

TUBERCULOSIS IN LEBANON

Annual Report-2020

National Tuberculosis Program Lebanon

Ministry of Public Health

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Abbreviations

CHV	Community Health Volunteer
EPTB	Extra-Pulmonary Tuberculosis
GF	Global Fund
GF-C19RM	Global Fund-Covid19 Response Mechanism
HBC	High Burden Countries
HCW	Healthcare Worker
IOM	International Organization for Migration
LRM	Laboratoire Rodolphe Merieux
MER	Middle East Response to Syrian Crisis
MOPH	Ministry of Public Health
MDR-TB	Multi Drug-Resistant Tuberculosis
NTRL	National Tuberculosis Reference Laboratory
NTP	National Tuberculosis Program
PPE	Personal protective equipment
PTB	Pulmonary Tuberculosis
RR-TB	Rifampicin-Resistant-Tuberculosis
TB	Tuberculosis
TRS	Tuberculosis Registration System
TST	Tuberculin Skin Test
USJ	Universite Saint Joseph
VOT	Video Observed Treatment
WHO	World Health Organization
XDR-TB	Extensively drug-resistant Tuberculosis

I. Background

In 2019, the NTP under MOPH succeeded to find, diagnose and treat 768 TB cases* which is the highest number of notified cases since 2007. There was a 14% increase in total notification, 13.8% increase in notification among Lebanese and migrants and 12.3% increase in notification among refugees in 2019 compared to 2018. This could be mainly attributed to the numerous interventions and activities conducted by NTP with the support of IOM, WHO and all other partners to reach high risk groups and vulnerable populations in the country. In 2020, Lebanon endured multiple crisis, including the Covid-19 global pandemic, the massive blast in Beirut's port, and an economic collapse that pushed tens of thousands people into poverty. These events have led to a decrease in TB notification among the different population subgroups in the country especially migrants.

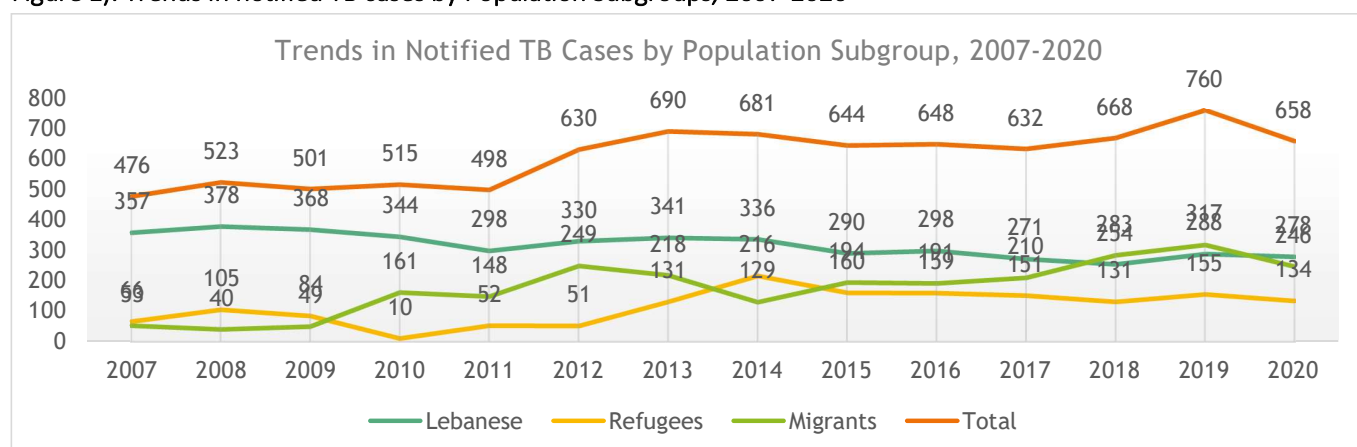
This report describes the epidemiology of TB in Lebanon in 2020 and highlights the trends of TB notification during the past years. It also provides an overview on the different interventions and activities planned and implemented to ensure the delivery of TB services during COVID19 pandemic. Furthermore, it gives an insight on the emergency response after the Beirut blast.

II. TB Epidemiology in Lebanon

Lebanon is a low TB burden country with an estimated total and DR-TB incidence rates of 13 and 0.3 per 100000 populations respectively, an estimated mortality rate of 1 per 100000 populations and a treatment coverage of 87% (WHO Global Tuberculosis Report 2020).

The trend of TB notification has increased from 2012 onwards and this is particularly related to the influx of Syrian refugees and to the migrant workforce present in the country (Figure 1). Likewise, Figure 2 shows that the percentage of foreign born TB has drastically increased from 17% in 2006 reaching around 60% during the past 4 years. Nevertheless, the trend of TB incidence rate is found to be significantly decreased when compared to the figures in 2000**.

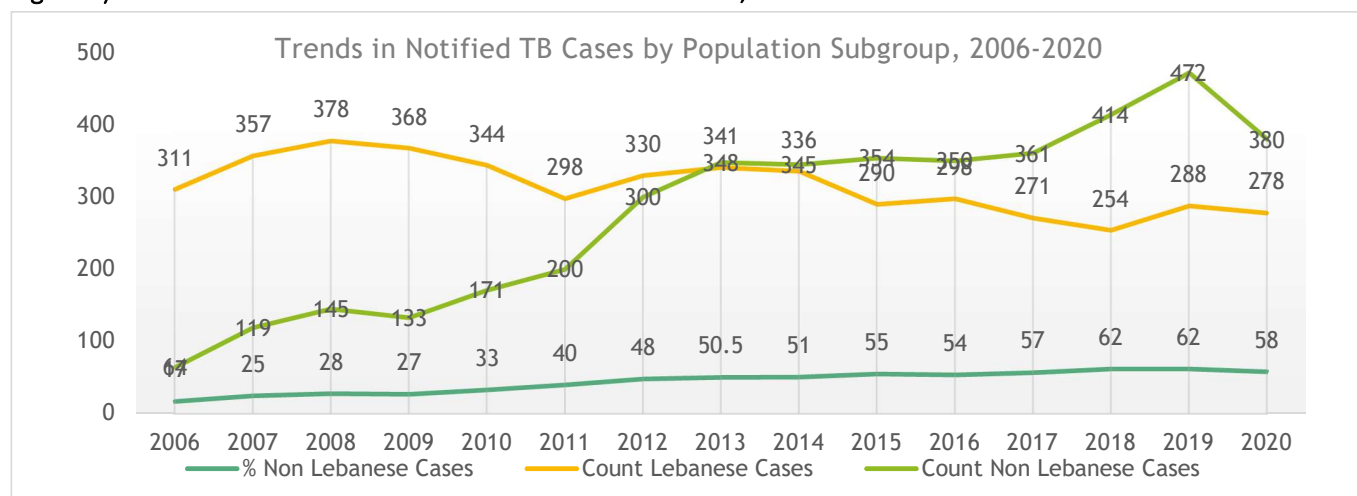
Figure 1): Trends in notified TB cases by Population Subgroups, 2007-2020



*Including drug sensitive and drug resistant TB cases

**Joint Program Review Mission Report 2020-Lebanon

Figure 2): Trends in notified TB cases-Nationals vs. Non-nationals, 2006-2020



TB treatment Outcomes in 2019

The overall treatment success rate was 80% in all reported TB cases in 2019, and 94% and 90% in Syrian and in Lebanese cases respectively. The low treatment success rate among patients from the migrant workforce remains low and is mainly attributed to the large number of migrants leaving Lebanon before treatment completion (**Table 1**). NTP has developed a transfer-out form, which includes information about diagnosis, tests' results and treatment status, to be sent with patients who leave Lebanon. However, there is still no mechanisms to track patients transferred out of the country and further international collaboration is needed to ensure treatment continuation and to retrieve their treatment outcome from NTP in home-country.

Table 1: TB Cases and Treatment Outcomes - Distribution by Nationality (2019)

Treatment Outcome	Nationality				
	Lebanese	Syrian	Palestinian	Others	Total
Cured	86	67	2	91	246
Treatment Completed	174	64	10	113	361
Treatment Success Count*	260	131	12	204	607
Treatment Success Rate	90	94	80	64	80
Treatment Failure	2	0	0	0	2
Death	13	3	1	2	19
Left the Country	2	3	0	62	67
Transferred Out**	0	0	0	39	39
Lost to Follow-Up	11	2	2	11	26
Total	288	139	15	318	760

*Treatment Success Count= Cured + Treatment Completed

**Cases registered at NTP Lebanon and were transferred out to another NTP in a different country to continue TB treatment

TB Epidemiology in Lebanon in 2020

During the first quarter of 2020, there was an 8% increase in total TB cases notification compared to the same period in 2019; However, the rest of the year was marked by a decline in notification in the different population subgroups, particularly in migrants and refugees. Hence in 2020, there was a decrease in TB notification among total cases by 13.4%, migrants by 22.4%, refugees by 13.5% and Lebanese by 3.5%. compared to 2019. This decline could be explained by a number of factors:

- Beirut Blast (August 4) which destroyed the main TB center in the country
- Coronavirus second wave with a surge in new COVID19 cases
- Repetitive lockdowns and fear of getting infected prevented people from seeking medical care or delayed their visit.
- Number of new comers among the migrant community drastically declined
- Worsening of the economic crisis (Proportion of Lebanese living below poverty line increased, migrants forced to leave the country after losing their jobs)

Overall, in 2020, the total number of notified active susceptible TB cases was 658, out of which 65% had pulmonary TB (**Figure 3**). **Figure 4** shows the distribution of EPTB cases by site of disease with more than half of the extra-pulmonary cases having TB lymphadenopathy.

Regarding gender and age distribution, 40% of the cases were aged between 25 and 34 years; 75% of cases in this age group being females. Overall, 60% of the cases were females. As for children, 23 cases below the age of 5 were found and treated (**Figure 6**).

Figure 3: Distribution of TB Cases by Type of Disease

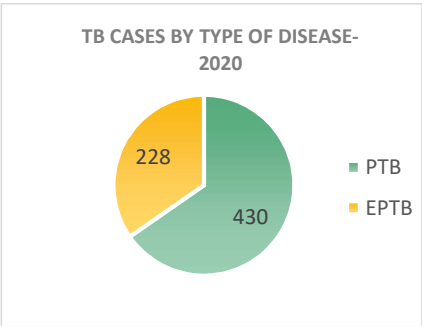


Figure 4: Distribution of EPTB Cases by Site of Disease

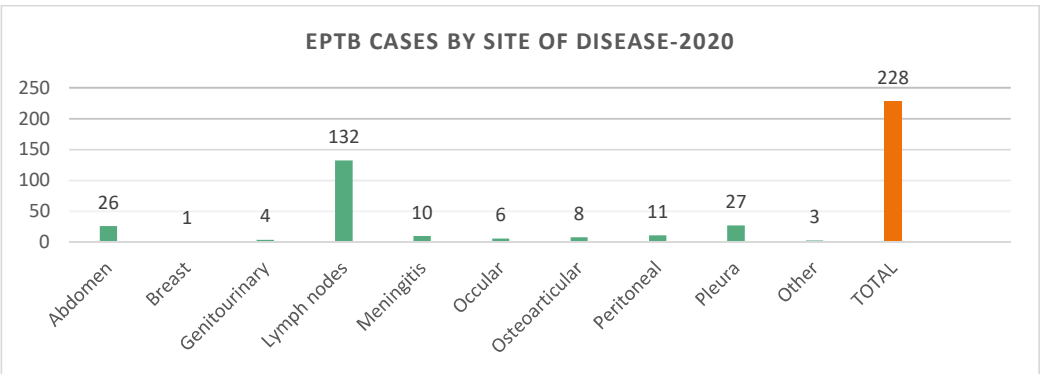
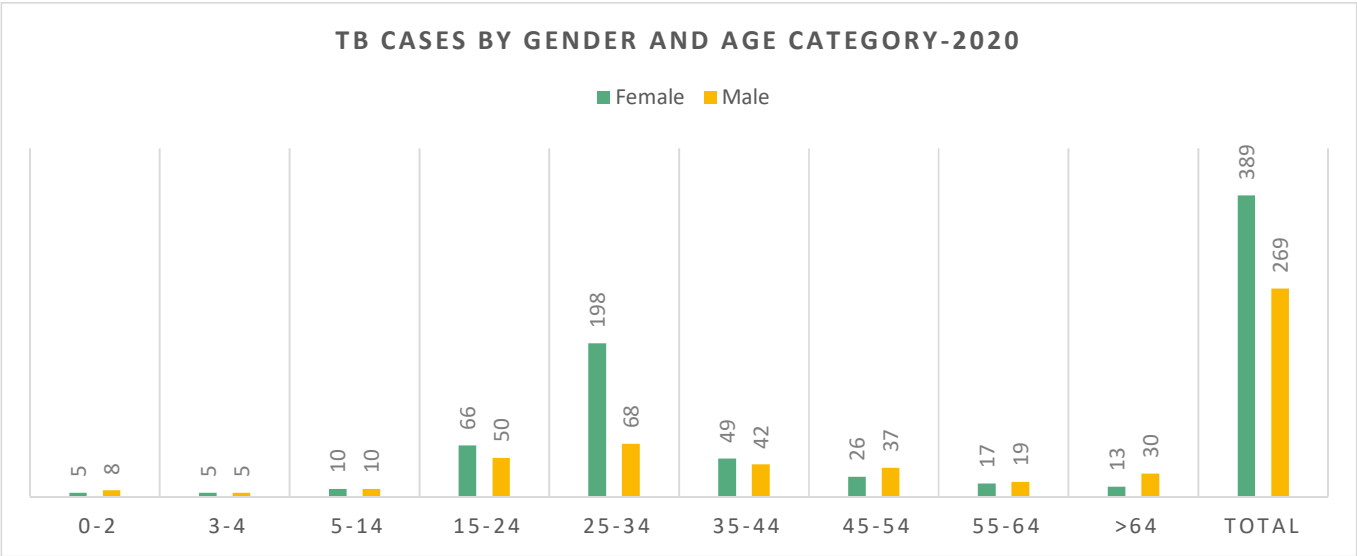


Figure 5: Distribution of TB Cases by Gender and Age Category



Besides, 42% of notified TB cases were Lebanese and the majority of cases among non-nationals were from Ethiopian and Syrian nationalities with 173 and 113 reported cases respectively (Figure 6).

Regarding the distribution of TB cases by nationality, age category and population subgroup, represented in Figure 7, 60% of Lebanese cases were males, around 90% of cases aged 55 years and above were Lebanese. As for migrants, there was a peak in the number of cases in the age category 25-34; the majority being females from the migrant workforce in the country; Finally, around 75% of refugees were aged between 15 and 44 years.

Figure 6: Distribution of TB Cases by Nationality

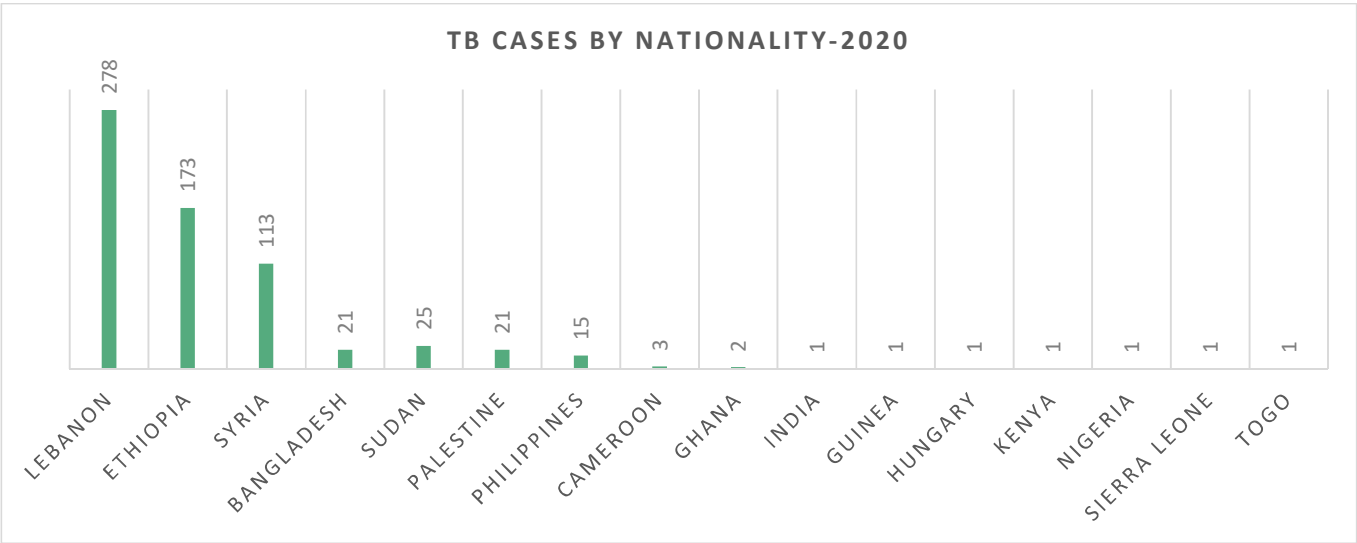
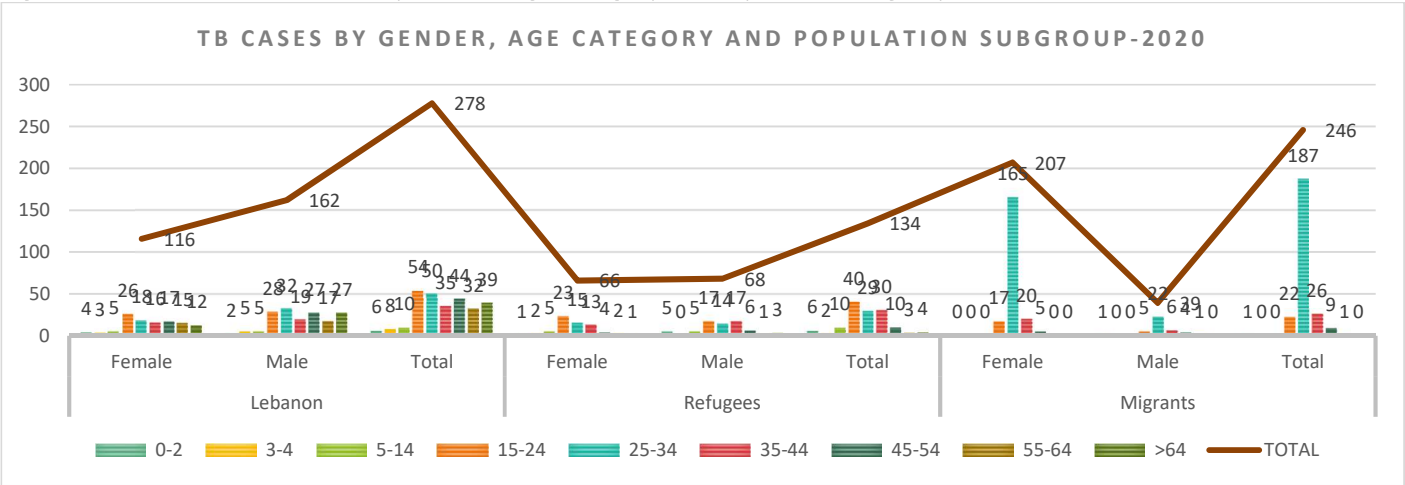


Figure 7: Distribution of TB Cases by Gender, Age Category and Population Subgroups



*Refugees include Syrian and Palestinian cases

Concerning the geographical distribution of TB patients, around half of the notified cases lived in Beirut and Mount Lebanon. The Bekaa, North and South Lebanon accounted for 18%, 17% and 12% of the cases respectively. 5 cases were among prisoners (Figure 8).

Figure 9 shows the distribution of notified TB cases by nationality at district level.

Figure 8: Distribution of TB Cases by Governorate

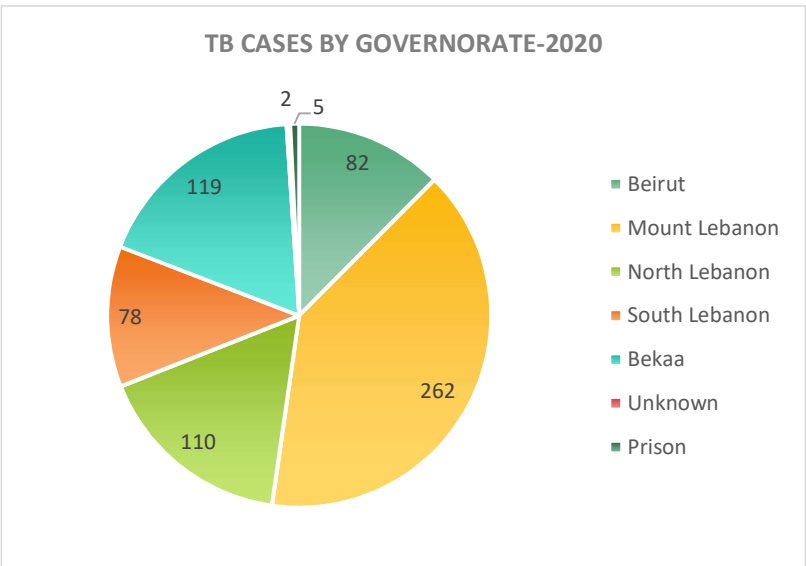


Figure 9.a: Distribution of TB cases by Nationality-Beirut

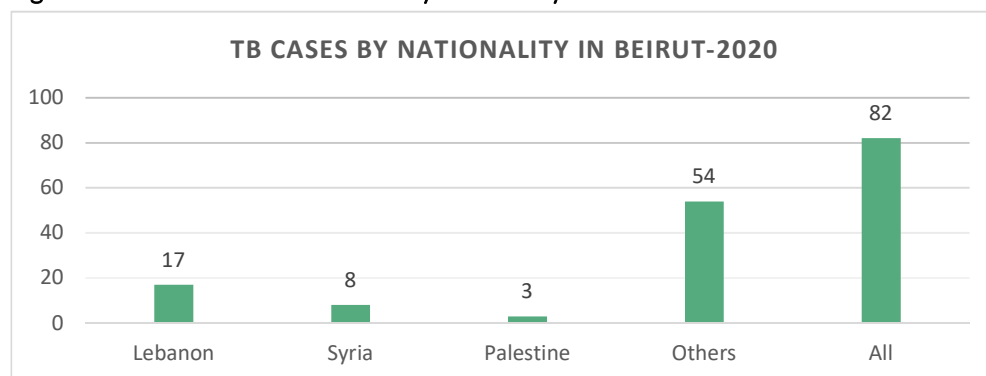


Figure 9.b: Distribution of TB cases by Nationality at District Level-Mount Lebanon

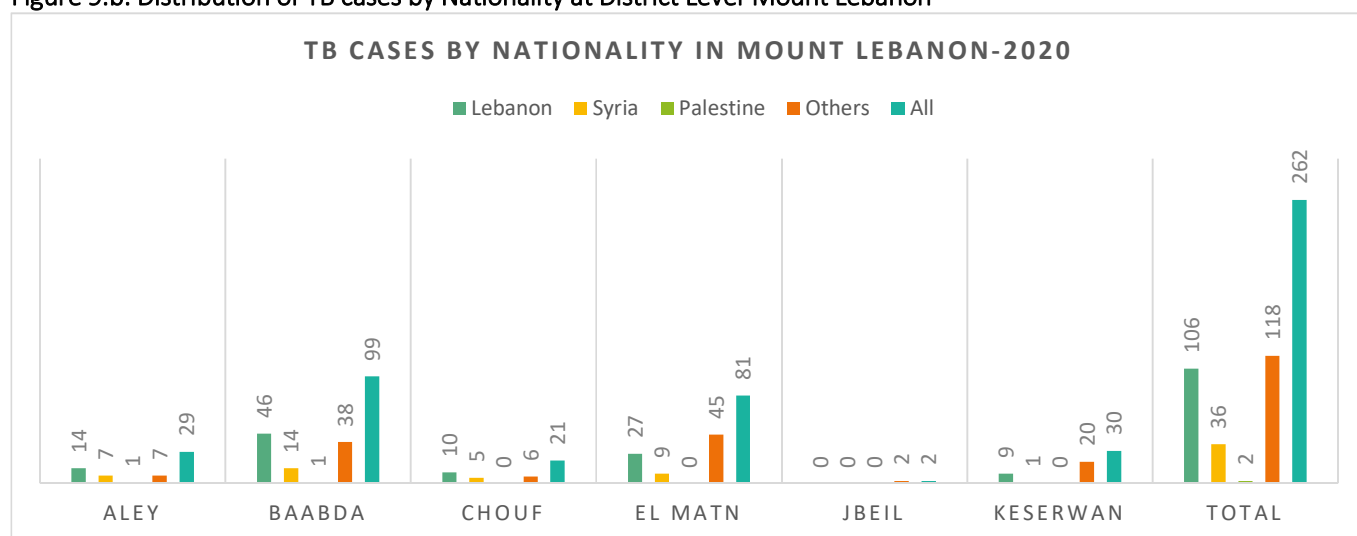


Figure 9.c: Distribution of TB cases by Nationality at District Level-North Lebanon

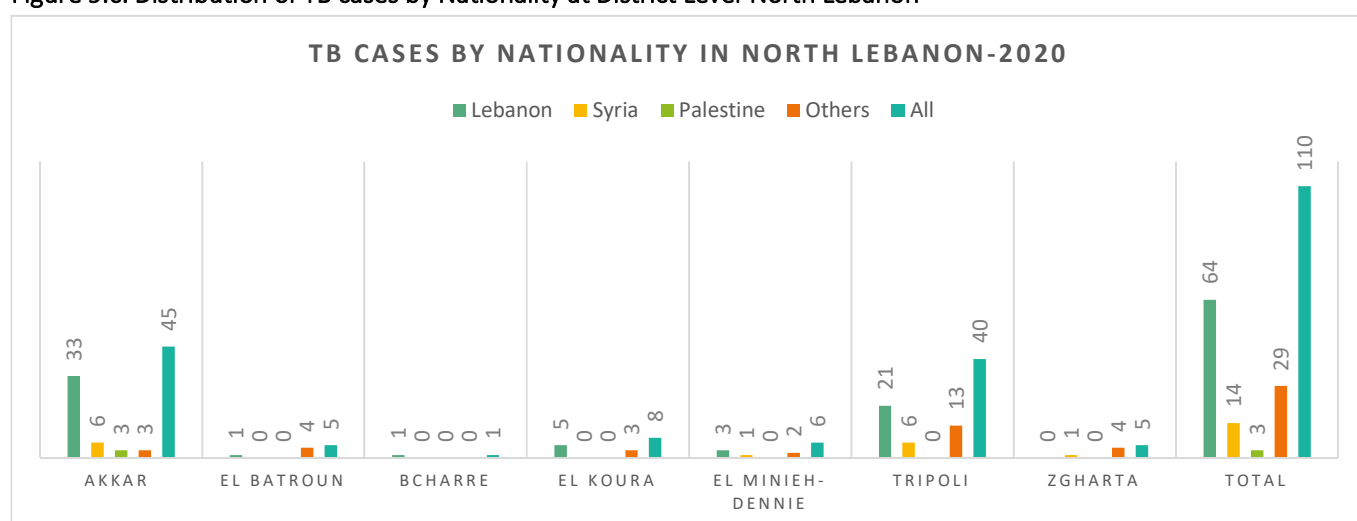


Figure 9.d: Distribution of TB cases by Nationality at District Level-South Lebanon

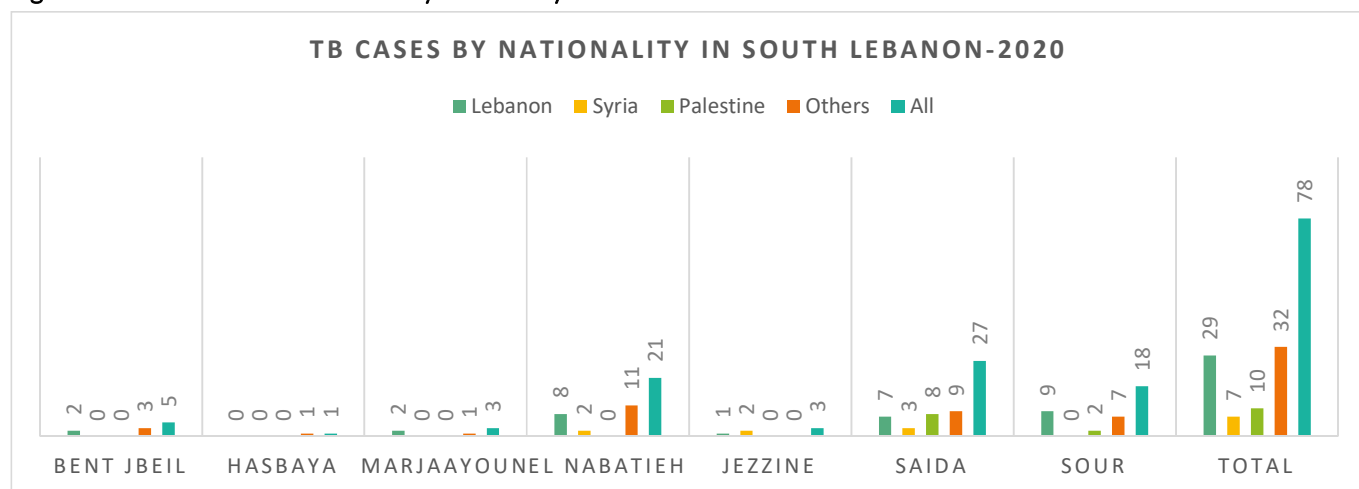
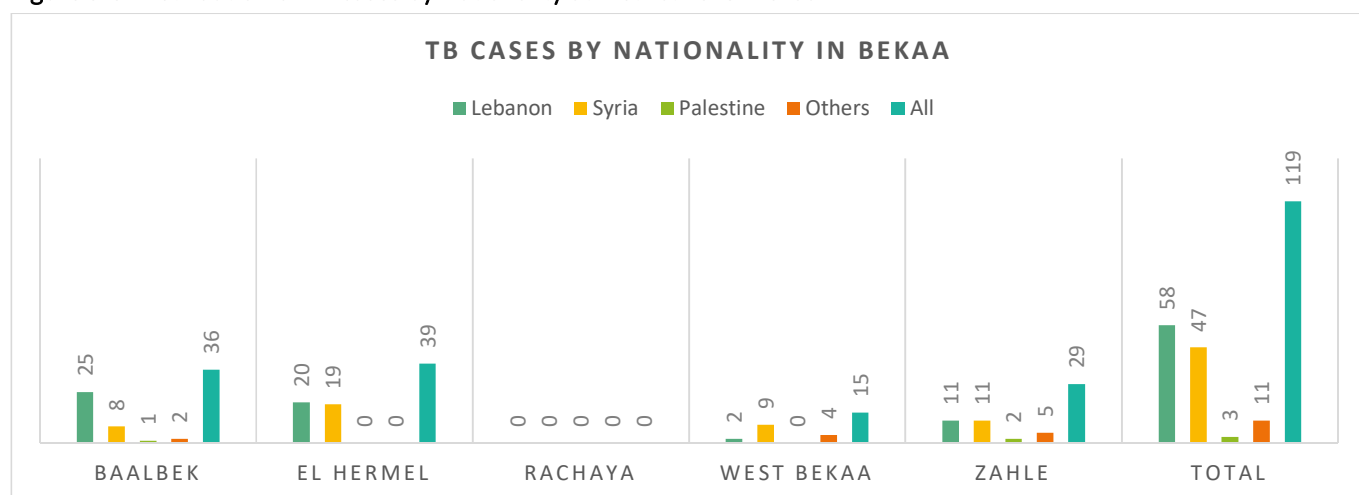


Figure 9.e: Distribution of TB cases by Nationality at District Level-Bekaa



Drug Resistant-TB Cases-2020

In total 4 cases were reported in 2020 including 2 RR-TB, 1 MDR-TB and 1 XDR-TB case. All were diagnosed with PTB and were foreign born (1 Syrian and 3 migrants).

Overall, there were 0.5% DR-TB among new notified TB cases and 17% among previously treated TB cases

III. TB Screening Activities in High Risk Groups

a) TB Contacts Screening

As per the national TB guidelines, contact screening is undertaken for contacts of PTB cases and contacts of EPTB cases below the age of 5. The focus is usually on household members, but contacts in the workplace and other settings are assessed as well. **Table 2** summarizes data for contacts' screenings done in 2020. Following the Beirut blast, NTP faced challenges in conducting screening activities, mainly for cases living in Beirut and Mount Lebanon. However, screening was resumed after moving to the alternate center in Beirut. Moreover, with the support of IOM, the outreach team in Beirut and Mount Lebanon was expanded after the blast to assist in different activities including contact tracing.

Table 2: TB Contact Screening 2020

	Count	%
Number of Contacts	1649	
PPD Done	1409	85.5
PPD Positive	398	28
CXR Done	892	
CXR Positive	30	3.4
Number of Contacts Eligible for IPT	485	
Number of Contacts who Received IPT	422	87
Number of Active TB Cases	21	
Number of Contacts <5Y Eligible for IPT	149	
Number of Contacts <5Y who Received IPT	112	75
Number of Active TB Cases <5Y	8	

b) TB Screening in migrants from TB HBC

Systematic TB screening of migrants coming from TB HBC is undertaken in governmental hospitals for the purpose of providing a work permit for migrant workers.

In 2018, a Tuberculosis Registration System for TB screening in migrants was developed and implemented by NTP with the support of WHO to improve data collection and reporting. The system is used by NTP staff and focal persons for TB in governmental hospitals where screening is done.

Table 3 summarizes TRS data for the years 2018, 2019 and 2020.

Table 3: TRS Data, 2018-2020

Year	Number of Migrants (new comers)*	Number of Migrants Screened	Number of Migrants who Received TPT
2018	86894	16532 (19%)	7330 (44%)
2019	43825	27463 (62.6%)	11138 (41%)
2020	7781	7360 (94.5%)	2552 (35%)

IV. Ensuring Continuity of TB Services During COVID19 Pandemic

Amid the COVID19 pandemic, with the alarming rise in the number of cases and the repetitive lockdowns in Lebanon, and following the WHO information note on TB and COVID19, NTP with the support of IOM have implemented numerous measures to maintain continuity of essential services for people affected with TB during the COVID-19 pandemic.

Treatment Delivery and Follow-up

- Expansion of the outreach response under IOM support through the recruitment of additional CHVs to assist NTP HCW in treatment delivery and follow-up
- Follow-up visits for TB patients were reduced to when follow-up testing was required
- Enough TB medicines were dispensed to patients to last until the next visit (to avoid treatment interruptions during lockdown periods)
- Communication technologies were used to maintain treatment support mainly through VOT.

Preventive and Infection Control Measures

- Consistent use of PPEs (N95 respirator, gloves, protection shield, waterproof apron)
- Regular handwashing and regular decontamination of surfaces,
- Staff distancing
- Ventilated workplaces

Drugs and Consumables

Diagnostic/ laboratory consumables and TB drugs were distributed to all centres falling under the NTP for a period of 6 months to avoid any shortage during lockdown periods

Awareness Raising

Awareness raising videos about TB and COVID19 for HCW, patients and the community were developed with the support of IOM and shared on MOPH website, social media and via whatsapp.

V. NTP Response and Partners Support following the Beirut Blast

A state of emergency was declared in Beirut after the massive explosion that rocked its port on August 4, 2020.

Following the massive explosion, NTP central unit and the program warehouse (where TB drugs, diagnostics and other consumables were stored), located in Karantina area, just hundreds of meters away from the port, were heavily damaged by the blast. Laboratory and office equipment and furniture were partially damaged or destroyed as well. Furthermore, essential TB services (diagnosis, patient management, treatment follow-up, contact tracing...) were temporarily disrupted. Finally, the NTRL (LRM-USJ) was also affected by the blast and its services were disrupted for about two weeks.

MOPH Support

MOPH IT department conducted an assessment of some damaged electronics.

Selection of 4 physicians to be working on a part time basis for the NTP (for Beirut and other areas)

WHO Support

With the support of WHO, TB drugs and diagnostics were immediately transferred from the central warehouse in Karantina to Rafic Hariri University Hospital for a safe temporary storage.

In addition, WHO supported MOPH IT department in conducting an assessment of some damaged electronics.

Furthermore, PPEs were procured to the NTP under WHO support.

IOM Support

Firstly, TB drugs were dispensed to 8 TB centers located in different districts with the support of IOM. Few days after the blast, an assessment of the damaged equipment and electronics was conducted by IOM IT team.

Moreover, an action plan was developed by NTP and IOM to ensure delivery of TB services.

1. Referral of presumptive and active TB cases to the nearest TB center for investigation (Chest Xray, Smear microscopy and Xpert testing) and/ or to pick up drugs (to ensure treatment initiation for newly diagnosed cases and treatment continuation for cases under treatment)
2. Sample transportation to NTRL from the different TB centers' supported by IOM.
3. Patients transportation to peripheral TB centers for testing or treatment dispensing supported by IOM.
4. Outreach team (FC, DOT, CHVs) to ensure the delivery of drugs to patients' houses or to the hospital for hospitalized patients.

Furthermore, NTP manager closely coordinated with IOM and identified an alternate location for the delivery of TB services (the municipality of Beirut offered a location in its premises, IOM supported refurbishment work and procurement of needed furniture).

Simultaneously, IOM has been coordinating closely with the NTP and NAP program managers supporting identification of their priorities and seeking approval from the GF to support these priorities.

The following was approved under **GF C19RM**:

- Procurement of first and second-line TB drugs and diagnostics for 12 months with buffer stock for 3 months
- Strengthening laboratory services for TB and HIV through the procurement of XpertMTB/Rif machine (to be used by both programs for TB diagnosis and for viral load treatment monitoring of PLHIV) after damage of the Xpert machine at the NTP.
- Supporting active outreach within the community through expending the CHV team in Beirut and Mount Lebanon.

LRM Support

LRM-Fonadtion Merieux provided additional support to the program following the blast:

- Ensuring diagnosis of presumptive TB cases (by performing Xpert, Culture and DST when recommended)
- Supporting the Remodeling/ refurbishment of the laboratory at the TB center in Beirut.

UNHABITAT

UNHABITAT will be supporting the renovation of the NTP offices, center and warehouse damaged in the blast. This will include a structural assessment of the safety of the damaged building with renovation including basic furniture, office equipment / accessories that were damaged.

VI. Joint Program Review Mission for NTP Lebanon

The Joint Program Review Mission, was held for five days from 14 to 18 December 2020 based on WHO Framework for conducting reviews of TB program. The mission had the following objectives:

1. To discuss the current population health situation, policy and challenges in country.
2. To discuss the TB epidemiology, prevention, care and control situations in country.
3. To discuss the key components and strategic interventions of the NTP policy developed and implemented in country.
4. To identify and discuss the achievements, gaps, constraints, challenges and opportunities
5. To prioritize key high impact interventions in next Global Fund cycle to make rapid progress to end TB in Republic of Lebanon

During the mission, NTP team and other stakeholders presented the progress made by the program and the strengths and challenges under different areas. Presentations were followed by interactive discussions among participants. During the last day of the meeting, a summary of the key findings and most relevant recommendations was presented by the consultant followed by a discussion between participants.

Below is a list of preliminary key recommendations of the review mission*:

- “END TB” should be included in the National Health Agenda
- Constitute “END-TB” guidance committee on priority
- Initiative to call for action to “END-TB” to involve international and domestic stakeholders and investment partners.
- Extend the services physicians and health care workers who are supported by MOPH beyond 2021
- LRM services as NTRL for advanced TB diagnostics to be continued
- Update / Develop TB guidelines as per WHO recommendations for the care and prevention of childhood TB, TB-HIV and latent TB
- Institutionalize private sector engagement in TB care and prevention.
- Develop training action plan and newer innovative techniques to train health care workers
- Expansion of TB diagnostic services based on assessment or survey
- Establishment of trans – country patient support secretariat to improve cross border referrals
- Linkages of TB patients to social welfare schemes to be strengthened
- Build plethora of activists and supporters to eliminate TB related stigma
- Streamline the existing system of drug storage and delivery mechanisms
- Strengthen supervision and monitoring of programme managers and inculcate the usage of digital technology for recording and reporting

*Joint Program Review Mission Report 2020-Lebanon