



WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 26 June 24-30, 2019

Date: July 01, 2019

Provincial Technical Officers and fellows of FELTP assigned at the Disease Surveillance and 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.

Table 2: Dengue cases reported by province / areas, total in 2017, 2018 and monthly updates, 2019

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	0	176	0	0	37	535	1	570
June-19	5	219	0	0	0	263	4	491
Total - 2019	6	728	0	0	39	1581	3	2490

CCHF Surveillance:

In 2018 total **63** CCHF (suspected and confirmed) cases were reported from DSRUs and **16** cases have been reported in 2019. During the last week one new CCHF case was reported.

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

From November 1, 2016 to June 30, 2019 total of **12,988** Typhoid Fever cases were reported from different districts of Sindh province. Out of these **8,777** were found as Extensive Drug Resistant Typhoid cases. The Drug Resistant cases are mostly reported from Karachi and District Hyderabad. The PDSRU Hyderabad and Regional DSRU Karachi are following up on the Drug Resistant cases in Sindh.

Table 3: Reported XDR Typhoid Fever cases in Sindh by year (Nov 2016 –June 30, 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 (June 16)	2316	653	322	3,060
Total	6203	2041	533	8,777

1. Update on Extensive Drug Resistant Typhoid Fever Karachi:

A total of **9724** lab confirmed Typhoid cases were reported from ten hospitals of Karachi. Out of these **6203** were recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to June 23, 2019.

In the week **26** of 2019, total **96** new XDR/MDR Typhoid Fever cases were reported from different hospitals in Karachi.

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Table 1: Weekly and Cumulative Diseases Updates June 30, 2019

	Disease	New cases June 24-30, 2019	Total Cases in 2019
1	CCHF	1	16
2	Varicella	67	691
3	Dengue	133	2488
4	Chikungunya	0	0
5	Measles	274	4754
6	Diphtheria	8	221
7	suspected/confirmed Seasonal Influenza	0	81

Influenza Suspected/Confirmed:

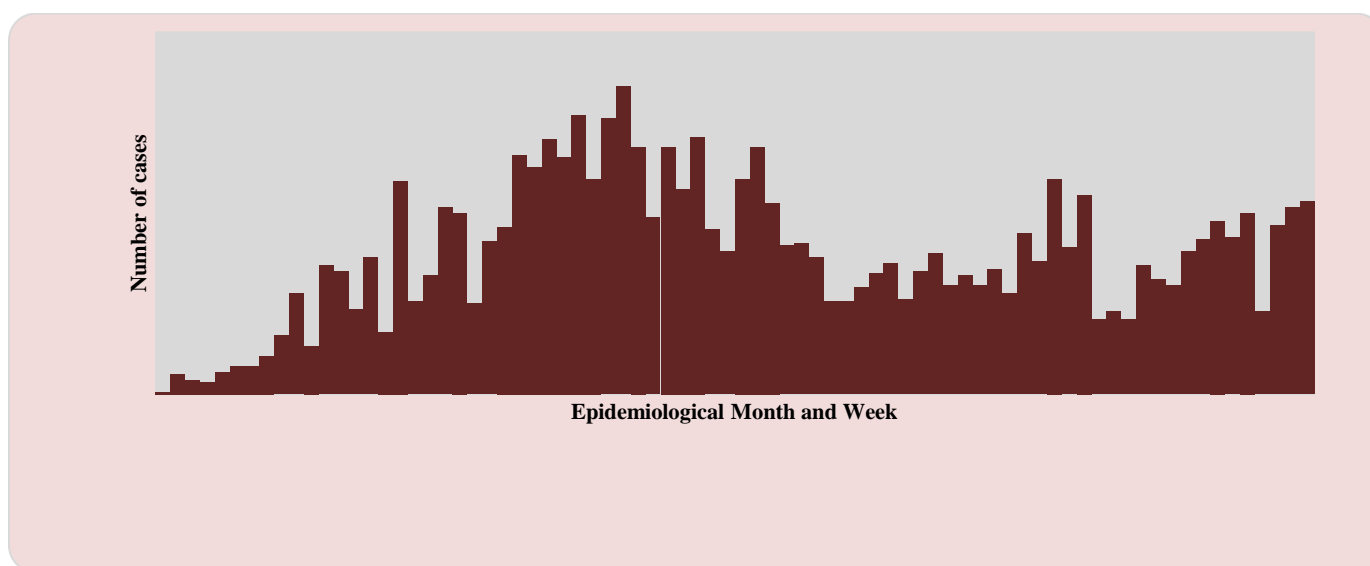
In 2018, 3221 Suspected/confirmed Influenza cases were reported from PDSRUs/RDSRUs. In week 26, 2019, no new case was reported.

Diphtheria Surveillance:

During 2018 total **464** suspected cases of Diphtheria were reported. Total **221** cases reported in 2019 and **eight** new case reported last week.

Dengue Surveillance:

In 2018 total **3204** Dengue cases were reported, from Sindh (**2088**) Baluchistan (**69**), Punjab (**539**), KP (**332**) and Tribal Districts KP (**175**), AJK (**1**). In 2019 total **2488** cases have been reported so far. In week 26, 2019, **133** new cases were reported from Punjab (**4**), Sindh (**69**), KP (**1**) and Baluchistan (**59**).

Fig 1: Time distribution of reported XDR Typhoid cases in Karachi for the year 2018 – June 30, 2019

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 **1271** (21%) of the XDR cases were reported in the 3-4 years age group.

The overall attack rate was **31/100,000** population. Highest attack rate was found in 3-4 years age group i.e. 91/100,000 followed by 1-2 years age group i.e. 83/100,000. Males had higher attack rate (36/100,000) as compared to females

Table 4: Age and gender specific attack rates of XDR Typhoid reported from Karachi during January 1, 2017 to June 30, 2018

Age Group	Percentage of Population	Number of Population	XDR Typhoid	Attack rate /100,000
0-11 Month	3.4	686,785	119	17
1-2Y	7.6	1,535,166	1271	83
3-4Y	6.7	1,353,370	1234	91
5-6Y	5.6	1,131,175	792	70
7-8Y	5.1	1,030,177	761	74
9-10Y	5.2	1,050,377	459	44
11-12Y	4.4	888,780	386	43
13-14Y	4.4	888,780	169	19
15-24	20.4	4,120,709	632	15
25-34Y	13	2,625,942	229	9
35-44Y	11	2,221,951	66	3
45-54Y	7.5	1,514,967	41	3
55-64Y	3.7	747,383	27	4
>65	1.99	401,971	17	4
Total	99.99	20,199,554	6203	30
Female	49	9,897,781	2469	25
Male	51	10,301,772	3734	36

Fig 2: Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to June 30, 2019 in Karachi

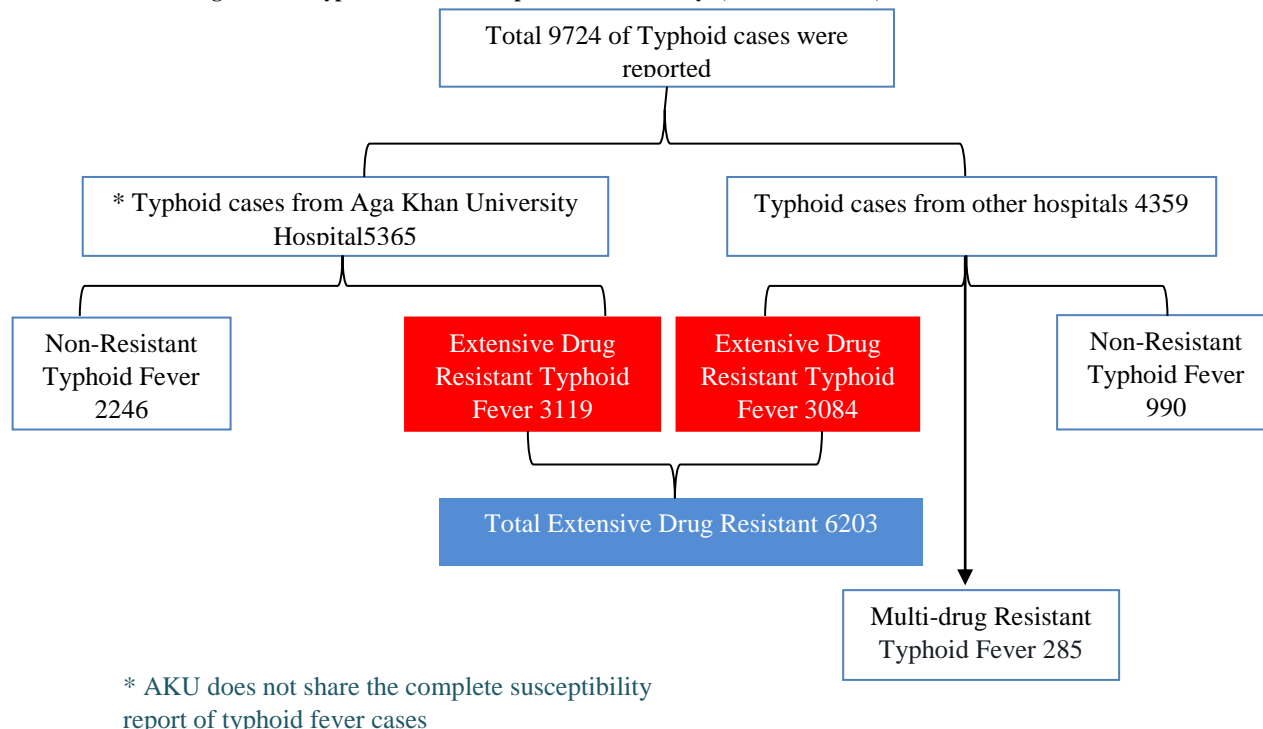
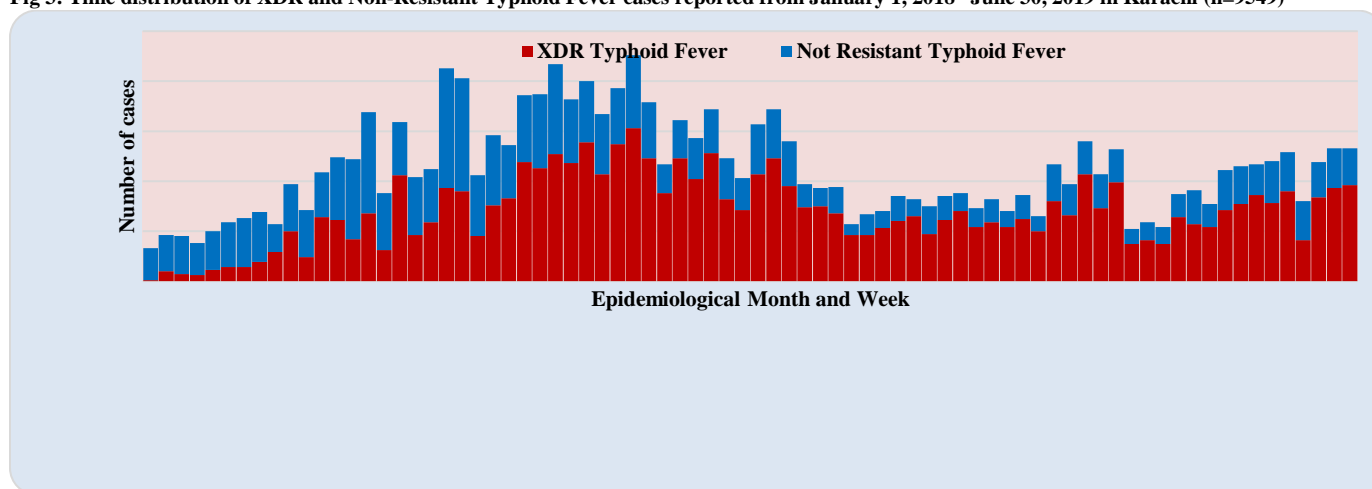


Fig 3: Time distribution of XDR and Non-Resistant Typhoid Fever cases reported from January 1, 2018 –June 30, 2019 in Karachi (n=9549)



The highest Incidence Rate of the cases was reported from 5 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), Gulberg (AR 9.7/100,000) and Liyari (AR 8.1/100,000). While lowest Incidence was recorded in SITE town (AR=0.1/100,000).

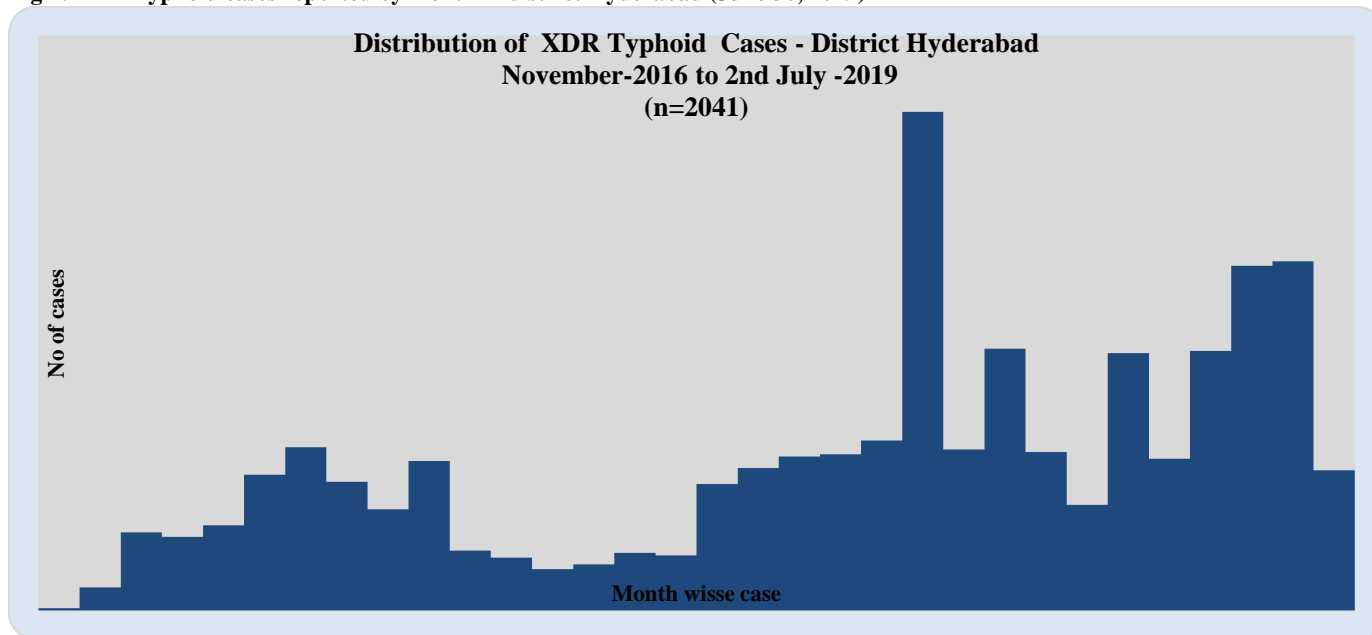
Reported by: *Dr Asif Syed TSO Karachi, Dr Anum Vigio and Dr. Ishfaqe (fellows 10th Cohort)*

2. Update on Extensive Drug Resistant Typhoid Fever in district Hyderabad:

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

From November 2016 to June 30, 2019, a total of **3264** Typhoid cases were reported at the PDSRU Hyderabad from different districts of Sindh province excluding Karachi. Out of these **2,574** are Extensive Drug Resistant (XDR) cases.

Among all reported XDR cases, **2041 (79.3 %)** were from District Hyderabad only.

Fig 4: XDR Typhoid cases reported by month in district Hyderabad (June 30, 2019)**Table 5: District wise (excluding Karachi) total Typhoid and XDR Typhoid cases in Sindh (Nov 2016 – June 30, 2019)**

Name of District	No of Typhoid Fever Cases	XDR cases	% XDR
Hyderabad	2597	2041	79.3
Tando Allah Yar	11	8	0.3
Badin	98	64	2.5
Dadu	24	20	0.8
Kashmore	13	13	0.5
Ghotki	18	17	0.7
Mirpurkhas	200	158	6.1
Sukkur	35	32	1.2
Tharparkar	5	3	0.1
Sanghar	58	51	2.0
Nau sheroferoz	24	14	0.5
Shikarpur	22	21	0.8
Tando M Khan	1	1	0.0
Jamshoro	96	79	3.1
Umar Kot	4	4	0.2
Jacobabad	2	2	0.1
SBA	11	8	0.3
Larkana	27	21	0.8
Sujawal	2	2	0.1
Jacobabad	1	1	0.0
Thatha	4	4	0.2
Khairpur	11	10	0.4
Total	3264	2574	78.9

age group (n=649) 21.9/10000. Overall attack rate is 9.3/10,000.

Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=2041)

Age Group	XDR	Population	Attack rate/10000
0-23 Month	138	118771	11.6
2-4 Year	705	178157	39.6
5-9 Year	649	294728	22.0
10-14 Year	314	266135	11.8
15-19 Year	78	248539	3.1
20-24 Year	60	213348	2.8
25-29 Year	32	175957	1.8
30-34 Year	19	136367	1.4
35-39 Year	18	118771	1.5
40-44 Year	9	94577	1.0
45-49 Year	3	87979	0.3
50-54 Year	7	59386	1.2
55-59 Year	6	59029	1.0
60-64 Year	1	52787	0.2
>65	2	94577	0.2
Total	2041	2199107	10.9
Male	1218	1112968	7.6
Female	823	1086139	9.3

The most affected age group was 2-4 years (n=705) with Attack Rate 39.6/10,000 of population followed by 5-9 years of

Environment and water Assessment:

Out of 61 water sample taken; 39 showed E.coli in high quantity. Five samples showed the presence of Streptococci-I (Source: AKU team)

In 9 out of 13 (69 %) of the water samples from the cases household, coliforms and/ or thermo-tolerant E.coli were isolated from the household drinking water. On molecular analysis using PCR on extracted DNA from 55 water samples collected from community taps S. Typhi DNA was detected in 12 (21.8 %) samples.

Actions Taken:

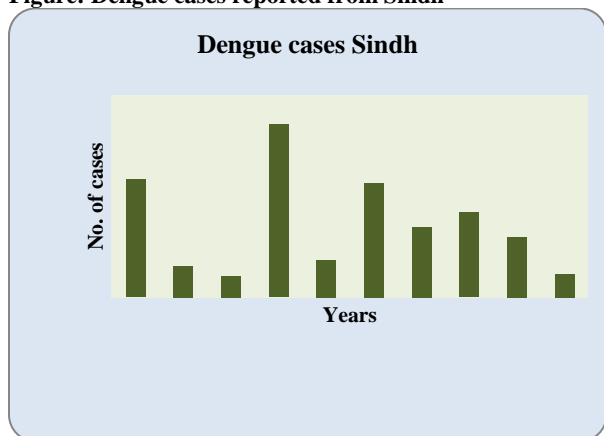
- Total **210,000** children between 6 months to 10 years age in Hyderabad high risk areas have been vaccinated for Typhoid
- Sensitization sessions with general practitioners
- Chlorine tablets were distributed to household in the affected areas of Hyderabad district

Reported by: *Dr Naveed Memon TSO Hyderabad, Dr Santosh, Dr Munaza (fellow, 11th cohort), Dr Mudassar (alumnus, 9th cohort)*

Update on Dengue Surveillance Sindh:

In week 25, **69** new Dengue cases were reported. Till week 26, 2019 total 807 cases and one death had been reported from Sindh.

Figure: Dengue cases reported from Sindh

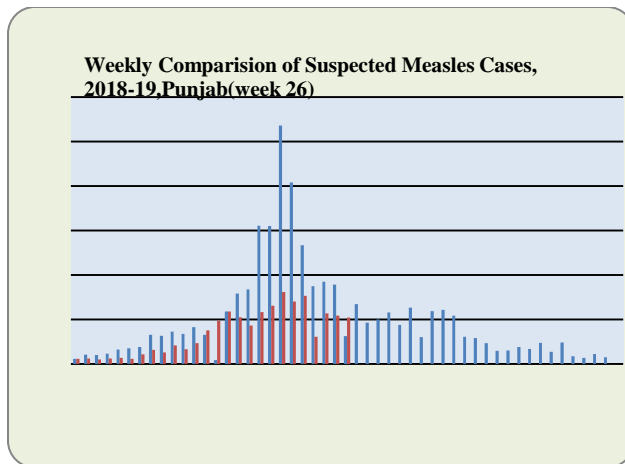


Update Measles Surveillance Report Punjab:

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 26, 2019, total **209** new cases of suspected Measles were reported.

Fig 6: Weekly suspected Measles Cases-Punjab (2018 and 2019)



Update /Follow-up Varicella Surveillance in Punjab:

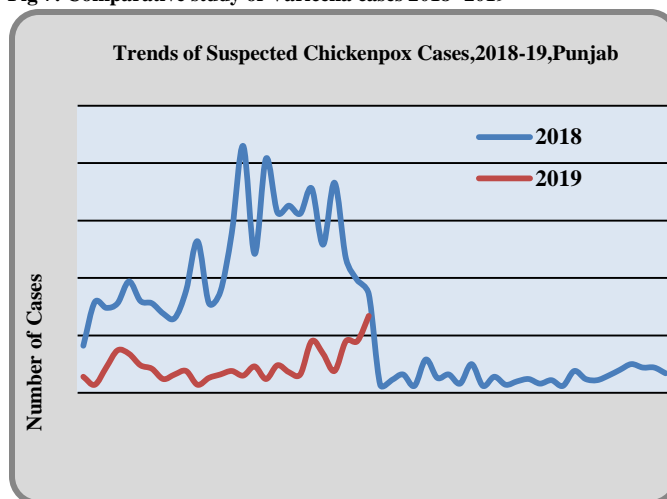
The total number of cases reported from Jan 01, 2018 till June 30, 2019 is **3,953**.

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

Age Group	Total number of Cases (2019)	AR/100,000
0-4 Yrs.	1034	7.0
5-9 Yrs.	1318	8.6
10-14 Yrs.	668	4.9
15-19 Yrs.	272	2.2
20-24 Yrs.	209	2.0
25-29 Yrs.	132	1.6
30-34 Yrs.	119	1.8
35-Above	201	0.7
Total	3953	3.5

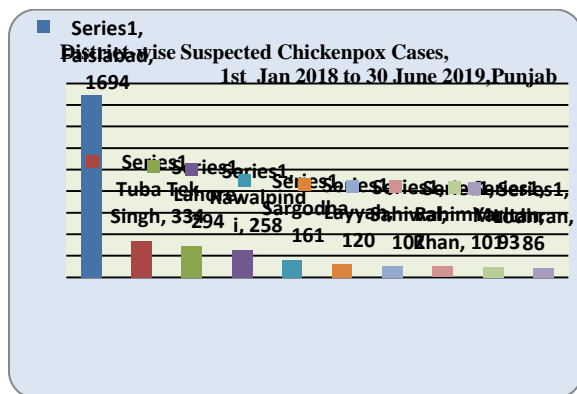
High attack rate was observed in children aged 5-9 yrs. (8.6 /100,000) followed by 0-4 yrs. age group (7.0/100,000).

Fig 7: Comparative study of Varicella cases 2018 -2019



The highest number of cases were reported from District Faisalabad (n=1694). The cases are mostly from two locations (Thandiwallia and Jaharanwalla) in Faisalabad District.

Fig 8: Distribution of Chicken pox Cases in Punjab, 2018-2019

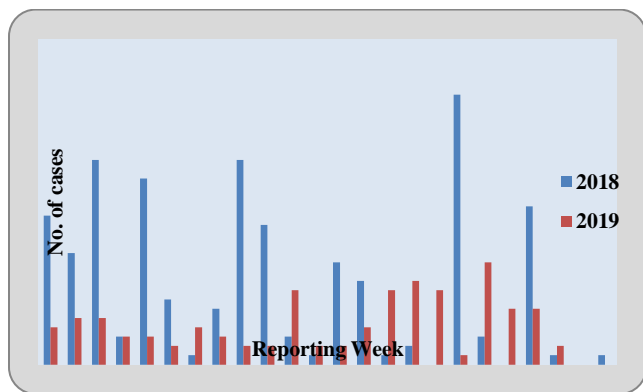


Reported by: *Dr Mohsan Wattoo TSO Lahore,*

Update on Measles Surveillance KP:

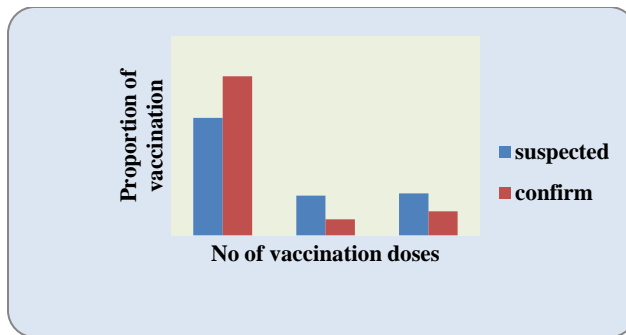
In current week, 46 suspected cases reported across province through online EPI MIS software. Suspected cases being reported sporadically from different health facilities of province. Total number of suspected cases are 803 with 100 Lab confirm cases. Clustering of cases not identified in any area.

Figure: Reported Measles cases-KP (2018-19)



Among positive cases 37% (n=37) cases being reported from district D I Khan. Overall, 82% (n=82) confirm cases were zero dose, 8% (n=8) received Measles 1 and 10% (n=10) received booster dose. Furthermore, among 82 lab confirmed cases aged more than 9 months, 78% (n=64) were zero dose as per information shared online by EPI staff of district. Overall among suspected cases, 61% (n=433) are zero dose. Further, among 558 suspected cases aged more than 9 months, 52% (n=291) were zero dose.

Fig 8: vaccination status of Measles cases-KP



Case response activities were carried out in affected localities with mopping up vaccination.

Table 8: Summary statistics of Measles cases in KP

Median age with Rang in Months (Lab Confirm)	18 Months (07 - 48)
Median age with Rang in Months (Suspected)	18 Months (0 - 360)
Proportion of Male & Female cases (Confirm)	61% & 39%
Proportion of Male & Female cases (Suspected)	64% & 36%
No. of Lab confirm cases	14% (n=100)
Epi Linked positive cases	15% (n=10)

Update on Dengue Outbreak Baluchistan:

During the last week, 59 more dengue cases were reported from District Kech.

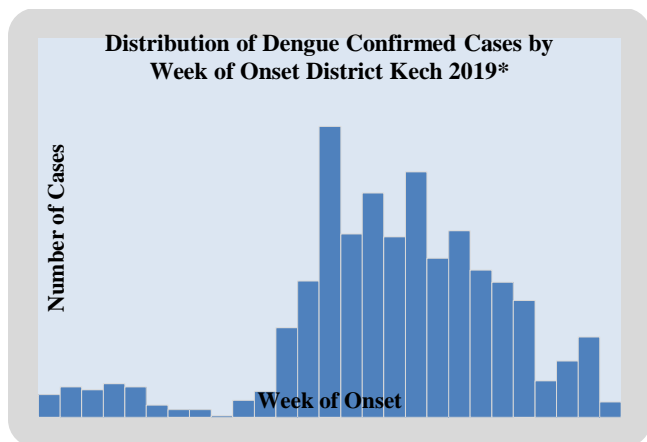
A total of 1648 confirmed cases of dengue have been recorded (Case Fatality Rate=1.8/1000 population). The mean age of dengue cases was 28 years with age range 1 year to 80 years. The male to female ratio was about 2:1. Majority of cases 55.8% (n=816) were among age group 16-30 years, followed by 25.3% (n=370) among 31-45 years age-group while 9.9% (n=145) were among, 1-15 years of age group. The overall attack rate was 7.7/1000 Population.

Table 9: Age wise attack rate of Dengue-Baluchistan

Age Group (Years)	Cases (n=1463)	Percentage (%)	Pop of that Age Group	Attack Rate/10000 Pop
< 1-15	145	9.9	88861	1.63
16-30	816	55.8	59390	13.74
31-45	370	25.3	33571	11.02
46-60	121	8.3	20523	5.89
61-75	9	0.6	9183	0.98
76-90	2	0.1	6782	0.29

Serotyping was done on five samples from Gwadar and Kech district and all were reported DNV-1

Fig 9: Dengue confirmed cases by week of onset Baluchistan

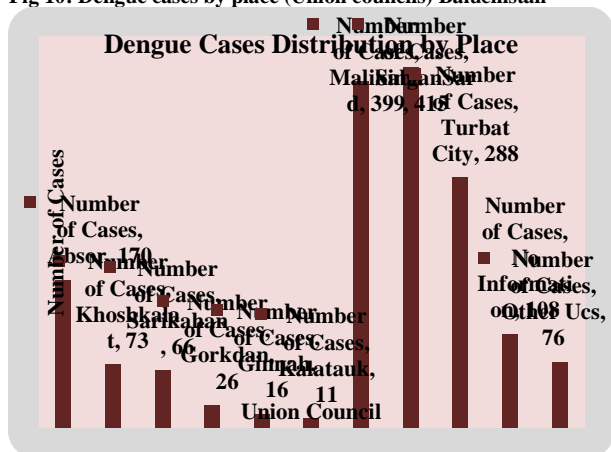


The suspected CCHF case was admitted at FJCGHQ on 28-6-2019, 26th epidemiological week. A 20 years old male from City Lashkar Gah, Helmand Province of Afghanistan with onset of symptoms (fever, body aches, generalized weakness, vomiting and nasal bleeding) on 18-06-2019. He is a Butcher by profession. The Aga Khan University Hospital Laboratory reported blood tests positive for CCHF on 30-6-2019. The condition of patient was not stable and platelets counts were 34000 on admission. The All his contacts including the health care providers were stable at the moment, the patient is stable now with the platelets counts 120000. The staff will be followed up for 14 days.

Reported by Dr. Ehsan Ahmed Larik (TSO),

Majority of confirmed Dengue case are reported from Union councils Singansar, Malikabad, Turbat city and Absor. For 108 cases the location was not mentioned while 74 cases were reported from other Union councils in the district.

Fig 10: Dengue cases by place (Union councils) Baluchistan



Actions taken so far to control Outbreak:

- FELTP, Department of Health and WHO mission conducted the field investigations and support district health team in controlling current outbreak at Kech, Gwadar and Lasbella.
- More than 50 Health Care workers have been trained on to identify and eliminate the Aedes breeding sites.
- Vector control Program Balochistan provided District Health Office NS1 and insecticides for IRS and Larviciding.
- Awareness sessions continuously conducted in the Community particularly for School and college students
- IRS and Larviciding activities still continue.
- Private hospitals are included in surveillance network and were reporting suspected and confirmed dengue cases on daily basis.

Update on CCHF cases-Baluchistan:

One (1) Suspected CCHF case was reported during week 26, from Fatima Jinnah Chest & General Hospital Quetta. The sample of suspected case was found positive for CCHF virus by the laboratory. The case investigation was conducted by Fellow 12th Cohort at FJCGHQ. The details are as under;