



## WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 49 Dec 02 - 08, 2019

Date: December 18, 2019

Provincial Technical Officers and fellows of FELTP assigned at the Disease Surveillance, Response Units (DSRU's) are working with provincial, and district health authorities on event based disease surveillance and outbreak response.

DSRUs are sharing the disease surveillance data, outbreak reports and activities of FELTP fellows to the Federal Disease Surveillance and Response Unit (FDSRU) at the Field Epidemiology and Disease Surveillance Division (FEDSD) National Institute of Health (NIH) Islamabad on weekly basis.

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**Table 1: Weekly and Cumulative Diseases Updates Dec 08, 2019**

Disease	Dec 02 - 08, 2019	Total Cases in 2019
1 CCHF	0	75
2 Varicella	16	1,206
3 Dengue	74	24,562
4 Chikungunya	0	0
5 Measles	29	6,666
6 Diphtheria	16	560
7 suspected/confirmed Seasonal Influenza	0	82

**Influenza Suspected/Confirmed:** In 2018, 3221 Suspected/confirmed Influenza cases reported from PDSRUs/RDSRUs. In week 49 of 2019, no new case reported.

### Diphtheria Surveillance:

During 2018 total **464** suspected cases of Diphtheria were reported. Total **560** cases reported in 2019 including **16** new case reported last week.

### Dengue Surveillance:

In 2018, total **3204** Dengue cases reported from Sindh (**2088**) while in 2019 total **24,410** cases have been reported so far. In week **49**, 2019, Punjab (**29**), Baluchistan (**45**), No report received from KP Merged Areas, ICT, KP, Sindh and AJK.

### CCHF Surveillance:

In 2018 total **63** CCHF (suspected and confirmed) cases were reported from DSRUs and **75** cases have been reported in 2019. During the last week, no new CCHF case reported.

**Table 2: Dengue cases reported in 2017, 2018 and month-wise distribution in year 2019(All provinces and regions)**

Month	KPK	Sindh	AJK	ICT	TDs - KP	Baluch	Punjab	Total
Jan-Dec 2017	18,857	2,884	6	120	406	86	579	22,938
Jan-Dec 2018	332	2088	1	0	175	69	539	3204
Jan-19	0	143	0	0	0	12	1	156
Feb-19	0	99	0	0	0	30	0	129
March-19	0	67	0	0	0	251	0	318
April-19	1	93	0	2	2	549	1	646
May-19	1	176	0	0	37	535	1	570
June-19	5	219	0	0	0	263	4	565
July-19	33	205	0	0	4	57	38	337
Aug-19	88	0	2	140	10	6	758	1004
Sept-19	2513	1935	504	2705	235	297	2714	10903
Oct-19	2430	0	0	0	1083	346	4630	8489
Nov-19	143	0	0	0	113	340	623	1219
Dec-19	0	0	0	0	0	45	29	74
<b>Total 2019</b>	<b>5214</b>	<b>2937</b>	<b>506</b>	<b>2847</b>	<b>1484</b>	<b>2731</b>	<b>8799</b>	<b>24,410</b>

**Extensive Drug Resistant/Multi Drug Resistant-Typhoid Fever Surveillance, Sindh**

From November 1, 2016 to Dec, 08, 2019 total **21,277** Typhoid Fever cases reported from different districts of Sindh province. Out of these **15006** cases found as Extensive Drug Resistant Typhoid cases.

**Table 3:** Reported XDR Typhoid Fever cases in Sindh by year (Nov 2016 –Dec, 08, 2019)

Year	Karachi	Hyderabad	Other Districts	Sindh Total
2016	0	12	0	12
2017	175	485	4	664
2018	3,712	891	207	4,810
2019	6955	1598	967	9,520

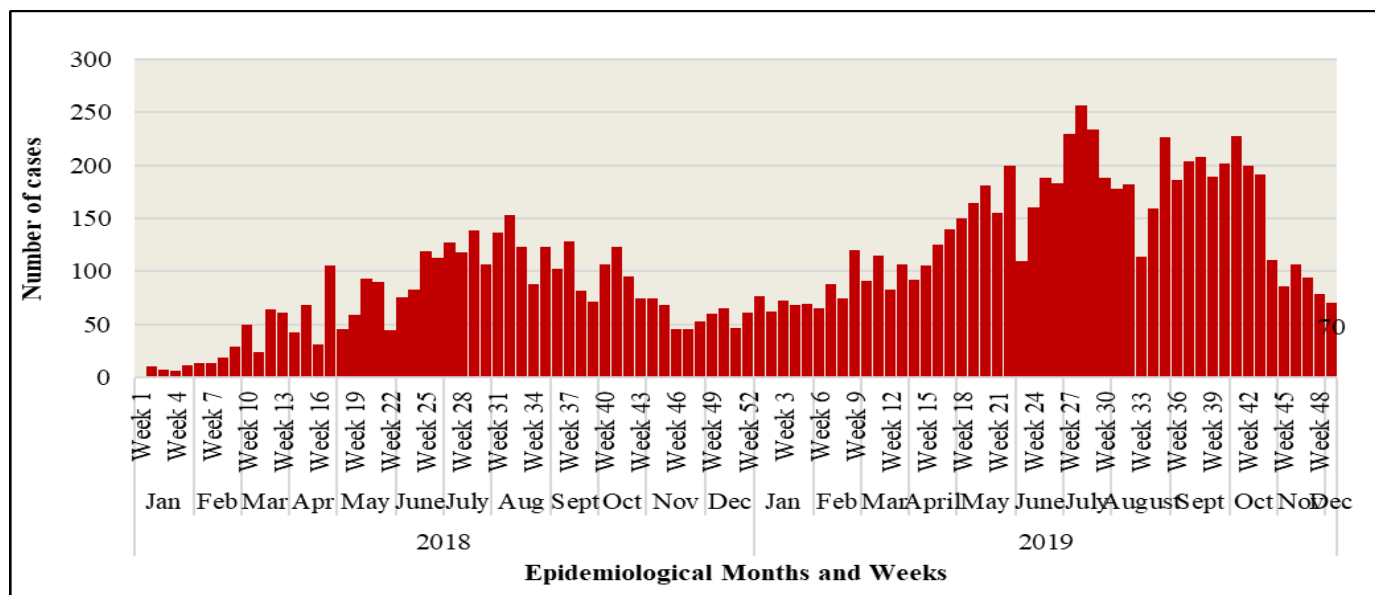
(up to December 08))				
Total	10842	2986	1178	15,006

**Update on Extensive Drug Resistant Typhoid Fever Karachi:**

Total **16,021** lab confirmed Typhoid cases reported from ten hospitals of Karachi. Out of these **10,842** recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to December 08, 2019.

In the week **49** of 2019, total **70** new XDR/MDR Typhoid Fever cases reported from different hospitals in Karachi.

**Fig 1:** Week wise number of XDR Typhoid fever cases in Karachi, 1st January 2018 to 08 December, 2019(Week 49)



Following cases, definitions were applied to categorize the Typhoid cases reported:

**Non Resistant typhoid fever:**

It is defined as Typhoid fever caused by *Salmonella Typhi* or *Salmonella Paratyphi A, B or C* strains, which are sensitive to first and second line drugs (ampicillin, chloramphenicol, trimethoprim-sulfamethoxazole, cefixime and ceftriaxone). Any isolate sensitive to first line drugs but resistant to fluoroquinolone group will also be considered as Non-Resistant typhoid.

**Multi-Drug Resistant (MDR) Typhoid fever:**

It is defined as Typhoid fever caused by *Salmonella Typhi* or *Salmonella Paratyphi A, B or C* strains which are resistant to the first line recommended drugs for treatment such as chloramphenicol, ampicillin and trimethoprim-sulfamethoxazole. The strain may be sensitive or resistant to fluoroquinolone group.

**Extensive Drug Resistant (XDR) Typhoid fever:**

It is defined as typhoid fever caused by *Salmonella typhi* strain which are resistant to first line drugs, fluoroquinolones and third-generation cephalosporin (Ceftriaxone)

The Technical Support Officer and the FELTP fellows of the Regional DSRU Karachi reached out to the major hospitals in the city and collected the Typhoid data from hospitals in whatever form it is available. They segregated and analyzed the data for the Drug resistance pattern.

The XDR Typhoid cases were reported mostly among the children and maximum number **4454** (41%) of the XDR cases were reported in the 0-4 years age group.

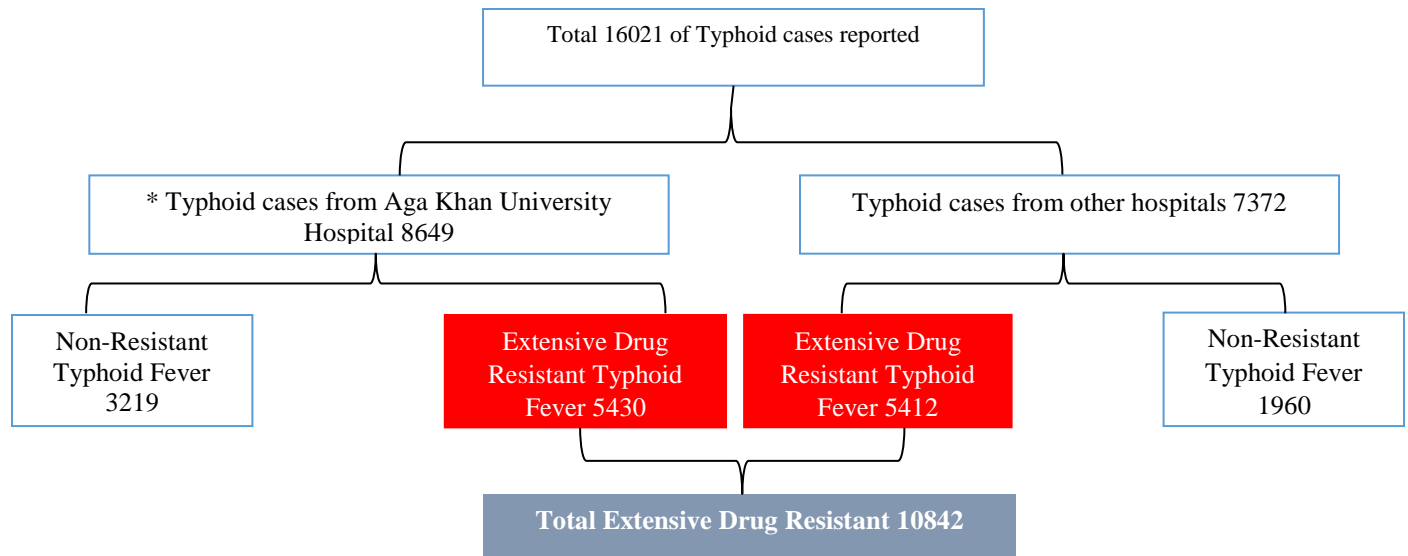
The overall attack rate was **54/100,000** population. Highest attack rate was found in 0-4 years age group i.e.163/100,000 followed by 5-9 years age group i.e. 119/100,000. Females had higher attack rate (65/100,000) as compared to males.

**Table 4:** Age and gender specific attack rates of XDR Typhoid reported from Karachi during January 1, 2017 to December 08, 2019

Age Group	Percentage of Population	Number of Population	Number of XDR Typhoid	Attack rate /100,000
0-4 Y	13.5	2726940	4454	163
5-9 Y	13.4	2706740	3227	119

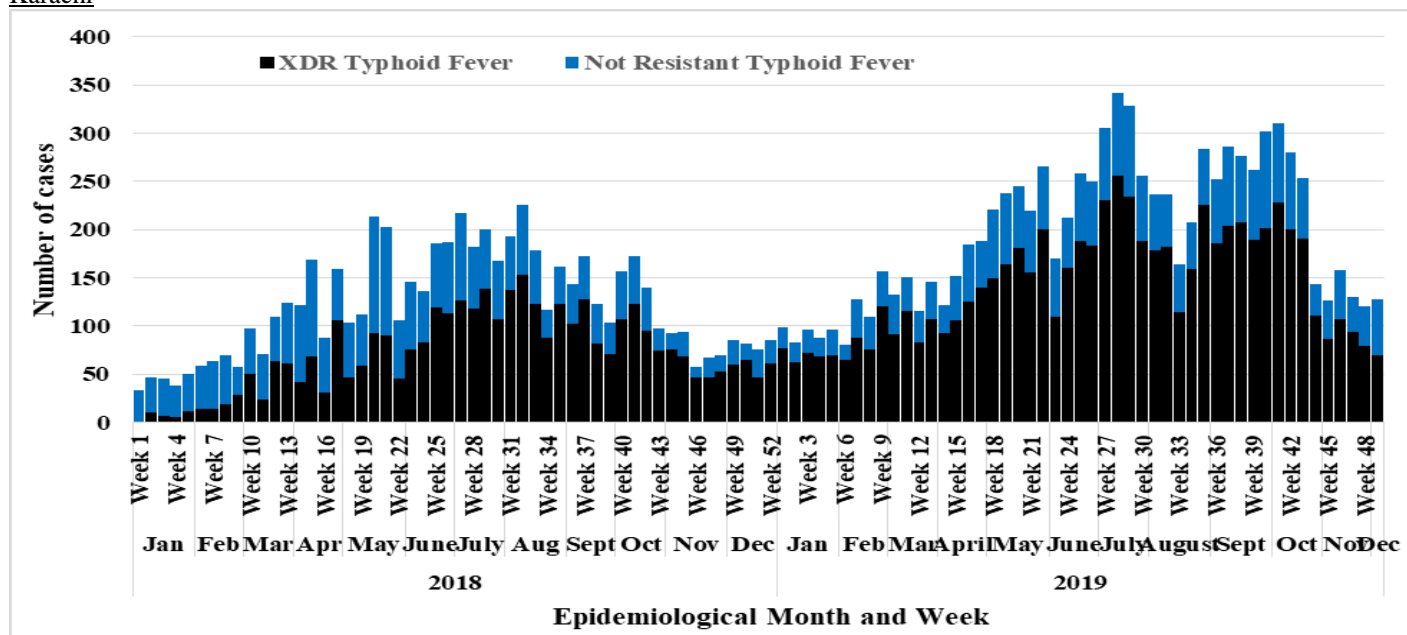
10-14 Y	12.1	2444146	1368	56
15-19 Y	11.3	2282550	681	30
20-24 Y	9.7	1959357	466	24
25-29 Y	8	1615964	277	17
30-34 Y	6.2	1252372	121	10
35-39 Y	5.4	1090776	60	6
40-44 Y	4.3	868581	46	5
45-49 Y	4	807982	43	5
50-54 Y	2.7	545388	36	7
55-59 Y	2.7	545388	22	4
60-64 Y	2.4	484789	22	5
>65	4.3	868581	19	2
Total	100	20199554	10842	54
Male	51	10301767	4379	43
Female	49	9897777	6463	65

**Fig 2:** Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to December 08, 2019 in Karachi



\* AKU does not share the complete susceptibility report of typhoid fever cases

**Fig 3: Time distribution of XDR and Non-Resistant Typhoid Fever cases reported from January 1, 2018 –December 08, 2019 in Karachi**



The highest Incidence Rate of the cases reported from five towns: Gulshan-e-Iqbal (AR=27.1/100,000), Saddar (16.6/100,000), North Nazimabad (AR 10.7/100,000), Malir (AR 10.1/100,000), and Gulberg (AR 9.7/100,000). While lowest Incidence was recorded in SITE town (AR=0.1/100,000).

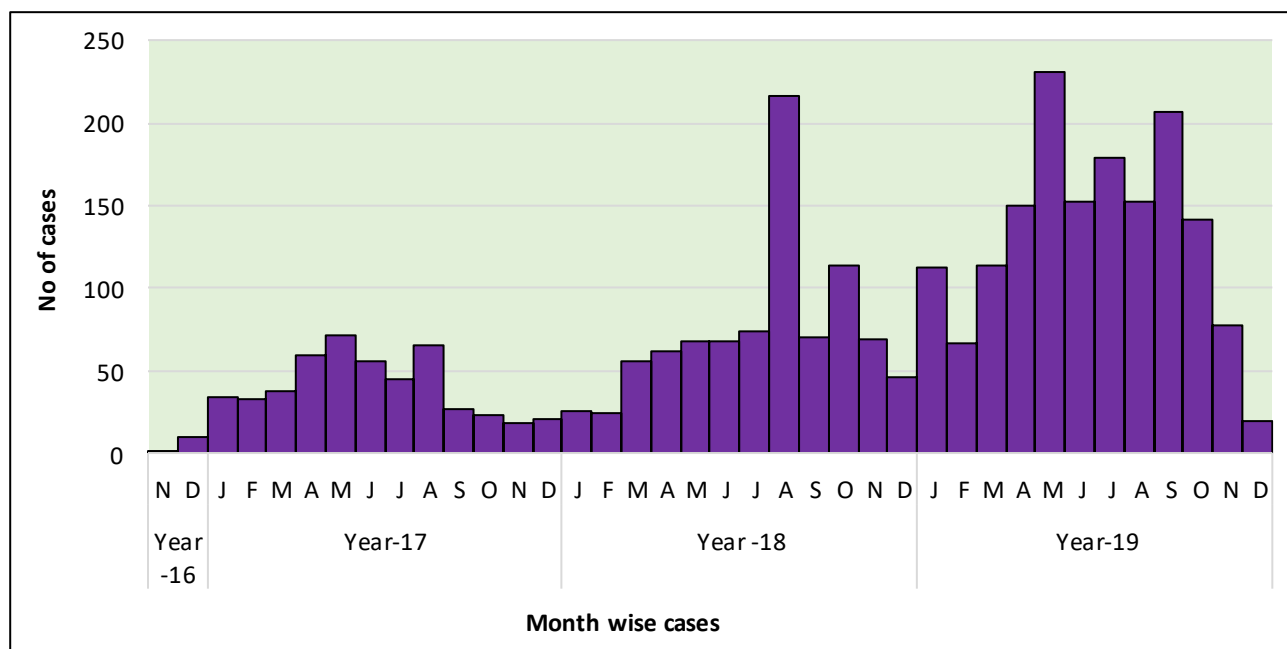
Reported by: *Dr Asif Syed TSO Karachi, Dr Anum Vigio and Dr. Ishfaq (fellows 10th Cohort)*

**2. Update on Extensive Drug Resistant Typhoid Fever - District Hyderabad**

The PDSRU Hyderabad at DGHS Sindh, Hyderabad is following up for the XDR/MDR Typhoid cases in District Hyderabad.

Total **5256** Salmonella Typhoid cases reported from the November 2016 to 07 December 2019 from different districts of Sindh province excluding Karachi. Among these **4164** were of extensive drug resistant cases. Among the total Extensive Drug resistance cases **2986 (72%)** XDR-cases are from District Hyderabad.

**Fig 4: XDR Typhoid cases reported by month from District Hyderabad Nov 2016 - December 08, 2019**



**Table 5: District wise (excluding Karachi) total Typhoid and XDR Typhoid cases in Sindh (Nov 2016 -Dec 08, 2019)**

S #	Name of District	Total Typhoid cases	No of XDR cases	% XDR cases
1	Hyderabad	3794	2986	71.7
2	Tando Alha Yar	22	16	0.4
3	Badin	142	102	2.4
4	Dadu	41	35	0.8
5	Kashmore	56	52	1.2
6	Ghotki	50	43	1.0
7	Mirpurkhas	353	284	6.8
8	Sukkur	96	75	1.8
9	Tharparkar	23	15	0.4
10	Sanghar	137	116	2.8
11	Nau sheroferoz	54	37	0.9
12	Shikarpur	43	38	0.9
13	Tando M Khan	2	2	0.0
14	Jamshoro	248	198	4.8
15	Umar Kot	6	5	0.1
16	Jacobabad	13	13	0.3
17	SBA	18	15	0.4
18	Larkana	68	58	1.4
19	Sujawal	10	5	0.2
20	Matiari	4	3	0.1
21	Thatha	14	13	0.3
22	Khairpur	62	53	1.3
<b>Total</b>		<b>5256</b>	<b>4164</b>	<b>79.2</b>

The most affected age group was 0 to 4 years n=1233 with attack rate 41.8per/10000 population followed by 5-9 years of age group n=905 with 30.9/ 10000 population. Over all attack rate is n=2986 with 13.7 /10000 population

**Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=2986)**

Age Group	XDR	Population	Attack rate
0-4 Year	1233	295146	41.8
5-9 Year	905	292960	30.9
10-14 Year	433	264538	16.4
15-19 Year	130	247048	5.3
20-24 Year	113	212068	5.3
25-29 Year	65	174901	3.7
30-34 Year	33	135548	2.4
35-39 Year	23	118058	1.9
40-44 Year	16	94009	1.7
45-49 Year	9	87451	1.0
50-54 Year	10	59029	1.7
55-59 Year	8	59029	1.4
60-64 Year	3	52470	0.6
>65	5	94009	0.5
	<b>2986</b>	<b>2186266</b>	<b>13.7</b>
<b>Male</b>	<b>1762</b>	<b>1106469</b>	<b>15.9</b>
<b>Female</b>	<b>1224</b>	<b>1079797</b>	<b>11.3</b>
<b>Total</b>	<b>2986</b>	<b>2186266</b>	<b>13.7</b>

**Actions Taken**

Mass immunization with Polysaccharide vaccination was done through child survival program to the eligible children and conjugate typhoid vaccine campaign was carried out in affected areas of district and until date total about 02 lakh and 10 thousands children from the age of 6 Months to 10 years have been vaccinated in Hyderabad.

**Sindh TCV Campaign – Report**

The Department of Health, Sindh initiated the typhoid conjugate vaccine (TCV) campaign from 18-30th November 2019 by Expanded Program on Immunization (EPI) with support of EOC and UN partner staff. At the end of two weeks campaign, the program aims to vaccinate over 10 million

children aged between nine months and 15 year. TCV campaign concluded on 30 November 2019.No further AEFI reported during week 49.

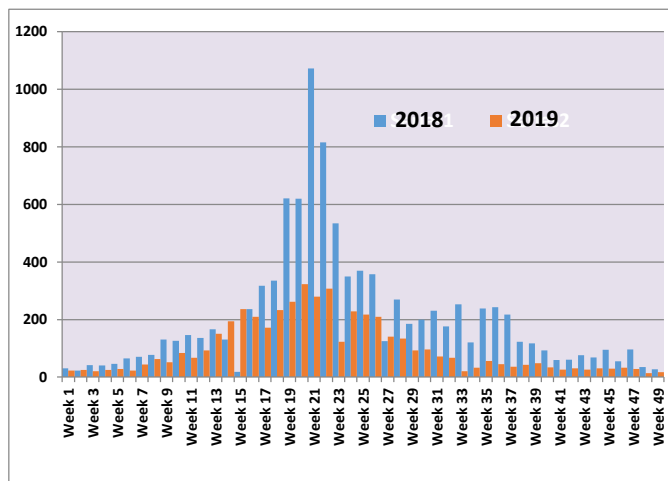
**Update on HIV Outbreak Investigation among Children in Taluka Ratodero, Larkana-April- 01 December 2019**

No updates for the week-49

**Update Measles Surveillance Report Punjab:**

The PDSRU Punjab is regularly assisting with data analysis and information sharing with the health department officials. During the period from week 1-52, 2018 a total of **11,991** suspected Measles cases were reported. The highest number of suspected Measles cases (**n=1072**) was recorded during the week 21, 2018. In week **49**, 2019, total **17** new cases of suspected Measles reported.

**Fig 5: Weekly suspected Measles Cases-Punjab (2018 and 2019)**



**Update /Follow-up Varicella Surveillance in Punjab:**

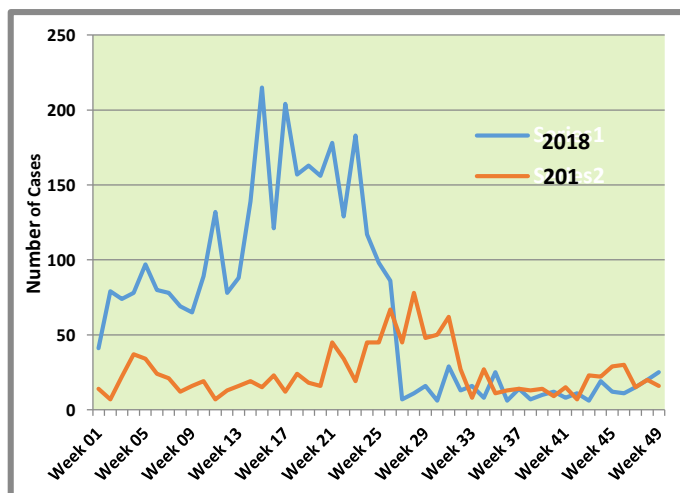
The total number of cases reported from Jan 01, 2018 till December 08<sup>th</sup>, 2019 is **4,579**.

**Table 7: Age specific attack rates of Varicella in Punjab in 2018-2019**

Age Group	Total number of Cases (2019)	of AR/100,000
0-4 Yrs.	1174	7
5-9 Yrs.	1586	8.6
10-14 Yrs.	753	4.9
15-19 Yrs.	306	2.2
20-24 Yrs.	235	2
25-29 Yrs.	158	1.6
30-34 Yrs.	135	1.8
35-Above	232	0.7
<b>Total</b>	<b>4579</b>	<b>3.5</b>

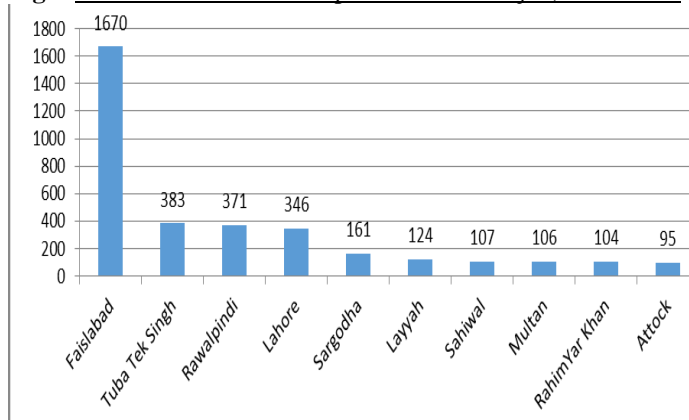
High attack rate was observed in children aged 5-9 yrs. (8.6 /100,000) followed by 0-4 yrs. age group (7.0/100,000).

**Fig 6: Comparative study of Varicella cases 2018 -2019**



The highest number of cases was reported from District Faisalabad. The cases are mostly from two locations (Thandiwallia and Jaharanwalla) in Faisalabad District.

**Fig 7: Distribution of Chickenpox Cases in Punjab, 2018-2019**



**Reported by: Dr Mohsan Wattoo TSO Lahore, Dr. Tahir Muneer, Dr. Shehzad Naseem (fellows 12th cohort)**

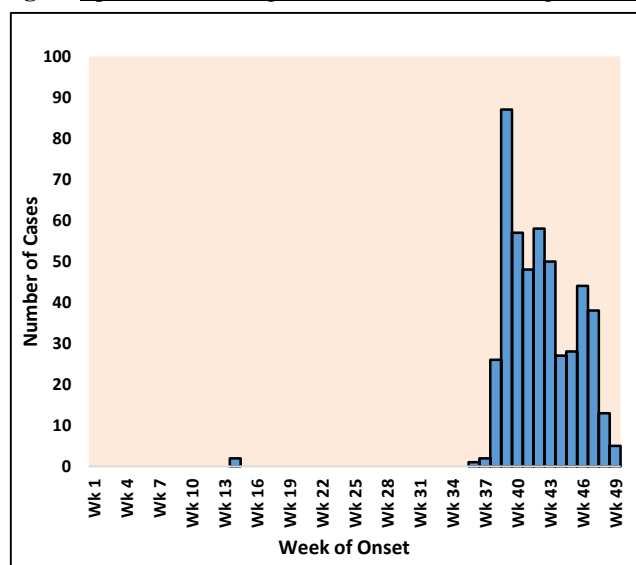
**Update on Dengue Outbreak Investigation in district lasbela-Baluchistan:**

A total of 502 dengue cases have been identified. During current week, five (05) new cases of dengue were reported. The mean age of dengue cases was 29 years with age range <1 year to 65 years. The male to female ratio was about 2:1. Majority of cases 47.9% (n=233) were among age group 16-30 years, followed by 33.9% (n=165) among 31-45 years age-group while 12.9% (n=63) were among 1-15 years of age group. The overall attack rate was 2.9/1000 Population.

**Table 8: Age group distribution of Dengue cases-Lasbela-Baluchistan**

Age Group (Years)	Cases (n=487)	Percentage (%)	Pop. of Age Group	Attack Rate/10000 Pop
< 1-15	63	12.9	74728	8.43
16-30	233	47.9	50526	46.11
31-45	165	33.9	39323	41.96
46-60	24	04.9	29607	8.11
61-75	1	00.1	11295	0.89

The epidemiological curve showing index case reported on week 36<sup>th</sup>, 2019, then the cases started reporting from 37<sup>th</sup> week of 2019 and peak was reached on 39<sup>th</sup> week 2019. There is decreasing trend in dengue cases after 42<sup>nd</sup> week 2019 due to control measures and decrease in temperature.

**Fig 8: Epi curve showing time distribution of Dengue cases**

Among the total 505 cases, males 66.53% (n=336) were more affected than female 33.47% (n=169).

Majority of confirmed Dengue case are reported from Union councils Berot, Vindor and Patara.

#### **Mosquito, Pupae & Larvae Survey:**

The entomological surveillance was also conducted in areas where clustering of dengue cases found in September 2019. The table below shows results of container and breteau index.

**Table 9: Breteau Index at Hub Town**

Name of Locality	Number of Containers	Container Positive	Container Index
Zehri street	21	3	14.3
Adalat Road	28	7	25.0
Madina Colony	32	11	34.4
Mehmood Abad	34	14	41.2

**Table 10: House Index at Hub Town**

Name of Locality	Number of Houses inspected	House Positive	House Index
Zehri street	26	3	11.5
Adalat Road	33	6	18.2
Madina Colony	35	9	25.7
Mehmood Abad	38	11	28.9

#### **ACTION TAKEN:**

1. FELTP, Department of Health and WHO mission visited and conducted dengue outbreak investigations at district Lasbela to support district health team in controlling current outbreak.
2. More than 100 Health Care workers have been trained on Aedes identification, detection and elimination including awareness sessions too.
3. The dengue cases management training of Health Care providers has been conducted at Hub and Uthal.
4. Awareness sessions (12) conducted in Community particularly for School and college students
5. An isolation wards for admission of dengue cases has been established with the all facilities at Jam Mir Ghulam Qadir Hospital Hub and DHQ Hospital Uthal.
6. Private hospitals are included in surveillance network and were reporting suspected and confirmed dengue cases on daily basis.

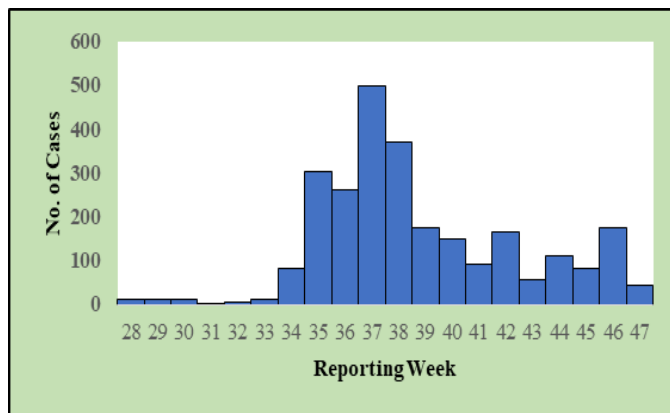
7. Weekly Epidemiological Report regularly shared with district and province Health Department for update and further necessary actions.
8. FELTP\_PDSRU, WHO, VBD and Health Department working on short and long terms measures to control dengue outbreak.
9. Provincial Disease Surveillance and Response Unit (PDSRU) Quetta declared as Dengue Response Unit Baluchistan
10. The VBD program has provided 2000 NS1 kits and 200 LLINs for outbreak response activities in district Lasbela.
11. The dengue surveillance system established and made functional in district Lasbela.
12. Larviciding, IRS and Fogging (Shoulder & ULV) in Hot spot of Hub chowki conducted

**Reported by: Dr Ehsan Ahmed Larik (TSO), Dr. Jan Inayat, Dr. Khair Mohammad & Dr. Zubair Bugti (Fellows 12<sup>th</sup> Cohort)**

**Update on Dengue Fever Surveillance-KP:**

In current week, no suspected or confirm dengue fever case reported across the province. In current dengue fever season majority of cases reported from district Peshawar. Total number of laboratory confirms cases were 7005. After the dengue fever epidemic of 2017, Dengue fever is endemic in district Peshawar considering the abundance of dengue fever risk factors which includes; Urban population, indoor storage of water and poor sanitation conditions. Since June, 2019 a total of 2695 laboratory confirmed cases have been reported from different health facilities of district Peshawar including major teaching hospitals/MTIs. In current week no suspected or confirm case reported. Cases started to rise in week 34 and achieved peak in week 36.

**Fig 9: Epi curve showing Dengue fever cases reported in KP**



Among high burden areas, Shiekh Mohammadi was most affected with over-all attack rate of 8.4 per 1000 population

**Table 11: Summary statistics of Dengue Fever cases Peshawar -KP**

Total number of Suspected / Confirm cases	2695
Most affected UC (Shiekh Mohammadi)	AR 8.4/1000 Population
Median Age	25 years (4 - 92)
Male female proportion	51% - 49%

Age groups of 15 – 19 and 25 – 29 years were most affected. Male cases were slightly higher than females with median age of 25 years.

Continuous response activities are being carried out across Peshawar specifically most affected union councils. Multi-sector response has been implemented involving all line-departments. Department of health is working on ‘‘Dengue Action Plan for 2019 – 2020’’ in consultation with all stake holders

**Reported by: Dr. Wasif Shah (TSO)**