



WEEKLY FIELD EPIDEMIOLOGY REPORT

Volume 2 Issue 05 Jan 28-Feb 03, 2019

Date: Feb 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.

Punjab (0), Tribal Districts KP (0) and KP (0).

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	7	0	0	0	0	0	7
Total - 2019	0	150	0	0	0	11	1	162

*No of Cases updated as reported by health department in week 4

CCHF Surveillance:

In 2018 total 63 CCHF (suspected and confirmed) cases were reported from DSRUs. 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 Feb 03, 2019 total of 8,745 Typhoid Fever cases were reported from different districts of Sindh province. Out of these 5,707 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 – Feb 03, 2019)

Year	Karachi	Hyderabad	Other Districts	Sindh Total
2016	0	11	0	11
2017	175	488	67	730
2018	3,616	956	157	4,729
2019 (Feb 3rd)	146	67	24	237
Total	3,937	1522	248	5,707

1. Update on Extensive Drug Resistant Typhoid Fever Karachi:

A total of 6515 lab confirmed Typhoid cases were reported from ten hospitals of Karachi. Out of these 3,937 were recorded as Extensive Drug Resistant (XDR) Typhoid Fever cases from January 1, 2017 to Feb 03, 2019.

In the 5th week of 2019, total 37 new XDR/MDR Typhoid Fever cases were reported from different hospitals in Karachi.

Inside Issues	Page No.
Diphtheria /Dengue/ CCHF Surveillance	1
XDR/MDR-Typhoid Surveillance Karachi / Hyderabad Sindh	1-5
Dengue surveillance Sindh	5
Varicella / Measles surveillance reports Punjab	5-6
Outbreak Investigation of Foot and Mouth Disease Balochistan	6-7
Update on Influenza , Measles surveillance in KP	8

Table 1: Weekly and Cumulative Diseases Updates February 03, 2019

	Disease	New cases Jan 28-Feb 03, 2019	Total Cases in 2019
1	CCHF	0	0
2	Varicella	34	196
3	Dengue	20	162
4	Chikungunya	0	0
5	Measles	89	278
6	Diphtheria	16	79
7	suspected/confirmed Seasonal Influenza	10	66

Influenza Suspected/Confirmed:

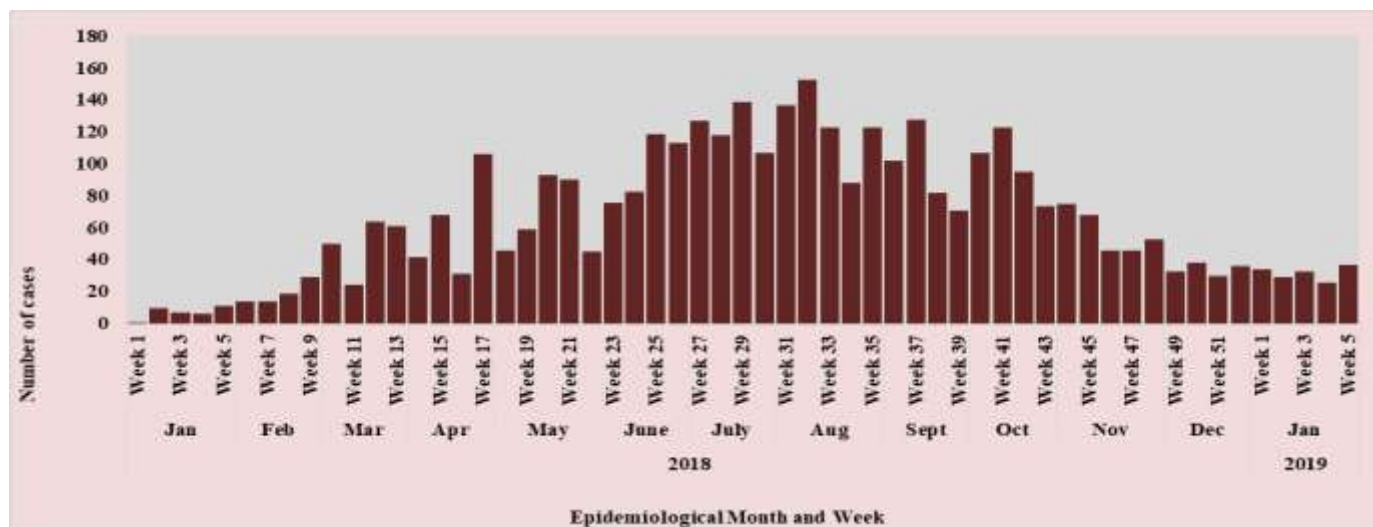
In 2018, 3221 Suspected/confirmed Influenza cases were reported from PDSRUs/RDSRUs. In week 05, 2019, 10 cases have been reported from Punjab, KP and AJK.

Diphtheria Surveillance:

During 2018 total 464 suspected cases of Diphtheria were reported. Last week 16 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 162 cases have been reported so far. Last week Jan 28-Feb 03, 2019, 20 new cases were reported from Sindh (19), Balochistan (01),

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

- From January 1st, 2017 to January 27, 2019 a total of **6515** Typhoid cases were reported from 10 hospitals in Karachi
- Of the total, **3,937** cases were found to be Extensive Drug Resistant (XDR) Typhoid.
- Six hospitals (DOW, JPMC, MMIH, PNS Shifa, Kharadar General Hospital, NICH) are providing complete drug resistance pattern for Typhoid cases.

The XDR Typhoid cases were reported mostly among the children and maximum number 818 (20.9%) of the XDR cases were reported in the 3-4 years age group.

The overall attack rate was **19/100,000** population. Highest attack rate was found in 3-4 years age group i.e. 61/100,000 followed by 1-2 years age group i.e. 52/100,000. Males had higher attack rate (23/100,000) as compared to females

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

Age Group	Percentage of Population	Number of Population	XDR Typhoid	Attack rate /100,000
0-11 Month	3.4	686,785	81	12
1-2Y	7.6	1,535,166	797	52
3-4Y	6.7	1,353,370	821	61
5-6Y	5.6	1,131,175	475	42
7-8Y	5.1	1,030,177	501	49
9-10Y	5.2	1,050,377	284	27
11-12Y	4.4	888,780	246	28
13-14Y	4.4	888,780	100	11
15-24	20.4	4,120,709	384	9
25-34Y	13	2,625,942	150	6
35-44Y	11	2,221,951	44	2
45-54Y	7.5	1,514,967	26	2
55-64Y	3.7	747,383	19	3
>65	1.99	401,971	9	2
Total	99.99	20,199,554	3937	19
Female	49	9,897,781	1542	16
Male	51	10,301,772	2395	23

Fig 2: Number of XDR and drug sensitive Typhoid fever cases reported from January 1, 2017 to February 03, 2019 in Karachi (n=6515)

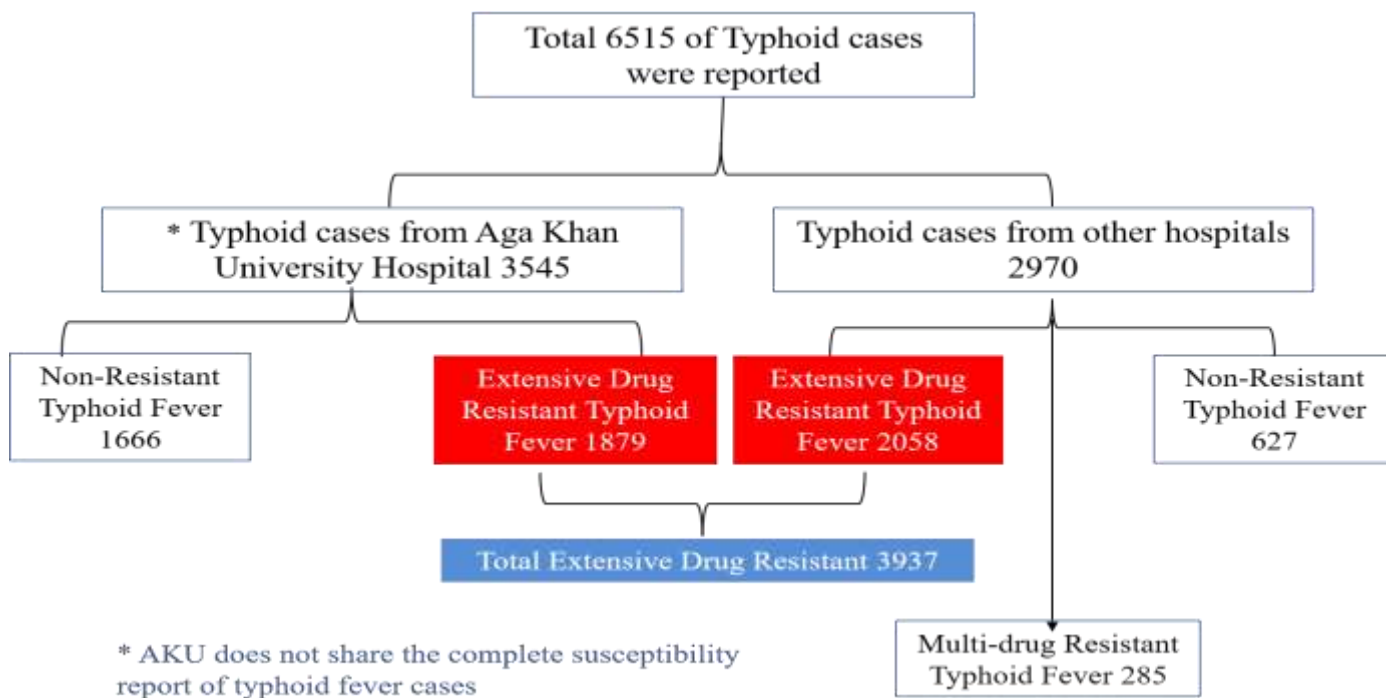
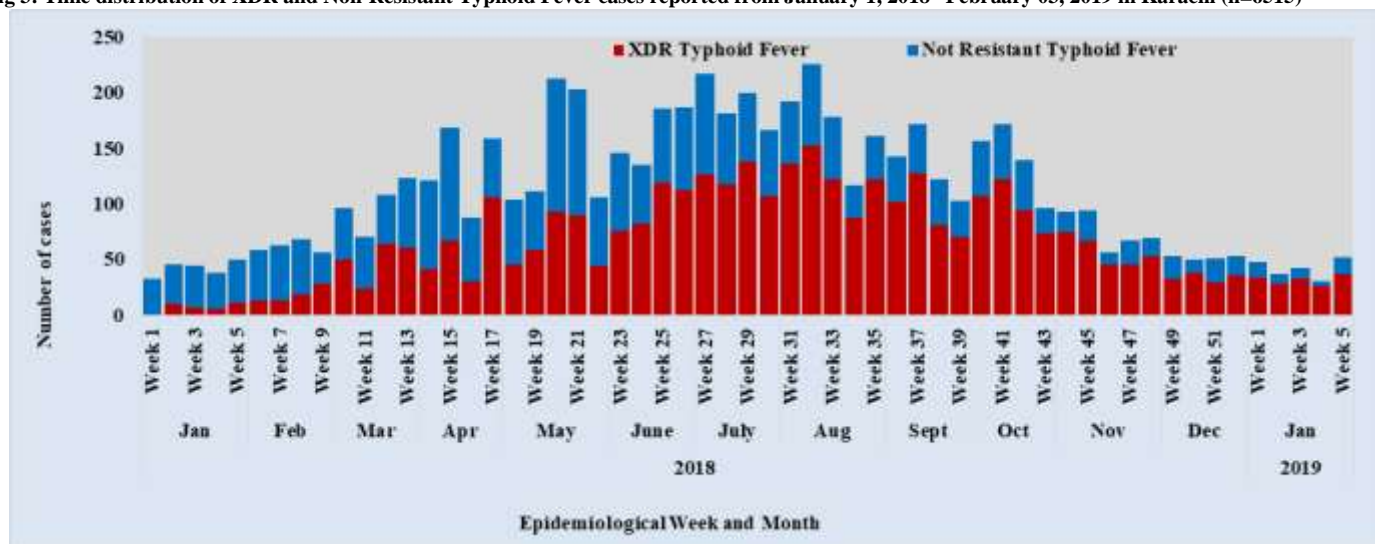


Fig 3: Time distribution of XDR and Non-Resistant Typhoid Fever cases reported from January 1, 2018 –February 03, 2019 in Karachi (n=6515)



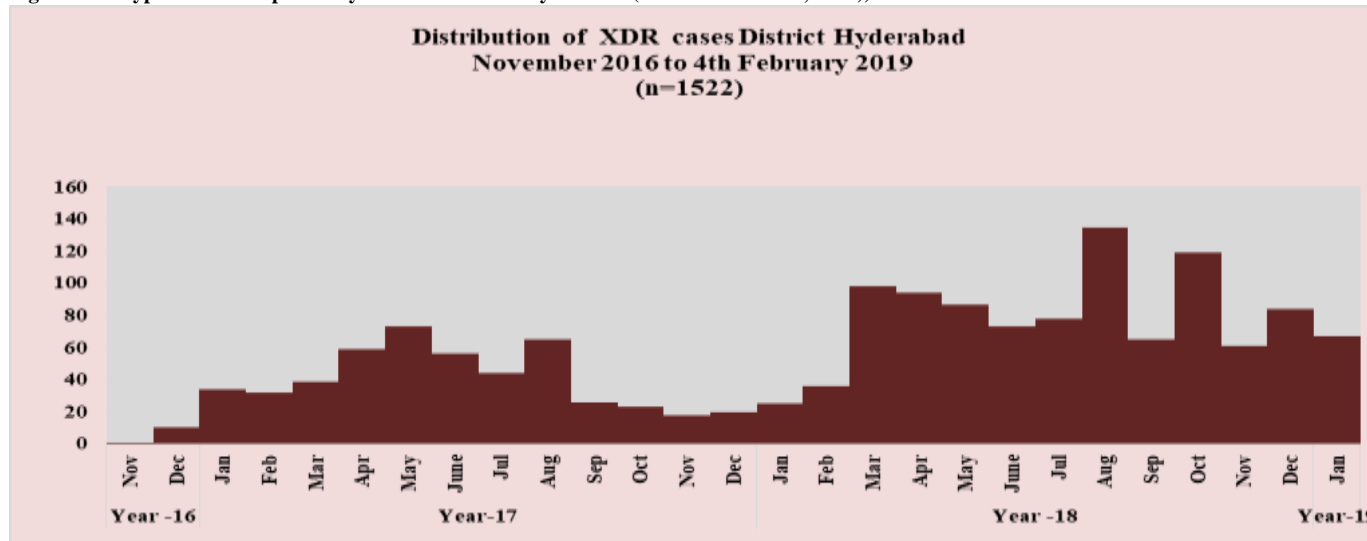
The highest Incidence Rate of the cases was reported from 5 towns: Gulshan-e-Iqbal (AR=27.1/100,000), Saddar (16.6/100,000), North Nazimabad (AR 10.7/100,000), Malir (AR 10.1/100,000) Gulberg (AR 9.7/100,000) and Liyari (AR 8/100,000). While lowest Incidence was recorded in SITE town (AR=0.1/100,000).

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 3rd February, 2019, a total of **2266** Typhoid cases were reported at the PDSRU Hyderabad from different districts of Sindh province excluding Karachi. Out of these **1,770** are Extensive Drug Resistant (XDR) cases.

Fig 4: XDR Typhoid cases reported by month in district Hyderabad (Nov 2016 –Feb 3rd, 2019)

Among all reported XDR cases, **1522 (86%)** were from District Hyderabad only.

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

Name of District	No of Typhoid Fever Cases	XDR cases	% XDR
Hyderabad	1895	1522	86.0
Tando Allah Yar	11	6	0.3
Badin	72	42	2.4
Dadu	18	10	0.6
Kashmore	6	5	0.3
Ghotki	5	3	0.2
Mirpurkhas	112	81	4.6
Sukkur	18	17	1.0
Tharparkar	6	2	0.1
Sanghar	39	30	1.7
Nau sheroferoz	8	4	0.2
Shikarpur	5	2	0.1
Tando M Khan	4	4	0.2
Jamshoro	55	35	2.0
Umar Kot	5	2	0.1
Jacobabad	2	2	0.1
SBA	1	1	0.1
Larkana	4	2	0.1
Total	2266	1770	78.1

The most affected age group was 2-4 years (**n=507**) with Attack Rate 28.5/10,000 of population followed by 5-9 years of age group (**n=467**) 1586/10000. Overall attack rate is **6.9** /10,000.

Table 6: Age and gender specific attack rates XDR Typhoid reported from District Hyderabad (n=1501)

Age Group	XDR	Population	Attack rate/10000
0-23 Month	99	118771	8.2
2-4 Year	507	178157	28.3
5-9 Year	467	294728	15.8
10-14 Year	253	266135	9.5
15-19 Year	64	248539	2.6
20-24 Year	51	213348	2.4
25-29 Year	29	175957	1.6
30-34 Year	18	136367	1.3
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
Total	1522	2199107	6.9
Male	942	1112968	8.5
Female	580	1086139	5.3

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 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:

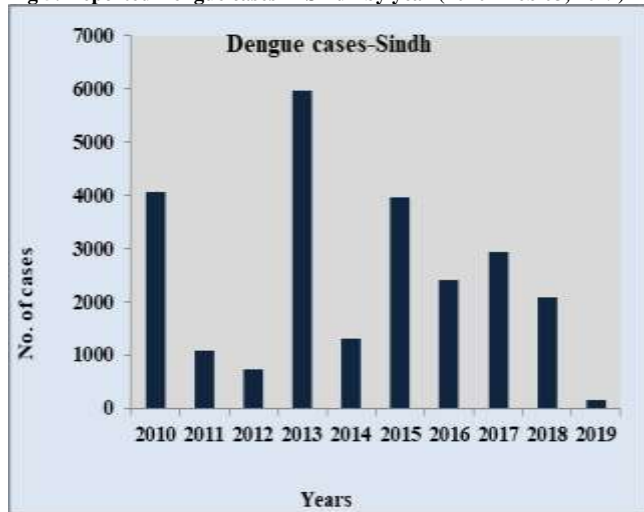
- Total 145,000 children between 6 months to 10 years age in Hyderabad high risk areas have been vaccinated for Typhoid
- Sensitization sessions with general practitioners
- Chlorine tablets were distributed to household in the affected areas of Hyderabad district

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

Dengue Surveillance in Sindh:

In the week 05, 2019, 19 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.

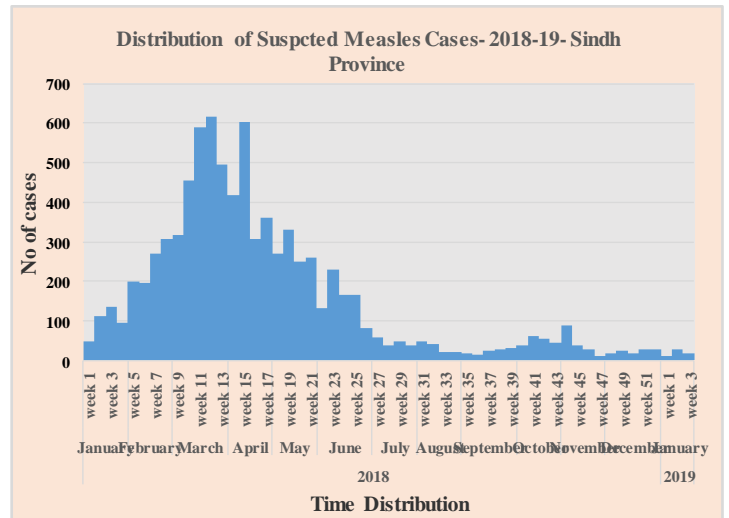
Fig 5: Reported Dengue cases in Sindh by year (2010 –Feb 03, 2019)



Measles Surveillance Sindh:

In Sindh provinces, 17 cases of Measles are reported in 2019 till date. In 2018, highest number of cases was reported from week 10-16.

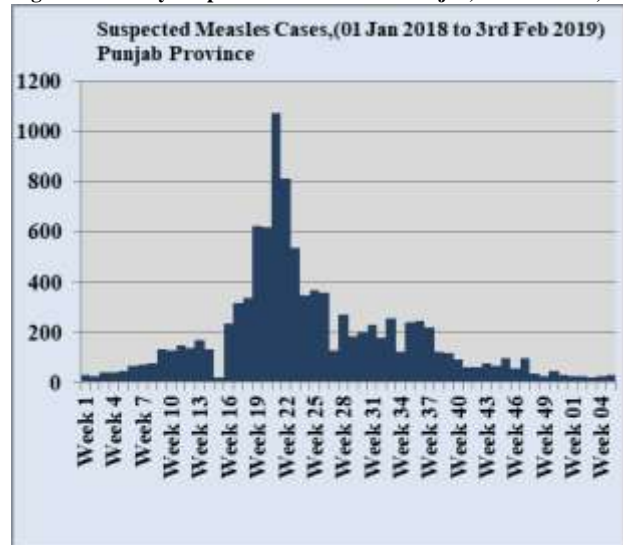
Fig 6: Reported cases of Measles-Sindh (2018-19)



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- Feb 03, 2019



In week 05, 2019, total 28 new cases of suspected Measles were reported.

Update /Follow-up Varicella Surveillance in Punjab:

Thirty four new suspected Varicella cases were reported from different districts of Punjab in week 05, 2019. The total number of cases reported from 1st Jan, 2018 till 3rd Feb 2019 is 3,467

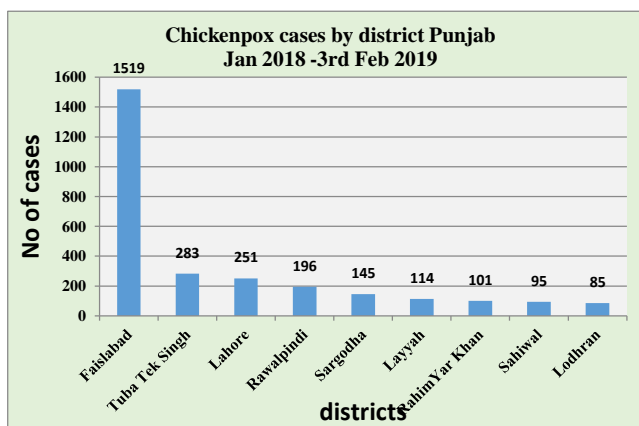
Table 7: Age specific attack rates of varicella in Punjab in 2018-2019

Age Group	Total number of Cases (2018)	AR/100,000
0-4 Yrs.	913	6.3
5-9 Yrs.	1172	7.7
10-14 Yrs.	592	4.4
15-19 Yrs.	237	2.0
20-24 Yrs.	178	1.7
25-29 Yrs.	106	1.3
30-34 Yrs.	96	1.5
35-Above	173	0.6
Total	3467	3.2

High attack rate is observed in children aged 5-9 yrs. (7.7/100,000) followed by 0-4 yrs. age group (6.2/100,000).

The highest number of cases was reported from District Faisalabad (n=1519). The cases are mostly from two locations (Thandiwalla and Jaharanwalla) in Faisalabad District.

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

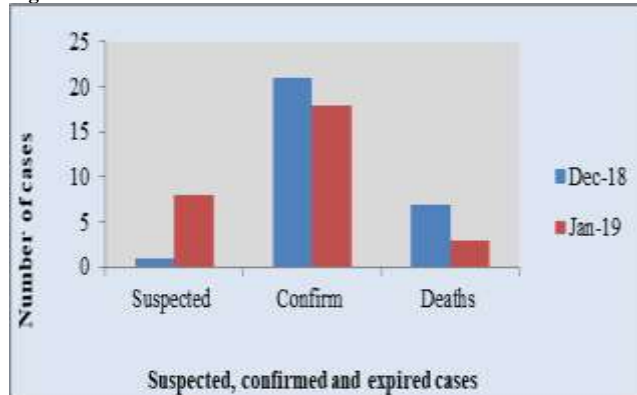


Reported by: Dr Mohsan Wattoo TSO Lahore, Dr. Sarmad Wahaj (fellow, 10th cohort)

Seasonal Influenza in KP:

In current week five suspected cases were reported from Hayatabad Medical Complex and North-west Hospital. Total numbers of suspected cases are 51. Among total suspected cases, 35 are lab confirmed as Seasonal Influenza A H1N1 positive.

Fig 9: Seasonal Influenza in KP



Eleven (73%) cases were presented with comorbidities

Table 8: Summary statistics of seasonal Influenza cases-KP

Median Age in year with Range 50 (22 - 80)

<i>Proportion of confirm cases</i>	35 (68%)
<i>Proportion of death (Suspected Cases)</i>	6 (42%)
<i>Proportion of death (Confirm Cases)</i>	9 (25%)
<i>Proportion of co-morbidity among all expired cases (Suspected & confirm)</i>	11 (73%)
<i>Frequent co-morbidities among expired cases with co-morbidities</i>	HTN (70%), DM (60%)

Update on Measles Surveillance in KP:

In current week, 33 suspected Measles cases reported. Cases reported. The cases appear sporadically from different health facilities of province. The total number of suspected cases in four weeks of 2019 are 135 with 4 Lab confirm cases. Clustering of cases not identified in any area.

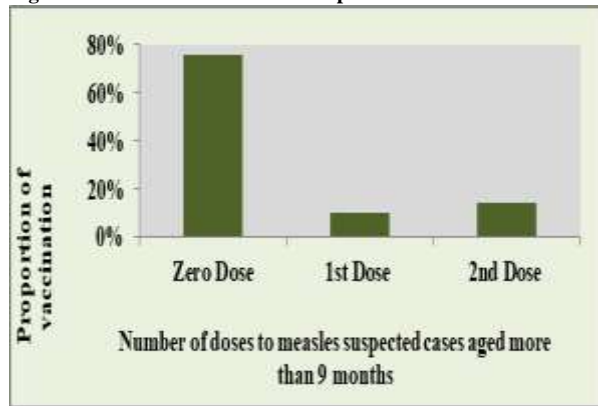
Table 8: Summary statistics of Measles cases in KP

Median age with Rang in Months	18 Months (0 - 360)
Proportion of Male & Female cases	60% & 40%
No. of Lab confirm cases	4 (3%)
H/O of travel in last 21 days	1 (1%)

All four laboratory confirmed cases were from district D I Khan. Among positive cases 02 cases aged more than 9 months were zero dose as per information shared online by

EPI staff of district. Among 94 suspected measles cases aged more than 9 months, 22% (N=21) were vaccinated against Measles

Figure 10: Vaccination status of Suspected Measles Cases-KP



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