



WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 25 June 17-23, 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	4	150	0	0	0	204	0	358
Total - 2019	6	728	0	0	39	1581	3	2357

CCHF Surveillance:

In 2018 total **63** CCHF (suspected and confirmed) cases were reported from DSRUs and 11 cases have been reported in 2019. During the last week three new CCHF case was reported.

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

From November 1, 2016 to June 23, 2019 total of **12,818** Typhoid Fever cases were reported from different districts of Sindh province. Out of these **8,656** 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 10, 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)	2220	636	314	3,060
Total	6107	2024	525	8,656

1. Update on Extensive Drug Resistant Typhoid Fever Karachi:

A total of **9591** lab confirmed Typhoid cases were reported from ten hospitals of Karachi. Out of these **6107** were recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to June 23, 2019.

In the week **25** of 2019, total **93** 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 23, 2019

Disease	New cases June 17-23, 2019	Total Cases in 2019
1 CCHF	3	15
2 Varicella	45	624
3 Dengue	110	2357
4 Chikungunya	0	0
5 Measles	262	4480
6 Diphtheria	1	213
7 suspected/confirmed Seasonal Influenza	0	81

Influenza Suspected/Confirmed:

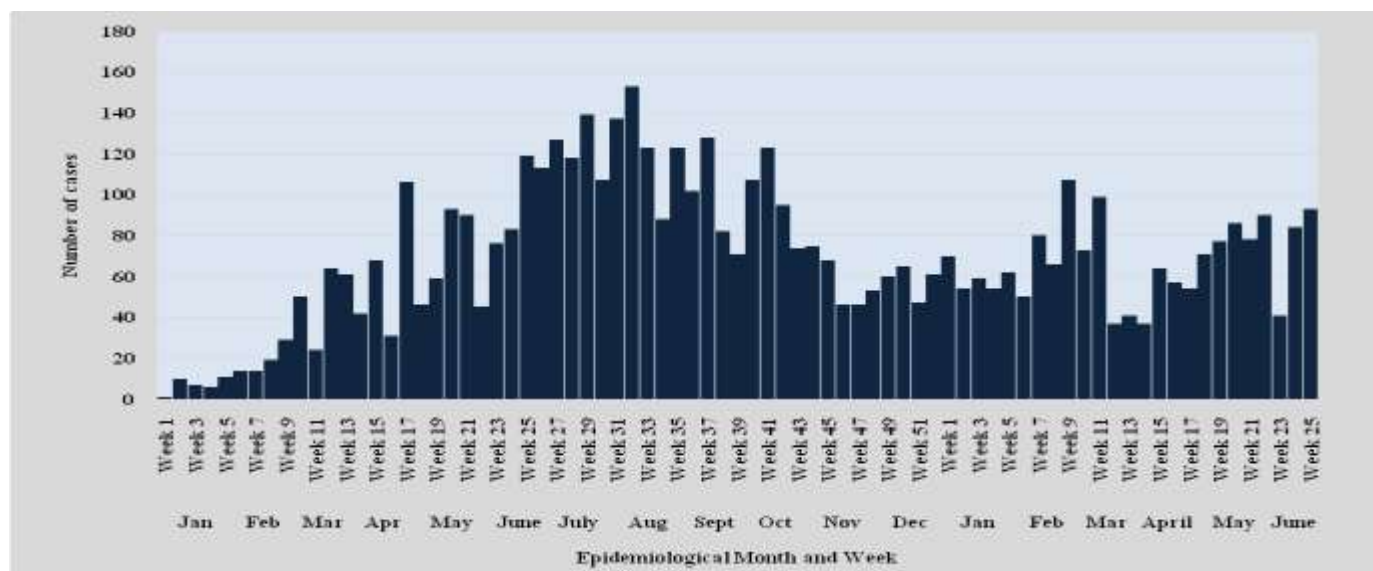
In 2018, 3221 Suspected/confirmed Influenza cases were reported from PDSRUs/RDSRUs. In week 25, 2019, no new case was reported.

Diphtheria Surveillance:

During 2018 total **464** suspected cases of Diphtheria were reported. Total **213** cases reported in 2019 and **one** 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 **2357** cases have been reported so far. In week 25, 2019, **110** new cases were reported from Sindh (**62**), KP (**2**) and Baluchistan (**46**).

Fig 1: Time distribution of reported XDR Typhoid cases in Karachi for the year 2018 – June 23, 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.

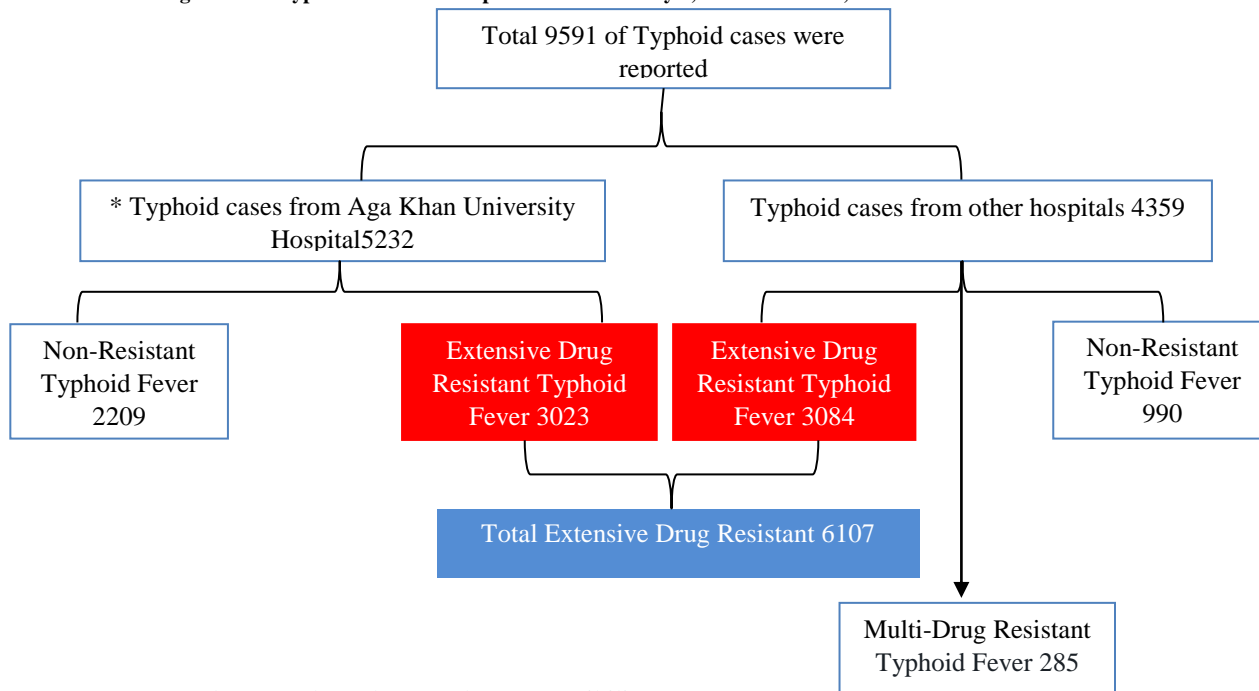
The XDR Typhoid cases were reported mostly among the children and maximum number **1229** (21%) of the XDR cases were reported in the 3-4 years age group.

The overall attack rate was **30/100,000** 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. 82/100,000. 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 23, 2018

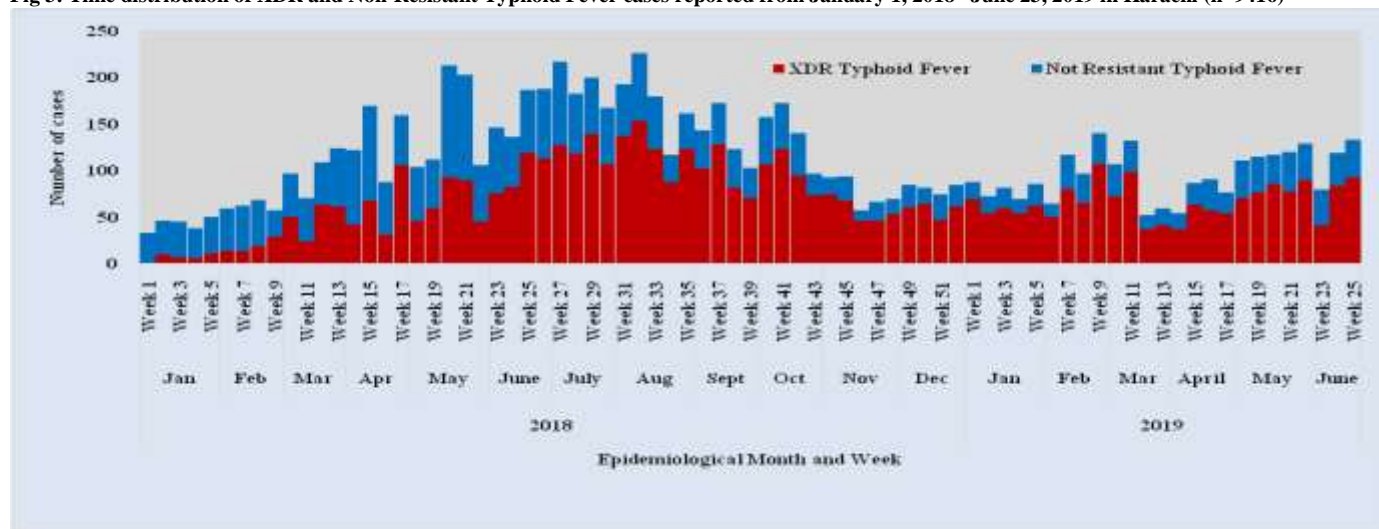
Age Group	Percentage of Population	Number of Population	XDR Typhoid	Attack rate /100,000
0-11 Month	3.4	686,785	116	17
1-2Y	7.6	1,535,166	1252	82
3-4Y	6.7	1,353,370	1225	91
5-6Y	5.6	1,131,175	776	69
7-8Y	5.1	1,030,177	751	73
9-10Y	5.2	1,050,377	453	43
11-12Y	4.4	888,780	381	43
13-14Y	4.4	888,780	167	19
15-24	20.4	4,120,709	612	15
25-34Y	13	2,625,942	225	9
35-44Y	11	2,221,951	64	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	6107	30
Female	49	9,897,781	2432	25
Male	51	10,301,772	3675	36

Fig 2: Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to June 23, 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 –June 23, 2019 in Karachi (n=9416)



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 23, 2019, a total of **3227** Typhoid cases were reported at the PDSRU Hyderabad from different districts of Sindh province excluding Karachi. Out of these **2,549** are Extensive Drug Resistant (XDR) cases.

Among all reported XDR cases, **2024 (79.4 %)** were from District Hyderabad only.

Fig 4: XDR Typhoid cases reported by month in district Hyderabad (June 23, 2019)

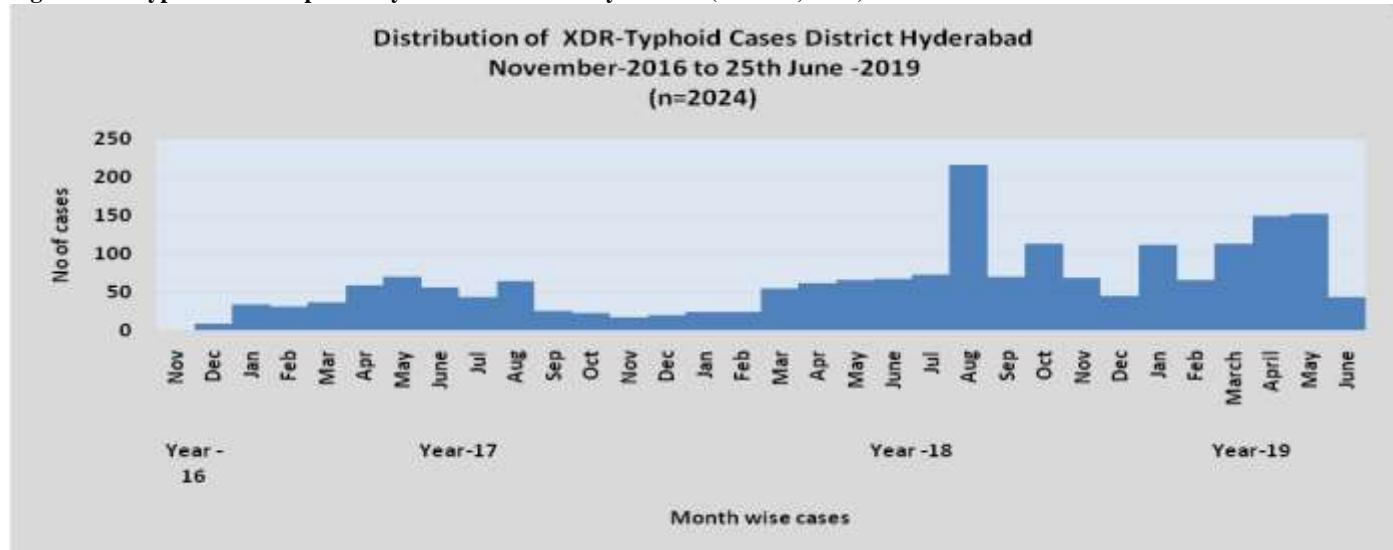


Table 5: District wise (excluding Karachi) total Typhoid and XDR Typhoid cases in Sindh (Nov 2016 – June 23, 2019)

Name of District	No of Typhoid Fever Cases	XDR cases	% XDR
Hyderabad	2568	2024	79.4
Tando Allah Yar	11	8	0.3
Badin	95	62	2.4
Dadu	24	19	0.7
Kashmore	13	13	0.5
Ghotki	17	16	0.6
Mirpurkhas	197	156	6.1
Sukkur	35	32	1.3
Tharparkar	5	3	0.1
Sanghar	58	50	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	10	7	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	3227	2549	79.0

The most affected age group was 2-4 years (n=702) with Attack Rate 39/10,000 of population followed by 5-9 years of age group (n=644) 21.9/10000. Overall attack rate is 9.2 /10,000.

Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=2024)

Age Group	XDR	Population	Attack rate/10000
0-23 Month	134	118771	11.3
2-4 Year	702	178157	39.4
5-9 Year	644	294728	21.9
10-14 Year	311	266135	11.7
15-19 Year	77	248539	3.1
20-24 Year	59	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	2024	2199107	10.9
Male	1208	1112968	7.5
Female	816	1086139	9.2

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:

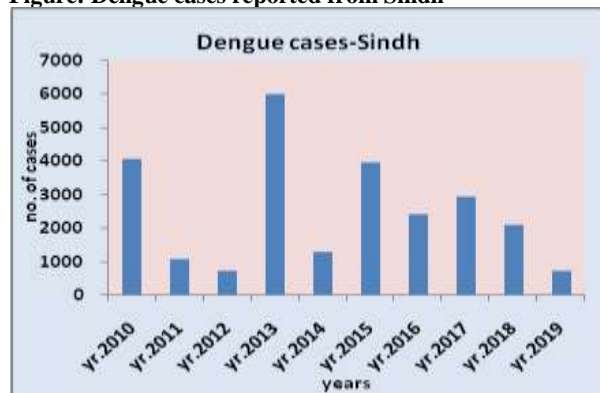
- Total **210,000** children between 6 months to 10 years age in Hyderabad high risk areas have been vaccinated for Typhoid
- Sensitization sessions with general practitioners
- Chlorine tablets were distributed to household in the affected areas of Hyderabad district

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, **62** new Dengue cases were reported. Till week 25, 2019 total 738 cases and one death had been reported from Sindh.

Figure: Dengue cases reported from Sindh

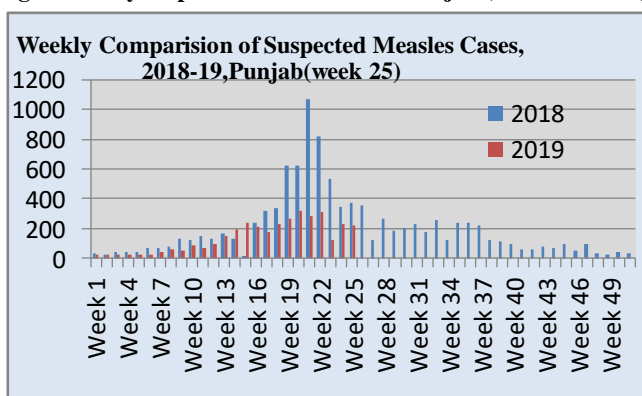


Update Measles Surveillance Report Punjab:

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 25, 2019, total **217** new cases of suspected Measles were reported.

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



Update /Follow-up Varicella Surveillance in Punjab:

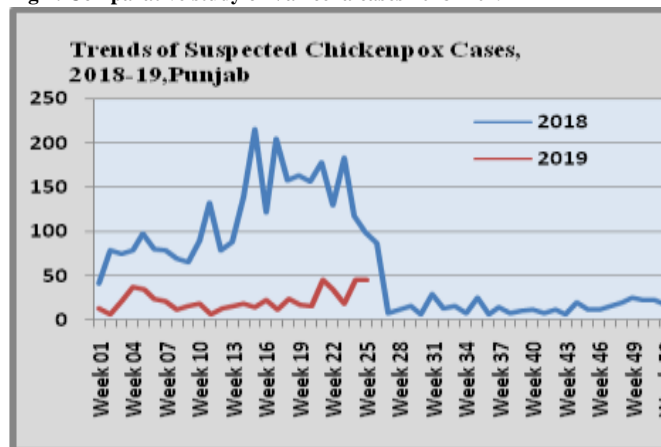
The total number of cases reported from Jan 01, 2018 till June 23, 2019 is **3,886**.

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.	1020	7.0
5-9 Yrs.	1299	8.6
10-14 Yrs.	657	4.9
15-19 Yrs.	262	2.2
20-24 Yrs.	207	2.0
25-29 Yrs.	130	1.6
30-34 Yrs.	116	1.8
35-Above	195	0.7
Total	3886	3.5

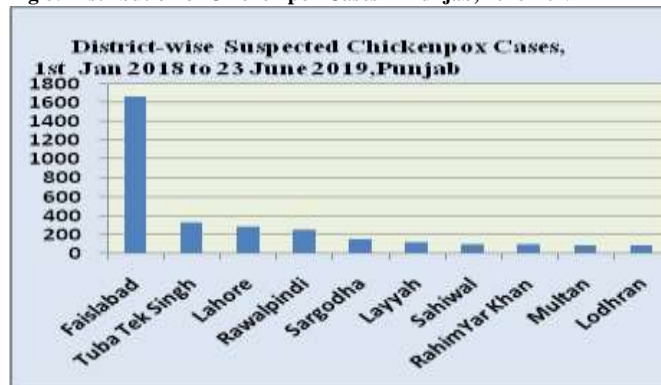
High attack rate was observed in children aged 5-9 yrs. (8.4/100,000) followed by 0-4 yrs. age group (6.9/100,000).

Fig 7: Comparative study of Varicella cases 2018 -2019



The highest number of cases were reported from District Faisalabad (**n=1670**). The cases are mostly from two locations (Thandiwallia and Jaharanwalla) in Faisalabad District.

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

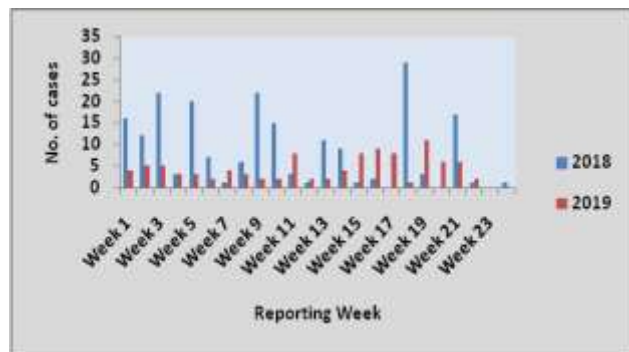


Reported by: *Dr Mohsan Wattoo TSO Lahore,*

Update on Measles Surveillance KP:

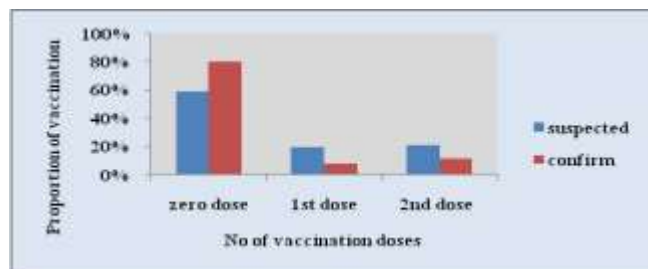
In current week, 41 suspected cases reported across province through online EPI MIS software. Suspected cases being reported sporadically from different health facilities of province. Total number of suspected cases are 757 with 100 Lab confirm cases. Clustering of cases not identified in any area.

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, 62% (n=413) are zero dose. Further, among 475 suspected cases aged more than 9 months, 57% (n=275) 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 AWD alert from Village Tangoo, UC Bazaar Tehsil Rustam, DistrictMardan:

On 14th June, facility in-charge of Category D hospital, Rustom reported multiple cases presenting with diarrhea, vomiting, fever and abdominal pain from village Tangoo. Rapid response team headed by DrAsghar Khan, Alumnus / NSTOP Officer visited the village on June 15th. After the initial investigation, surveillance was maintained in the area following standardized case definition ‘‘ onset of diarrhea, vomiting and abdominal pain with or without fever among residents of village Tangoo since 1st June’’.

Total 135 cases with one death were identified among total of population of 189 with attack rate of 71 per 100 populations. Male to female ratio was 1:1 (52 &49). Most affected age group was 15 – 49 (47%) and 5 – 14 (30%). Index case identified as a 24 years mentally retarded male who developed symptoms on 4th June. After the 24 hours of index cases approximately 20 cases developed symptoms including 07 household cases of index case.

Two springs and a pipeline identified as water sources. After the initial response activities no suspected cases reported from area.

Response Activities

- Curative services were provided by establishing a medical camp
- Water samples were collected
- Risk factor information gathered through in person interviews

Update on Dengue Outbreak Baluchistan:

After an upsurge of Dengue cases in district Kech and Gwadar a joint team of FELTP, WHO and Department of Health Balochistan conducted field investigation, initiated control interventions and monitoring the Dengue situation in Kech and Gwadar. During the last week, 46 more dengue cases were reported from District Kech.

The dengue was first time reported in 2011 from Gwadar and Kech districts with travel history of the patients to Karachi and other endemic areas of Pakistan. From 2014 onward, Dengue is endemic in the Costal belt districts of Baluchistan.

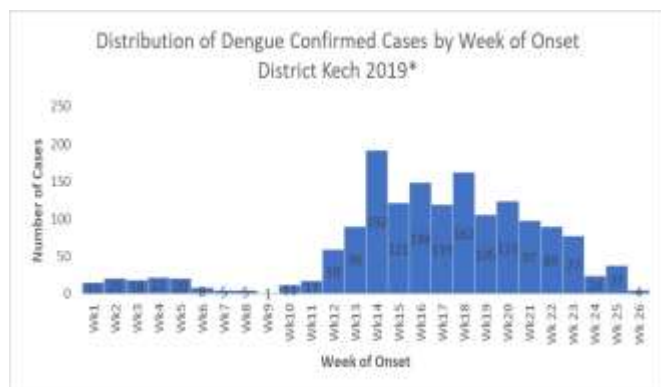
A total of 1589 confirmed cases of dengue have been recorded (Case Fatality Rate=1.9/1000 population). The mean age of dengue cases was 28 years with age range one year to 80 years. The male to female ratio was about 2:1. Majority of cases 56.3% (n=791) were among age group 16-30 years, followed by 24.6% (n=346) among 31-45 years age-group while 9.9% (n=139) were among, 1-15 years of age group. The overall attack rate was 7.4/1000 Population.

Table 9: Age wise attack rate of Dengue-Baluchistan

Age Group (Years)	Cases (n=1404)	Percentage (%)	Pop of that Age Group	Attack Rate/10000 Pop
< 1-15	139	10.2	88861	1.56
16-30	791	56.7	59390	13.32
31-45	346	24.1	33571	10.31
46-60	117	8.2	20523	5.70
61-75	9	0.7	9183	0.98
76-90	2	0.1	6782	0.29

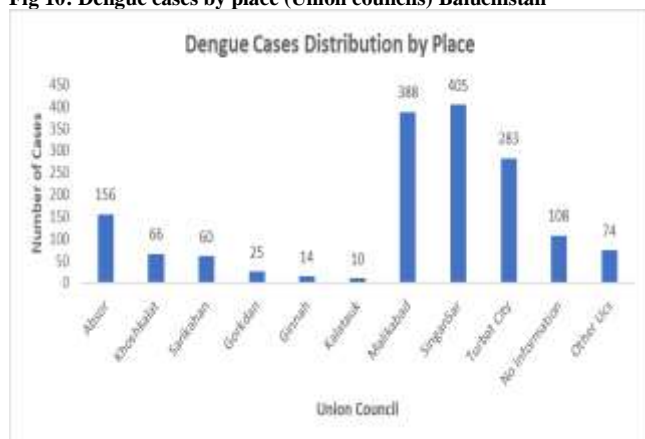
Serotyping was done on five samples from Gwadar and Kech district and all were reported DNV-1

Fig 9: Dengue confirmed cases by week of onset Baluchistan



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 271 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:

Two (2) new Suspected CCHF cases were reported during epidemiologic week 21 & 24, from Fatima Jinnah Chest & General Hospital Quetta. The sample of both suspected cases was found positive for CCHF virus by the laboratory. The case investigation was conducted by FELTP Fellow (12th Cohort) at FJCGHQ. The details are as under;

First suspected CCHF case was admitted at FJCGHQ on 23-5-2019. A 36 years old male from Herat Province of Afghanistan with onset of symptoms (fever, body aches, generalized weakness, vomiting and nasal bleeding) on 19-05-2019. He was a Khatib in Mosque and had history of animal contacts at home. The Aga Khan University Hospital Laboratory reported blood tests positive for CCHF on 25-5-2019. The all his contacts including the health care providers were stable at the moment, the patient on 3-6-2019, left without medical advice. The staff were followed up for 14 days and were stable.

The second suspected case was reported on 24th epidemiological week at FJCGHQ and investigated by FELTP Fellow (12th Cohort). The patient admitted on June, 14-6-2019, a 55 years old male from Loralai, with onset of symptoms (fever, body aches, vomiting and nasal bleeding) on June 10, 2019. His initial platelet count was found 60,000 at the time of admission. He was a Teacher by profession and had history of animal contacts at home. His blood sample was tested positive for CCHF by AKUH laboratory on 15-6-2019. All his contacts including the health care providers have been noted and are stable at the moment, they will be followed for 14 days. The Livestock Department was also taken onboard for necessary measures in District Loralai. The health education sessions with close contact were imparted.

Recommendations:

- Circulate Case definitions of CCHF to all health care providers.
- Supply personal protective equipment, ribavirin and other medication to clinicians as appropriate.
- Staff orientations and conduct Health education campaigns in the community
- Distribute Infection prevention /control material to the slaughter houses
- Decontaminate ruminants and their stables in affected areas.

Update on AWD outbreak, Khuzdar, Baluchistan:

Clustering of multiple cases of Acute Watery diarrhea (AWD) was reported from Wadh on 5th June 2019. The TSO and Fellows (FELTP) were assigned to investigate AWD outbreak. The existence of outbreak was confirmed on telephone from In-charge Rural Health Center Wadh.

Wadh town of District Khuzdar is the mountainous region between the [Kalat](#) plateau and the plains of [Sindh](#). The climate is semi-arid, although occasionally subject to flooding, with warm summers and mild winters. Agriculture is a major economic activity, followed by livestock farming. The AWD outbreaks occurs regularly. The drinking water is obtained from different resources like water supply tape water, tube wells, and pond water when there is no electricity in area. Each killi (street) has different source of water. The population of the Wadh town was 23056 inhabitants according to the 2017 census.

The objectives of investigation were:

1. To confirm and assess the magnitude of AWD outbreak at Wadh
2. To identify/ assess the risk factors for AWD outbreak
3. To give recommendation for control and future prevention.

A Descriptive followed by Case Control study was conducted from 04-23rd June 2019 in Wadh. Matched for age and sex, neighborhood controls were taken with the ratio of 1:1. A case was defined as, “any person of any age group and gender resident of Wadh town, with 3 or more episodes of loose watery stools per day with or without symptoms of fever, abdominal cramps, dehydration and vomiting from 04th to 19th June 2019”. Hospital records were reviewed and active case finding was done in affected areas. The dehydration status was assessed by using WHO guidelines. A structured questionnaire was used to collect demographics, clinical presentations and risk factors information. Environmental assessment was conducted. The water samples and rectal swab were collected and sent to laboratory for bacteriological examination and culture.

A total 528 AWD cases were identified. The mean age was 14 years with age range of .3 months-62 Years. Females 52.8% (n=279) were slightly more affected than males 47.2.7% (n=249). The majority of cases 57.8% (n=305) belonged to age group <1-14 years followed by 15-29 Years. Age group 19.7% (n=111). The overall attack rate was 2.3%.

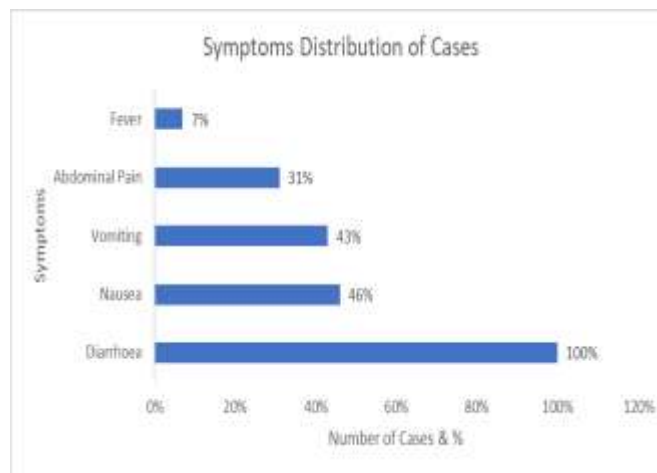
Table: Attack Rates of AWD in different age groups in distt. Khuzdar

Age group Yr.	Cases (n=528)	Percentage (%)	Pop of that age group	Attack Rate
<1-14	305	57.8	9594	3.2
15-29	111	19.7	6412	1.7
30-44	74	14.0	3624	2.0
45-59	26	4.9	2216	1.2
60-74	12	3.6	991	1.2

Among the total 528 cases, females 52.8% (n=279) were more affected than males 47.2% (n=249)

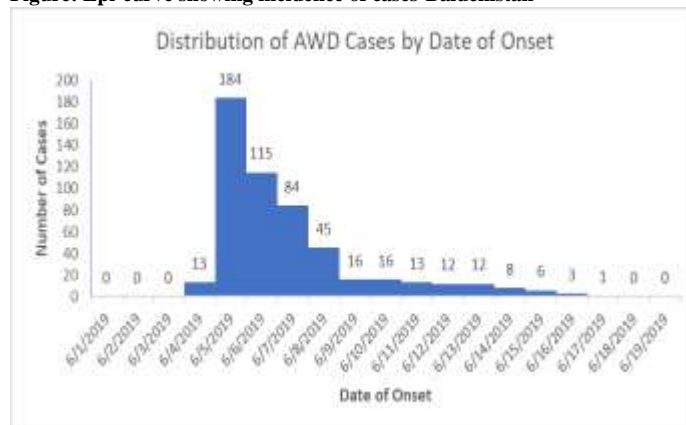
The prevalent sign and symptoms were Diarrhea (100%), nausea (46%), vomiting (43%), abdominal pain/cramps (31%) and fever (7%).

Figure: Presenting Signs and symptoms of AWD cases-Khuzdar



The cases developed symptoms on 04th June 2019. The peak was achieved on 05th June 2019 and cases started tapering after appropriate measures.

Figure: Epi-curve showing incidence of cases-Baluchistan



The most of cases were from Killi Eid Mohammad (n=91) and Killi Sher Mohammad (n=87). The pond water in these killi were used for agriculture and washing purposes. However, when there is no electricity in area, they also use it for drinking purposes.

The ecological and environment assessment was also conducted. It revealed that people were using stored water in ponds and vessels when there was shortage of electricity. These water reservoirs were also common place of washing, bathing and animal water drinking in killi Sher Mohammad and Killi Eid Mohammad.

Conclusion:

The contaminated drinking water (pond water in killi Eid Mohammad) was most probable cause of AWD outbreak. Drinking contaminated pond water was strongly associated

(OR: 6.47, P value <.05, CI 4.9-8.5) with illness. The females were slightly more affected than male. The most affected age group was < 1-14 years. The clustering of cases seen in Killi Eid Mohammad, Killi Sher Mohammad and Took. The pond reservoir located in Killi Eid Mohammad was identified source of infection.

Action Taken

- Four medical camps were established in the affected area
- The large bulk of medicine and cholera kits were provided by MSD and WHO.
- Cases were provided antibiotics, zinc and rehydration therapy
- Stabilization center in a dedicated ward was established in RHC Wadh 24/7, functional even on Eid and holidays.
- Boiling of drinking water advised.
- Watery purification tablets were distributed in the community
- Health Awareness session (07) about personal hygiene, Aqua tab use and safe drinking water use after boiling were conducted in community

Recommendations:

- Launching of health education campaign involving LHWs and other paramedical staff
- Strengthening AWD surveillance system in the district
- Provision of chlorine tablets and safe drinking water supply
- Establishment of a diarrhea treatment center at RHC Wadh.

CCHF Cases Investigation at Fatima Jinnah Chest & General Hospital Quetta (FJCGHQ):

Two (2) new Suspected CCHF cases were reported during epidemiologic week 21 & 24, from Fatima Jinnah Chest & General Hospital Quetta. The sample of both suspected cases was found positive for CCHF virus by the laboratory. The case investigation was conducted by FELTP Fellow (12th Cohort) at FJCGHQ. The details are as under;

First suspected CCHF case was admitted at FJCGHQ on 23-5-2019. A 36 years old male from Herat Province of Afghanistan with onset of symptoms (fever, body aches, generalized weakness, vomiting and nasal bleeding) on 19-05-2019. He was a Khatib in Mosque and had history of animal contacts at home. The Aga Khan University Hospital Laboratory reported blood tests positive for CCHF on 25-5-2019. The all his contacts including the health care providers were stable at the moment, the patient on 3-6-2019, left without medical advice. The staff were followed up for 14 days and were stable.

The second suspected case was reported on 24th epidemiological week at FJCGHQ and investigated by FELTP Fellow (12th Cohort). The patient admitted on June, 14-6-2019, a 55 years old male from Loralai, with onset of symptoms (fever, body aches, vomiting and nasal bleeding) on

June 10, 2019. His initial platelet count was found 60,000 at the time of admission. He was a Teacher by profession and had history of animal contacts at home. His blood sample was tested positive for CCHF by AKUH laboratory on 15-6-2019. All his contacts including the health care providers have been noted and are stable at the moment, they will be followed for 14 days. The Livestock Department was also taken onboard for necessary measures in District Loralai. The health education sessions with close contact were imparted.

Recommendations:

- Circulate Case definitions of CCHF to all health care providers.
- Supply personal protective equipment, ribavirin and other medication to clinicians as appropriate.
- Staff orientations and conduct Health education campaigns in the community
- Distribute Infection prevention /control material to the slaughter houses
- Decontaminate ruminants and their stables in affected areas.

Reported by Dr. Ehsan Ahmed Larik (TSO),