



## WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 52 Dec 23 - 29, 2019

Date: January 07, 2020

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 29, 2019**

	Disease	Dec 23 - 29, 2019	Total Cases in 2019
1	CCHF	0	75
2	Varicella	10	1,264
3	Dengue	53	24,547
4	Chikungunya	0	0
5	Measles	23	6,781
6	Diphtheria	20	614
7	suspected/confirmed Seasonal Influenza	0	100

**Influenza Suspected/Confirmed:** In 2018, 3221 Suspected/confirmed Influenza cases reported from PDSRUs/RDSRUs. In week 52 of 2019, no new-suspected cases were reported from Punjab.

**Diphtheria Surveillance:** During 2018 total 464 suspected cases of Diphtheria reported. Total 614 cases reported in 2019 including 20 new case reported last week.

### Dengue Surveillance:

In 2018, total 3204 Dengue cases reported from Sindh (2088) while in 2019 total 24,547 cases reported so far. In week 52, 2019, Punjab (03), and Baluchistan (50) reported cases, while 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
19-Jan	0	143	0	0	0	12	1	156
19-Feb	0	99	0	0	0	30	0	129
19-Mar	0	67	0	0	0	251	0	318
19-Apr	1	93	0	2	2	549	1	646
19-May	1	176	0	0	37	535	1	570
19-Jun	5	219	0	0	0	263	4	565
19-Jul	33	205	0	0	4	57	38	337
19-Aug	88	0	2	140	10	6	758	1004
19-Sep	2513	1935	504	2705	235	297	2714	10903
19-Oct	2430	0	0	0	1083	346	4630	8489
19-Nov	143	0	0	0	113	340	623	1219
8-Dec	0	0	0	0	0	45	29	74
15-Dec	0	0	0	0	0	31	20	51
22-Dec	0	0	0	0	0	29	4	33
29-Dec	0	0	0	0	0	50	3	53
<b>Total 2019</b>	<b>5214</b>	<b>2937</b>	<b>506</b>	<b>2847</b>	<b>1484</b>	<b>2841</b>	<b>8826</b>	<b>24,547</b>

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

From November 1, 2016 to Dec, 29, 2019 total **21,681** Typhoid Fever cases reported from different districts of Sindh province. Out of these **15,284** cases found as Extensive Drug Resistant Typhoid cases.

**Table 3:** Reported XDR Typhoid Fever cases in Sindh by year (Nov 2016 –Dec, 29, 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

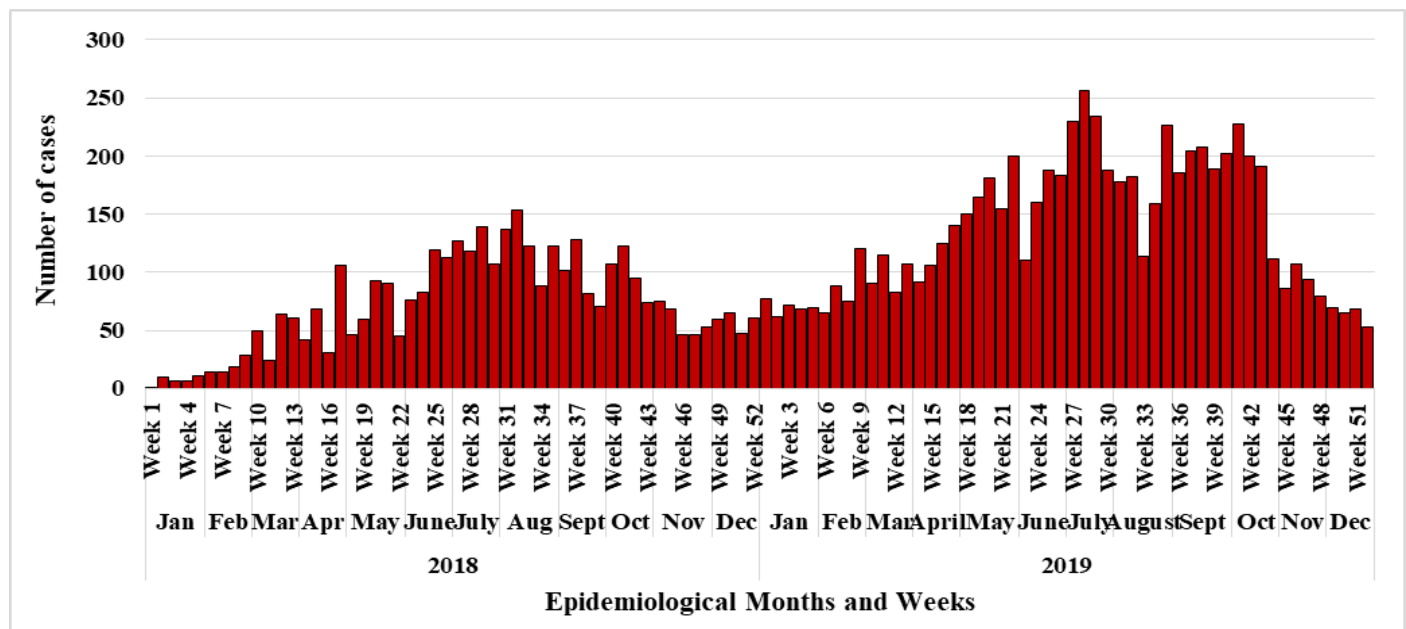
2019				
(up to December 29)	7141	1645	1012	9,798
Total	11,028	3033	1223	15284

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

Total **16,294** lab confirmed Typhoid cases reported from ten hospitals of Karachi. Out of these **11,028** recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to December 29, 2019.

In the week **52** of 2019, total **53** 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 29 December, 2019 (Week 52)



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 **4521** (41%) of the XDR cases were reported in the 0-4 years age group.

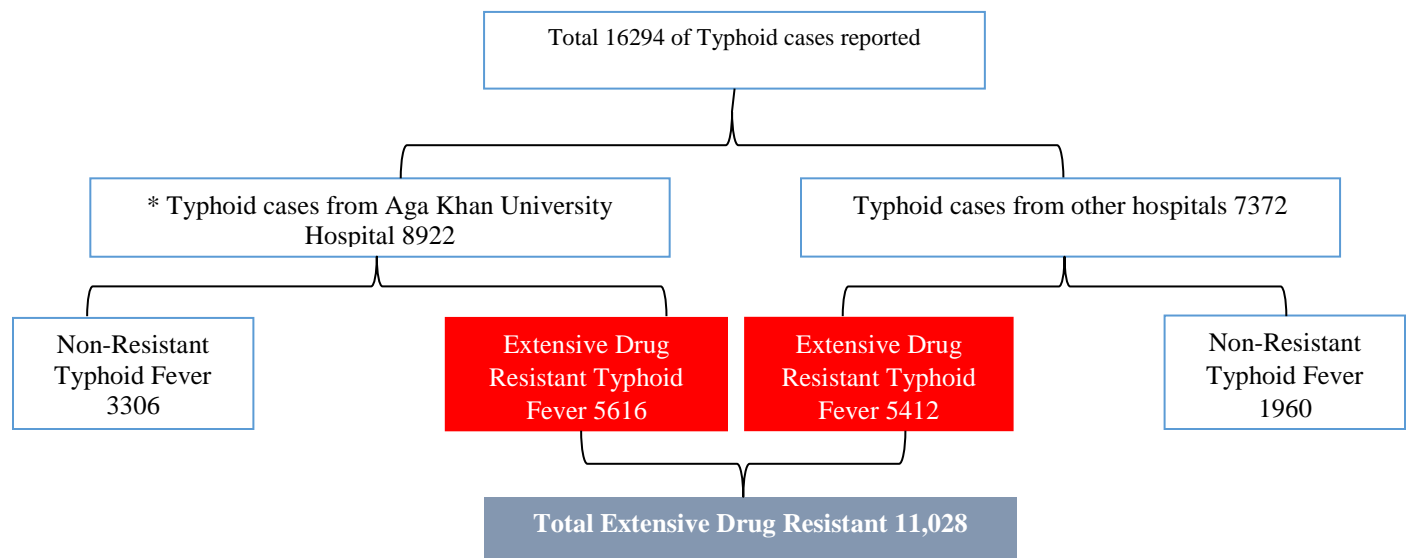
The overall attack rate was **55/100,000** population. Highest attack rate was found in 0-4 years age group i.e.166/100,000 followed by 5-9 years age group i.e. 121/100,000. Females had higher attack rate (66/100,000) as compared to males.

**Table 4: Age and gender specific attack rates of XDR Typhoid reported from Karachi during January 1, 2017 to December 29, 2019**

Age Group	Percentage of Population	Number of Population	XDR Typhoid	Attack rate / 100,000
0-4 Year	13.5	2726940	4521	166
5-9 Year	13.4	2706740	3277	121
10-14 Year	12.1	2444146	1389	57

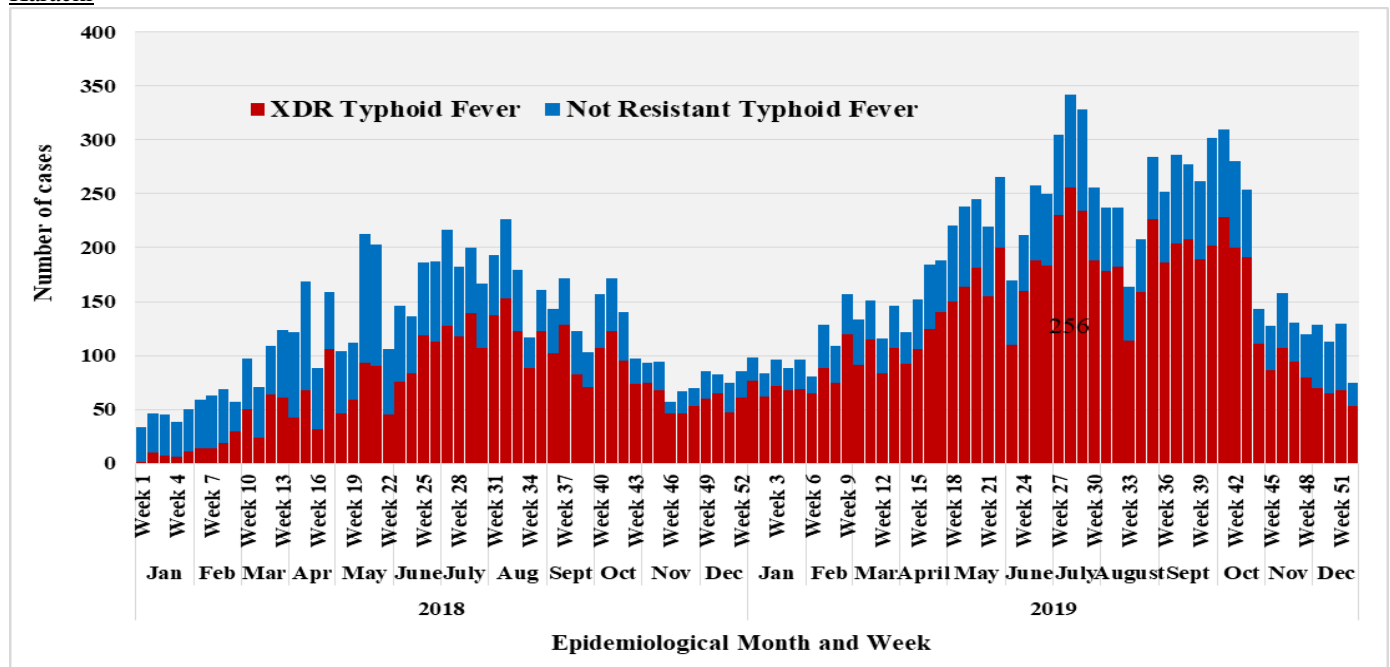
15-19 Year	11.3	2282550	694	30
20-24 Year	9.7	1959357	477	24
25-29 Year	8	1615964	284	18
30-34 Year	6.2	1252372	125	10
35-39 Year	5.4	1090776	60	6
40-44 Year	4.3	868581	47	5
45-49 Year	4	807982	44	5
50-54 Year	2.7	545388	38	7
55-59 Year	2.7	545388	22	4
60-64 Year	2.4	484789	22	5
>65	4.3	868581	19	2
<b>Total</b>	<b>100</b>	<b>20199554</b>	<b>11019</b>	<b>55</b>
<b>Gender</b>				
Male	51	10301767	4463	43
Female	49	9897777	6556	66

**Fig 2: Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to December 29, 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 29, 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).

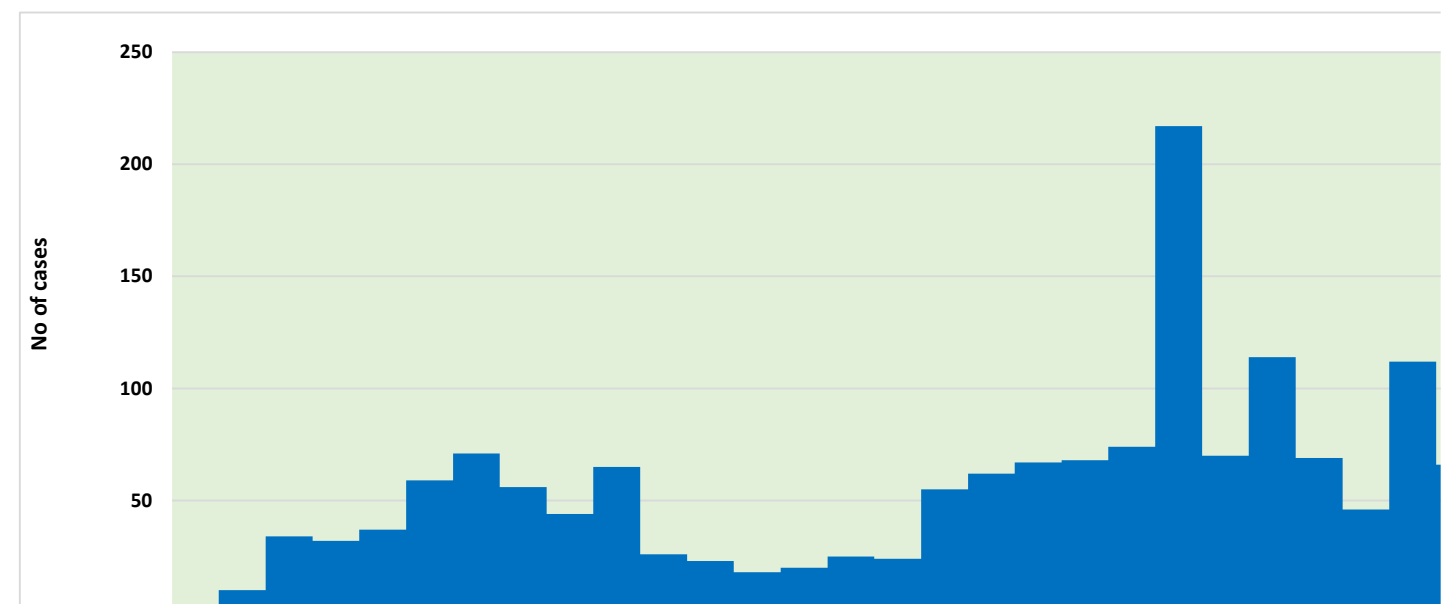
Reported by: *Dr Asif Syed TSO Karachi, Dr Anum Vigio and Dr. Ishfaqe (fellows 10th Cohort)*

**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 **5,387** Salmonella Typhoid cases reported from the November 2016 to 29<sup>th</sup> December 2019 from different districts of Sindh province excluding Karachi. Among them **n=4,242** were of Extensive Drug Resistant cases. Among the total Extensive Drug resistance cases; **n=3,033** (71.5%) XDR-cases are from District Hyderabad

**Fig 4: XDR Typhoid cases reported by month from District Hyderabad Nov 2016 - December 29, 2019**



**Table 5: District wise (excluding Karachi) total Typhoid and XDR Typhoid cases in Sindh (Nov 2016 -Dec 29, 2019)**

S #	Name of District	Total Typhoid cases	No of XDR cases	% XDR cases
1	Hyderabad	3882	3033	71.5
2	Tando Alha Yar	23	17	0.4
3	Badin	149	107	2.5
4	Dadu	47	38	0.9
5	Kashmore	60	54	1.3
6	Ghotki	56	46	1.1
7	Mirpurkhas	362	289	6.8
8	Sukkur	98	81	1.9
9	Tharparkar	24	16	0.4
10	Sanghar	142	118	2.8
11	Nau sheroferoz	55	39	0.9
12	Shikarpur	43	38	0.9
13	Tando M Khan	2	2	0.0
14	Jamshoro	248	199	4.7
15	Umar Kot	6	5	0.1
16	Jacobabad	14	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	1.2
		5387	4242	78.7

The most affected age group was 0 to 4 years n=1241 with attack rate 42/10,000 population followed by 5-9 years of age group n=913 with 31.2/ 10,000 population. Over all attack rate is 13.9 /10,000 population

**Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=3033)**

Age Group	XDR	Population	Attack rate
0-4 Year	1241	295146	42.0
5-9 Year	913	292960	31.2
10-14 Year	437	264538	16.5
15-19 Year	137	247048	5.5
20-24 Year	117	212068	5.5
25-29 Year	68	174901	3.9
30-34 Year	36	135548	2.7
35-39 Year	26	118058	2.2
40-44 Year	19	94009	2.0
45-49 Year	12	87451	1.4
50-54 Year	11	59029	1.9
55-59 Year	8	59029	1.4
60-64 Year	3	52470	0.6
>65	5	94009	0.5
	<b>3033</b>	<b>2186266</b>	<b>13.9</b>
Male	1788	1106469	16.2
Female	1245	1079797	11.5
	<b>3033</b>	<b>2186266</b>	<b>13.9</b>

**Actions Taken**

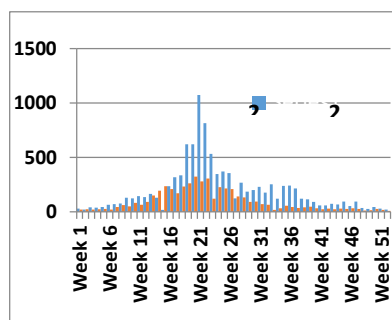
Mass immunization with Polysaccharide vaccination was done through child survival program to the eligible children and conjugate typhoid vaccine campaign was carried out in affected areas of district and until date total about 02 lakh and 10 thousands children from the age of 6 Months to 10 years have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

**Update on HIV Outbreak Investigation among Children in Taluka Ratodero, Larkana-April- 15 December 2019**

No updates for the week-49 - Week 52

**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 **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 52, 2019, total **11** 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 29<sup>th</sup>, 2019 is **4,637**.

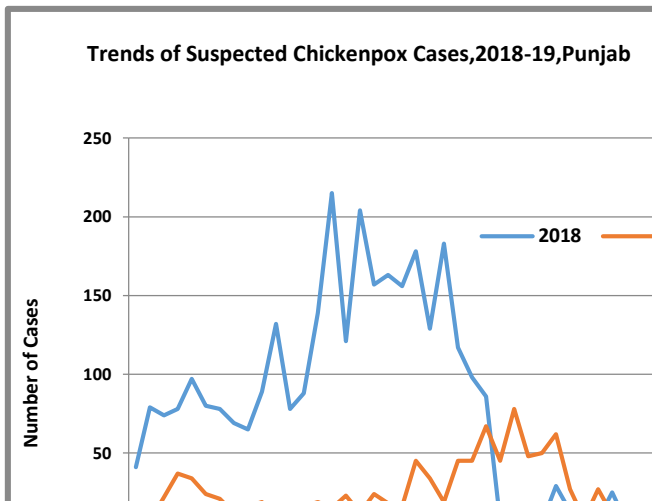
**Table 7: Age specific attack rates of Varicella in Punjab in 2018-2019**

Age Group	Total number of Cases (2019)	of AR/100,000
0-4 Yrs.	1193	7
5-9 Yrs.	1610	8.6

10-14 Yrs.	761	4.9
15-19 Yrs.	309	2.2
20-24 Yrs.	235	2
25-29 Yrs.	158	1.6
30-34 Yrs.	136	1.8
35-Above	235	0.7
<b>Total</b>	<b>4637</b>	<b>3.5</b>

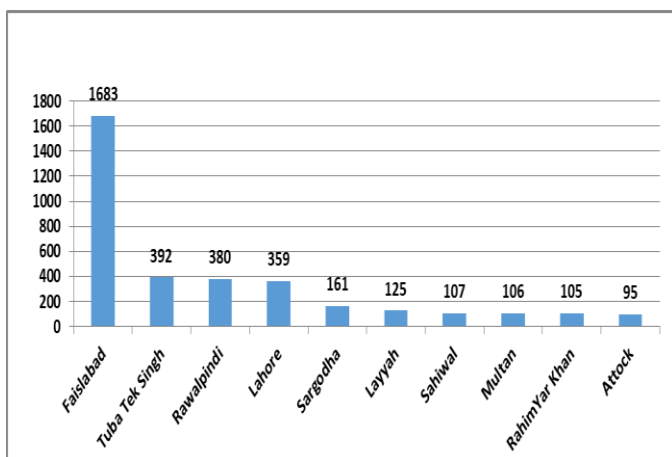
Highest attack rate was observed in children aged 5-9 yrs (8.6/100,000) followed by 0-4 yrs. age group (7.0/100,000).

**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:**

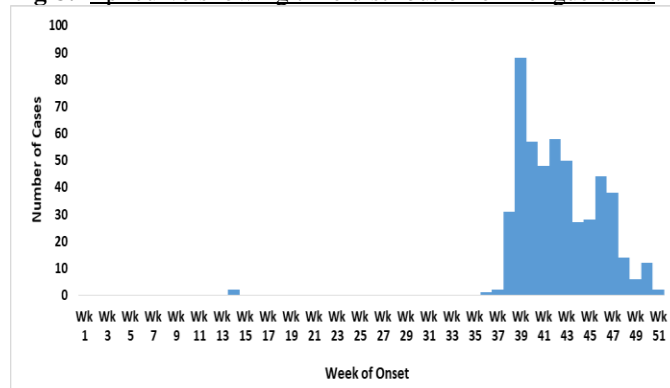
A total of 528 dengue cases have been identified. During current week, sixteen (16) new cases of dengue were reported. The mean age of dengue cases was 29 years with age range <1 year to 65 years. The male to female ratio was about 2:1. Majority of cases 48.3% (n=246) were among age group 16-30 years, followed by 33.4% (n=170) among 31-45 years age-group while 13.2% (n=67) were among, 1-15 years of age group. The overall attack rate was 3.0/1000 Population.

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

Age Group (Years)	Cases (n=509)	Percentage (%)	Pop. of Age Group	Attack Rate/10000 Pop
< 1-15	67	13.2	74728	8.97
16-30	246	48.3	50526	48.68
31-45	170	33.4	39323	43.23
46-60	24	04.7	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 528 cases, males 65.9% (n=348) were more affected than female 34.1% (n=179).

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	37.2

**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 7082 in 2019. 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 2699 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.