



## WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 09 Feb 25-March 03, 2019

Date: March 06, 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	11	1	155
Feb-19	0	99	0	0	0	12	0	111
March-19	0	11	0	0	0	6	0	17
<b>Total - 2019</b>	<b>0</b>	<b>253</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>1</b>	<b>283</b>

### CCHF Surveillance:

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

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

From November 1, 2016 to March 03, 2019 total of **9,553** Typhoid Fever cases were reported from different districts of Sindh province. Out of these **6,286** 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 – March 03, 2019)

Year	Karachi	Hyderabad	Other Districts	Sindh Total
2016	0	11	0	11
2017	175	488	67	730
2018	3,712	956	157	4,825
2019 (March-03)	465	187	68	720
<b>Total</b>	<b>4,352</b>	<b>1,642</b>	<b>292</b>	<b>6,286</b>

### 1. Update on Extensive Drug Resistant Typhoid Fever Karachi:

A total of **7,073** lab confirmed Typhoid cases were reported from ten hospitals of Karachi. Out of these **4,352** were recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to Feb 24, 2019.

In the 9<sup>th</sup> week of 2019, total **53** new XDR/MDR Typhoid Fever cases were reported from different hospitals in Karachi.

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Table 1: Weekly and Cumulative Diseases Updates February 24, 2019

	Disease	New cases Feb 28-March-03, 2019	Total Cases in 2019
1	CCHF	0	2
2	Varicella	16	269
3	Dengue	22	283
4	Chikungunya	0	0
5	Measles	79	558
6	Diphtheria	8	113
7	suspected/confirmed Seasonal Influenza	0	70

### Influenza Suspected/Confirmed:

In 2018, 3221 Suspected/confirmed Influenza cases were reported from PDSRUs/RDSRUs. During 2019 total 70 cases have been reported. No new case reported in week 9

### Diphtheria Surveillance:

During 2018 total **464** suspected cases of Diphtheria were reported. Last week **8** new cases were reported.

### 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 **283** cases have been reported so far. Last week Feb 28-March 03, 2019), **22** new cases were reported from Sindh (**16**), Baluchistan (**06**).

Fig 1: Time distribution of reported XDR Typhoid cases in Karachi for the year 2018 – March-03, 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 **902** (20.7%) of the XDR cases were reported in the 3-4 years age group.

The overall attack rate was **22/100,000** population. Highest attack rate was found in 3-4 years age group i.e. 67/100,000 followed by 1-2 years age group i.e. 56/100,000. Males had higher attack rate (26/100,000) as compared to females

Table 4: Age and gender specific attack rates of XDR Typhoid reported from Karachi during January 1, 2017 to March 03, 2018

Age Group	Percentage of Population	Number of Population	XDR Typhoid	Attack rate /100,000
0-11 Month	3.4	686,785	87	13
1-2Y	7.6	1,535,166	880	57
3-4Y	6.7	1,353,370	902	67
5-6Y	5.6	1,131,175	538	48
7-8Y	5.1	1,030,177	554	54
9-10Y	5.2	1,050,377	312	30
11-12Y	4.4	888,780	277	31
13-14Y	4.4	888,780	113	13
15-24	20.4	4,120,709	424	10
25-34Y	13	2,625,942	159	6
35-44Y	11	2,221,951	47	2
45-54Y	7.5	1,514,967	29	2
55-64Y	3.7	747,383	20	3
>65	1.99	401,971	10	2
<b>Total</b>	<b>99.99</b>	<b>20,199,554</b>	<b>4352</b>	<b>22</b>
<b>Female</b>	<b>49</b>	<b>9,897,781</b>	<b>1701</b>	<b>17</b>
<b>Male</b>	<b>51</b>	<b>10,301,772</b>	<b>2645</b>	<b>26</b>

Fig 2: Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to March 03, 2019 in Karachi

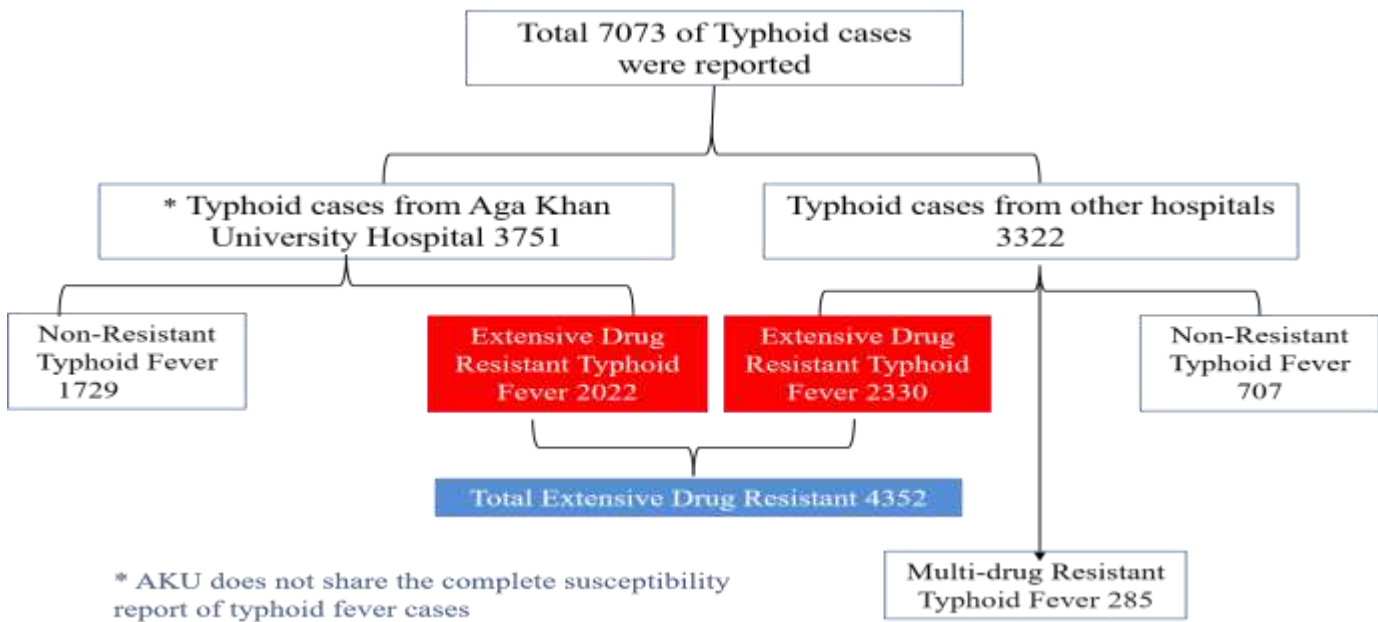
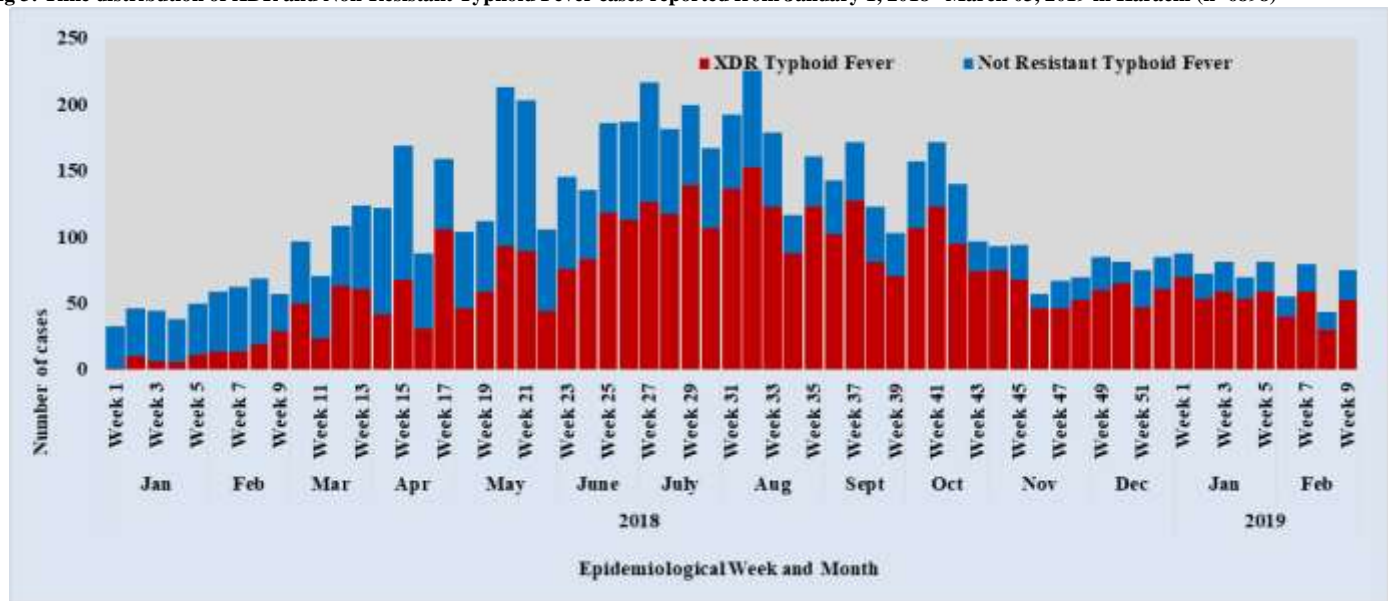


Fig 3: Time distribution of XDR and Non-Resistant Typhoid Fever cases reported from January 1, 2018 –March 03, 2019 in Karachi (n=6898)



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 10.1/100,000). While lowest Incidence was recorded in SITE town (AR=0.1/100,000).

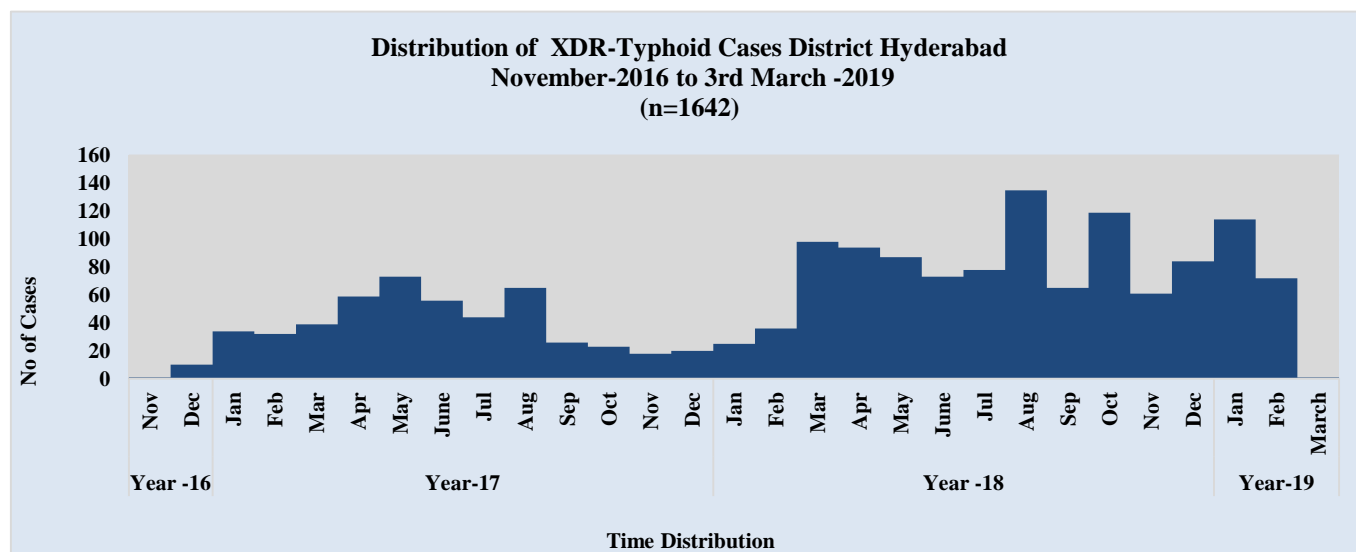
Reported by: *Dr Asif Syed TSO Karachi, Dr Anum Vigio and Dr. Ishfaq (fellows 10th Cohort)*

## 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 February March 03, 2019, a total of **2480** Typhoid cases were reported at the PDSRU Hyderabad from different districts of Sindh province excluding Karachi. Out of these **1,934** are Extensive Drug Resistant (XDR) cases.

Fig 4: XDR Typhoid cases reported by month in district Hyderabad (Nov 2016 –March 03, 2019)



Among all reported XDR cases, **1642 (84.9%)** were from District Hyderabad only.

of age group (n=476) 16.2/10000. Overall attack rate is **7.4** /10,000.

Table 5: District wise (excluding Karachi) total Typhoid and XDR Typhoid cases in Sindh (Nov 2016 – March 03, 2019)

Name of District	No of Typhoid Fever Cases	XDR cases	% XDR
Hyderabad	2051	1642	84.9
Tando Allah Yar	12	7	0.4
Badin	92	45	2.3
Dadu	20	11	0.6
Kashmore	6	5	0.3
Ghotki	6	3	0.2
Mirpurkhas	132	108	5.6
Sukkur	19	18	0.9
Tharparkar	6	2	0.1
Sanghar	39	30	1.6
Nau sheroferoz Shikarpur	10	7	0.4
Shikarpur	6	3	0.2
Tando M Khan	4	4	0.2
Jamshoro	55	37	1.9
Umar Kot	5	2	0.1
Jacobabad	2	2	0.1
SBA	1	1	0.1
Larkana	14	7	0.4
<b>Total</b>	<b>2480</b>	<b>1934</b>	<b>78.0</b>

Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=1642)

Age Group	XDR	Population	Attack rate/10000
0-23 Month	125	118771	10.5
2-4 Year	549	178157	30.8
5-9 Year	481	294728	16.3
10-14 Year	274	266135	10.3
15-19 Year	66	248539	2.7
20-24 Year	65	213348	3.0
25-29 Year	29	175957	1.6
30-34 Year	19	136367	1.4
35-39 Year	12	118771	1.0
40-44 Year	4	94577	0.4
45-49 Year	3	87979	0.3
50-54 Year	9	59386	1.5
55-59 Year	2	59029	0.3
60-64 Year	1	52787	0.2
>65	3	94577	0.3
<b>Total</b>	<b>1642</b>	<b>2199107</b>	<b>7.5</b>
<b>Male</b>	<b>1013</b>	<b>1112968</b>	<b>9.1</b>
<b>Female</b>	<b>629</b>	<b>1086139</b>	<b>5.8</b>

The most affected age group was 2-4 years (n=544) with Attack Rate 30.5/10,000 of population followed by 5-9 years

#### 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:**

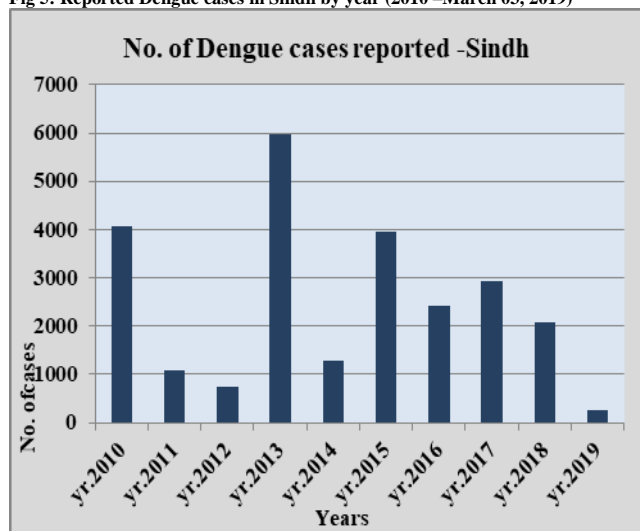
- Total **165,000** children between 6 months to 10 years age in Hyderabad high risk areas have been vaccinated for Typhoid
- Sensitization sessions with general practitioners
- Chlorine tablets were distributed to household in the affected areas of Hyderabad district

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

**Dengue Surveillance in Sindh:**

In the week 09, 2019, total **16** new Dengue cases were reported from Sindh. In 2018 total **2088** cases and two deaths were reported. Maximum number of cases was reported in 2013.

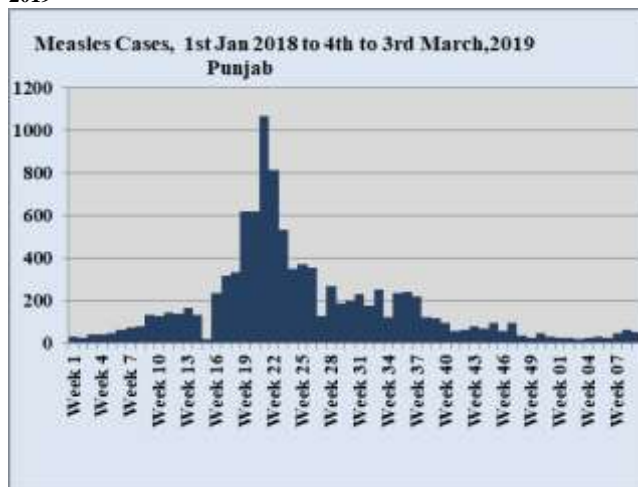
**Fig 5: Reported Dengue cases in Sindh by year (2010 –March 03, 2019)**



**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

**Figure 7: Weekly Suspected Measles cases-Punjab, 2018- March 03, 2019**



In week 09, 2019, total **52** new cases of suspected Measles were reported.

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

Sixteen new suspected Varicella cases were reported from different districts of Punjab in week 09, 2019. The total number of cases reported from Jan 1, 2018 till March 03, 2019 is **3,536**

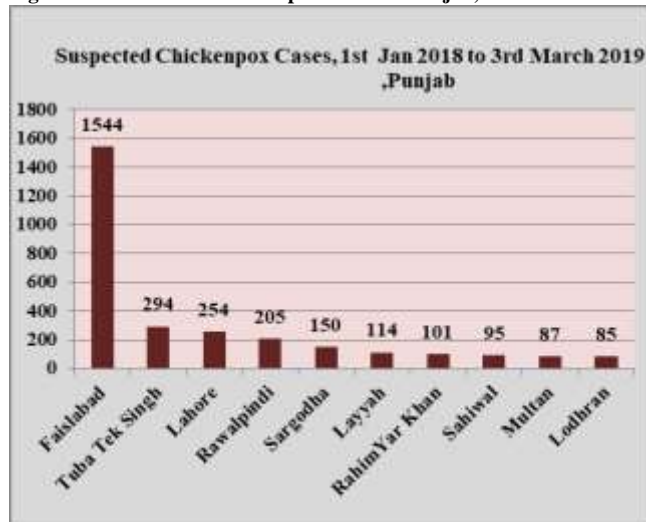
**Table 7: Age specific attack rates of varicella in Punjab in 2018-2019**

Age Group	Total number of Cases (2018)	AR/100,000
0-4 Yrs.	931	6.4
5-9 Yrs.	1198	7.9
10-14 Yrs.	599	4.5
15-19 Yrs.	240	2.0
20-24 Yrs.	180	1.7
25-29 Yrs.	108	1.3
30-34 Yrs.	101	1.6
35-Above	179	0.6
<b>Total</b>	<b>3,536</b>	<b>3.2</b>

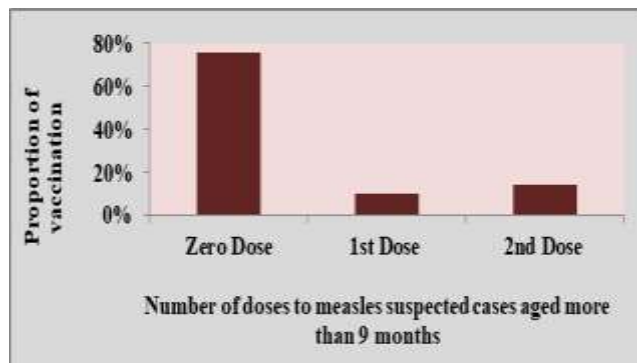
High attack rate was observed in children aged 5-9 yrs. (7.9/100,000) followed by 0-4 yrs. age group (6.4/100,000).

The highest number of cases were reported from District Faisalabad (**n=1544**). The cases are mostly from two locations (Thandiwalla and Jaharanwalla) in Faisalabad District.

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



**Figure: Vaccination status of suspected Measles cases**



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

**Update on Diphtheria Surveillance-KP:**

In current week, three diphtheria cases being reported from district Peshawar and Charsada. Total numbers of suspected diphtheria cases are 25 with no deaths.

All cases presented with rash, fever and adherent membrane tonsillitis. Samples were sent for lab confirmation

**Table: Summary statistics of Diphtheria cases-KP**

<b>Median age with Range in Months</b>	<b>90 Months (19 - 196)</b>
<b>Proportion of male &amp; female cases</b>	64% (n=15) & 36% (n=10)
<b>Routine Immunization Status</b>	Zero dose
<b>H/O Travel in last 21 days</b>	4.5% (n=1)
<b>Case fatality</b>	Nil

Case response activities are under way in the affected locality. Mopping up vaccination campaign was launched under the supervision of Director EPI KP in Diphtheria endemic areas. Vaccine coverage data is in the last phase of compilation for dissemination.

**Update on Neo-natal Tetanus Surveillance:**

In current week two cases reported from district Shangla. Total numbers of neo-natal tetanus cases are 09. District Shangla shared 50% of all reported cases.

**Cutaneous Leishmaniosis Surveillance-KP:**

More than 600 cases of cutaneous Leishmaniosis being reported from UC Bhadar Khyel, district Karak. In this regard an investigation case team visited the area to analyze the situation. Initially 185 cases were identified from the area. Detailed investigation report will be shared after the completion of field investigations.

**Reported by:** *Dr Mohsan Wattoo TSO Lahore, Dr. Sarmad Wahaj (alumnus, 10th cohort)*

**Measles Surveillance KP:**

In current week, 20 suspected measles cases reported through online EPI MIS software. Cases being reported sporadically from different health facilities of province. Total number of suspected cases are 210 with 7 Lab confirm cases. Clustering of cases not identified in any area.

All 07 laboratory confirmed cases were from district D I Khan (06) and Swabi (01). Among positive cases 04 cases aged more than 9 months were zero dose as per information shared online by EPI staff of district. **Table: Summary statistics Measles Cases-KP**

<b>Median age with Rang in Months</b>	<b>18 Months (0 - 360)</b>
<b>Proportion of Male &amp; Female cases</b>	58% & 42%
<b>No. of Lab confirm cases</b>	3% (n=7)
<b>H/O of travel in last 21 days</b>	1% (n=1)

Among 169 suspected measles cases aged more than 9 months, 20% (N=34) were vaccinated against Measles.