



Communicable Diseases Bulletin

Quarterly Summary Report

Third Quarter – 2018 (Jul-Sep)

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Table 1: Distribution of Notified Cases in Abu Dhabi Emirate, by Region (Quarter 3, 2018)

Cases	Abu Dhabi	Al Ain	Al Dhafra	Cumulative, Abu Dhabi Emirate						Year Total	
	Quarter 3, 2018			2018				2017	2016		
				Q 1	Q 2	Q 3	Q1 + Q2 + Q3	Q1 + Q2 + Q3	Q1 + Q2 + Q3	2017	2016
AFP/ Poliomyelitis *	1	0	0	2	3	1	6	7	6	9	8
Brucellosis	20	8	1	12	30	29	71	70	69	91	118
Chickenpox	710	96	30	1336	1171	836↓	3343↓	4160	3871	5254	4819
Cholera	11	0	0	0	2	11↑	13↑	8	8	8	8
Haemophilus influenzae (Invasive)	0	0	0	0	0	0	0	2	1	2	1
Hepatitis B	220	70	11	311	264	301↑	876	807	861	1085	1139
Hepatitis C	165	25	4	178	183	194↑	555↓	643	675	829	851
Influenza (A, B, H1N1, & Unspecified)	1563	339	38	5890	1667	1940↑	9497↑	5047	3752	15993	6774
Malaria * ¶	403	173	33	177	399	609↑	1185↓	1507	1402	1907	1848
Measles *	7	2	0	20	21	9↓	50	35	52	38	63
Meningitis Bacterial	11	0	0	10	7	11	28	30	38	45	49
Meningitis Viral	12	0	0	13	19	12	44↓	50	106	64	133
Mumps	26	11	4	45	58	41↓	144↓	163	204	217	296
Pertussis (Whooping Cough)	8	3	0	9	13	11	33↓	45	40	50	51
Rubella *	1	0	0	2	1	1	4↓	21	70	23	73
Scabies	387	36	6	835	616	429↓	1880↑	1584	1339	2111	1907
Tetanus	0	0	0	1	2	0	3↑	0	0	1	5
Tuberculosis (Extra-Pulmonary)	55	26	3	78	71	84↑	233↑	218	203	275	261
Tuberculosis (Pulmonary) *	106	29	8	139	112	143↑	394	390	281	523	405
Typhoid /Paratyphoid Fever	31	20	6	34	34	57↑	125↓	146	162	188	251
Other Diseases	1047	685	82	1677	1734	1814	5225	4318	3917	6056	5209
Total §	4784	1523	226	10769	6407	6533	23709	19251	17057	34769	24269
Grand Total including ruled out notifications	5773	1656	376	12214	7661	7805	27680	23481	20085	41239	28357

* Illnesses covered by national control programs (only confirmed cases and cases that cannot be ruled out are included in the table).

¶ All notified malaria cases are "imported".

§ Total number of notifications including gastrointestinal infections. For more details about gastrointestinal infections, refer to table 3.

↑↓ Indicates increase or decrease in number of notified cases during the 3rd quarter of 2018 compared to previous quarters.

↑↓ Indicates increase or decrease in numbers of notified cases over Q1-Q3 2018 as compared to the same period in previous two years.

Table 2: Distribution of Notified Cases in Abu Dhabi Emirate, by Age Group and Gender (Quarter 3, 2018)

Cases	<1 y		1 - 4 y		5 - 14 y		15 -24 y		25 -34 y		35 -44 y		45 -54 y		55-64y		65+ y		Total		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
AFP/ Poliomyelitis	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Brucellosis	0	0	2	2	4	2	2	0	2	2	6	2	2	0	1	1	0	1	19	10	29
Chickenpox	10	2	23	20	26	26	176	16	321	48	117	13	32	1	4	1	0	0	709	127	836
Cholera	0	0	0	0	0	0	1	1	3	3	1	0	0	0	0	0	0	2	5	6	11
Haemophilus influenzae (Invasive)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis B	0	0	0	0	0	0	16	5	78	29	74	25	31	7	25	5	4	2	228	73	301
Hepatitis C	0	0	0	0	0	0	11	0	51	7	55	6	33	4	17	3	2	5	169	25	194
Influenza (A, B H1N1 & unspecified)	54	32	263	212	229	159	142	48	295	94	187	48	78	29	36	13	15	6	1300	642	1942
Malaria	0	0	1	3	5	1	165	3	213	5	115	7	57	3	25	1	4	1	585	24	609
Measles	1	1	2	1	0	1	0	1	0	0	2	0	0	0	0	0	0	0	5	4	9
Meningitis Bacterial	4	0	1	1	0	0	0	1	1	0	0	0	3	0	0	0	0	0	9	2	11
Meningitis Viral	0	0	1	1	1	1	0	0	3	1	3	1	0	0	0	0	0	0	8	4	12
Mumps	1	0	6	2	8	4	2	0	5	4	4	2	1	0	1	1	0	0	28	13	41
Pertussis	2	2	0	3	0	0	1	0	0	1	1	1	0	0	0	0	0	0	4	7	11
Rubella	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Scabies	5	2	10	10	14	9	58	17	144	25	79	15	28	6	5	0	0	2	343	86	429
Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis (Extra- Pulmonary)	0	0	0	0	0	0	14	3	21	12	17	7	7	0	2	0	1	0	62	22	84
Tuberculosis (Pulmonary)	0	0	0	1	0	0	10	2	33	26	33	13	16	2	5	0	2	0	99	44	143
Typhoid /Paratyphoid Fever	0	0	2	3	3	6	6	7	12	2	10	2	3	0	1	0	0	0	37	20	57
Other Diseases	62	43	188	122	149	125	121	76	262	222	144	138	58	50	24	9	11	10	1019	795	1814
TOTAL [§]	139	82	499	381	441	334	725	180	1444	481	848	280	349	102	146	34	39	29	4630	1903	6533
Grand Total																					7805 ^Σ

Highlighted cells (with red numbers) indicate the top three incident counts within the age/gender groups for the given illness.

[§] Total number of notifications including gastrointestinal infections. For more details about gastrointestinal infections, refer to table 4.

^Σ The grand total for Q3 2018 after including all ruled out notifications is 7805.

Table 3: Distribution of Gastrointestinal Infections in Abu Dhabi Emirate, by Region (Quarter 3, 2018)

Cases *	Abu Dhabi	Al Ain	Al Dhafra	Cumulative, Abu Dhabi Emirate						Year Total	
	Quarter 3, 2018			2018				2017	2016	2017	2016
				Q1	Q2	Q3	Q1+Q2+Q3	Q1+Q2+Q3	Q1+Q2+Q3		
Adenovirus	0	0	0	0	0	0	0	0	0	0	0
Campylobacter-Enteritis	8	1	0	4	5	9↑	18↑	15	11	21	24
Escherichia Coli (Enterohemorrhagic)	1	0	0	0	0	1	1	1	1	2	2
Giardiasis	32	24	1	44	40	57	141↑	56	100	128	184
Hepatitis A	45	14	1	35	49	60	144	83	168	189	318
Norovirus	0	0	0	0	0	0	0	0	0	0	0
Rotavirus	110	111	25	365	301	↓	912↑	528	377	844	673
Salmonellosis (non-typhoidal)	70	14	10	50	90	94	234↑	158	95	324	208
Shigellosis	10	0	0	7	5	10↑	22↑	13	7	23	20
Foodborne illness (Not tested)	29	90	3	23	41	122	186	92	88	192	132
Foodborne illness (Tested-but no growth) ^{\$}	35	27	1	12	24	63	99	88	163	145	355
TOTAL	340	281	41	540	555	662	1757	1034	1010	1868	1916

* All cases are reported through electronic notification system of DoH.

^{\$} Specimens were screened for the most common bacterial pathogens.

↑↓ Indicates increase or decrease in number of notified cases during the 3rd quarter of 2018 compared to previous quarters.

↑↓ Indicates increase or decrease in numbers of notified cases over Q1-Q3 of 2018 compared to the same period of the previous two years.

Table 4: Distribution of Gastrointestinal Infections in Abu Dhabi Emirate, by Age group and Gender (Quarter 3, 2018)

Cases	< 1 y		1 - 4 y		5 - 14 y		15 - 24 y		25 - 34 y		35 - 44 y		45 - 54 y		55 - 64 y		65+ y		Total		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Adenovirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacter-Enteritis	0	0	1	0	1	1	0	0	1	1	0	0	2	0	1	0	0	1	6	3	9
Escherichia Coli (Enterohemorrhagic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Giardiasis	0	1	6	3	4	2	7	0	16	3	8	3	1	1	2	0	0	0	44	13	57
Hepatitis A	0	0	5	3	20	12	2	3	8	1	3	0	3	0	0	0	0	0	41	19	60
Norovirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rota Virus GE	29	16	60	42	32	8	3	7	12	12	8	8	3	2	0	0	2	2	149	97	246
Salmonellosis (non-typhoidal)	3	4	24	13	13	4	4	2	3	7	5	2	2	2	3	0	1	2	58	36	94
Shigellosis	0	0	1	1	2	2	0	0	1	0	0	3	0	0	0	0	0	0	4	6	10
Foodborne illness (Not tested)	0	0	2	1	29	43	10	4	14	4	8	4	2	0	0	0	0	1	65	57	122
Foodborne illness (Tested-but no growth)	0	0	1	1	7	13	5	4	14	9	3	1	2	3	0	0	0	0	32	31	63
TOTAL	32	21	100	64	108	85	31	20	69	37	35	21	15	8	6	1	3	6	399	263	662

Highlighted cells (with red numbers) indicate the top three incident counts within the age/gender groups for the given illness.

Monthly Trends for Selected Notified Diseases, Abu Dhabi Emirate (Q1-3/2018 vs. Q1-3/2017 and 2016)

Figure 1: Chickenpox cases continue to follow same seasonality with less number of reported cases compared to the previous two years.

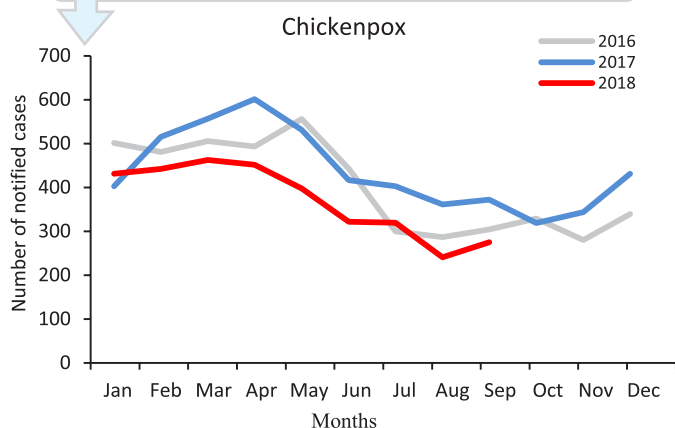


Figure 2: The peak in September is related to an outbreak in few schools in Al Ain region. Five other small outbreaks contributed to the increase in FBI cases during third quarter.

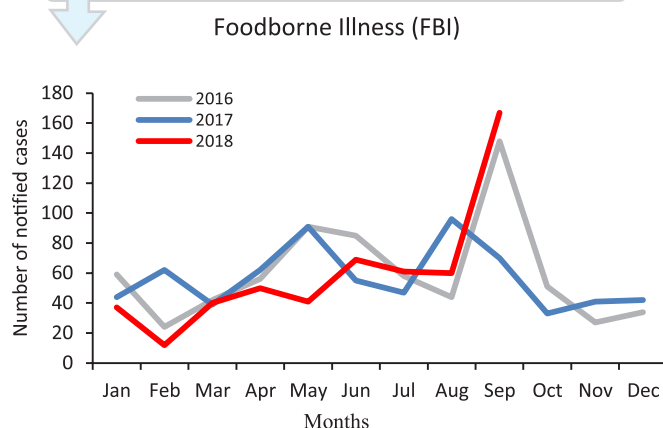


Figure 3: Number of hepatitis A cases increased sharply in September compared to the same time in the previous two years. 68% of hepatitis A cases in Q3 had travel history to endemic countries.

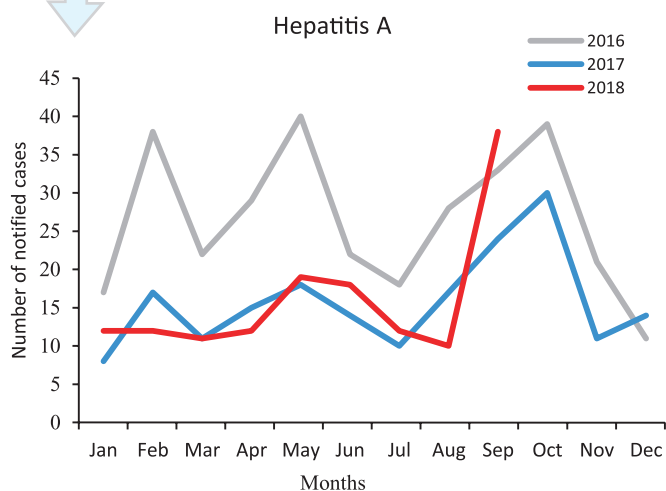


Figure 4: In Q3, 55% of the cases gave history of consuming unpasteurized milk (9 cases from the same family) and 15% of the cases were linked to occupational exposure.

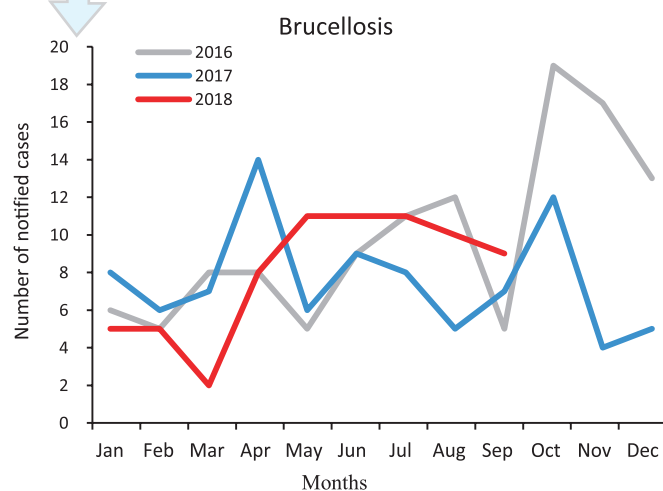


Figure 5: Reduction in the number of reported malaria cases was noted in Q3/2018 compared to previous two years.

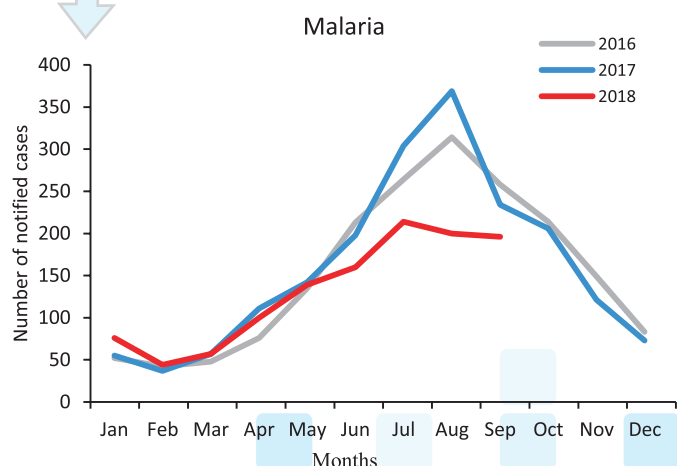
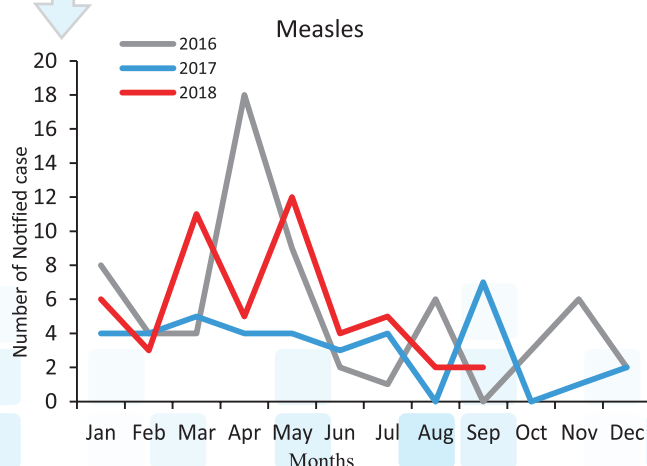


Figure 6: Number of measles cases in Q3/2018 is less compared to Q1 and 2 of the same year.



Selected Annual Trends for Antimicrobial Resistance in Abu Dhabi Emirate

Antimicrobial resistance (AMR) has become a serious threat to public health, leading to increased length of stay at hospital, increased costs, treatment failures, and death. Global and UAE commitments have led to the strengthening of AMR surveillance systems. In this section, selected AMR levels and trends are reported from Abu Dhabi Emirate AMR surveillance system.

Figure 7

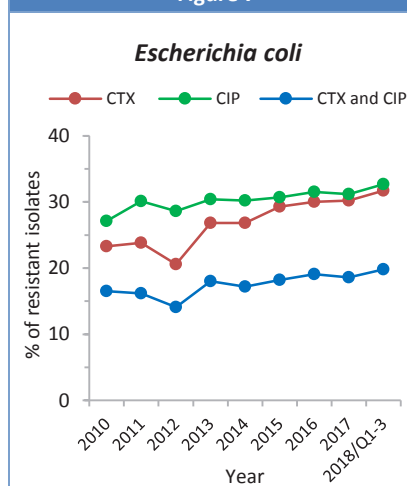


Table 5

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
AMP	67.4	66.4	63.2	66.7	65.3	66.2	65.7	65.1	65.4	No trend
AMC	13.6	12.3	8.8	11.1	12.6	12.5	11.8	12.3	12.3	No trend
CAZ	14.0	13.0	11.4	15.8	15.7	15.9	16.4	16.3	18.1	↑
CTX	23.3	23.8	20.6	26.8	26.8	29.3	30.0	30.2	31.7	↑↑
FEP	5.0	9.3	8.3	10.2	7.7	9.1	7.8	9.7	10.4	↑
ETP	—	—	0	0.8	0.6	0.7	0.7	0.9	1.0	No trend
IPM	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.4	0.4	↑
MEM	0.1	0.1	0	0.2	0.2	0.3	1.9	0.4	0.5	↑
CIP	27.1	30.1	28.6	30.4	30.2	30.7	31.5	31.2	32.7	↑
SXT	46.2	43.9	42.7	43.8	42.6	44.4	42.6	41.0	42.7	↓
NIT	1.8	1.8	2.3	2.6	2.7	3.6	2.0	1.5	1.8	No trend
CTX+CIP	16.5	16.2	14.1	18.0	17.2	18.2	19.1	18.6	19.8	↑
ESBL	—	21.7	38.0	33.0	28.9	31.6	29.7	28.0	28.3	No trend
N	2,354	5,451	5,869	6,321	6,300	6,075	6,130	6,437	5,192	50,129

E. coli: Increasing trends of resistance for 3rd- and 4th-generation cephalosporins (CAZ ↑, CTX ↑↑, FEP ↑), carbapenems (IPM ↑, MEM ↑), and fluoroquinolones (CIP ↑). Decreasing trend for trimethoprim/sulfamethoxazole (SXT, ↓).

Figure 8

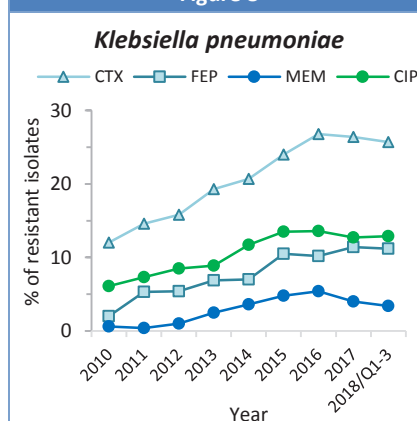


Table 6

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
AMC	8.3	6.6	7.7	10.7	13.7	16.2	14.9	16.2	15.7	↑↑
CAZ	9.5	10.5	10.0	13.0	16.4	19.0	19.8	18.5	19.2	↑↑
CTX	12.0	14.6	15.8	19.3	20.7	24.0	26.8	26.4	25.7	↑↑
FEP	2.0	5.3	5.4	6.9	7.0	10.5	10.2	11.4	11.2	↑↑
ETP	—	—	0	4.7	3.9	5.0	5.2	5.3	3.9	No trend
IPM	0.4	0.6	1.6	1.7	3.0	3.2	3.7	2.5	2.5	↑
MEM	0.6	0.4	1.0	2.5	3.6	4.8	5.4	4.0	3.4	↑
CIP	6.1	7.3	8.5	8.9	11.7	13.5	13.6	12.7	12.9	↑↑
SXT	18.2	19.0	20.3	21.7	21.9	23.2	25.0	25.7	24.9	↑
NIT	21.7	31.7	35.3	32.6	32.3	31.9	20.7	21.9	24.6	No trend
ESBL	—	21.7	24.4	25.1	21.8	24.5	25.0	23.2	22.3	No trend
N	816	1,857	2,170	2,266	2,255	2,530	2,454	2,848	2,180	19,376

K. pneumoniae: Increasing trends of resistance for all beta-lactams (↑↑), including 3rd- and 4th-generation cephalosporins (CAZ, CTX, FEP: ↑↑) and carbapenems (IPM/MEM ↑), as well as for fluoroquinolones (CIP ↑↑), and trimethoprim/sulfamethoxazole (SXT, ↑).

Figure 9

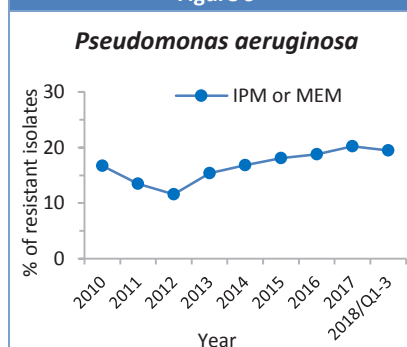


Table 7

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
TZP	9.6	10.5	10.9	7.8	9.9	10.8	10.0	7.2	3.1	↓
CAZ	7.9	7.6	6.9	7.2	8.1	9.1	8.3	9.3	9.1	↑
FEP	6.1	7.0	5.4	5.3	5.6	6.4	5.8	6.8	6.5	No trend
IPM	13.0	11.2	10.1	14.5	16.2	17.2	18.0	19.3	18.6	↑↑
MEM	14.0	10.2	9.3	11.5	12.0	13.5	13.6	14.1	14.0	↑
GEN	8.0	6.8	6.3	4.9	5.4	5.4	5.8	6.5	5.2	No trend
CIP	7.0	6.2	6.6	6.2	8.0	7.9	8.9	9.1	9.2	↑
IPM or MEM	16.7	13.5	11.6	15.4	16.8	18.1	18.8	20.2	19.5	↑
N	757	1,729	1,881	1,990	1,815	1,808	1,962	2,252	1,803	15,997

P. aeruginosa: Increasing trends of resistance for 3rd-generation cephalosporins (CAZ ↑), carbapenems (IPM ↑↑, MEM ↑), and fluoroquinolones (ciprofloxacin, CIP ↑). Decreasing trend for resistance for piperacillin/tazobactam (TZP ↓).

Figure 10

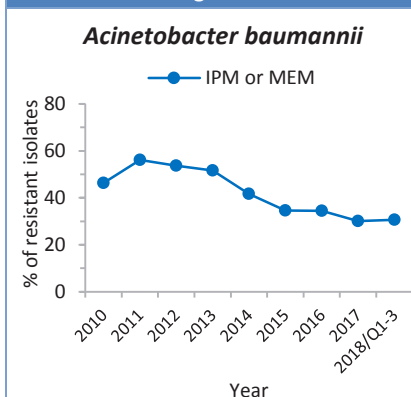


Table 8

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
IPM	39.3	53.3	47.0	47.9	40.5	34.3	33.7	29.6	30.2	↓↓
MEM	46.3	53.4	54.3	50.7	41.8	33.9	34.6	29.9	30.6	↓↓
AMK	13.5	12.5	21.4	27.5	13.0	12.1	6.1	9.1	—	↓↓
GEN	33.0	43.3	37.5	38.9	28.6	25.5	28.5	25.3	27.6	↓↓
CIP	41.2	56.5	46.6	47.0	41.4	36.4	33.7	31.2	31.6	↓↓
MNO	—	—	19.5	11.1	14.1	9.3	12.1	7.1	6.0	↓↓
TCY	36.2	49.2	42.8	39.6	43.6	33.3	34.3	36.7	23.1	↓↓
IPM or MEM	46.3	56.2	53.7	51.7	41.7	34.6	34.5	30.1	30.6	↓↓
N	189	523	523	549	432	518	420	462	380	3,996

A. baumannii: Overall decreasing trends of resistance across all classes of antibiotics, however, resistance to carbapenems remains high (IPM, MEM, IPM or MEM: >30 %R).

Figure 11

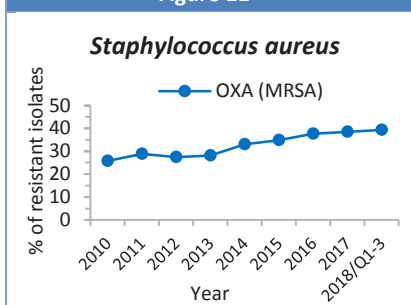


Table 9

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
OXA (MRSA)	25.7	28.9	27.5	28.2	33.0	34.9	37.7	38.5	39.3	↑↑
GEN	4.9	4.4	3.5	4.0	4.5	5.6	5.8	5.5	5.0	↑
CIP	10.6	22.7	27.4	21.4	26.2	26.3	30.3	33.4	32.8	↑↑
SXT	16.6	19.9	19.5	17.7	18.9	19.2	19.5	20.9	22.4	↑
CLI	1.5	1.3	2.9	6.1	11.3	11.3	11.1	12.1	13.1	↑↑
ERY	16.2	18.0	18.6	19.7	22.1	23.3	24.2	25.9	26.4	↑↑
N	1,384	3,138	3,323	3,368	3,277	3,557	3,678	4,064	3,376	29,165

S. aureus: Increasing trends of resistance across all antibiotic classes, including beta-lactam antibiotics (OXA ↑↑), aminoglycosides (GEN ↑), fluoroquinolones (CIP ↑↑), trimethoprim/sulfamethoxazole (SXT ↑), lincosamides (CLI ↑↑), and macrolides (ERY ↑↑).

Figure 12

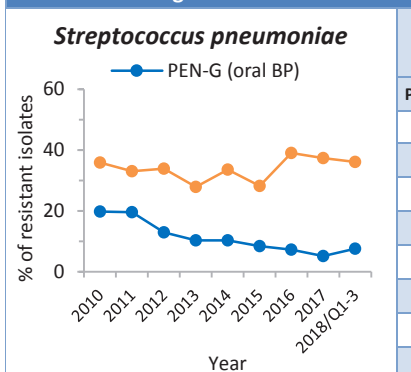


Table 10

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
PEN-G oral BP	19.8	19.6	12.9	10.3	10.3	8.4	7.2	5.1	7.6	↓↓
PEN-G NM	0	0	0	0.7	0	1.4	0.4	0.5	0.3	No trend
PEN-G M	61.7	58.8	60.4	55.9	59.5	53.8	60.5	58.7	58.4	No trend
CRO NM	1.2	1.2	1.4	2.7	0.4	1.8	0.9	1.3	0.3	No trend
CTX NM	2.4	0	1.6	2.2	0	0	0	2.0	1.0	No trend
SXT	22.2	25.5	17.3	21.8	21.0	21.3	22.8	17.9	24.2	No trend
ERY	43.5	50.9	41.9	41.4	45.2	46.6	49.8	48.5	46.4	No trend
PEN-G+ERY	35.9	33.0	33.9	27.9	33.6	28.2	39.0	37.3	36.1	No trend
N	204	516	438	397	383	433	471	581	425	3,848

S. pneumoniae: Decreasing trend of resistance for penicillin G (oral breakpoints), PEN-G↓↓). High level of resistance for macrolides (ERY), and for penicillin G and macrolides combined (PEN-G+ERY).

Figure 13

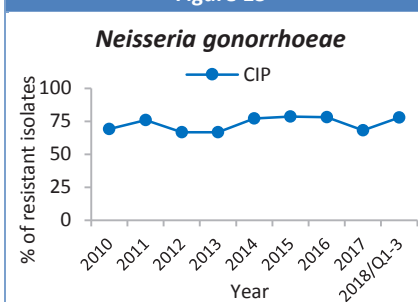


Table 11

ABX	% of resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
PEN	50.0	57.9	45.5	54.5	62.1	68.2	42.9	45.8	44.4	No trend
CRO	0	0	0	0	0	0	0	0	0	No trend
CTX	0	0	0	0	0	0	0	0	0	No trend
CIP	69.2	76.0	66.7	66.7	77.1	78.7	78.0	68.1	77.8	No trend
TCY	92.9	73.1	71.9	86.7	67.3	64.5	71.9	73.6	60.8	No trend
N	14	29	33	34	50	76	71	61	53	421

N. gonorrhoeae: High level of resistance for penicillin, fluoroquinolones (ciprofloxacin) and tetracycline. No trend observed. No data available for cefixime, azithromycin, spectinomycin, and gentamicin. Note: small sample size, potential selection bias.

Figure 14

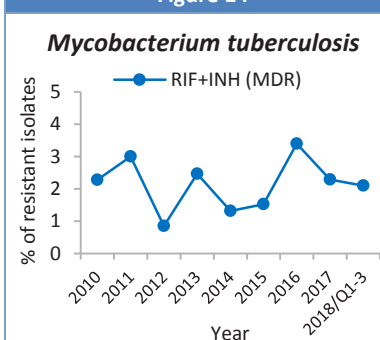


Table 12

ABX	Percent resistant isolates (%R), by year									Trend 2010-2018
	2010	2011	2012	2013	2014	2015	2016	2017	2018/Q1-3	
STR	0	6.6	5.1	5.0	3.3	3.5	—	—	—	No trend
RIF	2.3	3.9	1.1	2.5	1.5	1.5	4.0	2.9	2.1	No trend
EMB	0	1.8	0	1.0	0.4	0.9	1.9	0.2	0.6	No trend
INH	4.7	12.3	6.5	7.9	6.4	7.9	7.7	6.0	6.5	No trend
PZA	9.5	10.0	9.4	7.0	6.5	7.9	8.9	10.2	10.6	No trend
RIF+INH (MDR)	2.3	3.0	0.9	2.5	1.3	1.5	3.4	2.3	2.1	No trend
N	91	385	360	210	456	466	473	489	232	3,162

M. tuberculosis: Low level of resistance to first-line antimicrobials, and low rate of multidrug-resistant TB (MDR-TB). No data available for second-line antibiotics.

- Results shown represent a selection of key trends relevant for surveillance of antimicrobial resistance. Antibiotics in this report are important for antimicrobial resistance surveillance purposes. They may not be first-line options for testing or treatment, and should not be interpreted as such. Trend figures and data in tables represent the percentage of isolates tested resistant (%R), by year and antimicrobial agent. AMR data represents average rates across all patients/location types (inpatient and outpatient), and all specimen types. First isolate per patient only (non-duplicate isolates).
- Data was generated by routine clinical antimicrobial susceptibility testing (AST), conducted on VITEK®-2 platform (BioMérieux), (minimal inhibitory concentrations data only, MIC, except for M. tuberculosis data which represents growth interpretation data, generated on BD BACTEC™ MGIT™ (BD Diagnostics). Data represents average resistance rates for all specimen/all patient types.
- AMC**=Amoxicillin/clavulanic acid, **AMK**=Amikacin, **AMP**=Ampicillin, **CAZ**=Ceftazidime, **CIP**=Ciprofloxacin, **CLI**=Clindamycin, **CRO**=Ceftriaxone, **CTX**=Cefotaxime, **CXM**=Cefuroxime, **EMB**=Ethambutol, **ERY**=Erythromycin, **ESBL**=extended-spectrum β-lactamase-producing Enterobacteriaceae, **ETP**=Ertapenem, **FEP**=Cefepime, **GEN**=Gentamicin, **INH**=Isoniazid, **IPM**=Imipenem, **MEM**=Meropenem, **MNO**=Minocycline, **NIT**=Nitrofurantoin, **OXA**=Oxacillin, **PEN V**=Penicillin V (oral), **PEN G M/NM**=Penicillin G (i.v., meningitis/non-meningitis breakpoints), **PZA**=Pyrazinamide, **RIF**=Rifampin, **STR**=Streptomycin, **SXT**=Trimethoprim/sulfamethoxazole, **TCY**=Tetracycline, **TZP**=Piperacillin/tazobactam.
- ABX = Antibiotic,
- %R = percentage resistant.
- N = Number of non-duplicate isolates tested for antimicrobial susceptibility by MIC (minimal inhibitory concentration).
- : no data available.
- No trend: means no statistically significant trend was identified ($p > 0.05$).
- The symbols ↑ and ↓ indicate significant increasing and decreasing trends, respectively. The symbols ↑↑ and ↓↓ indicate significant increasing and decreasing trends, with resistance increasing or decreasing by ≥ 1.0 percentage-points per year (on average), respectively. Trends are long-term trends (2010-2018 Q3).

Data source: Abu Dhabi Antimicrobial Resistance Surveillance System. Data shown is from Abu Dhabi public healthcare facilities (SEHA) only, 2010-2018 Q3.

Visa Screening Applicants, Abu Dhabi Emirate (Quarter 3, 2018)

Visa screening is mandatory for all expatriates applying for work and/or residence in Abu Dhabi Emirate. It consists mainly of screening for Human Immunodeficiency Virus (HIV), pulmonary tuberculosis (TB), and leprosy. Screening for Hepatitis B and syphilis is limited to a few specified occupational categories.

The Department of Health (DoH) Visa Screening Standard is available online at:
http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=rPUOPzw3_Gw%3D&tabid=820

An average of 250,000 people or more apply for visa medical screening every quarter in Abu Dhabi Emirate. During the third quarter of 2018, a total of 311,767 applicants were screened at all DOH-licensed Screening Centers (there are 14 centers in the three regions of Abu Dhabi Emirate) and mobile clinics.

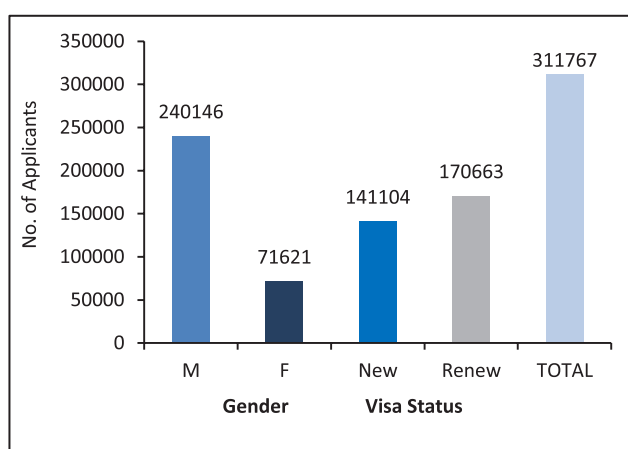


Figure 15: Visa screening applicants by gender and visa status (Q3 – 2018).

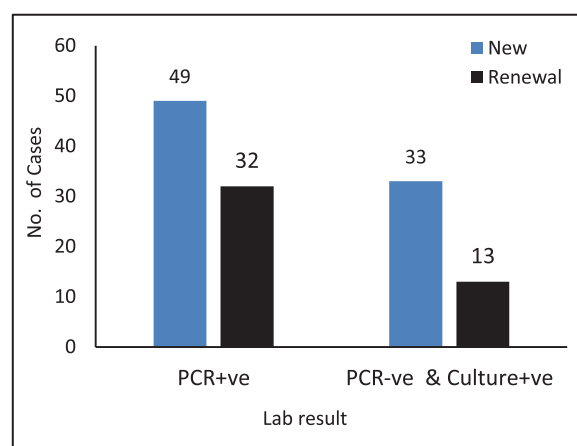


Figure 16: Active TB cases detected by visa screening in Abu Dhabi Emirate (Q3- 2018).

Table 13: Number and rate of positive cases among new and renewal visa applicants during the third quarter of 2018.

Disease	HIV		Hepatitis B**		Tuberculosis***		Leprosy		Syphilis**	
Visa Status	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew
Number of Cases	51	10	167	5	82	45	0	0	182	149
Rate *	36.1	5.9	598.9	29.8	58.1	26.4	0	0	652.7	888.1
Overall Rate	19.6		385.1		40.7		0		741.1	

* Rate: the number of positive cases per 100,000 visa screened applicants.

** Applied to certain occupational categories (New= 27886; Renew= 16778).

*** This refers to active TB cases confirmed by PCR or culture.

Influenza Quarterly Report, Abu Dhabi Emirate (Quarter 3, 2018)

Monitoring influenza trends through the surveillance systems enable the decision makers to evaluate the current situation of influenza epidemiology in Abu Dhabi Emirate. Influenza surveillance reports and activity updates are derived from a number of data sources that include passive infectious disease surveillance through DoH electronic notification system; sentinel influenza-like illness (ILI) reporting and Severe Acute Respiratory Illness (SARI) reporting from the selected healthcare facilities.

In Q3/2018, 1940 influenza cases were reported to DoH through the electronic infectious disease notification system. In figure 17, influenza cases are presented in monthly distribution compared to the previous two years. Distribution of influenza cases on weekly basis during quarter 3, in addition to virus types are shown in figure 18.

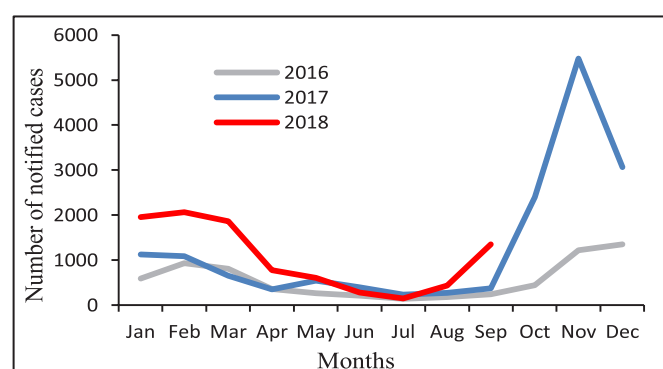


Figure 17: Number of reported influenza cases in Q3/2018 increased compared to Q2/2018. Cases reported in September are higher compared to previous two years.

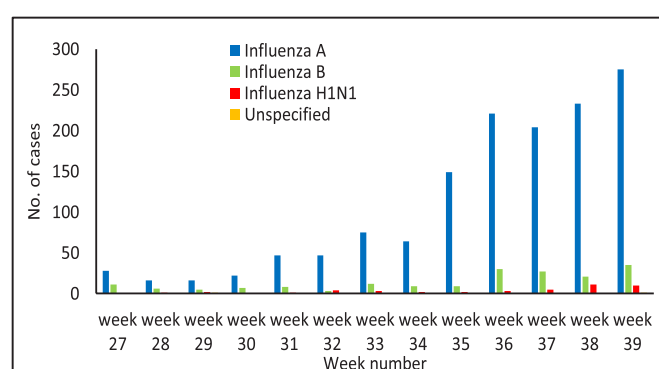


Figure 18: Distribution of influenza types by week. Influenza A activity increased in Q3/2018 compared to Q2/2018.

A total of 54 ILI cases in Q3/2018 were reported through the active surveillance system. Only 8 (15%) of the cases were influenza positive distributed by percentage of virus types as shown in figure 19. Third source of influenza surveillance is SARI in which 356 cases were reported from two selected health care facilities (296 cases from Mafraq and 60 cases from Al Ain Hospital). Out of 356 SARI cases, 56 cases (16%) were found to be positive for respiratory organisms as shown in figure 20.

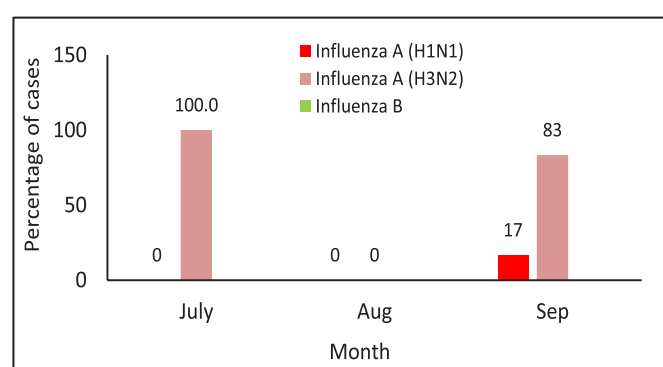


Figure 19: Distribution of influenza viruses in ILI cases by percentage. Only two cases of influenza were detected in July and no positive cases in August (as this is the low influenza activity season). Cases started to increase in late September (n = 54).

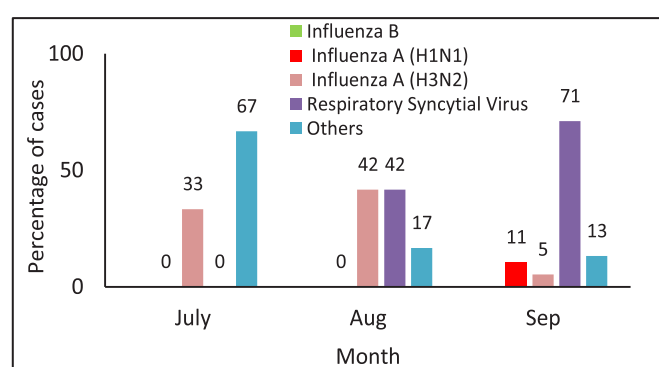


Figure 20: Distribution of respiratory organisms among SARI cases by percentage. RSV was the most common organism in September (n = 356).

Topic of the Volume

Contact Tracing

Contact tracing is a primary key control measure in the battle against infectious diseases. It is an integral component of the overall strategy for controlling transmission of infectious diseases and preventing outbreaks.

Purpose and Importance of contact tracing

Contact tracing aims at preventing the risk of transmission of infectious diseases among exposed household and community contacts. When done efficiently and in timely manner, it reduces occurrence of new cases. In other words, contact tracing limits transmission and prevents outbreaks of infectious diseases. It also helps in early identification of new cases, which facilitates early isolation, and treatment of new cases as they occur.

Definition of contact tracing process

Contact tracing is defined as the identification and follow up of persons who come in contact with infected person. Contact tracing is an important part of epidemiologic investigation and active surveillance as it ensures contacts are aware of their exposure, and necessary measures that would protect them from acquiring the same infection are implemented (WHO).

Contact tracing is a corner stone in defeating communicable diseases

Definition of Contact

A person is considered as a contact if he/she spent sufficient time and in physical proximity with the index case during infectious period.

How is contact tracing done?

Once the infectious disease case is detected by Department of Health (DoH), the process of identifying contacts is initiated and recommended preventive measures are applied. Symptomatic contacts will be treated as new cases and will have their own contact tracing done while asymptomatic contacts will be referred to a preventive service to protect them from developing same infection. Preventive measures may include prophylaxis, vaccination, contact screening, contact monitoring during the incubation period of the infectious diseases, etc (Figure 21).

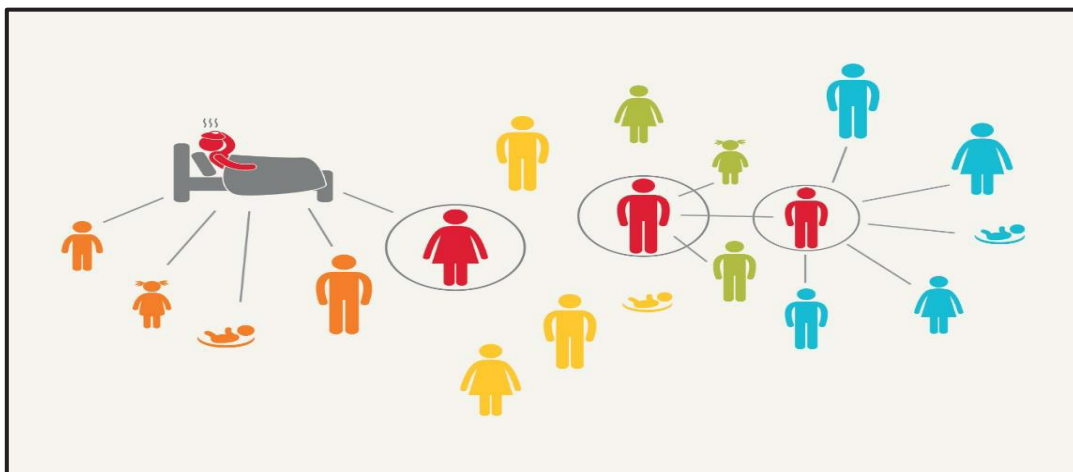


Figure 21: Contact tracing identifies symptomatic and asymptomatic contacts of the index case.

Contact tracing in Abu Dhabi

In Abu Dhabi Emirate, healthcare facilities report suspected and confirmed infectious diseases cases to Department of Health (DoH) through the electronic notification system of infectious diseases. Communicable diseases department (CDD) team at DoH takes the role of responding to the reported infectious diseases cases and implementing measures that help in preventing transmission of infectious diseases in the community of Abu Dhabi. CDD staff communicate-usually by phone- with patient/patient's guardian to:

- Introduce the reason for contact tracing,
- Provide education on transmission and likely duration of infection,
- Trace back exposed contacts during infectious period,
- Refer symptomatic contacts to healthcare facilities for management and evaluation; if any,
- Refer asymptomatic contacts for the recommended preventive measures (Figure 22).

Preventive measures vary according to the disease and mode of transmission and availability of vaccines or medications against the causative agents,

CDD - DoH is committed to maintain confidentiality of patients and contacts information

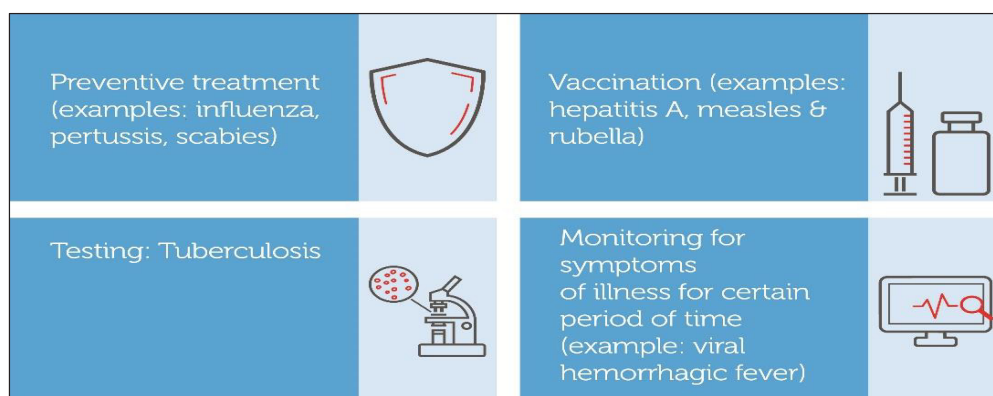


Figure 22: Examples on preventive measures provided to contacts to prevent occurrence of new cases.

Contact tracing is not limited to family members; it usually expands to cover contacts at school or work place in order to reduce the occurrence of new cases. To increase the efficiency of contact tracing, other stakeholders may be involved if the infections are related to food, water or contact with animals.

The below challenges affect the process of contact tracing:

- Uncooperative patients,
- Delayed reporting by healthcare facilities which results in delayed DoH actions toward contacts,
- Patients being unaware of their diagnosis, so it takes time to explain the importance of tracing their contacts.

Communicable Diseases Surveillance Manual is developed to standardize the contact tracing practice

Cost effectiveness

Providing prophylaxis or vaccination to close contacts of infectious diseases cases like measles, hepatitis A, pertussis, etc., is proven to be cost-effective. The cost of antibiotic treatment or vaccine is less when compared to the cost of providing treatment/hospitalization to infected cases.

Vaccination, preventive medication and testing required to protect contacts, are provided free of charge for nationals and residents in designated clinics in Abu Dhabi Emirate

Sharing Reports

Premarital Health Screening Program Report

The UAE law requires couples who are planning to marry to undergo premarital medical screening. The Department of Health (DoH), which is the regulatory body of the healthcare system and the custodian of public health in the Emirate of Abu Dhabi, has issued premarital screening standards (PMS) for infectious diseases and genetic disorders, counseling, and release of screening results (DOH PHP/PMS /V1.0 issued Apr/2011).

For couples considering marriage, PMS helps in identifying potential health problems (infectious or hereditary diseases) and risks for themselves and their unborn child (Alwan and Modell, 2012). Therefore, it is vital for couples to be screened in order to help them to understand their genetics and infectious diseases status and help them take the necessary precautions or treatments. Moreover, the PMS program provides three different types of vaccinations (Rubella, Hepatitis B, and HPV) if indicated.

This report aims to provide surveillance information about premarital health screening programs reported in Abu Dhabi Emirate from 2013 to 2017, and to estimate the prevalence of infectious diseases and hemoglobinopathies, which is important to clinicians and public health officials.

A total of 78,216 applicants have been registered in DoH premarital database. Table 14 illustrates demographic characteristics of the applicants. The mean age of couples was 32 years with a standard deviation of 8.2. Males and females were not equally distributed, 51.5% and 48.5% respectively. More than half of couples who applied for PMS were 25-34 years of age.

Table 14: Demographic characteristics among PMS applicants, Abu Dhabi Emirate, 2013-2017, (n=78,216)

Demographic	#	%
<i>Total</i>	<i>78216</i>	<i>100%</i>
Year		
<i>2013</i>	<i>15478</i>	<i>19.8%</i>
<i>2014</i>	<i>16416</i>	<i>21.0%</i>
<i>2015</i>	<i>15566</i>	<i>19.9%</i>
<i>2016</i>	<i>15753</i>	<i>20.1%</i>
<i>2017</i>	<i>15003</i>	<i>19.2%</i>
Gender		
<i>Male</i>	<i>40313</i>	<i>51.5%</i>
<i>Female</i>	<i>37903</i>	<i>48.5%</i>
Nationality		
<i>National</i>	<i>46450</i>	<i>59.4%</i>
<i>Expatriate</i>	<i>37903</i>	<i>40.6%</i>
Age Group		
<i>=<24</i>	<i>10015</i>	<i>12.8%</i>
<i>25-34</i>	<i>44890</i>	<i>57.4%</i>
<i>35-44</i>	<i>17452</i>	<i>22.3%</i>
<i>45-54</i>	<i>4255</i>	<i>5.4%</i>
<i>55-64</i>	<i>1136</i>	<i>1.5%</i>
<i>>=65</i>	<i>468</i>	<i>0.6%</i>

Consanguinity Result

Blood related marriages are called consanguineous marriages. It has been reported that consanguinity is more common in Middle East (WHO, 2012); however, the true prevalence rate of consanguinity remains unknown. Figure 23 shows degree of consanguinity among PMS applicants. Overall, the percentage of consanguinity in the Emirate of Abu Dhabi was estimated to be around 20.9% from 2013 to 2017. The common type of consanguineous marriage was between 1st degree relatives (4.1%).

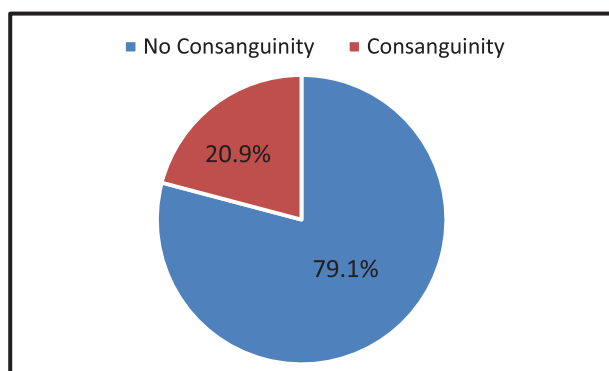


Figure 23: Degree of consanguinity among premarital screening applicants, Abu Dhabi Emirate, 2013-2017 (n=78,216).

Hemoglobinopathies Report

Hemoglobinopathy is a group of disorders passed down through families (inherited) in which there is abnormal production or structure of the hemoglobin molecule (WHO, 2012). Such disorders include hemoglobin C, D, and E disease, sickle cell anemia, and various types of thalassemia.

Overall, 1600 (2.0%) among screened population were B-Thalassemia carriers and 17 cases had the disease. There are 976 (1.2%) sickle cell carriers and 30 had the disease. As shown in Table 15, the prevalence of B-thalassemia and sickle cell disease is less than 1% in the Emirate of Abu Dhabi. Couples with a family history of hemoglobinopathies or any other genetic disease are referred to genetic specialist for further evaluation.

Table 15: Prevalence of hemoglobinopathies among PMS applicants, Abu Dhabi Emirate, 2013-2017 (n=78,216)

Hgb Diseases	Frequency	Percent (%)	*Rate per 100,000 Applicants
B-Thalassemia testing	78195	100%	
Normal	76578	97.9%	
Carrier	1600	2.0%	
Disease	17	0.02%	22
Sickle Cell testing	78196	100%	
Normal	77190	98.7%	
Carrier	976	1.2%	
Disease	30	0.04%	39
Hgb Variant C testing	78194	100%	
Normal	78120	99.9%	
Carrier	74	0.1%	
Hgb Variant D testing	78196	100%	
Normal	77898	99.6%	
Carrier	289	0.4%	
Disease	9	0.0%	12
Hgb Variant E testing	78196	100%	
Normal	78046	99.8%	
Carrier	139	0.2%	
Disease	11	0.0%	14

*= (cases count/total# of applicant)*100,000

Infectious Diseases Report

The PMS includes tests for infectious diseases, such as HIV, Hepatitis B/C, and Syphilis. Table 16 summarizes infectious diseases test results and disease prevalence rate in the Emirate of Abu Dhabi. PMS centers provide proper counseling and treatment for individuals or couples who tested positive for infectious diseases.

Table 16: Prevalence of Infectious Diseases among PMS Applicants, Abu Dhabi Emirate, 2013-2017 (n=78,216)

<i>Infectious Disease Screening</i>	<i>Frequency</i>	<i>Percent (%)</i>	<i>*Rate per 100,000 applicants</i>
<i>HIV Test</i>	78182	100%	
<i>Not-reactive</i>	78153	99.96%	
<i>Reactive</i>	14	0.02%	18
<i>Equivocal</i>	4	0.01%	
<i>Hepatitis B (HbsAg) Test</i>	78173	100%	
<i>Not-reactive</i>	77635	99.3%	
<i>Reactive</i>	516	0.6%	660
<i>Equivocal</i>	20	0.03%	
<i>Hepatitis C Antibody Test</i>	78173	100%	
<i>Not-reactive</i>	77833	99.6%	
<i>Reactive</i>	283	0.4%	362
<i>Equivocal</i>	45	0.1%	
<i>Syphilis Test</i>	78175	100%	
<i>Not-reactive</i>	77905	99.7%	
<i>Reactive</i>	228	0.3%	292
<i>Equivocal</i>	31	0.0%	

*= (cases count/total # of applicants)*100,000

References:

1. Alwan and Modell B. (2012). Community control of genetic and congenital disorders. Alexandria: Eastern Mediterranean Regional Office, World Health Organization, 1997 (EMRO Technical Publication 24).
2. Department of Health Dubai (2011). Standard for Premarital Screening in the Emirate of Abu Dhabi Available at from: <http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=8zpS7LfkeWQ%3d&tabid=819/> Accessed November 24, 2018.
3. Centers for Disease Control and Prevention (2018). Vaccine and Immunizations schedule. Available at from <http://www.cdc.gov/vaccines/recs/schedules/>. Accessed November 24, 2018.
4. World Health Organization. (2012). Global epidemiology of hemoglobin disorders and derived service indicators. Available from <http://www.who.int/bulletin/volumes/86/6/06-036673/en/>.

Activities

1. In-house training program on immunization:

- A series of in-house training sessions were arranged by Department of Health (DoH) in collaboration with speakers from SEHA. These sessions were conducted in 12 major private and semi-governmental healthcare facilities (HCFs) in Abu Dhabi and Al Ain regions, where the majority are maternity hospitals. The objectives of the program were to:
 - i. Emphasize on the importance of seasonal Influenza vaccination among healthcare professionals (HCPs) and high-risk patients, especially pregnant women,
 - ii. Describe global and national seasonal influenza surveillance,
 - iii. Identify motivators for and barriers to seasonal influenza vaccination among HCPs,
 - iv. Highlight the strategies to improve seasonal influenza vaccination coverage.
- 469 HCPs attended the program.

2. Training workshops on Crimean Congo Hemorrhagic Fever (CCHF) Management:

- Two training workshops on Crimean Congo Hemorrhagic Fever (CCHF) management were conducted in Abu Dhabi and Al Ain regions during Q3-2018, targeting HCPs working at public and private HCFs. Attendees were mainly from emergency and isolation departments, staff working in the infectious diseases management field with attendees from Abu Dhabi Food Control Authority/animal health department. Workshops aimed to:
 - i. Update the attendees on CCHF epidemiology,
 - ii. Discuss global practices toward CCHF management and how HCPs can handle cases with the required infection control precautions,
 - iii. Elaborate on the importance of applying preventive measures for veterinarians and other workers who are working in the slaughterhouses in Abu Dhabi emirate.
- Both workshops were attended by 119 participants.

3. Infectious Diseases Notification (IDN) training sessions:

- The communicable disease control team at Public health/DoH recognizes the importance of continuous education of HCPs at public and private HCFs regarding detection and reporting of infectious diseases and its impact on public Health. Nine on-site training sessions were conducted in Q3-2018 for public and private HCFs in the three regions of Abu Dhabi emirate. The sessions aim at enhancing knowledge among the HCPs on requirements of reporting communicable diseases through the electronic notification system and its important role in the process of epidemiological investigation and infectious disease control and prevention.
- Total number of attendees was 157 HCPs from different categories.

4. On-site training session on Malaria lab diagnosis and G6PD testing:

- Malaria control team at DoH conducted on-site training sessions on issues related to malaria laboratory diagnosis and G6PD testing. The aims of these sessions were to enhance malaria laboratory diagnosis and to assure the availability of qualitative G6PD rapid test in the targeted facilities. Timely communication of the G6PD status of the patient will enable physicians to prescribe the eradication treatment (primaquine) for Plasmodium vivax and Plasmodium ovale at the same visit without asking the patient to come back again for G6PD testing.
- A total of 38 facilities; 9 SEHA and 29 private facilities (hospitals and standalone diagnostic laboratories) were covered in these rounds of on-site training sessions in the three regions.
- 423 HCPs were trained at different public and private HCFs, the majority of the trainees were pathologists, laboratory technicians and management staff.

Flash News

I- Two cases of Monkeypox imported to the United Kingdom, September 2018

In September 2018, two cases of Monkeypox were confirmed, one Nigerian Naval officer and a UK resident. Both had recent travel to Nigeria and they started to have symptoms before their departure from Nigeria. The Monkeypox virus DNA was detected by multiple molecular assays and subsequently confirmed by sequencing analysis. As part of the response, Public Health England (PHE) developed a range of public information and guidance on Monkeypox and is liaising with European public health agencies via the Early Warning and Response System (EWRS). As a precautionary measure, PHE identified possible contacts in the UK to carry out a risk assessment of their contact with the patients and to provide them with advice and information.

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.38.1800509>

II- Diphtheria case in Northern New South Wales (NSW) sparks a warning to adults for booster shots

On 10 Aug 2018, an expert in infectious diseases mentioned that the recent case of Diphtheria in Northern New South Wales is a timely reminder for people to be immunized. New South Wales Health confirmed the first case of toxigenic diphtheria in the Northern Rivers for 17 years.

The expert mentioned that diphtheria has not been eradicated, but it is fair to say that we do not see it as much as we used to, as the number of diphtheria cases are low globally. In 2016, there were only about 7,000 cases reported globally.

A booster dose for the vaccine was recommended 10 and 20 years after the primary course following this incident.

<https://www.abc.net.au/news/2018-08-10/new-diphtheria-case-alerts-adults-for-booster-shots/10105986>

III- Disease outbreak news - Cholera - Algeria

On 23 August 2018, the Algerian Ministry of Health (MoH) announced an outbreak of cholera in northern parts of the country, in and around the capital province Algiers. From 7 August to 6 September, 217 cases with cholera-like symptoms have been hospitalized, two of the patients died (Case Fatality Rate: 0.9%). Cases have been reported from seven provinces. Of these, 83 have been confirmed as *Vibrio cholerae* serogroup O1 Ogawa at the Institute Pasteur Algiers. More than half of the confirmed cases have been registered in Blida Province.

A total of 21, including three private, water sources in the affected areas were tested for bacterial contamination, and 10 of these were deemed inappropriate for human consumption. One of the water sources tested positive for *Vibrio cholerae* and was condemned for human consumption.

Public Health Response:

- Surveillance and active case searching around the identified cases are ongoing and have been intensified by the MoH.
- The public water supply in Algeria is tested on a daily basis; all samples collected have tested negative for enteric pathogens.

<https://www.who.int/csr/don/14-september-2018-cholera-algeria/en/>

Flash-on-an-Illness

Malaria

Malaria is a serious and potentially life threatening febrile illness caused by infection with the protozoan parasite, *Plasmodium*. It is transmitted to humans by the bite of the female *Anopheles* mosquito.

In 2016, 91 countries reported a total of 216 million cases of malaria, an increase of 5 million cases over the previous year. The global tally of malaria deaths reached 445,000 deaths, about the same number reported in 2015. Approximately 3 billion people are at risk of infection. It mainly affects tropical parts of Africa, South and Central America, Hispaniola, Oceania, Asia, and the Middle East.

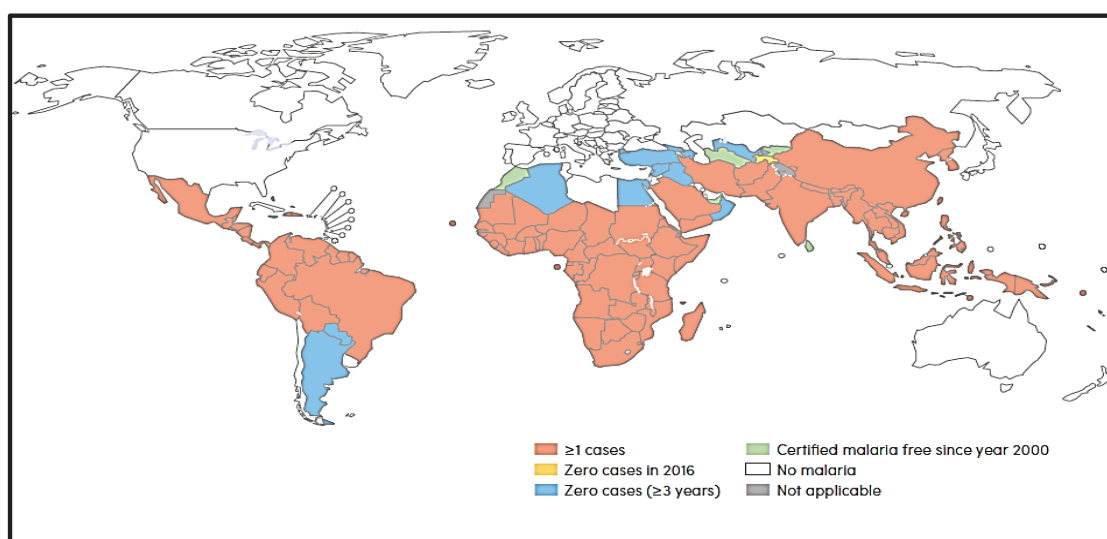


Figure 24: Countries and territories with indigenous cases in 2000 and their status by 2016
<https://travelhealthpro.org.uk/factsheet/52/malaria>.

Transmission

The malaria parasite is transmitted to humans by the bite of an infected female *Anopheles* mosquito. *Anopheles* biting patterns vary depending on world region and species, but malaria transmission takes place most commonly between dusk and dawn.

Malaria Parasites

There are four types of malaria species that commonly affect humans: *Plasmodium falciparum*, (which is responsible for the vast majority of malaria deaths), *Plasmodium vivax*, *Plasmodium ovale* and *Plasmodium malariae*. There is a 5th type, *Plasmodium knowlesi*, which is a parasite that usually infects monkeys. Cases of malaria caused by *P. knowlesi* have recently been reported in humans in South East Asia, to date no case of *P. knowlesi* reported in the Emirate of Abu Dhabi (AD).

Clinical features

Malaria should be suspected in anyone with a fever or a history of fever who has returned from or previously visited a malaria endemic area, regardless of whether they have taken prophylaxis.

There are no specific symptoms of malaria, most patients complain of fever, headache and general malaise. Gastrointestinal disturbances, jaundice or respiratory symptoms occasionally occur and are often responsible for misdiagnosis.

Diagnostic Testing

Prompt diagnosis and treatment of malaria patients is the most effective intervention to ensure that a mild case of malaria does not develop into severe disease and probable death.

The Department of Health recommends that every suspected malaria case must initially do the Rapid Diagnostic Test (RDT) and then confirmed by microscopy. Accurate diagnosis improves the management of febrile illnesses and ensures that antimalarial medicines are used only when necessary.

Treatment

Malaria, particularly severe cases, should always be managed in consultation with someone experienced in managing the disease.

Patients with falciparum malaria should usually be admitted to hospital initially because of the risk of deterioration even after effective treatment has been initiated.

The distinction between falciparum malaria and other species of malaria is important. Malaria caused by *Plasmodium ovale*, *P. vivax*, and *Plasmodium malariae* rarely causes life-threatening disease and can usually be managed on an outpatient basis, unless the patient has other comorbidities or cannot tolerate oral medication.

For detailed treatment, see <http://www.who.int/malaria/publications/atoz/9789241549127/en>

Prevention

Malaria prevention involves a combination of preventive measures (the ABCD of malaria prevention) including:

- **A**wareness of risk
- **B**ite prevention
- **C**hemoprophylaxis
- **D**iagnose promptly and treat without delay.

Chloroquine, mefloquine doxycycline atovaquone/proguanil are the most commonly used for prophylaxis in UAE.

For antimalarial drug use go to: <http://www.who.int/ith/2017-ith-chapter7.pdf?ua=1&ua=1>

Currently there is no commercially licensed malaria vaccine.

http://www.who.int/vaccine_safety/committee/topics/malaria_vaccine/Dec_2017/en/

Imported Malaria in the Emirate of Abu Dhabi

The World Health Organization certified the United Arab Emirates a malaria free country in 2007. This achievement is a result of rigorous vector control, case management and prevention and it should not be jeopardized by its re-introduction.

Malaria is one of the infectious diseases mandated to be reported to Department of Health through electronic notification system of infectious diseases. There is a substantial number of malaria cases imported to the Emirate of Abu Dhabi from malaria endemic countries (Figure 25). Imported malaria is a great threat for re-introduction of malaria after its elimination

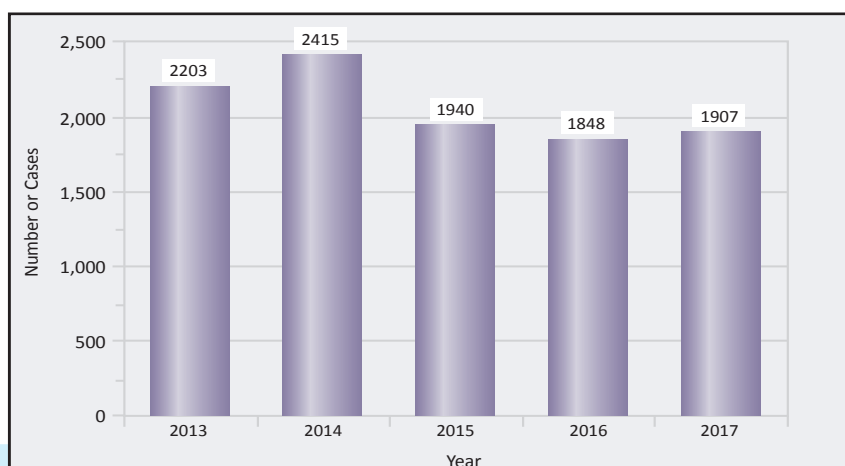


Figure 25: number of imported malaria cases to the Emirate of Abu Dhabi (2013 – 2017).

The majority of the reported cases are coming from countries in the Asian Subcontinent followed by Sub-Saharan Africa as shown in figure 26.

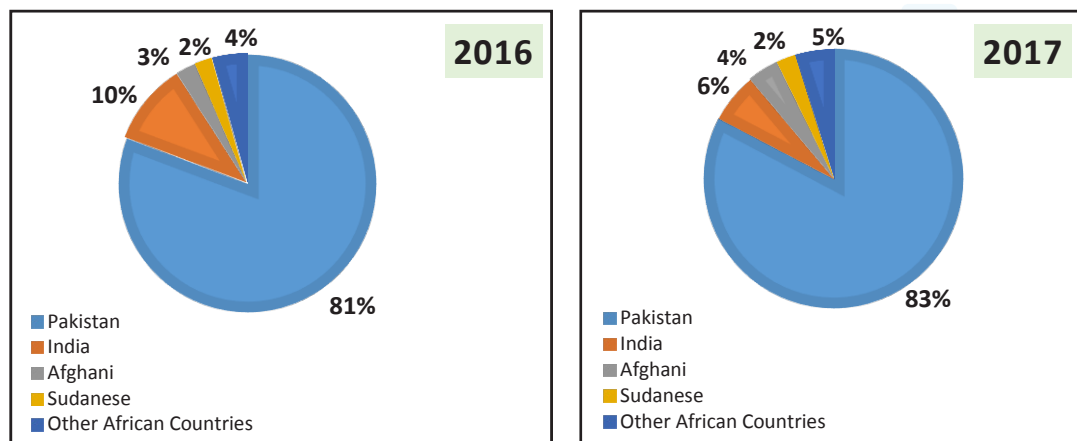


Figure 26: Comparing the distribution of imported malaria cases by travel destination from Asian Subcontinent and Sub-Saharan Africa in 2016 and 2017.

The predominant malaria parasite before elimination was *Plasmodium falciparum*. *Plasmodium vivax* is the most common parasite seen in imported malaria cases in the Emirate of AD. However, there is an increase in the number of *P. falciparum* malaria to 11% of cases in 2018 (Figure 27), compared to 8% in the last three years (Figure 28).

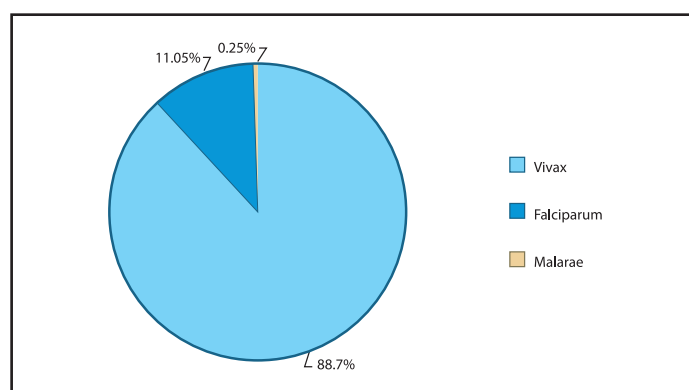


Figure 27: Distribution of imported malaria cases in AD emirate according to plasmodium species (January to September-2018).

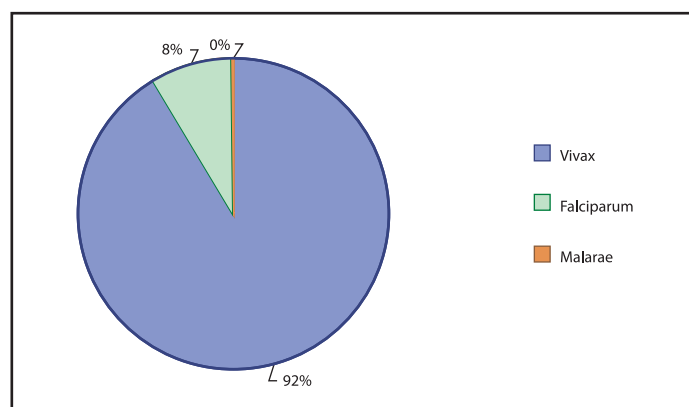


Figure 28: Distribution of imported malaria cases in AD emirate according to plasmodium species (2015-2017).

In conclusion, malaria remains a serious deadly disease, so to prevent increases in malaria morbidity and mortality it is important to improve access to effective intervention strategies.

Applied Research in Communicable Diseases

Prevalence of pulmonary tuberculosis among expatriates subjected to medical visa screening in Abu Dhabi, United Arab Emirates

Farida I. Al Hosani , Ghada A. Yahia

Abstract

Introduction: All applicants for work and/or residence in Abu Dhabi are screened for tuberculosis at the time of issuing or renewing their residence visa. The purpose of this study is to assess the prevalence of TB among visa applicants and the likelihood of testing positive among different subgroups.

Methods: Data from the electronic visa screening system was used for a total of 948,504 applicants screened for residence in Abu Dhabi from January to December 2010.

Results: The screening identified 4577 suspected cases of pulmonary tuberculosis (PTB); 1558 people with chest X-ray findings suggestive of prior PTB; 235 smear positives; and 132 culture-positive cases. The prevalence of active PTB was 39/100,000, with new applicants significantly more likely to test positive compared with renewals (OR: 2.05, 95% CI: 1.5–2.7, $P < .001$). People coming from African countries had the highest prevalence of TB compared with people from other regions (OR: 21.25, 95% CI: 6.72–67.17, $P < .001$).

Conclusion: The number of active PTB cases among applicants for visa screening is still of a real concern. Without a rigorous screening system, the disease can spread to the community and hit other people. Certain subgroups were more likely to have the disease; this could provide the scientific foundation for future amendments in the screening requirements.

To read full article, please refer to the following link:

https://ac.els-cdn.com/S2210600612000652/1-s2.0-S2210600612000652-main.pdf?_tid=07a8222e-efab-4d57-b391-0175bc36fe7&acdnat=1545660051_ed232e8c6c03836641078d7d865bb377

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We are glad to invite you to participate in this bulletin. Please contact:

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LIST OF INFECTIOUS DISEASES TO BE NOTIFIED			
AFP/ Poliomyelitis	1	Meningitis Specify Etiology:	1
Amebiasis	7	☐ Viral ☐ Unspecified	
Anthrax		☐ Bacterial ☐ Fungal	
Botulism		Mumps	7
Brucellosis	1	Pertussis (Whooping Cough)	1
Chickenpox	7	Plague	
Chikungunya	1	Rabies	
Cholera		Relapsing Fever	1
Corona virus (MERS COV)		Rota Virus GE	7
Dengue Fever		Rubella (German Measles)	1
Diphtheria		Rubella Syndrome, Congenital	1
Encephalitis, Specify Etiology: ☐ Viral ☐ Unspecified ☐ Bacterial	1	Scabies	7
Escherichia coli (Enterohemorrhagic):	1	Scarlet Fever	7
Foodborne Illness Specify:		Sentinel Influenza Surveillance Network	7
Giardiasis	7	Severe Acute Respiratory Infection (SARI)	
Haemophilus influenza invasive disease	1	Sexually Transmitted Infection (STIs)	7
Hepatitis A	1	☐ Chlamydia ☐ Chancroid ☐ Gonorrhea	
Hepatitis B (specify acute case or chronic)	7	☐ Genital Warts ☐ Herpes Simplex	
Hepatitis C (specify acute case or chronic)	7	☐ Syphilis ☐ Trichomoniasis	
Hepatitis D (Delta)	7	☐ Other, specify	
Hepatitis E	1	Shigellosis	1
Human Immunodeficiency Virus (HIV)/AIDS		Smallpox (Variola)	
Influenza ☐ A ☐ B ☐ Unspecified	7	Tetanus	7
Influenza - Avian (Human)		Tuberculosis (Pulmonary)	
Influenza – H1N1		Tuberculosis (Extra-Pulmonary)	7
Invasive Pneumococcal Disease (IPD)	7	Typhoid/Paratyphoid Fever	1
Legionellosis	1	Typhus Fever	1
Leprosy (Hansen Disease)	1	Viral Hemorrhagic Fever	
Listeriosis	7	Yellow Fever	
Malaria	1	Zika Virus	1
Measles (Rubeola)	1	Occurrence of any unusual diseases specify	
		Others	7

= Report immediately by telephone & electronic notification

1 = Report by Electronic notification within one calendar day of identification

7 = Report by electronic notification within seven calendar days of identification

All notifications (suspected and confirmed) should be submitted via:
<https://bpmweb.haad.ae/UserManagement/Login.aspx>

To register in the E-Notification, please use the following links:

<http://www.haad.ae/haad/>

