the task. We are also obliged to Dr. Zulfiqar Ahmad, EDO(H) Lahore and Dr. SaeedAkhtarGhuman, DOH Lahore for their practical inputs based on field experience.

Finally, efforts and facilitation extended by all other experts and support staff are also really appreciable conducive environment enabled this group to accomplish the task according to the expectations.

**Babar Hayat Tarar**  
**Secretary Health,**  
**Government of Punjab**

## Abbreviations

AC	Assistant Commissioner
ACS	Additional Chief Secretary
AD	Additional Director
ADGHS	Additional Director General Health Services
AIG	Additional Inspector General (Police)
BCC	Behaviour Change Communications
CBC	Complete Blood Count
CCD	Cabinet Committee on Dengue
CDC	Communicable Disease Control
CDCO	Communicable Disease Control Officer
CERC	Central Emergency Response Committee
CM	Chief Minister
CMIT	Chief Minister Inspection Team
CS	Chief Secretary
DCO	District coordination Officer
DDOH	Deputy District Officer Health
DEAG	Dengue Expert Advisory Group
DENV	Dengue Virus
DERC	District Emergency Response Committee
DF	Dengue Fever
DG	Director General
DGHS	Director General Health Services
DHF	Dengue Haemorrhagic Fever
DHQ	District Headquarter Hospital
DIG	Deputy Inspector General
DOH	District Officer Health
DPC	District Program Coordinator
DSS	Dengue Shock Syndrome
EDO	Executive District Officer
EDOH	Executive District Officer Health
EP&C	Epidemic Prevention & Control
GIS	Geographical Information System
Govt.	Government
GPs	General Practitioners
HDU	High Dependency Unit
HIA	Health Impact Assessment
IgM	Immunoglobulin M
IPH	Institute of Public Health Lahore
IRS	Indoor Residual Spray
IV	Intravenous
IVM	Integrated Vector Management
KAP	Knowledge Attitude & Practices
LDA	Lahore Development Authority
LGCD	Local Government Community Development
M&E	Monitoring & Evaluation
MD	Managing Director
MS	Medical Superintendent

NGOs	Non-Governmental Organizations
NS1	Non-structural Protein 1
P&D	Planning & Development
PCR	Polymerase Chain Reaction
PDMA	Punjab Disaster Management Authority
PESSI	Punjab Employees Social Security Institutions
PHA	Punjab Horticulture Authority
PIC	Provincial Implementation Committee
PITB	Punjab Information Technology Board
PPE	Personal protective equipment
R&D	Research & Development
SOPs	Standard Operational Procedures
SWM	Solid Waste Management
TAC	Technical Advisory Committee
TERC	Town/ Tehsil Emergency Response Committee
THQ	Tehsil Headquarter Hospital
TMO	Town Municipal Officer
TV	Television
UC	Union Council
WASA	Water & Sanitation Authority
WHO	World Health Organization

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## **List of annexures attached**

1. Notification of various committees working on dengue
2. GCP Guidelines by DEAG
3. Training Module for Vector Surveillance
4. Training Module for Health Education
5. Dengue Regulation 2014
6. Reporting Formats

## **Executive Summary**

To combat unprecedented Dengue Epidemic of 2011, government mobilised all its resources and eventually succeeded in minimising the disease incidence. Strategies adopted under the guidance of national and international public health experts proved effective and resulted in curtailing the disease to a minimal level in subsequent years.

Looking at the magnitude of dengue related morbidity and mortality, all departments, institutions whether linked directly or indirectly, were involved in dengue prevention and control activities aiming at sharing the burden of health sector. As the country has entered in the state of endemicity, hence requires long term planning for dengue prevention and control by redefining the role and responsibilities of Health and other allied departments.

To select appropriate and most effective interventions for dengue prevention and control and develop plans that become part of regular health care delivery system, it was desired that Standard Operating Procedures (SoPs) are developed in way that Health Department assumes maximum responsibilities and Allied departments are clear about their role to play according to their domains.

These SoPs have been developed to set a comprehensive system for dengue prevention and control right from policy and decision making bodies to implementation of activities at grass root levels. Interventions, specific roles and responsibilities of individuals, institutions, departments, have been clearly defined with timelines. It is expected that with the implementation of action plans based on these SoPs, the province would start its journey towards gradual elimination of dengue menace.

## Dengue Prevention & Control

### **Goal:**

To reduce the burden of Dengue in Punjab, Pakistan

### **Objectives:**

- a. Assess the true burden of Dengue in Punjab
- b. Reduce the incidence of Dengue
- c. Reduce mortality due to Dengue and its complications
- d. Develop a sustainable setup to prevent & control Dengue
- e. Develop inter-sectoral and inter provincial coordination
- f. Develop global partnership to prevent & control Dengue
- g. Ensure Community mobilization and participation to prevent & control Dengue
- h. Operational and implementation research to monitor, evaluate, prevent & control Dengue

## Chapter 1: Institutional Arrangements

### Composition, Role & Responsibilities of Different Committees:

Various committees have been notified by the Government for this specific assignment. Composition and main tasks (ToRs) of the different committees have been elaborated in the following table:

Sr. No.	Committee	Composition	Task
1	<b>Central Emergency Response Committee (CERC)</b>	<b>Chief Minister Punjab,</b> Nominated Ministers/ Parliamentarians, Representative of Federal Ministry of Health, Chief Secretary, ACS, All administrative Secretaries, Chairman P&D, Commissioner Lahore, Senior member Board of Revenue, Chairman CMIT, Chairman PITB, Special Secretary Health, DGHS, Chairman DEAG, Commissioner PESSI, AIG Police Special Branch Lahore, DG PHA, DG PDMA, DG Rescue, DCO Lahore, MD SWM, MD WASA, Chief Operating Officer Health Care Commission, Head R&D Dengue, Dean IPH, Principals of teaching hospitals, Co-opted members	Review provincial situation, policy making, implementation, defining role of various departments, M&E
2	<b>Cabinet Committee on Dengue (CCD)</b>	<b>Minister/ Advisor Health,</b> nominated Parliamentarians, nominated administrative secretaries, Commissioner Lahore Division, DGHS, Chairman DEAG, Dean IPH, Head R&D Cell for Dengue, Epidemiologist to the Government of the Punjab, Bacteriologist to the Government of the Punjab, DIG Special Branch, DIG Operations, Chief Operating Officer	Implementation of the decisions of the CERC, review current situation, To assess the progress of various activities, resource mobilization

Sr. No.	Committee	Composition	Task
		Health Care Commission Chairman PITB, DG LDA, Director (CD& EPC),, AD (EP&C), MD WASA, Commissioner PESSI, DCO Lahore, DG Punjab Emergency Services, Co- opted members	
3	<b>Provincial Implementation Committee (PIC)</b>	<b>Chief Secretary</b> , ACS, All administrative secretaries, All Commissioners, , DGHS, all DCOs, All EDOs Health, Co-opted Members	Ensure Implementation of decisions taken by CERC and Cabinet Committee, M&E
4	<b>Technical Advisory Committee (TAC)</b>	<b>Secretary Health/ Special Secretary Health</b> , Additional Secretary Technical, DGHS, Dean IPH, Chairman DEAG, Professor of Epidemiology & Biostatistics IPH/Epidemiologist to Govt. of the Punjab, Head R&D Cell for Dengue, Director (CD& EPC), AD (EP&C), Professor of Environmental Sciences IPH, Professor of Health Education IPH, Professor of Bacteriology IPH/ Bacteriologist to the Government of the Punjab, Professor of Medical Entomology & Parasitology IPH, Professor of Infectious Diseases IPH, Representative Health Care Commission DG PITB, DG Fisheries, DG Environment, Concerned Faculty of IPH when required, Co-opted members	Technical advice for vector & disease surveillance, prevention & control, M&E* , Alert generation, notification & de-notification of epidemics, operational research, review of SOPs and action plan on yearly basis, review of reporting format on periodic basis, human resource development & capacity building
5	<b>Dengue Experts Advisory Group (DEAG)</b>	<b>Chairman DEAG</b> , Dean IPH, Head R&D, Epidemiologist to the Government of the Punjab,	Issue guidelines for clinical management & capacity building of

Sr. No.	Committee	Composition	Task
		Bacteriologist to the Government of the Punjab, Secretary DEAG, Associate Secretary DEAG, Principals/ nominated members from all teaching hospitals, Director (CD& EPC), AD (EP&C), DG PITB, Co-opted members	human resource public & private, review & update guidelines as required, review of case definition, review of deaths due to Dengue, research, reviewing of Reporting format as needed, technical assistance to divisional DEAG
6	<b>District Emergency Response Committee (DERC)</b>	<b>Nominated Parliamentarians/ DCO, DPO, EDO health, Other EDOs, DOHs, DDOHs, PD DHDC, TMOs, MS of all DHQ &amp; THQ hospitals, Entomologist, CDCO, Health education officer, Representatives of Private Hospitals/ GPs, Co-opted members</b>	Implementation of program activities, M&E, review of local situation, vector & disease surveillance, reporting & feedback,
7	<b>Town/ Tehsil Emergency Response Committee (TERC)</b>	<b>Nominated Parliamentarians/ AC, TMO, DDOH, CDCIs, Environment Inspector, Assistant Entomologist, School Health &amp; Nutrition Supervisors, Lady Health supervisors, Representative of Public/ Private Hospitals&amp; GPs, Co-opted members</b>	Implementation of program activities, M&E, review of local situation, vector & disease surveillance, reporting & feedback, community mobilization

Note: Notifications of various committees are attached as **Annexure 1**

## Chapter 2: Dengue Prevention & Control Interventions

### Table of activities with roles and Responsibilities:

The following activities for Dengue prevention & control have been identified and the responsibilities with timeline are fixed to prevent confusion regarding job specification. The table also depicts that who will respond to the activity report and how the activity will be monitored/evaluated and who will prepare and review the monitoring tools.

Sr. No.	Activity	Responsibility	Timeline	Who will respond	Monitoring tool development
1.	Clinical Case Reporting	Hospitals with access to dashboard (public & private) - Focal Persons for Dengue Those health facilities who do not have access to dashboard – EDOHs	All cases must be entered on PITB dashboard within 24 hours of presentation	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Department</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC), AD (EP&amp;C),</li> </ul> <b>Coordination</b> <ul style="list-style-type: none"> <li>• Director (CD&amp;EPC)</li> <li>• AD (EP&amp;C)</li> <li>• DEAG</li> </ul> <b>Alerts</b> <ul style="list-style-type: none"> <li>• IPH(TAC)</li> <li>• Director (CD&amp;EPC), AD (EP&amp;C),</li> </ul> <b>Case Response</b> <ul style="list-style-type: none"> <li>• EDOHs</li> <li>• DOHs</li> <li>• DPCs</li> <li>• DDOHs</li> </ul> <b>Web hosting</b> <ul style="list-style-type: none"> <li>• PITB</li> </ul>	DEAG, IPH
2.	Lab Case Reporting	Sentinel Lab (IPH) Reporting – Bacteriologist to the Govt. of the Punjab Private Labs – EDOHs Hospital Labs (public/ private) Focal persons for Dengue	Within 24 hours of positive result	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health department</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC),</li> <li>• AD (EP&amp;C),</li> </ul> <b>Coordination</b> <ul style="list-style-type: none"> <li>• Director (CD&amp;EPC),</li> <li>• AD (EP&amp;C),</li> </ul> <b>Analysis</b> <ul style="list-style-type: none"> <li>• IPH</li> </ul> <b>Verification of</b>	Bacteriologist to the Govt. of the Punjab, IPH

Sr. No.	Activity	Responsibility	Timeline	Who will respond	Monitoring tool development
				<b>confirmed cases</b> <ul style="list-style-type: none"> <li>• EDOHs</li> </ul> <b>Web hosting</b> <ul style="list-style-type: none"> <li>• PITB</li> </ul>	
3.	Case Management	Management of Dengue cases in specified Dengue care units, OPDs, Emergency, wards/ HDUs as per DEAG guidelines - Designated health care providers (public & private)	As per DEAG guidelines	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Dept.</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC),</li> <li>• AD (EP&amp;C),</li> </ul> <b>Clinical review</b> <ul style="list-style-type: none"> <li>• DEAG</li> <li>• Heads of Units</li> <li>• Nominated allied staff</li> <li>• Focal Persons</li> </ul>	DEAG, Morbidity/ Mortality Review Committees of concerned hospitals
4.	Case Referral	<b>Case Referral</b> to public sector referral hospital – Treating physician of public/ private hospital	As per DEAG guidelines	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Department</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC)</li> <li>• AD (EP&amp;C)</li> <li>• DEAG</li> <li>• EDOHs</li> </ul>	DEAG
5.	Lab Referral	<b>Lab Referral</b> to Public sector referral lab - Treating physician of public/ private hospital Vector Referral to IPH Lahore - EDOHs	As per TAC guidelines	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health department</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC)</li> <li>• AD (EP&amp;C)</li> <li>• EDOHs</li> </ul>	TAC Sentinel Lab IPH
6.	Case Response	EDOHs DOHs DPCs DDOHs Entomologists CDCOs Inspector Environment	Within 24 hours of entry on dashboard	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health department</li> <li>• DGHS</li> <li>• Director (CD&amp;EPC)</li> <li>• AD (EP&amp;C),</li> <li>• Head R&amp;D</li> <li>• EDOHs</li> </ul> <b>Alerts</b> <ul style="list-style-type: none"> <li>• IPH (TAC)</li> <li>• Director (CD&amp;EPC),, AD (EP&amp;C),</li> </ul>	IPH DGHS Head R&D



Sr. No.	Activity	Responsibility	Timeline	Who will respond	Monitoring tool development
				<b>Web hosting</b> • PITB	
7.	Vector Surveillance	EDOHs DOHs DPCs DDOHs Entomologists CDCOs Inspector Environment	Round the year with entry on dashboard within 24 hours of activity	<b>Monitoring</b> • Health department • DGHS • Director (CD&EPC),, AD (EP&C), • Head R&D • EDOHs <b>Alerts</b> • IPH (TAC) • Director (CD&EPC),, AD (EP&C), <b>Web hosting</b> • PITB	TAC DGHS Director (CD&EPC),, AD (EP&C), IPH Head R&D
8.	Arrangement for Logistics& Human Resource	Health Department DGHS ADGHS EDOHs	To be completed during low transmission period that is between 15 December to 15 February yearly	<b>Monitoring&amp; QA</b> • Health department • DGHS • Director (CD&EPC),, AD (EP&C), • EDOHs	TAC DEAG DGHS Director (CD&EPC),, AD (EP&C),
9.	Capacity building/ Trainings (Preventive/ Clinical), Standards for wards, HDUs	Health Department Teaching hospitals DGHS Director (CD&EPC),, AD (EP&C), IPH District Governments PITB	To be completed during low transmission period that is between 15 December to 10 February yearly	<b>Monitoring&amp; QA</b> • Health department • DGHS • Director (CD&EPC),, AD (EP&C), • IPH • EDOHs • PITB	TAC DEAG IPH DGHS Director (CD&EPC),, AD (EP&C), PITB
10.	Health Education/ Social Mobilization	Nominated Parliamentarians, Health Department DGHS Director (CD&EPC),, AD (EP&C), IPH,PITB, other line departments District Governments	Continue round the year, intensified during high transmission period	<b>Monitoring &amp; Impact assessment</b> • Health Deptt. • DGHS • Director (CD&EPC),, AD (EP&C), • IPH • EDOHs • PITB	TAC IPH DGHS Director (CD&EPC),, AD (EP&C), PITB

Sr. No.	Activity	Responsibility	Timeline	Who will respond	Monitoring tool development
		(Social Welfare, Education, Health education)			
11.	Inter-sectoral & inter-provincial coordination	CERC Cabinet Committee PIC DERC TERC Line Departments	Continue round the year, more frequently during high transmission period	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• CERC</li> <li>• CS</li> <li>• ACS</li> <li>• Health Deptt.</li> <li>• DGHS</li> <li>• Director (CD&amp; EPC), AD (EP&amp;C)</li> </ul>	Heads of all committees, DGHS, Director (CD& EPC), AD (EP&C),
12.	Operational research	IPH DEAG Head R&D	All round the year/ on demand	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Deptt.</li> <li>• DGHS</li> <li>• Director (CD&amp; EPC), AD (EP&amp;C),</li> <li>• IPH</li> </ul>	Health deptt. IPH DGHS Director (CD& EPC), AD (EP&C), DEAG Head R&D
13.	Legislative/ Administrative support	CERC, Cabinet Committee, PIC, CS, ACS, Administrative Secretaries, Commissioners, DCOs Environment Deptt. EDOHs	All round the year/ on demand	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Deptt.</li> <li>• DGHS</li> <li>• Director (CD&amp; EPC),</li> <li>• AD (EP&amp;C)</li> </ul>	Health deptt. Environment Deptt. DGHS Director (CD& EPC), AD (EP&C), EDOHs
14.	Alert Generation/ Declaration of epidemic	TAC {DGHS, ADGHS, IPH}	As per need	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Deptt.</li> <li>• DGHS</li> <li>• Director (CD&amp; EPC), AD (EP&amp;C),</li> <li>• IPH</li> <li>• PITB(web hosting)</li> </ul>	IPH DGHS Director (CD& EPC), AD (EP&C), PITB
15.	Financial Allocation	TAC DGHS DEAG	As per need	<ul style="list-style-type: none"> <li>• Health Department</li> <li>• Finance Department</li> </ul>	
16.	Media Management	TAC nominated spokesperson	All round the year	<b>Monitoring</b> <ul style="list-style-type: none"> <li>• Health Department</li> <li>• TAC</li> <li>• DGHS</li> </ul>	

## Chapter 3: Disease Surveillance:

### A. Case reporting

- As per Dengue Expert Advisory Group (DEAG) guidelines Dengue suspect, probable and confirmed cases are to be completely & correctly entered on PITB dashboard within 24 hours of presentation by those health care facilities/ providers both public & private, who have access to the PITB dashboard. Focal persons (administrative) where nominated are responsible for timely correct entry.
- Health facilities/ providers (public & private) who do not have access to PITB dashboard must notify cases as per DEAG guidelines within 24 hours of presentation to the concerned EDOHs. EDOHs are then responsible for complete & correct data entry on dashboard within next 24 hours.
- All private sector labs must send reports of positive Dengue cases in the line list format (to be developed by DEAG) to the respective EDOH for online entry on dashboard within 24 hours.
- EDOH to ensure reporting from all health facilities working under his jurisdiction. He is also responsible for keeping liaison with private labs, GPs and hospitals for notification of positive cases on regular basis.
- Health line notified cases will be entered in dashboard as per policy devised by DEAG
- Bacteriology Laboratory at Institute of Public Health will act as Sentinel Surveillance Lab.
- Presently the private hospitals forward data to health department through Irrigation department. Health department needs to take over this responsibility in due course of time.
- Presently the data entry operators are on the payroll of PITB. Health department has to take over this responsibility in due course of time.

### B. Case Management:

- Designated health care providers (public & private) are responsible for case management and referral of Dengue cases as per DEAG guidelines
- All teaching, DHQ and THQ hospitals must establish Dengue counters during high transmission period and separate Dengue wards as per DEAG guidelines
- All teaching and DHQ hospitals must establish High Dependency Units (HDUs) consisting of 8 and 4 beds respectively conforming to DEAG's criteria
- Trained staff to be deployed to work in HDUs round the clock
- Consultants must visit the Dengue ward and HDUs at least twice daily
- Adequate stock of essential medicines and IV fluids must be ensured by hospital administration
- Private hospitals have been attached with teaching hospitals for consultation on Dengue case management. Senior clinicians of public teaching hospitals will visit private hospitals for further guidance on clinical case management of Dengue cases as per demand of TAC

### C. Referral services:

- All health facilities without HDUs (as per DEAG criteria) in public and private sectors are required to refer complicated Dengue cases to the nearest government referral facility for Dengue
- For advanced diagnostic facilities such as PCR, Virus isolation in Dengue patients, Bacteriology Laboratory at IPH shall act as sentinel lab.
- All the laboratories at teaching and DHQ hospitals should have the diagnostic testing facilities.
- Rescue 1122 to provide ambulatory services for Dengue cases to nearest teaching hospital referred from the authorized health facilities/ providers
- Government hospitals to provide ambulatory services to patients referred from attached private hospitals

***D. Case Response:***

- Case response to be ensured by the DDOH of the respective Town/Tehsil
- Case Response to be conducted within 24 hours
- Case response package includes: submission of duly filled Case Investigation Forms, complete vector survey, mechanical / chemical elimination of all breeding sites, IRS & Indoor fogging of all houses in a radius of 100 meters (approximately 12 houses on each side), Geo tagging using android devices and health education session with family members.
- All the districts to notify Rapid Epidemic Response Teams to deal with Dengue epidemic with advance logistic arrangements

## Chapter 4: Integrated Vector Surveillance (IVS):

- IVS will be based on real time monitoring of the beginning of vector population. This data will be closely associated with the daily mean temperature including both min & max together with relative humidity % (RH) along with rain fall (critical 10mm or more). As per our climatic condition, temperature shows change in the 2<sup>nd</sup> week of February (Average day time min. 10C max 24C). Both these changes even with RH% less than 35% are conducive for the multiplication & activity of the last season's adult population confined in hidden & warm localities. Therefore it is strongly recommended based on last 2 years (12-13) vector emergence dates the present season IVS should not be delayed beyond 15<sup>th</sup> February 2014.
- Each UC micro plan should strictly monitor beginning of vector pop, their distribution, stages along with a rough estimate of vector density. This information will ultimately define the beginning threshold of the comprehensive surveillance activity in each UC. It is strongly recommended that negligence in detecting vector population specially during high breeding time would result into major outbreak
- IVM program during the current year & times to come will strongly rationalize integrated approaches & thus result in judicious use of chemicals and also provide a way forward in testing and recommending alternates to chemicals
- The IVM program will introduce vector training certification program that will ultimately equip all the field staff directly or indirectly related with vector management program at provincial level to use technical skills in the management of vector during the season.
- IVM will strongly focus on the safety status of the staff engaged in chemical application
- EDOHs will get sampling frames prepared for all UCs. A sampling frame is a list of all households in the UC in which each household has a unique number.
- Systematic sampling technique will be used to select houses to be visited over next 10 days. Recommended method is lottery method in which 10 pieces of paper with number written on it from 1 to 10 are folded separately and one is selected. This number is the first household on the sampling frame. E.g. if it is number 6, we start from the sixth house in the list. Then every 8<sup>th</sup> house is to be checked, e.g. the second house will be 14, the third one will be 22 and so on. The sampling frame will again be used at the end of 10 days to find the next sample to be checked. If the same houses are selected within the same month, a new set will be selected to avoid repetition.
- The used sampling frame must be filed for future reference by the concerned EDOHs.
- Each UC will make 3 teams (02 staff members, at least one female each team) to check a total of 75 houses daily. The teams will ensure to do a complete vector surveillance of the houses visited and will conduct source elimination as per protocol. The information will be collected on a form and submitted to the office of EDOH by 24 hrs for entry on the PITB dashboard.
- This activity will be continued regularly all round the year.
- The data uploaded on the PITB dashboard will be used to calculate various indicators like Breteau Index (indoors) & Container Index (Indoor).
- If all stages of larval development are visible in one container, it will be labeled a hot spot. Four houses around that house (one on the left, right, front & back) will be checked for

vector growth. The same activity will be done for any house found positive (out of those four) and so on, until a clear demarcation is visible i.e. where negative houses start appearing on the boundary. DDOH will ensure sweep activity in the demarcated area.

- The households found positive previously can be reviewed in the next round also to ensure compliance by the inhabitants.
- If a UC is labeled **high risk**, special activity (sweeping activity) on top of the routine activity will be conducted by human resource mobilized by EDOHs and/ or District governments along with community mobilization (volunteers) and legislative/ administrative measures. Social Welfare Department will provide information of local volunteers available for the activity. The information generated from special activity will be compiled separately by EDOHs and not mixed with the routine surveillance data.
- Alerts regarding vector indices will be generated by the Alert Generation Team notified by TAC.
- All field teams during routine vector surveillance and sweeping campaigns will ensure mechanical elimination of all potential breeding sites & health education of households. Chemical / biological treatment will be done only at those sites where mechanical elimination is not possible.
- Fogging and IRS will only be done if recommended by the Technical Advisory Committee (TAC). Fogging & IRS activities will be conducted as per WHO guidelines & doses will be used as per (WHO approved) manufacturer's recommendations labeled on the supplied containers.
- Record of consumption of insecticides will be maintained at the EDOH office as per reports of field teams on prescribed forms (SPR-1 & Larvicide consumption form)
- Law enforcement to be ensured as per Dengue Act by the authorized officers.
- To avoid parallel reporting, systematic reporting will be observed by all tiers right from the field teams to the highest levels within stipulated time period.

### **Arrangements for the Logistics:**

#### ***Sentinel Lab:***

- Sentinel lab to be established at IPH Lahore
- Provision of infrastructure, equipment & skilled human resource by Health department

#### ***Entomological Lab:***

- Establishment of a mosquito insectary at IPH (Central referral) by Dean IPH Lahore
- Provision of vector susceptibility & bio assay test facilities in IPH by Dean IPH Lahore
- Establishment of insectaries & bio assay facilities in all divisional headquarter CDC labs by concerned EDOHs

#### ***Clinical Care Provisions:***

- Health care provisions pertaining to establishment/ maintenance of Dengue labs, counters, wards & HDUs by concerned facility in charge

### **Annual Procurement**

***Insecticides:***

- Annual demand for replenishing stores for next financial year estimation by end of May by ADGHS Punjab
- Only WHO approved products to be procured from WHO approved firms and get tested (chemical analysis & bio assay) as per its approved doses by DGHS Punjab. The approved uniform doses of insecticides will be notified and disseminated to all EDOHs by Director (CD& EPC),, AD (EP&C),.
- Procurement to be finalized by end of December by DGHS Punjab
- Private sector use of insecticides will be regulated by government as per set standards

***Spray Equipment Procurement/ Maintenance:***

- Physical inspection and stock taking of all Entomological Lab and spray equipment & Personal protective equipment (PPE) during the month of December by all EDOHs & ensured by DGHS
- All equipment should be available and functional by 10th of February annually

***Health Line Centre:***

- Call centre (Health Line: 080099000) set up under PITB, will be taken over by Health Department in due course of time
- Health department may recruit/ train staff for Health Line Centre
- Health line manual will be developed by DEAG

## Chapter 5: Supporting Interventions

### 5.1 Capacity Building:

- Training need assessment during the low transmission period i.e. in the month of December by EDOHs
- Review and updating of already developed modules by IPH, DEAG & DGHS
- Training of Master Trainers at Provincial level during the month of December & January by IPH through DGHS
- Training of the newly engaged staff in January/ February at District level by EDOHs
- Refresher training of the already trained staff in January/ February by EDOHs
- Monitoring of the training to ensure the quality by IPH, DEAG & DGHS
- Training on Clinical Case Management to public and private sector doctors by DEAG.
- Training of district surveillance teams for epidemic investigation by IPH
- Training of media health desk personnel for effective relevant reporting by DGHS
- Global partnership for technical assistance & capacity building in Dengue prevention and control to be developed with development partners including WHO & CDC Atlanta.

### 5.2 Health Education and Social Mobilization:

- The public awareness messages to be designed according to seasonal requirements by a committee already notified by Health department
- Mass media campaign will be conducted in conformity with the awareness needs by DGHS Office (EP&C & CDC wing).
- Standardized health education messages will be provided to all allied departments and institutions by Health Department / DGHS
- District Government is responsible for awareness activities through local communication channels like
  - a) Print / electronic media
  - b) Cable networks,
  - c) Seminars,
  - d) TV / media talk shows
  - e) Walks,
  - f) Display of banners, posters, streamers, pamphlets
  - g) Door to door campaign through volunteers,
  - h) Mobilization sessions for religious leaders, school teachers & students,
  - i) Community health sessions,
  - j) Mobilization of NGOs.
  - k) Patronage of the awareness activities be secured from community notables including Political leaders, celebrities etc.
- Dengue days/ thematic days appropriately spaced to be observed as per advice of CERC/ Cabinet Committee

### 5.3 Behaviour Change Communication (BCC):

- The Directorate General Health Services Punjab (EP&C & CDC wing) to issue advisories and guidelines for prevention and control of vector borne diseases as per need.



- Training of master trainers for health education from all districts will be conducted by IPH annually or as needed. Training manual for master trainers has already been developed by IPH
- The health education will be imparted by the master trainers through different channels of personal communication, group educational activities and mass media. For personal communication and group educational activities, districts shall prepare a plan for every endemic area by involving target groups like Women groups, local Welfare Associations, school teachers, informal community leaders, volunteers and health workers/informal service providers.
- The elected representatives, other local influencers shall be holding advocacy meetings in their respective constituencies along with nominated health professionals for participation of the people for mass clean-up campaigns, source reduction and environmental sanitation.

#### **5.4 Pre Monsoon Special Activities:**

The months of June and July shall also be observed as cleanliness months in all Cities / towns. Following activities should be undertaken:

(i) Messages from Chief Minister and Governor

(ii) First week of July will be observed as cleanliness week by all institutions both in public & private sector. Wide publicity of this campaign should be done through local newspapers, radio and cable TV and other available means.

(iii) Local government shall ensure checking of all over head tanks, underground cisterns and water containments to prevent mosquitoes breeding.

(iv) A random check of all water containers/potential breeding places shall be conducted to assess the impact of cleanliness campaign in the last week of July

(v) All construction sites shall be identified by the local bodies and regular inspection for mosquito breeding shall be organized. The contractors and owners of the building shall be persuaded to maintain cleanliness at the sites of construction and ensuring mosquito free premises.

(vi) Welfare Associations and NGOs will be advised to organize periodic cleanliness campaigns in their working zones and ensure that all desert air coolers and other water containers are free of mosquito breeding. They shall organize house to house check of mosquitoes breeding in co-ordination with the functionaries of district government.

(vii) Local bodies shall regulate nurseries, graveyards, junkyards, abandoned plots & locations with discarded or stored tyres, and educate the owners/ administrators for proper cleanliness and prevention of mosquito breeding. Defaulters are to be dealt with legislative measures. Secretary LGCD will monitor these activities.

(viii) Schools/colleges/university campuses shall organize cleanliness drive by involving students & volunteers. Secretary Education will monitor these activities.

(ix) All the perennial water bodies: (large water tanks) in towns should be identified and mapped for seeding with larvivorous fish where indicated. Functionaries of the Fisheries department at block level shall maintain hatcheries for supply of larvivorous fish to owners. DG Fisheries will monitor these activities.

(x) Print and electronic media shall be informed on day to day activities for control of Dengue by the nominated spokesperson of health department.

### **5.5 Inter-sectoral collaboration:**

Health Department will coordinate inter sectoral collaboration between different inter governmental agencies/organizations both within and outside the province.

The prevention and control of vector borne diseases requires close collaboration and partnership between the health and non-health sectors (i.e. Government, Private, NGOs, etc.). Guidelines/SoPs for Dengue Prevention & Control developed through this document to be disseminated to line departments etc. for implementation.

Coordination committees at provincial and district level already established to harmonise coordinated efforts.

### **5.6 Operational Research:**

Chief Minister's Research & Development Cell, University of Agriculture Faisalabad, Institute of Public Health Lahore are conducting operational research to assess the different dynamics of virus and vector and proposing appropriate control strategies. The following topics need to be addressed

- a) Impact of awareness campaigns,
- b) Social / financial impact of Dengue
- c) Control methodology
- d) Environmental impact of insecticidal spraying,
- e) KAP regarding Dengue
- f) Insecticide resistance
- g) Disease dynamics
- h) Vector dynamics
- i) Agent dynamics
- j) Any other aspect requiring research in Dengue

### **5.7 Legislative/ Administrative Support:**

It is necessary to have legislation which ensures prevention of mosquitogenic conditions. Dengue Act was approved by the Provincial Assembly and is being implemented.

TAC will nominate a sub-committee to formulate/ review laws & by-laws regarding Dengue prevention & control considering these regulations in vogue and suggestions for improvement in following statutes

(i) **Model civic byelaws:** Under this act fine/punishment is imparted, if breeding is detected. These measures are being strictly enforced by city governments.

(ii) **Building Construction Regulation Act:** Building byelaws are to be made for appropriate overhead / underground tanks, mosquito proof buildings, designs of sunshades, porticos, etc for not allowing stagnation of water vis-à-vis breeding of mosquitoes.

(iii) **Environmental Health Act:** Suitable byelaws to be made for the proper disposal/storage of junk, discarded tins, old tyres and other debris, which can withhold rain water.

(iv) **Health Impact Assessments:** Appropriate legislation to be formulated for mandatory HIA prior to any development projects/major constructions.

(v) **Insecticide regulation laws:** These laws/ regulations need to be developed with feedback from WHO, Health department, Agriculture department & Law department to prevent use of inappropriate, forged non- WHO approved insecticides.

## **5.8 Alert Generation:**

- All stakeholders MUST agree on one source of data i.e. displayed on PITB Dengue Dashboard
- No one may refer to his personal data.
- Any information needed to be updated on dashboard must be done personally by the concerned focal person or must be forwarded to the ADHS (EP&C) office in writing within a stipulated period of time.
- All parameters required to calculate the indicators need to be added as new fields on the PITB Dashboard (auto calculations in most cases)

### **Suggested Indicators for Data Entry**

- Percentage of cases entered on Dashboard within 24 hours of presentation
- Percentage of wrong addresses as calculated on the feedback of field teams
- Percentage of cases with unfilled cells on dashboard
- Percentage of cases requiring updating of basic information (addresses, CBC)
- Percentage of cases requiring updating of diagnosis (DF, DHF, DSS) or results later than a week
- Number/ Percentage of cases labeled as Still Admitted at the end of one month
- Number of deaths not documented on the dashboard
- Number of positive PCRs without DENV type

### **Suggested Indicators for PITB**

- Number of hours/ days elapsed before a technical problem reported is addressed
- Number of hours /days of link down
- Number of trainings conducted for data entry operators in one year
- Total number of complaints regarding Android/ GIS system & percentage of complaints corrected within 24 hours
- Adding UCs to all districts of Punjab before next season
- Adding address locator (Mohallah/ Street names) to help identify UCs by data entry operators

### **Suggested Indicators for Analysis team**

- Number of analyses conducted in one year

- Number of reports not generated within the specified time
- Number of meetings conducted to discuss technical issues
- Number of times a wrong alert was issued
- Training of at least one focal person from all districts to act as an epidemiologist locally

### **Suggested Indicators for DGHS Coordination Cell**

- Total number of responses forwarded to all departments regarding their periodic indicator review
- Number of third party evaluations conducted where needed & dissemination of the results to all concerned within a specified period of time
- Number of trainings organized for the concerned human resource during the year
- Log maintenance & periodic review of all inter departmental communication with dissemination of results to all concerned

### **Suggested Indicators for EDOHs**

- Number of confirmed cases not geo tagged within specified period
- Number of addresses requiring updating per day
- Number of geo tagged larval activities (both positive & negative) conducted within one week amounting less than 100 in one UC
- Number of times a UC reports larval presence (Breteau Index or Container Index) ahead of epidemic

### **What are various alerts & what are the responses**

These alerts are dependent on three epidemiological features

- Time (last 07 days) e.g. 09 Jan 2014 02 pm to 16 Jan 2014 02 pm
- Place (smallest geographical area referred to in data (ideally a Union Council). The place stands for the address where the case was residing within 14 days of developing fever and not the permanent domicile address. This is the address of the mosquito which transmitted the disease and not that of the patient.
- Person (a confirmed cases is one who has a positive IgM, NS1 or PCR. The alert system does not differentiate between suspected & probable cases and treats them equally)

Alerts are being generated by the Alert Generation Team (consisting of members from IPH, DGHS & PITB) nominated by TAC.

Alerts will be forwarded by email to all stakeholders nominated by TAC.

No one other than the team nominated by TAC has the authority to generate on the validity of alerts. Any comments on the alerts must be forwarded to TAC for review.

Any modification in the Alert criteria will be notified in black & white by TAC

Dengue Data 23 Oct 2013 09am to 30 Oct 2013 09am										
District	Town	Union Council	Confirmed	Suspected	Probable	Alert	Outbreak	Epidemic Declared	Breteau	GIS
LAHORE	Nishtar Town	135-Ismail Nagar	10	109	15	Yes	Yes	Yes	No Data	Nil
LAHORE	Cantonment	152-Cantonment	11	108	11	Yes	Yes	Nil	0.8614	Nil
LAHORE	Gulberg Town	130-Kot Lakhpat	7	56	11	Yes	Yes	Nil	0.0000	Nil
LAHORE	Shalamar Town	36-Baghbanpura	5	11	0	Yes	Yes	Nil	0.0000	Nil
LAHORE	Samanabad Town	106-Samanabad	4	10	0	Yes	Yes	Nil	No Data	Nil
LAHORE	Gulberg Town	97-Gulberg	3	9	2	Yes	Yes	Nil	0.0000	Nil
LAHORE	Iqbal Town	132-Town Ship	2	7	2	Yes	Yes	Nil	1.1765	Nil
LAHORE	Nishtar Town	142-Dullo Khurd Kalan	2	5	0	Yes	Yes	Nil	No Data	Nil
LAHORE	Aziz Bhatti Town	48-Mughalpur	1	15	1	Yes	Yes	Nil	0.0000	Nil
LAHORE	Samanabad Town	100-Ichhra	1	12	0	Yes	Yes	Nil	No Data	Nil
LAHORE	Shalamar Town	23-Shad Bagh	1	10	2	Yes	Yes	Nil	0.7143	Yes
LAHORE	Nishtar Town	146-Kahna Nau	1	8	0	Yes	Yes	Nil	No Data	Nil
LAHORE	Gulberg Town	127-Model Town	1	7	1	Yes	Yes	Nil	2.3697	Nil
LAHORE	Samanabad Town	115-Muslim Town	1	7	1	Yes	Yes	Nil	No Data	Nil
LAHORE	Nishtar Town	139-Green Town	1	6	1	Yes	Yes	Nil	No Data	Nil
LAHORE	Nishtar Town	63-Kamahan	2	4	0	Yes	Nil	Nil	No Data	Nil
LAHORE	Data Gunj Baksh Town	71-Bilal Gunj	2	3	2	Yes	Yes	Nil	No Data	Yes
LAHORE	Data Gunj Baksh Town	78-Race Course	2	3	0	Yes	Nil	Nil	No Data	Nil
LAHORE	Data Gunj Baksh Town	68-Ameen Pura	2	2	1	Yes	Nil	Nil	No Data	Nil
LAHORE	Nishtar Town	136-Sittara Colony	1	5	0	Yes	Nil	Nil	No Data	Nil
LAHORE	Iqbal Town	121-Chung	1	4	0	Yes	Nil	Nil	No Data	Nil
LAHORE	Aziz Bhatti Town	44-Fateh Garh	1	3	1	Yes	Nil	Nil	No Data	Nil
LAHORE	Iqbal Town	116-Johar Town	1	1	4	Yes	Nil	Nil	2.0000	Nil
LAHORE	Other	1000-Other then lahore	4	0	0	?	Nil	Nil	No Data	Nil
LAHORE	Data Gunj Baksh Town	69-Kareem Park	2	1	1	?	Nil	Nil	No Data	Nil

- 5 Breteau Index (Indoor) a value based on survey of containers from at least 100 houses in a union council (3%) **Colored as red**
- 6 High Risk Union Councils (those UCs from where at least 4 suspected or probable cases are reported but no confirmed case) 4 to 10 cases will be labeled as **Orange color** in Alert Threshold column & **Orange color** in both Alert Threshold & Outbreak Alert columns if such cases exceed 10
- 7 WHO Alerts (**Dark red if positive**)
  - 7.2 Alert Threshold ( 1 lab confirmed case + 3 suspected or probable cases)
  - 7.3 Outbreak Threshold (1 lab confirmed case + 6 suspected or probable cases)
- 8 Epidemic Notified? A new column will be added after the Outbreak threshold. It will be **colored dark red** (notification by TAC). This column will remain dark red until notification is withdrawn.
- 9 GIS Alert based on geo tagging (3 overlapping circles) **Color dark red**

### Responses on various alerts

- Breteau Index more than 3%: Sweeping activity in affected UC will be conducted as per protocol (vector surveillance & control measures).
- High Risk UC: As above
- Alert Threshold: Case response for the confirmed case and vector activity as per protocol
- Outbreak Threshold Alert: Case Response for the confirmed cases & vector activity as per protocol
- Epidemic Declared: 3<sup>rd</sup> party evaluation to identify gaps in prevention & control activities by TAC
- GIS Alert: will be used for verification of outbreak threshold alert and to identify the source

### **5.9 Communication & feedback:**

- All groups involved in the activity of Dengue prevention and control must forward regular feedback reports to all concerned.
- A log of all activities will be maintained by respective offices & DGHS (EP&C) for reference & record.

### **5.10 General Housekeeping activities:**

All government departments, autonomous bodies & special institutions are responsible to comply with the general house-keeping activities in order to prevent & control dengue.

#### **The general housekeeping activities include:**

1. Environment must be kept neat and clean
2. Water storage utensils such as buckets, lota, drums, tanks etc. must be covered
3. Indoor Residual Spray (IRS) in offices and houses, to be done after removing furniture and curtains
4. Removal of stagnated water from the ditches, manhole covers and all other possible locations
5. Room coolers must be kept dry when not in use
6. Water from air conditioners must be dried regularly
7. Water collected in trays under the refrigerators must be cleared at least once a week
8. Rain water must not accumulate anywhere in the premises
9. Removal of garbage and water from all the premises
10. Roof tops must be cleared of stagnant water after every rain fall
11. Discarded tyres must be disposed after shredding
12. Leaking water faucets, pipes and drains must be repaired regularly, whether outside or inside the bathrooms, kitchens and other parts of the premises
13. Flower pots and such other places which can accumulate water must be cleaned at least once a week

14. Awareness walks by the officers/officials of the department to be arranged as and when advised by the provincial government
15. Arrangement of seminars as and when advised by the provincial government
16. Cleanliness of the offices on daily basis as a policy matter
17. Old record must be properly stored or disposed
18. Surprise visits of the offices will be conducted by the nominated officers of the same department
19. Fountains in the offices must be stocked with appropriate larvivorous fish or larvicidal drugs.
20. Anti-mosquito spray/thermal fogging where needed will be conducted through appointed authority.
21. Pamphlets containing precautionary measures may be distributed to the staff and general public
22. In order to educate general public, banners may be displayed at conspicuous places of office premises when advised by provincial government
23. Building material & debris must be properly disposed of
24. Sewerage system must be kept in order and running with the help of local Municipal Authorities
25. Regular vector surveillance of the premises and reporting of positive sites to the concerned authorities/ EDOH is mandatory

**List of departments / institutions required to carry out General Housekeeping activities:**

- **Agriculture**
- **Auqaf and Religious Affairs**
- **Board of Revenue**
- **Disaster Management (PDMA)**
- **Chief Minister's Inspection Team**
- **Communications and Works**
- **Cooperatives**
- **Energy**
- **Environment Protection**

- **Excise and Taxation**
- **Finance**
- **Food**
- **Forestry, Wildlife and Fisheries**
- **Health**
- **Higher Education**
- **Home**
- **Housing, Urban Development and Public Health Engineering**
- **Human Rights and Minorities Affairs**
- **Industries, Commerce and Investment**
- **Information and Culture**
- **Irrigation**
- **Labour and Human Resource**
- **Law and Parliamentary Affairs**
- **Literacy and Non Formal Basic Education**
- **Livestock and Dairy Development**
- **Local Government and Community Development**
- **Management and Professional Development**
- **Mines and Minerals**
- **Planning and Development**
- **Population Welfare**
- **Public Prosecution**
- **School Education**
- **Services and General Administration**
- **Social Welfare and Bait-ul-Maal**
- **Special Education**
- **Transport**
- **Women Development**
- **Youth Affairs, Sports, Archeology & Tourism**
- **Zakat and Ushr**

**Attached Departments**

*Agriculture*

- **Agriculture (Extension & AR)**
- **Agriculture (Field)**



- **Agriculture (Research)**
- **Agriculture (Water Management)**
- **Agriculture Crop Reporting Service**
- **Directorate of Agricultural Information**
- **Pest Warning & Quality Control of Pesticides**
- **Punjab Institute of Agriculture Marketing**

*Communication and Works*

- **Highways Department**
- **Buildings Department**
- **Architecture Department**
- **District Support and Monitoring Department**

*Health*

- **Blood Transfusion Services**
- **Directorate of Health Services**
- **Directorate of Nursing**

*Home Department*

- **Commissionerate of Afghan Refugees**
- **Punjab Police**
- **Punjab Prisons**

*Industries, Commerce and Investment*

- **Consumer Protection Council (CPC)**
- **Directorate of Industries**

*Information and Culture*

- **Directorate General Public Relations**

*Planning and Development*

- **Bureau of Statistics**
- **Directorate General Monitoring and Evaluation**

*Revenue*

- **Land Record Management & Information Systems**

*School Education*

- **Children Library Complex**
- **Directorate of Staff Development**
- **Punjab Education Assessment System**

Autonomous Bodies

## **Agriculture**

- **Market Committees Provincial Fund Board**
- **PirMehr Ali Shah University of Arid Agriculture Rawalpindi**
- **Punjab Agricultural Research Board (PARB)**
- **Punjab Seed Corporation**
- **University of Agriculture Faisalabad**

## **Auqaf and Religious Affairs**

- **Punjab Auqaf Organization**

## **Colonies**

- **Punjab Privatization Board**

## **Communications and Works**

- **Lahore Ring Road Authority**

## **Cooperatives**

- **Punjab Cooperative Board for Liquidation (PCBL)**

## **Energy**

- **Punjab Power Development Board (PPDB)**

## **Finance**

- **Punjab Revenue Authority**

## **Health**

- **AllamaIqbal Medical College / Jinnah Hospital Lahore**
- **Faisalabad Institute of Cardiology**
- **Fatima Jinnah Medical College for Women / Sir Ganga Ram Hospital**
- **King Edward Medical University**
- **Multan Institute of Cardiology**
- **Nishtar Medical College & Hospital Multan**
- **Nursing Examination Board**
- **Punjab Pharmacy Council**
- **Punjab Medical Faculty**
- **Quaid-e-Azam Medical College & B.V. Hospital Bahawalpur**
- **Rawalpindi Medical College & Allied Hospital Rawalpindi**
- **Postgraduate Medical Institute & Lahore General Hospital**
- **Punjab Medical College & Allied Hospital Faisalabad**
- **Punjab Institute of Cardiology Lahore**
- **Punjab Health Foundation**

- **Provincial Quality Control Board**
- **Services Institute of Medical Sciences & Services Hospital Lahore**
- **Sheik Zayed Medical College & Hospital Rahim Yar Khan**
- **University of Health Sciences (UHS)**

#### **Higher Education**

- **Boards of Intermediate and Secondary Education Bahawalpur**
- **Boards of Intermediate and Secondary Education Dera Ghazi Khan**
- **Boards of Intermediate and Secondary Education Gujranwala**
- **Boards of Intermediate and Secondary Education Faisalabad**
- **Boards of Intermediate and Secondary Education Lahore**
- **Boards of Intermediate and Secondary Education Multan**
- **Boards of Intermediate and Secondary Education Rawalpindi**
- **Boards of Intermediate and Secondary Education Sargodha**
- **Baha-ud-Din Zikaryia University Multan**
- **Fatima Jinnah Women University Rawalpindi**
- **Government College University Lahore**
- **Government College University Faisalabad**
- **Islamia University Bahawalpur**
- **Lahore College for Women University**
- **University of Gujrat**
- **University of Education Lahore**
- **University of Engineering & Technology Lahore**
- **University of Engineering & Technology Taxila**
- **University of the Punjab**
- **University of Sargodha**
- **Govt. S.E. College Bahawalpur**
- **Govt. Sadiq Degree College (W), College Road Bahawalpur**
- **Govt. Postgraduate College, Tehsil ChowkChakwal**
- **Govt. College for Women, Chakwal**
- **Govt. Post Graduate College D.G.Khan**
- **Govt. College for Women D.G.Khan**
- **Govt. Post Graduate College, Samanabad Faisalabad**
- **Govt. Islamia Post Graduate College for Women, Eidgah Road Faisalabad**
- **Govt. College for Women, Madina Town Faisalabad**

- **Govt. Post Graduate College for Women, Satellite Town Gujranwala**
- **Govt. Post Graduate College, Peoples Colony Gujranwala**
- **Queen Mary College Lahore**
- **Govt. College of Science, Wahdat Road Lahore**
- **Govt. Islamia College Civil Lines Lahore**
- **Govt. M.A.O. College Lahore**
- **Govt. Post Graduate College for Women, Samanabad Lahore**
- **Govt. College for Women, Bilal Ganj Lahore**
- **Govt. College for Women, Gulberg Lahore**
- **School of Mathematical Sciences Lahore**
- **Govt. College of Science, Bosan Road Multan**
- **Govt. College Civil Lines, ChowkKatchery Multan**
- **Lawrence College, GhoraGaliMurree**
- **Govt. Post Graduate College for Women, Satellite Town Rawalpindi**
- **Govt. Gordon College Rawalpindi**
- **Govt. Post Graduate College Sahiwal**
- **Govt. Postgraduate College for Women Sahiwal**
- **Govt. Murray College Sialkot**
- **Govt. Post Graduate College for Women Sialkot**
- **Govt. Ambala Muslim College Sargodha**
- **Govt. College for Women, Block No. 23/A Sargodha**
- **Quaid-e-Azam Library, Bagh-e-Jinnah Lahore**
- **Punjab Public Library Lahore**
- **Punjab Library Foundation Lahore**

#### **Home Department**

- **Child Protection and Welfare Bureau, Punjab**
- **Punjab Emergency Service (Rescue 1122)**
- **Punjab Forensic Science Agency**

#### **Housing, Urban Development & Public Health Engineering**

- **Faisalabad Development Authority**
- **Gujranwala Development Authority**
- **Improvement Trust, Murree**
- **Improvement Trust, Sargodha**
- **Lahore Development Authority**

- **Multan Development Authority**
- **Parks & Horticulture Authority (PHA)**
- **Punjab Housing & Town Planning Agency (PHATA)**
- **Rawalpindi Development Authority**

#### **Industries, Commerce and Investment**

- **Punjab Board of Technical Education**
- **Punjab Small Industries Corporation (PSIC)**

#### **Irrigation**

- **Punjab Engineering Academy**
- **Punjab Irrigation & Drainage Authority (PIDA)**

#### **Information and Culture**

- **Bahawalpur Museum**
- **Bab-e-Pakistan Trust**
- **Punjab Council of Arts**
- **Lahore Arts Council**
- **Lahore Museum**
- **Punjab Institute of Language, Art and Culture (PILAC)**
- **Punjab Journalists Housing Foundation**

#### **Labour and Human Resource**

- **Punjab Employees Social Security Institution**
- **Punjab Workers Welfare Board**

#### **Law and Parliamentary**

- **Punjab Judicial Academy**

#### **Livestock Dairy Development**

- **Punjab Livestock & Dairy Development Board**
- **Punjab Agriculture & Meat Company (PAMCO)**
- **Punjab Poultry Research and Development Board**
- **Society for the Prevention to Cruelty to Animals (SPCA)**
- **University College of Veterinary and Animal sciences, Islamia University Bahawalpur**
- **University of Veterinary and Animal Sciences Lahore**
- **Veterinary College Jhang**
- **Veterinary Faculty, BahaUddinZakaria University Multan**
- **Veterinary Faculty, PirMehr Ali Shah University of Arid Agriculture Rawalpindi**

#### **Local Government and Community Development**

- **Bahawalpur Development Authority**
- **Punjab Local Government Board**
- **Punjab Local Government Commission**
- **Punjab Municipal Fund Development Company (PMFDC)**
- **Punjab Rural Support Programme (PRSP)**

#### **Mines and Minerals**

- **Punjab Mineral Development Corporation (PUNJMIN)**

#### **Planning and Development**

- **Cholistan Development Authority**
- **Punjab Economic Research Institute (PERI)**
- **Punjab Information Technology Board**

#### **School Education**

- **Cadet College Hassan Abdal**
- **Daanish Schools and Centers of Excellence Authority**
- **Government Central Model School Lower Mall Lahore**
- **Punjab Examination Commission**
- **Punjab Education Foundation**
- **Punjab Text Book Board**
- **Punjab Teachers' Foundation**

#### **Services and General Administration**

- **Punjab Government Employees Welfare Fund Board**
- **Punjab Government Servants Benevolent Fund Board**
- **Punjab Government Servants Housing Foundation**
- **Punjab Procurement Regulatory Authority (PPRA)**

#### **Social Welfare and Bait-ul-Maal**

- **Punjab Bait-ul-Maal Council**
- **Punjab Social Services Board**
- **Punjab Welfare Trust for the Disabled**

#### **Special Education**

- **Punjab Fund for Rehabilitation of Special Persons**

#### **Transport**

- **Punjab Road Transport Corporation (Defunct)**

#### **Youth Affairs, Sports, Archeology Tourism**

- **Punjab Sports Board**

- **Tourism Development Corporation of Punjab (TDCP)**

Special Institutions

- **Aitchison College, Lahore**
- **Bank of Punjab**
- **Lahore High Court**
- **Office of the Advocate General, Punjab**
- **Office of the Ombudsman Punjab**
- **Provincial Assembly of the Punjab**
- **Punjab Land Commission**
- **Punjab Pension Fund**
- **Punjab Public Service Commission**
- **Punjab Service Tribunal**
- **Sadiq Public School, Bahawalpur**
- **Technical Education and Vocational Training Authority (TEVTA)**

## Chapter 6 Major Responsibilities of Line Departments

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
1.	Agriculture	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• M&amp;E of vector surveillance</li> <li>• Pest warning</li> <li>• Research collaboration</li> <li>• Pesticide Regulation</li> <li>• Quality control of pesticides</li> <li>• Analysis of pesticides</li> <li>• Promotion of water drainage of irrigation channels</li> <li>• Awareness among farmers regarding anti mosquito activities</li> </ul>	All year round	<ul style="list-style-type: none"> <li>• Vector control</li> <li>• Capacity building</li> <li>• Research</li> </ul>	Secretary Agriculture
2.	Communication & Works	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• Incorporation of mosquito free building construction by applying SOPs for eradication of breeding sites.</li> <li>• SOPs regarding timely removal of building debris</li> <li>• Any other specific task assigned</li> </ul>	All year round		Secretary C&W
3.	Cooperatives	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• Enforcement &amp; monitoring of anti-mosquito activities in all housing societies under their jurisdiction</li> <li>• Enforcement &amp; monitoring on use of WHO approved insecticides in housing societies</li> <li>• Enforcement of mosquito free building by-laws in housing societies</li> <li>• SOPs regarding timely removal of building debris from housing societies</li> <li>• Prevention of water stagnation on roads by</li> </ul>	All year round		Secretary Cooperatives



Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
		development of water drainage channels & regular repair/ patch work in housing societies <ul style="list-style-type: none"> <li>• Filling of ditches created during construction of roads</li> </ul>			
4.	Environment Protection	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• Conducting vector control activities in areas of jurisdiction</li> <li>• Enforcement of environmental protection laws pertaining to vector control</li> <li>• Any other specific task assigned</li> </ul>	All year round	Inspection of <ul style="list-style-type: none"> <li>• Tyre Shops</li> <li>• Junkyards</li> <li>• Under construction sites</li> <li>• Godowns</li> <li>• Nurseries</li> </ul>	Secretary environment
5.	Forest Wildlife & Fisheries	<ul style="list-style-type: none"> <li>• House Keeping</li> </ul>	All year round	<ul style="list-style-type: none"> <li>• Survey of open water bodies</li> <li>• Production of larvivorous fish</li> <li>• Stocking &amp; restocking of water bodies with larvivorous fish</li> <li>• Monitoring for larvae prevalence</li> <li>• Establishing multiple outlets to supply larvivorous fish to public</li> <li>Any other specific task assigned</li> </ul>	DG Fisheries
6.	Food	<ul style="list-style-type: none"> <li>• House Keeping</li> </ul>	All year round	Vector free environment in food manufacturing & serving areas/eateries	Secretary Food

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
				under their jurisdiction	
7.	Higher Education	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round	<ul style="list-style-type: none"> <li>Vector free environment in all schools &amp; colleges, universities under their jurisdiction</li> <li>Addition of anti-mosquito activities in curricula</li> <li>Zero periods for Dengue awareness</li> <li>Registration &amp; capacity building of volunteers from teaching institutions</li> </ul> Awareness seminars	Secretary Higher Education
8.	HUD&PHE	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Incorporation of mosquito free building construction by introducing building by-laws</li> <li>By-laws regarding timely removal of building debris</li> <li>Prevention of water stagnation on roads by development of water drainage channels &amp; regular repair/ patch work</li> <li>Supervise all WASA for anti-Dengue activities.</li> <li>De-silting of sewer lines and drains</li> <li>Any other specific task assigned</li> </ul>	All year round		DG PHE
9.	Irrigation	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Prevention of water stagnation around water</li> </ul>	All year round with special emphasis	(In coordination with Health Care Commission)	Secretary Irrigation

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
		<p>bodies &amp; canals</p> <ul style="list-style-type: none"> <li>• Elimination of breeding sites during closure of canals</li> </ul>	during rainy season and floods	Management of private hospitals with respect to Dengue activities, reporting and monitoring Trainings of doctors, nurses & paramedics of private hospitals	
10.	Labour & Human Resource  PESSI	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• Awareness campaigns</li> <li>• Vector free environment in institutions/ factories/ residential colonies under their jurisdiction</li> <li>• Case reporting &amp; case management for Dengue as per DEAG guidelines in PESSI hospitals.</li> <li>• Training of PESSI doctors, nurses &amp; paramedics for Dengue</li> </ul>	All year round	Prepare social security hospitals as second line Government hospitals for treatment of general public during Dengue season	Secretary Labour
11.	Local Government & Community Development	<ul style="list-style-type: none"> <li>• House Keeping</li> <li>• Coordinate all District Governments, TMAs and UCs activities with respect to <ul style="list-style-type: none"> <li>○ Vector Control activities</li> <li>○ Capacity building</li> <li>○ Cleanliness drives</li> </ul> </li> <li>• Support District Administration in policy and implementation process with respect to Local Government functions.</li> <li>• Coordinate procurement of such machinery and insecticides required for anti-Dengue operations by DGs / TMAs.</li> <li>• Supervise enrollment of work charge employees required for Dengue</li> </ul>	All year round	Inspection of Graveyards Shredding & disposal of used tyres Cattle markets and slaughter houses. Checking of CNG & Petrol Pumps	Secretary Local Government

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
		<ul style="list-style-type: none"> <li>operation.</li> <li>Cleanliness of graveyards</li> </ul>			
12.	Livestock & Dairy Development	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Cleanliness drives in livestock farms &amp; veterinary hospitals</li> </ul>	All year Round	Research activities	Secretary Livestock
13.	Auqaf	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Cleanliness of Masjids &amp; Shrines</li> <li>Engage Ulema in public awareness campaigns during Friday Prayers.</li> <li>Develop partnership with Madaris to spread message through students and teachers</li> <li>Involve members of Ittehad Bain-ul-Muslameen.</li> <li>Distribute published material through masjids.</li> </ul>	All year round		Secretary Auqaf
14.	School Education	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Zero Periods in schools</li> <li>Changes in Curricula</li> <li>Display of charts in schools</li> <li>Health awareness campaigns</li> <li>Maintenance of vector free environment</li> <li>Enforcement of Uniform related instructions by government</li> <li>Supervision of private schools for implementation of directions on Dengue</li> </ul>	All year round		Secretary Education
15.	Social Welfare & Bait ul Maal	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Identification of NGOs, Opinion leaders for cleanliness campaigns</li> <li>Provision of manpower for health education.</li> <li>Social mobilization and volunteer involvement and</li> </ul>	All year round	Hold awareness seminars	DG Social Welfare

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
		channelization.			
16.	Transport	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Vector free environment in buses and other vehicles and bus &amp; truck stands under their jurisdiction</li> <li>Removal &amp; proper disposal of used tyres</li> </ul>	All year round		Secretary Transport
17.	Public Prosecution	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Prosecute the cases registered under anti-Dengue laws</li> </ul>	All year round		Prosecutor General Punjab
18.	Excise & Taxation	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round	Creation of awareness regarding indoor anti-Dengue activities during billing of property tax and registration of vehicles	DG Excise & Taxation
19.	Youth Affairs, Sports, Archaeology and Tourism	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Implementation of anti-Dengue measures in archeological sites, sports complexes, youth hostels, under their jurisdiction</li> </ul>	All year round	Involve youth and sportsmen in anti-Dengue activities.	Secretary Youth Affairs, Sports, Archaeology and Tourism
20.	Special Education	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Health awareness campaigns</li> <li>Maintenance of vector free environment</li> <li>Enforcement of Uniform related instructions by government</li> </ul>	All year round		Secretary Special Education
21.	Literacy and Non Formal Basic Education Department	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Display of charts</li> <li>Health awareness campaigns</li> <li>Maintenance of vector free environment</li> </ul>	All year round		Secretary Literacy and Non Formal Basic Education
22.	Zakat and Usher	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round	Awareness campaigns	Secretary Zakat &

Sr. No	Name of Department	Activity	Timeline/ Periodicity	Current Special Assignments	Responsibility
					Usher
23.	Planning & Development	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Chairman P&D
24.	Finance	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Finance
25.	Law and Parliamentary Affairs	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Law
26.	Population Welfare	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Anti-mosquito activities in facilities under their jurisdiction</li> <li>Awareness campaigns</li> </ul>	All year round		Secretary Population Welfare
27.	Women Development	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Women Development
28.	Management & Professional Development	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round	Arrange courses on anti-Dengue activities on demand	Secretary MPDD
29.	Industries, Commerce and Investment	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Awareness campaigns</li> <li>Anti-mosquito activities in facilities under jurisdiction of TEVTA.</li> </ul>	All year round		Secretary Industries
30.	Mines and Mineral	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Mines & Mineral
31.	Energy	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Energy
32.	Human Rights and Minorities Affairs	<ul style="list-style-type: none"> <li>House Keeping</li> </ul>	All year round		Secretary Human Rights & Minorities Affairs
33.	Information & Culture	<ul style="list-style-type: none"> <li>House Keeping</li> <li>Awareness campaigns</li> </ul>	All year round	Dengue ads to be displayed before each cinema show Theatres to provide 5 minutes awareness talk regarding dengue before the show	Secretary Information
34.	Federal agencies	<ul style="list-style-type: none"> <li>House keeping</li> <li>Awareness campaigns</li> </ul>	All year round		Heads of concerned

Sr. No	Name of Department	Activity	Timeline/Periodicity	Current Special Assignments	Responsibility
	working in Punjab				authorities