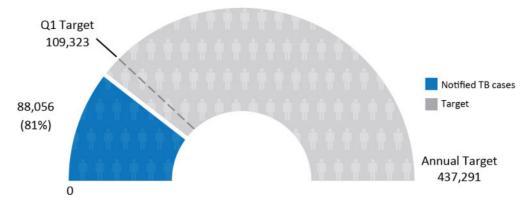


## CASE NOTIFICATION OF TUBERCULOSIS, 2019 QUARTER 1

#### **Notified Tuberculosis Cases, All Forms**

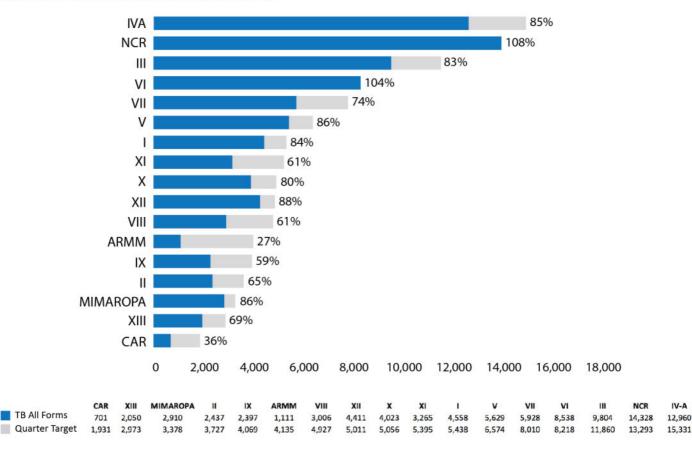
The National TB Control Program (NTP) aims to have 437,291 tuberculosis (TB) cases notified in 2019. By the end of the first quarter (Q1), a total of 88,056 TB cases were reported (Figure 1), an achievement of 81% of the Q1 target (109,323). The following analysis includes new and relapse drug-susceptible (DS) and drug-resistant (DR) TB cases, regardless of bacteriological status and anatomical site. Notified cases from private physicians were not included in the analysis. Quarterly targets equal 25% of regional annual targets to simplify performance tracking across the year.

Figure 1. Notified TB Cases All Forms, 2019 Q1



The National Capital Region (NCR) (108%) and Region 6 (104%) surpassed their Q1 targets, but all other regions must accelerate performance to reach the annual target. Four regions (Region XII, Region V, MIMAROPA, and Region IV-A) achieved at least 85% of their Q1 targets. Eight regions need substantial improvement in subsequent quarters. This is especially true in the Cordillera Administrative Region (CAR) (36%) and Autonomous Region in Muslim Mindanao (ARMM) (27%) (Figure 2). Strategies to identify more TB cases must be implemented in the succeeding quarters to ensure that case notification targets are met.

Figure 2. TB Case Notifications by Region, 2019 Q1



Nationally, 2019 Q1 performance for proportion of cases notified by region was generally similar to 2018. The NCR, Region IV A, and Region III accounted for 42% (37,092) of the notified cases in Q1 (Figure 3). The rest of Luzon regions contributed 18% (16,235), and 20% each from Visayas (17,472) and Mindanao (17,257).

In Q1, 65% of all reported TB cases were males (57,489 of 88,056 total). These data mirror the results from the 2016 National TB Prevalence Survey (NTPS) that reported higher prevalence of TB among males and the need to address gender-related health-seeking barriers. The number of cases was similar across age brackets for adults, as follows: 65% for those 15 to 34 years (24,671), 69% for those 35 to 54 years (26,694), and 65% for those 55 years old and above (27,377). TB detection and treatment for children 14 years old and below must be improved to reach the Philippine Strategic TB Elimination Plan: Phase 1 (PhilSTEP1) target. Children aged 14 and below account for 10% of the reported data, yet PhilSTEP1 target is 15% of the total TB cases notified.

Figure 3. Proportion of Notified TB Cases by Region, 2019 Q1

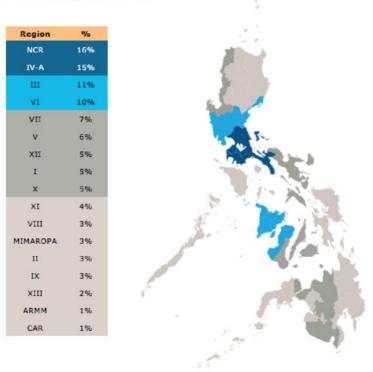
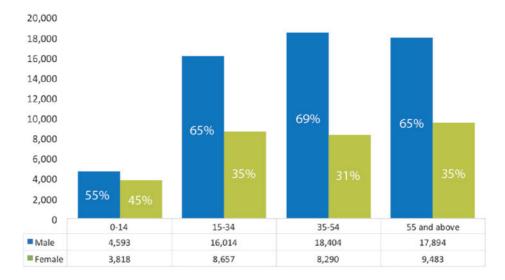
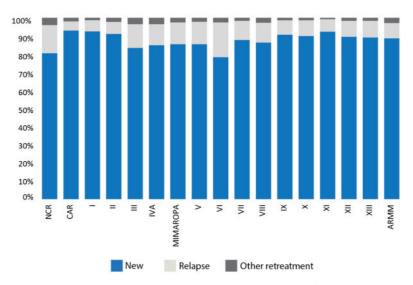


Figure 4. Number of Notified TB cases by Sex and Age Group (All Forms), 2019 Q1



Eighty-five percent (77,142) of the TB cases were new TB cases. Relapse cases, are cases that had been previously cured or completed treatment and were treated again, accounted for 12% (10,914) of all notified cases in Q1. Three percent (2,276) were other retreatment TB cases due to treatment failure, treatment after loss to follow-up, or unknown treatment outcome. In nine regions, more than 90% of cases were new, with CAR having the highest proportion of new cases (95%) (Figure 5). Region VI and NCR had the highest percentage of relapse cases with 20% and 16%, respectively, similar to the 2018 annual proportion of notified cases.

Figure 5. Proportion of Notified TB Cases for all TB cases by Registration Group, 2019 Q1



Clinically-diagnosed (CD) cases were 68% of the total TB cases notified (Figure 6). Bacteriologically-confirmed (BC) cases, which are patients from whom a biological specimen is positive by smear microscopy, culture or point of care rapid diagnostic test, accounted for 38% (28,028) of all notified cases in Q1. In five regions, more than 40% of cases were bacteriologically-confirmed, with Region IX having the highest proportion of BC cases (46%) (Figure 7). While Region I and XII had the highest percentage of clinically-diagnosed cases with 76% and 75%, respectively.

Figure 6. Number of Notified Cases by Bacteriological Status, 2019 Q1

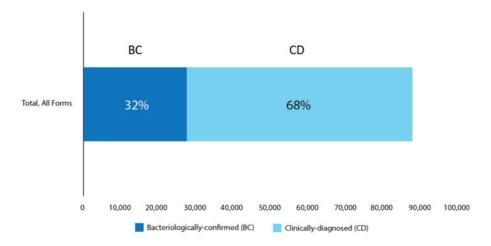
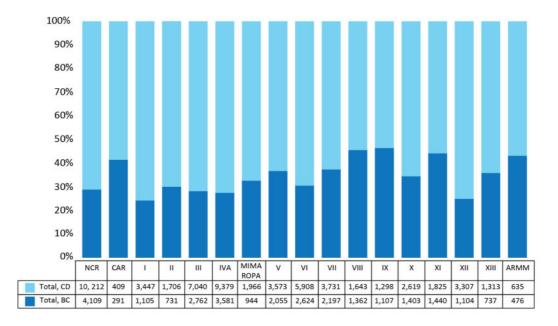


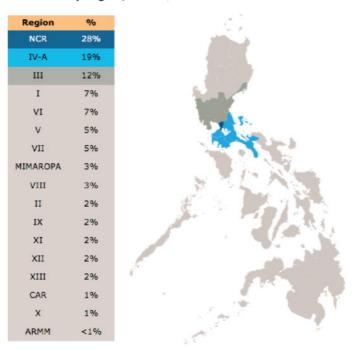
Figure 7. Proportion of Notified Cases by Region and Bacteriological Status, 2019 Q1



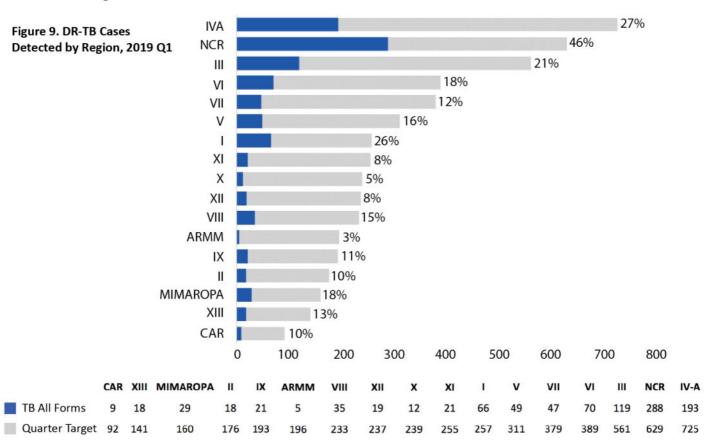
### **DRUG-RESISTANT TB (DR-TB) CASES**

In Q1, 1,015 DR-TB cases were detected nationwide, accounting for 5% of all cases. More than a quarter of these cases were in the NCR, followed by Region IV-A (19%) and Region III (12%). Combined, all other regions accounted for only 41% of newly detected DR-TB cases (Figure 8).

Figure 8. Proportion of National DR-TB Cases by Region, 2019 Q1



The NTP targets to detect 20,674 DR-TB cases in 2019, but by the end of Q1, no region came close to meeting quarterly targets. Metro Manila made the most progress by achieving 46% of the Q1 target. All other regions achieved between 3% and 27% of quarterly targets, leaving them poised to drastically underperform for the year. Low performance in DR-TB detection may be caused by limited availability and uptake of rapid TB diagnostic tests (Xpert MTB/RIF) at the point of service. NTP regional coordinators should assess uptake of rapid TB diagnostics (Xpert MTB/RIF) and ensure increased utilization of tests following the criteria for testing.



Source: Integrated TB Information System (ITIS) aggregate report accessed June 10, 2019.

# It's Time: Racing to End TB in the Philippines during the 7th Union Asia Pacific Regional Conference



The seventh Union Asia Pacific Regional Conference (APRC) took place in Manila from April 23 to 26 at the Philippine International Convention Center in Pasay City. With the theme "Unity in Diversity: One Against Tuberculosis and Other Lung Diseases", the event served as a platform to present the latest information on the burden and state of control of TB, HIV, and other lung diseases. It focused on actions that will impact health across the region and fostered collaboration among the Union, governments, non-governmental organizations, and professional societies in the Asia Pacific Region to promote TB control and lung health.

The Philippine President Rodrigo Roa Duterte presided over the opening ceremony. President Duterte stated, "We need to cure TB and all of its diseases. Many should have access to TB services

OPENING CEREMONY OF THE
7<sup>TH</sup> UNION ASIA PACIFIC REGIONAL CONFERENCE

Philippine President Rodrigo R. Duterte, together with other officials, graces the opening ceremony of the Asia Pacific Regional Conference. Photo by World Health Organization (WHO)

without being molested or disturbed, unbridled by any worry, so the purpose for which we are here could be realized."

The President mentioned that he does not want to die of TB and he also recognized the crucial importance of health workers in providing services to the poorest people and to those who are in rural mountainous areas. "They are the ones who need it most. They have poor nutrition and are very susceptible to bacteria and virus," the President said. "The health workers have to penetrate the mountains and areas where plight of squalor abound," the President added.

### JOIN THE RACE TO END TB

Dr. Myrna C. Cabotaje, Undersecretary of the Department of Health, gave an encouraging welcome message during the Join the Race to End TB event where she said, "It is not enough that we do more. We have to act fast and now. We as a country cannot be left behind. We are in a race against time to end TB and we should have started yesterday. All levels of government from the DOH, the regions and the local governments should act fast and act now."





Dr. Garfin presents the current Philippine TB status. Photo by WHO

Dr. Anna Marie Celina G. Garfin, Program Manager of the National TB Control Program, presented the Race to End TB initiative for the Philippines. She shared national targets, achievements and challenges, as well the Philippine Strategic TB Elimination Plan (PhilSTEP 1). "Let us work together to win the race against TB!" Dr. Garfin said.

For the Philippines to reach its TB targets, the country needs to implement an aggressive and sustained public health campaign against TB. "There should be strong commitment and action not only from the health sector but also from other government agencies, the local government, communities, and the private

sector. The World Health Organization (WHO) is here to provide support to wipe out this top killer," Dr. Gundo Weiler, WHO Representative in the Philippines, said.







Undersecretary of Health Dr. Rolando Enrique D. Domingo, delivered a speech on behalf of the Health Secretary Francisco T. Duque III. "The DOH calls for stronger collaboration to create a major dent in the TB epidemic by decreasing the number of TB cases and people dying from TB. We enjoin our partners to work with us."

"It's time for everyone to join the race to end TB in the Philippines. It's time for an all-out-war against this menace," Dr. Domingo added.

At the close of the event, awards were distributed for regional achievements since PhilSTEP began in 2017. Lastly, a torch was lit as a symbol of unity, emphasizing the power of joint action as regions and individuals carry the torch back to accelerate efforts, symbolically pledging to join the race to end TB across the country.

320 participants from the DOH regional offices, local government units, provinces, cities, partners, and patient support groups attended the momentous event.

#### **END TB SUMMIT**

The End TB Summit, held during the second day of the conference, included a regional TB status overview and information on key initiatives to eliminate TB.

Dr. Ral Antic, President of The Union Asia Pacific Region Tauhidul Islam from the WHO Western Pacific Regional Office, chaired the plenary session. He also presented an overview of the current status of the TB situation in the region, followed by the sharing of the post UN high-level meeting on TB on Multisectoral Accountability Framework by Dr. Tereza Kasaeva of WHO. Also invited to talk during the summit was Hon. Angelina "Helen" Tan, Congresswoman from Quezon's fourth district. Her speech emphasized the importance of having a strong political will in the fight against TB.



International experts on tuberculosis join together to echo holistic approaches to eliminate TB. Photo by WHO

# One Step Towards a TB-Free NCR: Promoting TB initiatives in Shopping Centers

By Don Mariano and Nilo Yacat

For one week in March, barangay health worker Myrna Gaite and several other volunteers served as mall promodisers at the Gateway Mall in Araneta Center, Cubao, Quezon City. However, they were not selling shoes or peddling kitchen utensils, instead, they were offering information about TB to mallgoers.

"Sa umpisa, nahihiya pa ako. Pero nilakasan ko ang loob ko na magtawag ng mga tao hanggang dumami na yung lumapit sa exhibit. Ayun, sabi nila pwede palang matuto tungkol sa TB nang ganitong may palaro," Gaite said.

(At first, I was a bit shy. But I summoned the courage to invite mallgoers to the exhibit. Then, they said they could learn about TB by doing these games)

Gaite was referring to the interactive games and exhibit panels installed by the Metro Manila Center for Health Development (MM-CHD) and the Quezon City Health Department in

A learning exhibit of interactive panels was set up at the Gateway Mall on March 23 as part of the commemoration of the World TB Day by the Center for Health Development Metro Manila. Photo by N. Yacat

commemoration of World TB Day. The effort was supported by the United States Agency for International Development (USAID), University Research Co. (URC), Barangay Socorro Local Council, the Gerry Roxas Foundation, the J. Amado Araneta Foundation, and the Araneta Group of Companies.

The exhibit also served as the official launch of the TB-Free Kami Initiative of the USAID-funded TB Platforms Project. In Metro Manila, TB Platforms is supporting the Araneta Group of Companies for this TB-free workplace model.

"This is the first of many initiatives that aim to increase awareness about TB prevention, not just at home, but also in

The state of the s

A mallgoer tries out one of the interactive games at a learning exhibit on TB prevention, set up at the Gateway Mall during World TB Day.Photo by N. Yacat

workplaces," said Dr. Corazon Flores, Regional Director of Metro Manila-CHD.

Dr. Anna Marie Celine Garfin, Program Manager of the National TB Program (NTP) within the Department of Health (DOH), said: "These partnerships and initiatives will help in the delivery of TB information. A TB-Free Araneta can also be a model to help prevent TB in workplaces, not only in Metro Manila, but also nationwide."

"We take this challenge of declaring the Araneta Center as a TB-free community. With your help, we can reach out to our tenants, managers, workers, and mallgoers and bring the message of good health and proper lung care," said Antonio Mardo, Senior Vice President of the Araneta Group of Companies.

Judy Araneta-Roxas, President of the Araneta Group of Companies, committed to "promote Araneta Center as TB-free within six months" by encouraging tenants, employees, and residents to have themselves screened for TB.

The TB-Free Kami Initiative aims to help employers and workers of the numerous business establishments, operating at the Araneta Center, to get screened for TB through chest X-rays and direct sputum smear microscopy. The TB Platforms Project has served as a liaison between the Araneta Center and the Quezon City Health Department.

Throughout the initiative, presumptive TB patients will be referred to the Barangay Socorro Health Center for diagnosis and, if found TB positive, the patients will be enrolled in treatment immediately. Since launching in March 2019, over 220 employees have already been screened with a chest X-ray. Among the 220, 24 were found to be presumptive TB and were connected to the health center for confirmation. Ten of these were eventually confirmed to have TB.

Monette Parado, Executive Director of the Gerry Roxas Foundation, estimated that the interactive exhibit and outdoor media ads at the Araneta Center reached a million mallgoers and passers-by during the weeklong World TB Day commemoration. "We hope to reach more as we strengthen our partnership with the Araneta Group of Companies," Parado shared.

Active case finding in communities and workplaces is one of the strategies of the National TB Program. In Metro Manila, the CHD aims to diagnose 73,000 TB patients in 2019.

"At sana, makapunta din kami sa iba pang malls sa Metro Manila para makipag-usap at makipaglaro sa mas marami pang Pilipino tungkol sa TB. Hindi na mahihiya o matatakot kung may sapat na kaalaman tungkol sa TB," Gaite said.

(I wish we can also be assigned to other malls in Metro Manila to talk to and play games about TB with more Filipinos. We will not be embarrassed or scared if we have the right knowledge about TB.)

# Local TB Champions Unite to Eliminate TB and Realize Universal Health Care

By Pilar Mabasa, MD



CALABARZON-CHD, PHO Batangas, MHO Tingloy light up the torch as they open the TB-free island event. Photo by: R. Coprada

Just seven countries in the world, including the Philippines, have two-thirds of the world's tuberculosis (TB) cases. In 2016, the National TB Prevalence Survey estimated that one million Filipinos had TB. But last year, only 55% of 581,000 Filipinos that fell ill with tuberculosis were notified to have received treatment. At the 2018 United Nations High Level Meeting last September, the Philippines committed to finding 2.5 million TB cases by 2022.

When the Universal Health Care Act was signed earlier this year, Department of Health Secretary Francisco T. Duque III highlighted that "No Filipino must be left behind. Collaboration is key to make Universal Health Care (UHC) a success in the Philippines. Everybody must be onboard towards our vision of 'health for all'."

The Universal Health Care Act seeks to progressively and systematically realize universal health care in the country. It clearly delineates roles for key agencies and stakeholders as they work collectively to develop a better performing health system. It also guarantees all Filipinos equitable access to quality and affordable health care goods and services, as well as protection against financial risk.

The geographically-isolated 5th class island municipality of Tingloy in Batangas, through its local officials, decisively accepted the challenge to eliminate TB, achieve zero-catastrophic cost of TB-related illnesses, and make quality health services accessible and affordable to island residents.

On May 2, 2019, the CALABARZON-Center for Health Development (CALABARZON-CHD), in collaboration with the local government of Batangas Province and the Municipality of Tingloy, with the support of the Department of Health-National TB Control Program (DOH-NTP) and development partners (TB Innovations, TB Platforms, and ACCESS TB) launched the first in a series of activities towards achieving a TB-free island. The TANGLAW campaign (short for TB Agapan, NGayon Lunasan At Wakasan) for a TB-free island was launched with a ceremonial torch lighting.

More than 1,500 residents benefitted from a free medical and surgical mission supported by the CALABARZON-CHD, Batangas provincial government, Batangas Medical Center, Tingloy Municipal Health Office, and development partners. TB services ranged from TB education and counseling to screening, diagnosis, and treatment. During the event, 111 residents participated in an interactive online TB quiz (with ten questions) using smartphones to assess their basic knowledge of TB and document common misconceptions. The quiz was designed as a pre- and post-test associated with an informative video and short one-on-one TB education sessions. Only 25% of quiz takers got a perfect score on the pretest, but 70% received a perfect score on the post-test. On the pre-test, 57% of quiz takers thought smoking was a direct cause of TB and 46% thought Rifampicin was a vitamin for the lungs.

A mobile digital x-ray was brought to the island and services were provided free-of-charge, with 820 people obtaining free x-rays between April 25 and May 2. Fifteen percent of those x-rayed (122) had suggestive findings for pulmonary tuberculosis, 16 (2%) presented with pneumonia, and 61 (7%) needed further evaluation via a repeat chest x-ray with antero-posterior lordotic positions. Initial laboratory diagnostic workups on 57 of the 122 beneficiaries that had suggestive findings for pulmonary tuberculosis with direct sputum smear microscopy (DSSM) revealed one positive TB case. Additionally, 41 of 122 presumptive pulmonary TB cases received rapid diagnostics. The first drug-resistant TB case on the island was diagnosed along with two positive drug-sensitive TB cases.



Partners join together to achieve a TB-free island. Photo by: R. Coprada

To make the local health center more responsive to the needs of the island residents and vulnerable populations, the CALABARZON-CHD through its Health

Facility Enhancement Program (HFEP), supported the repair, improvement, and expansion of the once dilapidated and small rural health unit (RHU). Through this, they provided medical supplies for children and pregnant women, assistive devices such as wheelchairs and crutches for persons with disabilities and a television set for health promotional programs and activities. A rapid TB diagnostic unit will be installed in the RHU to improve the speed of diagnosis and treatment initiation. Dr. Eduardo Janairo, Regional Director of CALABARZON-CHD, assured the LGU of Tingloy that his office will allocate more funds and resources to modernize and improve health care services on the island including the installation of an x-ray facility. He added that the next big step is to bring local, regional, and development partners together to formulate a well-designed strategy to eliminate TB, which will serve as catalyst for UHC implementation and reforms to health services on the island.

# The Task at Hand: Addressing Challenges in MDR-TB management in Region 3

By Irene A. Flores, MD



Regional TB MAC providing recommendations on DR-TB management. Photo by Z. Zumaway

From 2003 to 2018, enrollment in programmatic management of drug-resistant TB (PMDT) continued to rise nationally. As the number of enrolled patients increased, the number of lost to follow-up cases also rose, leaving many drug-resistant TB (DR-TB) patients inadequately treated.

To overcome this, health care providers (HCPs) must address proper patient care management along with the drivers of treatment attrition that adversely affect the patient including acute drug reactions and concomitant diseases that complicate TB management. The increasing frequency of resistance to second line drugs poses an additional burden as HCPs consider appropriate regimens for patients with evidence of treatment failure. HCPs across the Philippines must address these drivers, but the need is especially strong in Region 3, which now ranks third in PMDT enrollments.

### THE CONSILIUM AND THE NEW TB MAC

In 2000, the Philippine National TB Control Program (NTP) within the Department of Health, launched DR-TB services in the National Capital Region (NCR). As a new initiative, the management of DR-TB patients required specialized teams and a multi-disciplinary case management committee, called a consilium, to confirm the diagnosis, determine or approve treatment regimens, follow patient responses to treatment, provide guidance and additional input in managing acute drug reactions and severe adverse reactions, and confirm the final outcome using standards based on the PMDT Implementing Guidelines which follow WHO Guidelines for PMDT.

An increasing number of patients led to concomitant demand which overwhelmed the consilium. To meet demands, regional consiliums were established by the Center for Health Development (CHD) and renamed it as TB Medical Advisory Committees (TB MACs). National (N-TB MAC) and regional (R-TB MAC) were also formed.

R-TB MACs meet monthly and serve as the primary entity for providing recommendations on DR-TB management. This structure expanded the number of TB experts responding to referrals, reduced the volume of referrals to the N-TB MAC, and prevented delays that impact patient care. R-TB MACs are also able to advocate for the needs of their regions. This approach has broadened knowledge sharing and enhanced management of TB by bringing together experts from different cultural and social backgrounds.

Each R-TB MAC and the N-TB MAC is ideally composed of seven members: a chairperson, co-chairperson, physician and nurse from PMDT treatment facility, a member from a medical subspecialty group, a member of the NTP core team, and the secretariat. Clinicians focus on holistic medical management of patients while the NTP representative concentrates on public health implications.



Doctors examine x-ray results of DR-TB patients. Photo by Z. Zumaway

### RESPONDING TO THE CHALLENGE

When the national call to create R-TB MACs went out, the Central Luzon-CHD (CL-CHD) was among the first to respond, forming the Region 03-TB MAC (R03-TB MAC) on March 28, 2018. The R03-TB MAC covers the region's 21 Satellite Treatment Centers (STCs) and 285 rural health units (RHUs).

The members of the R03-TB MAC must understand the common issues and problems that DR-TB patients face. Because many PMDT staff were new to their roles, members of the R03-TB MAC created templates to facilitate faster referrals for enrollment, shifting to continuation phase, outcome determination and case management.

The R03-TB MAC is commonly asked to determine if a DR-TB patient can be enrolled as clinically-diagnosed DR-TB when bacteriological examination is negative for TB or rifampicin resistance is not detected. To determine the appropriateness of the regimen, the patient's treatment history and comorbidities are considered, as well as potential benefits and complications of a regimen.

Case management consultations from the STCs and RHUs are mostly about modification of a regimen or shifting to a new regimen due to acute drug reactions

or serious adverse events. This poses one of the greatest challenges because the TB MAC members must envision the needs of the patient through the nurse's report. Members who are used to treating patients through an in-person evaluation must instead picture the patient through the patient's history, diagnostics, and treatment plan as described by the nurse. This makes open communication with the PMDT nurse essential.

R03-TB MAC is also tasked with managing referrals for comorbidities that complicate care for DR-TB. Members of the R03-TB MAC must guide PMDT staff in these challenging circumstances, especially STC staff that often lack training and with limited access to specialists.

### **TEAM'S INITIATIVE**

Last year, the RO3-TB MAC invited PMDT staff to gather their perspectives on issues affecting patients and health care providers. This effort also sparked an initiative to mentor or provide clinical immersion opportunities for IDOTS staff to increase their capacity to manage patients.

This year, members of the R03-TB MAC are working to foster connections between the committee and its implementers. Meetings are rotating across Region 3 provinces, allowing PMDT staff across the region to share their opinions and contribute to discussions about their patients. This will also increase their understanding of how the R03-TB MAC functions and provide an opportunity to personally thank the people working diligently to cure DR-TB patients.



Fostering partnerships between TB MAC and PMDT Implementors Photo by Z. Zumaway

R03-TB MAC now collaborates with TB Innovations and TB Platforms, both USAID TB-focused projects in the Philippines administered by nongovernment organizations. As there is a lack of experienced healthcare providers for complicated drug-susceptible TB (DS-TB) cases, soon, the projects and the R03-TB MAC will create a secretariat to receive DS-TB referrals and escalate difficult cases to the team for discussion.

R03-TB MAC is now also organizing a compendium of cases to share with all PMDT staff to serve as a reference guide and inform the care of future cases. In the long term, hopefully this can reduce the number of referrals and further foster a community of experts in TB management.

### **RO3 TB MAC EFFECT**

Because of the R03-TB MAC, the capacity of STC nurses has improved as evidenced by increasingly guidelines-based suggested regimen changes and timely updates. However, this progress has not been universal. As the R03-TB MAC moves into its second year, the committee must remain vigilant and up-to-date with the latest evidence to drive improvement.

To reach the World Health Organization's END TB goals, committees like the R03-TB MAC are an integral part of engaging stakeholders and implementers to guarantee a TB-free Philippines.

### A Decade of Volunteerism:

### A Life-changing Experience

By Franz Jared S. Enriquez

### **LIFE AS A VOLUNTEER**

Volunteering is an altruistic activity, but for Noeme Lagasca it's also a life-changing and priceless experience that she has embraced for the last decade.

Most people spend their weekdays at work. Noeme spends her weekdays as a full-time volunteer at the Canossa Health and Social Center in Silang, Cavite, that serves the physical, mental, and spiritual needs of the area's poorest people.

She has devoted most of her time at the center to changing people's perception of tuberculosis (TB). After a decade of volunteering experience, Noeme is emphatic, "Ang TB ay nagagamot. Walang dapat namamatay sa TB."

(TB is curable. Nobody should die of TB.)



TB is a leading infection in the Philippines. Because of the stigma that surrounds it, people tend to distance themselves from individuals infected with TB, fearing that they will be infected as well. But her burning passion to help others pushed her to continue volunteering despite those fears.

"Dati parang kinatatakutan ko siya eh. Kasi siyempre baka mahawa ako, yun ang una kong inisip. Pero sabi ko nga, kung mahahawa ako, dapat noon pang nasa OPD (outpatient department) ako," she added.

(At first, I was scared, thinking I would get infected. But then I realized if I did contract it, it should be when I was assigned within the OPD [outpatient department])

### **DEALING WITH TB PATIENTS**

As a volunteer, she usually helps dispense medicine and provides counseling to patients. She also encourages people to get screened for TB as a part of the center's outreach programs.

When both of her brother and mother contracted TB, she gained first-hand experience caring for patients.

"Na-monitor ko naman sila. Nagawa ko nga sa iba, bakit hindi sa kanila di ba. Gumaling naman sila," she said.

(I was able to monitor their health. If I can support other patients, then I can serve [my family] as well. Fortunately, they were cured.)

Belonging within the community, Noeme saw how TB patients struggled to access health resources, connect to their communities, and even to find motivation and purpose for living. According to Noeme, stigma and financial difficulties are core challenges that her TB patients deal with daily.

"Nahihiya sila sa mga kaibigan nila, sa mga kapitbahay nila," she said.

(They shy away from their friends, from their neighbors.)

But despite this, she still encourages them to continue their treatment and makes sure that they feel at home whenever they visit the health center. She listens to their stories and encourages them to adhere to their medications.

"Masaya ako lalo na kapag nakikita ko na mataba na sila. Kaya nga sabi ko sa kanila, hindi ako papayag na hindi ko kayo makikita kasi gusto ko nasusubaybayan ko kayo," she said.

(I feel happy whenever I see that they are starting to gain weight. That's why I tell them that I should always see them [when they visit the health center] to monitor their progress).

Whenever a patient "graduates" from the program, she feels a sense of pride. In fact, some of her cured patients feel such a connection to Noeme that they continue to visit her in the health center after "graduation".

### **OVERCOMING CHALLENGES**

Over the past ten years as a volunteer, Noeme has faced many challenges and reaped many rewards. She finds that the job can be tough, but worth it, especially when she sees that these patients start to look at life more positively despite their challenging circumstances.

Although all she earns is a small allowance per month and has ten children at home, helping those in need is still a priority for her. Her passion and determination continue to grow the longer she volunteers at Canossa Health and Social Center.

"Masaya ako sa ginagawa ko. Masaya ako sa trabaho ko. Problema lang yan. Marami akong problema pero hindi ko dinadala dito (health center) kasi apektado pati yung trabaho ko," she said enthusiastically.

(I'm happy with what I'm doing. I'm happy with my work. I may have [financial and personal] problems, but I make sure that I don't bring it here [health center] because that will affect my work.)

Asked what advice she can give to other health workers, she said that mercy, compassion and commitment are all important factors to be successful in changing people's lives.

### **ASK ME: FREQUENTLY ASKED QUESTIONS**

### 1. What happens to your lungs if you delay TB treatment?

Delaying TB treatment may damage lung tissue and lead to cavitation and/or scarring. As a result, the lungs are not able to inhale or exhale fully. Symptoms include difficulty breathing, reduced exercise capacity, and chronic cough. If the symptoms worsen, they can lead to death. You also expose more people to TB, as you delay TB treatment.

### 2. How many people can a person infect with TB per year?

TB is transmitted through the air when a person with TB coughs, talks, sneezes, or spits. On average, a single person with TB will infect up to 20 additional people a year. Those most at risk include family, friends, and co-workers of the individual with TB because of continual or prolonged exposure.

### 3. What does smoking do to your body?

Tobacco smoke has thousands of chemical components, including many well-known toxins and carcinogens. Acrolein and formaldehyde, both components of tobacco smoke, destroy the tiny hairs that line airways and act as a defense system for the lungs. Nitrogen oxides, cadmium, and hydrogen cyanide are associated with serious health problems like cancer, heart disease, and diabetes.

Chronic exposure to tobacco smoke can destroy lung tissue and thin air sac walls. As these walls thin, they weaken and can rupture – creating larger air spaces. Larger air spaces reduce the lungs' surface area, thereby decreasing the amount of oxygen that reaches your bloodstream, causing shortness of breath. This worsens when a smoker is infected with the TB bacteria.

### 4. How much can you save if you go for TB treatment at a government clinic?

The treatment for drug-susceptible TB ranges from Php 3,000 to Php 4,000 while treatment for drug-resistant TB can cost as much as Php 250,000. To save money, you may avail of the free medications from the government by visiting the nearest health center or rural health unit.

### 5. How much will you lose if you have TB and refuse treatment?

A TB patient can be out of work for 3 to 4 months. On average families with a TB illness lose Php 6,000 to Php 12,000 each month, translating to 20% to 30% of a TB patient's annual income. On average, premature death due to TB costs a family 15 years of income.

### 6. What happens to the TB bacteria in your body if you start treatment without completing it?

Tuberculosis is a disease caused by the Mycobacterium tuberculosis bacteria. Antimicrobials are medicines use to treat infections caused by bacteria. Antimicrobial resistance occurs when bacteria can survive despite the presence of one or more antimicrobials. Overuse or improper use of antimicrobials, an increasingly common phenomenon, builds bacterial resistance. Bacteria can develop resistance in several ways.

- Antimicrobial resistance is primarily caused by selective pressure. This happens when not all the bacteria are susceptible
  to the antimicrobial. The surviving bacteria can continue to multiply and produce a population of bacteria resistant to the
  antimicrobial to which it was exposed.
- Bacteria acquires resistance from another bacteria that is drug-resistant through the transfer of genetic material via plasmids.
- Resistance can happen spontaneously (through mutation).

### 7. Where else can you access TB diagnostic services and treatment for free?

Free TB diagnostic services and treatment can be accessed at government health centers, rural health units, or hospitals with DOTS clinics.

With proper coordination, it is now possible to take your anti-TB medication near your workplace and/or school, even if you need to transfer to another city or province. Inform the health staff of the facility that started you on treatment that you are transferring or would like to take your medication in another facility, and they will help support the transfer.



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