Tuberculosis Control Program

Strategic Plan 2017-2019

County of Los Angeles Department of Public Health
Division of Communicable Disease and Prevention

Updated as of June 8, 2017

Table of Contents

Letter from the Program Director

Dear Colleagues,

I am pleased to share the Los Angeles County (LAC) Tuberculosis Control Program (TBCP) 2017-2019 Strategic Plan. This plan is built upon evidence-based strategies and program evaluation enabling us to build a roadmap for progress towards Tuberculosis (TB) elimination. In the United States, LAC continues to rank high in terms of TB morbidity and mortality, despite a steady decline in the number and rate of cases since the peak of the present long term epidemic in 1992 when 2,198 cases were reported.

In 2016, 553 new TB cases were reported in LAC, an 8.1% decrease from 602 cases in 2015, the highest number among the 62 local California health jurisdictions, making up nearly one third of all reported cases in California. In 2016, the incidence rate of TB in LAC was 5.8 per 100,000 population, an incidence rate more than twice the national rate of 3.0 per 100,000. *For a 'snapshot' of TB in LAC, see Appendix A-4: LAC TB Fact Sheet 2016*.

Among those with TB disease in LAC 80% are foreign-born, with the incidence rates highest among Asian ethnicities, followed by U.S. born African Americans and Hispanics. Additionally, there is evidence of recent and ongoing transmission within especially vulnerable populations in LAC including: the homeless and persons experiencing substance abuse and mental health challenges. Each of these conditions co-occurring with TB can present significant case management and treatment challenges. Collaboration with other County departments and community partners is a key strategy for developing TB prevention and control interventions to address these challenges.

As outlined here, to speed the decline of TB disease in LAC, the TBCP is targeting various populations with TB infection and who are at high risk for progression to TB disease. One goal of this plan is to ensure access to TB testing and treatment of TB infection. This includes high risk groups of: homeless persons; newly arrived immigrants; refugees identified with TB infection during pre-immigration medical examinations; persons with HIV/AIDS; persons with diabetes mellitus, and; persons undergoing substance abuse rehabilitation. Ensuring completion of treatment for TB infection within these populations over the long term will speed the decline of TB by reducing the number of cases of TB disease emerging from the reservoir of untreated TB infection.

By implementing evidence-based intervention projects and best practice policies in collaboration with our County and community partners, we can leverage our collective resources to more effectively coordinate and improve TB prevention and control efforts within LAC and among our most vulnerable and impacted communities.

Our commitment is long term and our efforts must be sustained in order to achieve our ultimate goal: the elimination TB, a disease that is both curable and preventable.

Sincerely,

Julie M. Higashi, MD, PhD
Director, Los Angeles County TB Control Program

Background - Strategic Planning Process

Development of this strategic plan coincided with the Centers for Disease Control and Prevention (CDC) TB Elimination and Laboratory Cooperative Agreement announcement for the calendar year 2015-2019 Project Period. The TBCP grant application significantly influenced this document.

Many factors potentially affecting progress toward TB elimination in LAC were considered during the strategic plan development process, including: higher than average TB incidence rates in LAC; ongoing local transmission of TB among the homeless; immigration from TB endemic countries; a large reservoir of persons untreated for TB infection having risk factors associated with progression to TB disease; that only TB disease is a required reportable condition while TB infections not yet resulting in clinical illness are not. Other important factors include: decreases in funding for domestic TB control programs; disparities in access to care; the impact of health care reform; and the adoption of new treatment regimens and diagnostics.

The strategic planning process included a review of the TBCP 2010-14 Strategic Plan as well as recent progress on annualized work plans. Discussions were centered around the impact and feasibility of suggested activities. Analysis was conducted of the strategic directions of the Plan in which internal factors (strengths and weaknesses) and external factors (opportunities and threats) were identified which might impact success of our efforts.

An assessment of these factors are presented throughout this Plan, and provided the foundation for generating and prioritizing goals and objectives.

Photo: Victor Mojica

Program Overview

The Tuberculosis Control Program (TBCP) is the lead program in the Los Angeles County Department of Public Health (DPH) responsible for overseeing the prevention and control of tuberculosis. The TBCP is supported by funding from the following sources: State of California TB Subvention grant, a Cooperative Agreement with the Centers for Disease Control and Prevention (CDC), and Los Angeles County
(LAC). Each funding agency has goals and objectives that the Program is expected to meet. In addition to meeting the requirements of the State and CDC, the TBCP Strategic Plan embraces the DPH Strategic Plan, in particular, DPH Strategic Plan Strategic Priority 5: Public Health Protection, the goals of which are to:

- Improve effectiveness in preventing and controlling infectious disease.
- Enhance the effectiveness, accessibility, and quality of surveillance systems.
- Promote increased use of electronic health care data to benefit public health.
- Improve DPH capacity to prepare for respond to and recover from emergencies.

Thus, the TBCP Strategic Plan strives to incorporate the priorities of the state and federal agencies while also addressing specific and unique local needs.

The TBCP has a multi-disciplinary team consisting of physicians, public health nurses, health educators, epidemiologists, program managers, CDC Field Assignees and administrative support personnel. The TBCP collaborates with County and community partners to ensure the timely reporting of TB disease, provide expert advice and technical assistance, promote the use of the latest diagnostic technologies and therapeutics, and increase awareness about strategies to improve TB prevention and control efforts in LAC. The TBCP main responsibilities can be organized under the core public health functions of assessment, policy development, and assurance:

Assessment

- Conduct County-wide surveillance of suspected and confirmed TB cases and TB infection
- Support and review Laboratory services and surveillance
- Maintain a registry of all TB patients, and report to the CDC and the California State TB Control Branch
- Conduct public health investigations, including outbreak control activities
- Collect, analyze, and share epidemiologic data
- Develop and monitor performance measures, carry out program evaluation, and management reviews of cases and contacts (TB Cohort Review)

Policy Development

- Standardize TB patient management and infection control measures
- Establish standards and policies regarding targeted testing and treatment of persons with TB infection
- Provide consultative services to health care providers for TB and multi-drug resistant (MDR) TB
- Execute strategic planning activities to assure adoption of existing and new policies
- Provide Continuing Medical Education (CME) and other TB education and training to public, private, and community medical providers, as well as community partners

Assurance

- Oversight of TB cases, contact investigations, and outbreaks
- TB genotype cluster identification and assessment
- Maintain legal authority to issue health officer's orders to TB patients for examination, isolation, or treatment when necessary to protect the public's health
- Organize resources to support TB prevention and control activities and interventions
- Approve all discharges and transfers of persons suspected of having TB and confirmed TB cases from health facilities
- Monitor LAC laboratories for compliance with State TB reporting mandates
- Coordinate TB screening and ensure treatment initiation and completion for TB infection or disease for all immigrants and refugees entering LAC with the Community Health Services (CHS) Refugee Health Assistance Program
- Respond to requests for funding proposals and monitor the implementation of CDC, State, and County grant funded activities for TB control in LAC

TBCP Organizational Structure: 6 Units

Medical Consultation, Patient Services & Reporting Unit

This Unit is made up of four sections: Medical Consultation, Nursing Surveillance, Incentive and Enabler, and Public Health Investigation/Legal Intervention. The overall goal of these four sections is to provide consultation, guidance, and oversight to ensure all TB patients are identified, reported, and able to complete a prescribed course of treatment while minimizing the risk of TB transmission to others. The specific description of each section is given below:

Medical Consultation
The physicians in this section have the overall focus of providing consultation, guidance and oversight in the medical management of persons suspected of having TB, confirmed TB cases, and contacts to confirmed cases for both public and private sector providers.

Nursing Surveillance
This section consists of two teams: The Private Hospital Surveillance team and the Public Health/Corrections team.

The Private Hospital Surveillance team consists of Assistant Program Specialist (APS), Public Health Nurse (PHN's) who are responsible for strengthening and improving the quality of reporting and care of the TB patient in non-Department of Health Services (DHS) facilities. The Team reviews reports pursuant to Title 17 CCR §§2500 and 2505, consults with community providers and measures the quality of care against TB Program standards, APS nurses approve the TB Discharge Care Plan (H&S Code §121361), and ensure continuity of care as the patient transitions from inpatient to outpatient care. They also provide consultation to assure that appropriate infection control measures are being taken to prevent the spread of disease.

The Public Hospital/Corrections team consists of Liaison PHN's assigned to three (3) DHS healthcare facilities and to the LAC Sheriff's Department. For each facility a nurse is assigned to the identification and case management of MDR-TB cases and their contacts. In addition, nurses in the Team work with the public and community stakeholders to provide nursing consultation on a wide variety of topics and engage laboratories to facilitate specimen submission.

Incentive and Enabler
This section is dedicated to managing a wide variety of services to assist patients in completing their treatment (i.e., housing, meals, grocery store gift cards, restaurant gift cards, bus passes, and bus tokens). Provision of incentives has demonstrated a significant improvement, especially among high priority patients, in adherence to TB treatment via Directly Observed Therapy (DOT), clinic appointments, and clinic-based diagnostic testing.

Public Health Investigation & Legal Intervention
This section is comprised of Public Health Investigators (PHI's) who locate recalcitrant patients and bring them into care. PHIs attempts to utilize education, counseling, and other voluntary measures before exercising their authority to serve Health Officer's Orders. Recommendations are developed for the use of civil orders and the Team works closely with CHS and County Counsel in the initiation, enforcement, and follow-up of civil orders, including orders for Exam, DOT, Home Isolation and Civil Detention in a health care facility. As sworn Deputy Health officers, staff in this section have authority to arrest individuals who violate Health Officer's Orders.

Education & Evaluation Unit

The TBCP Education and Evaluation Unit consists of four sections: Contact Investigation Oversight, Monitoring & Assessment and Targeted Testing; Education & Community Outreach; Policy and Program Evaluation; and the TB Registry. This Unit is responsible for staff professional development activities.

Contact Investigation Oversight Monitoring & Assessment and Targeted Testing
This team of nurses provides oversight for contact investigations conducted by CHS and monitor their progress to ensure they are conducted according to TBCP guidelines. Nurses provide technical assistance with complex, large, or high profile investigations and TB outbreaks. The team collaborates with the Genotype Cluster Investigation and Assessment Unit to assist with TB screening at AA Grupos and with the investigation of TB case clusters to determine if an outbreak event is emerging. Nurses collaborate with homeless medical providers and at targeted shelter sites to promote TB clearance and TB symptom screening at shelter entry, delivery of targeted testing, and treatment of TB infection. PHNs collaborate with Ryan White-funded ambulatory outpatient clinic providers to promote delivery of targeted testing and treatment of TB infection. Data is collected for the purpose of measuring the impact of services on the diagnosis and treatment of TB infection within these high risk populations. Nursing staff in the section facilitate TB Cohort Review activities with CHS staff where performance against TB indicators are discussed.

Education & Community Outreach
Nurses and Health Educators plan, develop, and deliver TB education and training to increase awareness and knowledge of TB infection and active TB disease. Staff assure that updated information and resources are available on the Program website to public, private sector and community medical providers, and community agencies who serve high risk populations within LAC. A strong evidenced-based evaluation component is incorporated into educational sessions. Staff partners with CHS and the Curry International TB Center on selected training and conference planning activities. Staff actively and strategically garners support for TB elimination activities through collaborative relationships with organizations of similar interests. The newly formed Coalition to End TB in Los Angeles is an example of this effort. A Senior Health Educator is the CDC Education and Training focal point and participates on the TB Education and Training Network.

Policy & Program Evaluation
Staff in this section contribute to the development of local policies and participate with the California TB Controllers Association (CTCA) and its workgroups on legislative proposals and conference planning annually. Staff in this section coordinates with DPH Quality improvement and Accreditation and CHS on TB performance measures data collection and reports. Staff also participates in the national TB Program Evaluation Network. Program evaluation activities are conducted through quarterly TB cohort review with CHS clinics and management staff.

TB Registry
This data entry team, comprised of clerical staff, are responsible for ensuring accuracy and data quality while inputting new entries and updates of patient information into the Tuberculosis Registry Information Management System (TRIMS) and maintains the registry as required by the Health and Safety Code. This team will be instrumental in facilitating workflows during anticipated plans to transition into an integrated surveillance system.

Epidemiology & Research Unit

This Unit conducts epidemiologic analysis of TB data principally from the TB surveillance and laboratory databases. The core function of this group is to utilize data to support the identification, diagnosis, treatment, prevention, and control of TB disease and TB infection in LAC. This unit ensures submittal of the Report of Verified Case of TB (RVCT) to the California Department of Public Health Tuberculosis Control Branch, and prepares mandated epidemiological reports submitted to county, state and federal agencies. This unit collaborates with various health centers and community partners to facilitate collection, analysis, and dissemination of high quality health data on TB in LAC. The Unit also provides analytic support for surveillance activities including contact investigations, cohort reviews, and performance improvement and uses data analysis for assessment, policy development, and program evaluation.

Genotype Cluster Identification & Assessment Unit

This team is responsible for monitoring TB genotype data for the purpose of identifying clusters of TB cases and previously unrecognized epidemiologic links between cases. This team provides technical assistance to CHS TB case managers surrounding the investigation of TB genotype clusters, including the provision of index patient interviewing services, data management support, and contact investigation screening services. Index patient interviewing services also targets the homeless TB patient population which has been experiencing ongoing transmission of TB.

Data Management & Information Technology Unit

The TRIMS database is a mission critical system supporting the activities of personnel within the TBCP, CHS, and the Public Health Lab (PHL). Unit personnel are responsible for maintaining and programming the TRIMS database, ensuring the security of the database in accordance with HIPAA regulations, and providing end user IT support for TBCP personnel. Management of data is critical to the support of TB prevention and control activities, and this team has primary responsibility for integrating TRIMS with other data sources to improve the management and performance of these activities. The staff in this section provide leadership and critical input into planning, development and operationalization of a planned new integrated surveillance system.

Administration Unit

This Unit is responsible for all of the administrative aspects of program operations, which include management of human resources, procurement, facilities management, and coordination of time collection, as well as functions as a liaison to DPH Contracts & Grants and DPH Finance.

Vision:

Tuberculosis eliminated in Los Angeles County

Mission:

To prevent transmission of Tuberculosis in Los Angeles County

Overall strategic direction:

- **Interrupt TB Transmission**
- **Accelerate the Decline of TB cases**
- **Integrate New Technologies into Clinical & TB Control Practices**
- **Strengthen Partnerships for TB Elimination**
- **Monitor and Evaluate Progress towards TB Elimination**

Strategies, Goals and Objectives:

The eight strategies below characterize the core activities that the LAC TBCP will focus resources on to move toward TB elimination. Goals and objectives for each strategy are described on subsequent pages.

Strategy 1: Improve TB Case Detection and Management

Goal 1.1: Routine Use of Nucleic Acid Amplification Testing (NAAT) in the Public Sector

Obj.1.1.a Ensure that at least 50% of the patients evaluated for TB at LAC+USC Medical Center will have at least 2 respiratory specimens processed with a NAA test.

Obj.1.1.b Collaborate with LAC+USC to establish turnaround-time and data sharing standards for NAA tests.

Obj.1.1.c Partner with CHS to integrate routine use of the NAA test within Public Health Centers for the evaluation of TB suspects.

Obj.1.1.d Partner with targeted County health facilities, to integrate routine use of the NAAT for the evaluation of TB suspects.

Obj.1.1.e Establish GeneXpert Testing service in the PHL to serve as reference lab for NAAT for LAC.

Goal 1.2 Improve Case Management Interventions for Non-adherent TB Patients

Obj.1.2.a Improve rate for TB housing to expand housing options for homeless TB patients.

Goal 1.3 Improve Criminal Detention Process in LAC by formalizing roles and responsibilities of transporting acute medical and psychiatric TB patients

Obj.1.3.a Improve Criminal Detention Process in LAC by developing formal agreement for custody of criminally detained patients with LA Sheriff Department

Obj.1.3.b Improve Criminal Detention Process in LAC by developing process with LAC District Attorney for prosecuting TB patients who are criminally detained.

Strategy 2: Surveillance of TB Cases and Case Reporting

Goal 2.1: Strengthen Organizational Capacity to Maintain a High Genotype Coverage Rate

Obj.2.1.a Develop a Laboratory Portal within TRIMS through which PHL can auto-generate a list of first-time culture positive specimens to be shipped to the CDC designated genotype lab, including automatic assignment of a local ID used for linking genotype results with the TRIMS patient record.

Obj.2.1.b Develop educational messages and correspondence for private laboratories to increase their awareness of the requirement to report all culture positive results, and to submit to the Public Health Laboratory a culture from the primary patient specimen from which *Mycobacterium tuberculosis (Mtb)* complex was isolated for each culture positive patient.

Obj.2.1.c Designate personnel responsible for routinely contacting private laboratories for submission of genotyping on *Mtb* cultures following receipt of a culture positive report.

Goal 2.2: Build Organizational Capacity for Systematic Review of Genotype Data to Identify and Assess Clusters.

Obj.2.2.a Re-organize to create a Genotype Cluster Identification and Assessment (GCIA) Unit responsible for the identification and assessment of TB genotype clusters. The Unit is responsible for developing the TRIMS Laboratory Portal, monitoring the submission of first time *Mtb* culture positive specimens for genotyping, and managing the linkage of genotype data with TB patient case records, as well.

Obj.2.2.b Create a field services team responsible for: interviewing index patient(s) within a TB genotype cluster of interest; to determine infectious periods, exposure sites and settings, and locating information for named contacts; and deliver targeted TB screening services within various social venues, including those where evidence of TB transmission has been identified through genotype clusters.

Goal 2.3: Implement a quality assurance process to ensure the completeness and accuracy of the Report of Verified Case of TB (RVCT) data

Obj.2.3.a Establish systematic, recurring quality assurance (QA) processes to monitor, enhance, and improve the completeness and accuracy of the RVCT data, using the strategies outlined by CDC.

Obj.2.3.b Review each TB confirmation in TRIMS to assure the completeness and accuracy of RVCT data prior to reporting the RVCT through CalREDIE.

Obj.2.3.c Process the Quarterly CalREDIE Quality Control lists, and update the TRIMS and the CalREDIE RVCT data to maintain completeness, accuracy, and consistency.

Obj.2.3.d Retrospectively compare the CalREDIE-RVCT and TRIMS databases to assure the completeness, accuracy, and consistency of RVCT data.

Goal 2.4: Implement an automated DPH Dashboard Report for LTBI Indicator – Contacts completing treatment

Obj. 2.4 a Determine the DPH LTBI indicator report content, stakeholder distribution and frequency

Obj. 2.4 b Collaborate with CHS to determine the best way to disseminate/automate this health center specific report in IRISS and facilitate ongoing use by CHS staff to guide performance improvement

Goal 2.5: Improve Data Management

Obj.2.5.a Provide detailed input to CHS for Orchid/Cerner development for TB surveillance data reporting needs to improve workflow related to ORCHID-CMAP interface and CMAP TRIMS interface.

Obj.2.5.b Determine ideal database needs for reporting, surveillance, case management, and QA/QI for the eVCMR/shared disease surveillance database implementation project

Obj.2.5.c Obtain Right Fax for incoming faxes

Obj.2.5.d Implement scanning of reporting documents into shared drive to replace faxes notification to CHS.

Strategy 3: Contact Investigation and Outbreak Response

Goal 3.1: Build Organizational Capacity for Systematic Monitoring and Assurance of Contact Investigations, Cluster Identification and Coordination of Outbreak Response

Obj.3.1.a Re-organize TBCP to establish a Contact Investigation Oversight and Outbreak Response Coordinator and create a Genotype Cluster Identification and Assessment (GCIA) Unit within the current structure.

Obj.3.1.b Evaluate the contact investigation and cluster monitoring and communications processes.

Obj.3.1.c Implement policies and procedures to standardize the practice of monitoring contact investigations, including the provision of technical assistance to CHS TB Case Managers and Public Health Nursing Supervisors.

Obj.3.1.d Provide CHS information on Contact investigation & outbreak (CIOB) identified high priority CIs to identify CIs for proactive CI management

Obj.3.1.e Create toolkit for PHNs to use for TB exposures in health care settings for PHNs to reduce CI management for low yield exposures and pilot use in at least one SPA.

Goal 3.2: Improve Identification of Contacts in Homeless Shelters and the Evaluation rate and TB Infection treatment Completion Rate among Homeless Contacts

Obj.3.2.a Modify the Incentive & Enabler (I&E) Project Manual to include procedures for the use of incentives for the screening, evaluation, and treatment of TB infection among homeless TB contacts.

Obj.3.2.b Develop and implement tools to monitor the use of incentives for the screening, evaluation, and treatment of TB infection among homeless TB contacts.

Obj.3.2.c Collaborate with CHS to identify the types of incentives which promote a high level of adherence to the screening, evaluation, and treatment of TB infection process among homeless TB contacts.

Obj.3.2.d Provide epidemiologic and data management support to staff conducting TB contact investigations in homeless shelters.

Obj.3.2.e Develop and implement shelter-specific contact investigation procedures at 3-5 shelters associated with recent and ongoing TB transmission.

Strategy 4: Evaluate and Treat TB Disease and TB Infection in High Risk Populations

Goal 4.1: Evaluate and Treat Newly Arrived Refugees and Immigrants with a Class B TB Designation (Abnormal Chest X-Ray, TB infection or history of contact to a TB case on pre-immigration exam)

Obj.4.1.a Designate a Coordinator to oversee the Class B TB Notification process and integrate the follow-up medical evaluation process into existing TB surveillance practices. The Coordinator will be responsible for: updating follow-up evaluation protocols and practices; verifying patient contact and locating information; ensuring completed Electronic Disease Notification (EDN) Worksheets are submitted to CDC; and serving as a resource for our CHS partners.

Obj.4.1.b Automate data updates within EDN Worksheet in the TRIMS to minimize manual data entry requirements.

Obj.4.1.c Update evaluation and treatment recommendations to emphasize initiation and completion of treatment of TB infection among this population. Train CHS on these new recommendations.

Obj.4.1.d Collaborate with CHS to expand use of the Isoniazid/Rifapentine (3HP) treatment regimen among newly arriving immigrants and refugees with TB infection.

Obj.4.1.e Improve TB infection treatment initiation and completion rates among newly arrived immigrants and refugees.

Obj.4.1.f Update the notification process for class B arrivals who move to streamline workflow for CHS.

Goal 4.2: Targeted Testing and Treatment of TB infection

Obj.4.2.a Establish and maintain a program to improve the collection of treatment completion data from HIV/AIDS medical providers and private and community medical providers serving populations at high risk for TB infection, such as the homeless, persons with diabetes mellitus, persons seeking to adjust their immigration status who are examined by Civil Surgeons, and persons with other co-morbidities that increase the likelihood of progression to TB disease.

Obj.4.2.b Elicit partnerships with targeted private and community medical providers serving high risk populations to: increase their awareness about TB infection and risk factors for progression to TB disease; and to leverage these provider resources in the delivery of targeted testing and treatment of TB infection services within their patient population.

Obj.4.2.c Collaborate with private and community medical providers delivering targeted testing and treatment of TB infection services to streamline data collection for capturing information related to the evaluation and treatment of persons for TB infection.

Obj.4.2.d Generate periodic reports and analyses for distribution to private and community medical providers about targeted testing and treatment of TB infection activities among prioritized high risk populations.

Goal 4.3: Ensure appropriate DOT in patients meeting CDPH and HIV/MMWR guidelines (i.e., children, adolescence, history of homelessness or alcohol use, injecting/non-injecting drug use, sputum smear positive, slow to culture convert, resistance to isoniazid or rifampin).

Obj.4.3.a Increase the percentage of TB cases on appropriate DOT from 65% to 85% by 2019.

Goal 4.4: Ensure that confirmed TB cases have documented HIV status

Obj.4.4.a Increase the percentage of TB cases with documented HIV status from 89.5% (2014) to 93% (2018).

Goal 4.5: Ensure documented culture conversion in pulmonary TB cases

Obj.4.5.a Increase the percent of pulmonary TB patients with documented culture conversion within 60 days from 64.7% (2012) to 75%.

Goal 4.6 Define Roles and Responsibilities within the Health Agency for TB Care

Obj. 4.6.a Define the primary care provider role within the Health Agency for:

- TB Disease or suspected TB Disease requiring acute medical care
- TB Disease or suspected Disease in ambulatory setting
- Complicated TB Infection
- Uncomplicated TB infection
- Uninsured requiring TB testing or TB infection treatment
- TB Disease and non-adherent requiring acute mental health care
- TB disease requiring specialty subacute care

Strategy 5: Program Evaluation

Goal 5.1: Refine and update the Program Evaluation Plan for Project Period: 2015 – 2019 annually to ensure progress on the goals and objectives of Strategies 1-4, 6 & 7

Goal 5.2: Implement cohort review as a QA/QI process for CHS

Obj.5.2.a Provide CHS administration a comprehensive evaluation of the cohort review process and outcome data including TBCP interpretation on performance indicators by health center and/or SPA.

Obj.5.2.b Provide CHS quarterly performance indicator reports, including TBCP interpretation on performance indicators by health center to health centers not participating in cohort review

Obj.5.2.c Develop a process to systematically analyze, track, and investigate sentinel events (TB clusters, case spikes, pediatric TB, TB deaths, severe adverse events associated with treatment requiring public health action.

Strategy 6: Staff Professional Development

Goal 6.1: Ensure access to TB educational opportunities for DPH and other LAC medical providers, and the private sector, as a means of developing and maintaining a competent workforce

Obj.6.1.a Review and update the TBCP internet/intranet websites at least semi-annually.

Obj.6.1.b Monitor, analyze and disseminate reports describing the use of Isoniazid+Rifapentine (3HP) TB infection treatment regimen.

Obj.6.1.c Establish a community coalition/TB Advisory Board comprised of engaged stakeholders whose input will guide future strategic plans and program activities.

Obj.6.1.d Evaluate each public sector training session, including the CME educational offerings, to assess whether the trainings meet the needs of the participants, and describe the impact of the trainings on knowledge and practice.

Obj.6.1.e Revise, update and post the TB manual on both the intranet and internet.

Goal 6.2: Improve TB Case Detection and Management Skills

Obj.6.2.a Deliver comprehensive TB case management/contact investigation training to new DPH public health nursing staff in collaboration with the *Curry International TB Center*.

Obj.6.2.b Deliver training sessions to public and private sector medical providers, including County hospitals and health care facilities, to promote routine use of the NAA test for rapid TB diagnosis.

Obj.6.2.c Deliver comprehensive training to targeted medical providers serving high risk populations, such as the foreign-born, persons living with HIV/AIDS, and persons with diabetes to promote awareness about the importance of screening for TB risk factors, along with testing and treatment for TB disease and TB infection.

Obj.6.2.d Deliver training to targeted homeless shelter service providers on the DPH shelter guidelines, and assess their use of the Cough Alert Protocol, and their procedures for referring clients to public and community-based medical providers for follow-up TB evaluation.

Obj.6.2.e Deliver targeted training to CHS staff to further develop their capacity to conduct Cohort Review sessions at additional Public Health Center sites.

Goal 6.3: Surveillance of TB cases and Case Reporting

Obj.6.3.a Deliver comprehensive training to Public Health Nurse Case Managers on H-290 reporting, with an emphasis on Public Health Nursing Standards for reporting of TB confirmations.

Obj.6.3.b Deliver comprehensive training to Public Health Nursing Supervisors on the quality assurance process for reviewing H-290 reports, with an emphasis on TB confirmations.

Goal 6.4: Contact Investigation, Outbreaks and Cluster investigations

Obj.6.4.a Deliver comprehensive training to TBCP and CHS staff on the 'Tuberculosis Contact Investigation. Monitoring and Communications Standards, with emphasis on roles and responsibilities with communications and monitoring and responding to contact investigations TB genotype clusters investigations, and outbreaks.

Obj.6.4.b Deliver comprehensive training on TB epidemiology to CHS, with an emphasis on use of the contact investigation screening forms and strategies for incorporating the use of epidemiology in contact investigations.

Goal 6.5: Evaluate and Treat TB Disease and TB Infection in High Risk Populations

Obj.6.5.a Deliver comprehensive training to CHS clinic sites on follow-up evaluation and treatment guidelines for newly arrived immigrants and refugees with TB infection. The training will emphasize treatment of TB infection among this population, and cover the collection and reporting of EDN Worksheet data.

Obj.6.5.b Deliver comprehensive training to private and community medical providers serving high risk populations to increase their awareness about TB infection and risk factors for progression to TB disease, with an emphasis on recruiting providers to deliver targeted testing and treatment of TB infection services to their high risk patient population.

Obj.6.5.c Training to private and community medical providers delivering targeted testing and treatment of TB infection services to their high risk patient population on the reporting of TB screening data using the data collection tools developed collaboratively with these providers.

Obj.6.5.d Support CHS recruitment and complete credentialing for registry, J item per diem, and permanent physician hires.

Strategy 7: Public Health Laboratory Strengthening

Goal 7.1: Collaborate with the Public Health Laboratory (PHL) to support and strengthen their role in the prevention and control of TB in LAC

Obj.7.1.b Collaborate with the PHL to ensure a high genotype coverage rate for culture positive TB cases, including a high genotype coverage rate for positive TB cultures reported by private laboratories and submitted to PHL.

Obj.7.1.c Collaborate with the PHL to develop and implement electronic reporting of TB diagnostic laboratory results from PHL to the TBCP for integration with TB patient records in TRIMS.

Obj.7.1.d Collaborate with the PHL to optimize utilization of IGRAs in the health agency, and plan for implementation of QFT plus in 2018.

Obj.7.1.e Collaborate with the PHL through quarterly meetings, and with key stakeholders, including: CHS, DHS, and private laboratories in LAC, to refine laboratory policy, distribute new PHL guidelines and testing procedures, and to identify ways to improve turn-around-time.

Obj.7.1.f Collaborate with the PHL to work with private laboratories to identify and investigate suspected TB lab errors and provide recommendations to prevent future errors.

Strategy 8: Policy Development and Support

Goal 8.1: Reduce TB testing in populations whose risk for TB infection/disease is "low."

Obj.8.1.a Collaborate with CTCA and other stakeholder organizations to introduce legislation and provide analysis in support of risk-based testing.

Obj.8.1.b Create a TB infection provider Toolkit and disseminate to providers in LAC

Next Steps

LAC TB control is at a crossroads of challenges, from competing demands at service delivery public health centers (PHCs) to emerging chronic disease prevention activities and emerging infectious disease threats. In this era of budgetary constraints, limited resources and competing expanding areas of health concerns, our program engagement will need to be advanced with enhanced focus on efficiency and integrated data management systems, well documented "value-added," cost-effective activities, and integrated approaches of patient/family centered care models.

We must build on our current collaborations with both our internal Public Health programs, as well as our community stakeholders, and challenge ourselves to evaluate and measure our successes towards National and Statewide objectives while reducing on-going disparities in at-risk communities throughout LAC. Strong collaborative leadership in TBCP and CHS provides LAC-DPH with an opportunity to accomplish this goal in a renewed partnership effort. TBCP has a critical leadership role in the areas of epidemiology, data management, program (outcome) evaluation, policy development, surveillance, process efficiencies, education and training, expert TB consultation. Enhanced guidance and oversight with outbreaks/genotyped clusters and complex contact investigations will result in better prioritization of DPH's staff and resources. To better align the TBCP program development and evaluation role, TBCP will need to "reengineer" its infrastructure to better facilitate effective TB control and guide policy makers, service delivery providers, and our diverse communities in all service planning areas (SPAs).

Opportunities exist to foster new "value-enhanced", cost-effective technologies by expanding our collaborations in research, teaching, and service delivery support, with our local academic, medical, and public health partners, state and national TB experts, and laboratory resources, as well as our international TB community stakeholders. Significant enhancements in TB control in LAC, though challenging in our current economic climate, looks hopeful if we remain open to potential new models of engagement with our partners in TB control and patient care.

References

County of Los Angeles Department of Public Health. (2010). Tuberculosis Control Program strategic plan 2010-2014. Los Angeles, CA: Tuberculosis Control Program Office.

County of Los Angeles Department of Public Health. (2013). Strategic plan 2013-2017. Los Angeles, CA: Los Angeles County Website.

Flood, J. (2015). Tuberculosis elimination and laboratory Cooperative agreement application project narrative. California Department of Public Health.

Ghosh, J.K. (2014). Annual TB epidemiology presentation. [PowerPoint slides]. Retrieved from http://intranet/ph/PDFs/TBControl/AnnualEpidemiology.pdf

California Department of Public Health. (2010). Tuberculosis Control Branch strategic plan 2010-2013. Los Angeles, CA: California Department of Public Health Website

Program Accomplishments 2015- 2016

Strategy: Improve TB Case Detection and Management

- In 2016, expanded targeted testing and chest x-ray referral at eight "AA grupos" sites in collaboration with Central City Community Health Center
- Awarded additional county funding to temporarily house high-risk homeless persons during TB infection treatment and purchased hygiene packets to encourage the homeless to complete TB evaluation
- Created low literacy educational material which was implemented with "AA grupos"
- Collaborated with CHS staff in developing patient health cards to aid in completing TB evaluation of highly mobile contacts
- Issued Guidelines for Use of Nucleic Acid Amplification Test (NAAT) to promote early detection of TB and Rifampin resistance in persons suspected of having TB
- Deployed and operationalized a GeneXpert device at LAC+USC Medical Center and facilitated access to NAA testing at all DHS hospital facilities

Strategy: Surveillance of TB Cases and Case Reporting

- Issued letters to TB providers regarding the appropriate use of NAATs in detecting TB

Strategy: Contact Investigation and Outbreak response

- Established the CIOB Unit and developed policies and procedures, database and other tools to train new staff on the CI oversight process
- Hired three APS nurses to perform CI monitoring and assessment functions and work with the genotype team (CDC public health associates) on cluster investigations, with a focus on TB among the homeless, and TB laboratory surveillance
- Initiated automatic CMaP CI notifications relayed from CHS to TBCP staff
- Created a database management tool to support CI oversight and improve internal tracking and communication with CHS staff
- Provided CHS data needs for TB surveillance reporting to facilitate Orchid development
- Established protocol for Complex CI support and Epi support requests from CHS
- Expanded availability of incentives for CHS staff use in contact investigations

- Established the Genotype Cluster Investigation & Assessment (GCIA) Unit to investigate clusters, expedite TB interviews for epi links and to ensure that culture positive specimens are genotyped (98.8% coverage)
- Selected as a placement site for three additional CDC Public Health Associates. All three assigned to the Genotype Cluster Investigation and Assessment Unit
- Improved precision of conducting extended contact investigations in congregate settings by strengthened coordination between the TBCP contact investigation management unit, TBCP epidemiology section, and CHS
- As a result of continued cases being diagnosed within two large TB outbreaks, continued screening at a local homeless shelter and several community-based alcohol/drug treatment centers.

Strategy: Evaluate and treat TB infection in High Risk populations

- Increased completion of TB infection therapy with use of 3HP and housing of clients on treatment of LTBI
- Educated and trained 69 Civil Surgeons in LAC on the use of IGRA for screening, and referrals for chest x-ray, and initiation and completion of treatment for TB infection using shorter course therapies
- Initiated use of IGRA (t-spot) at two pilot civil surgeon clinics
- Collaborated with HIV and homeless medical providers delivering 8 in services on targeted testing and treatment of TB infection to streamline data collection for capturing information related to the evaluation and treatment of persons for TB infection
- Established and maintained a targeted testing program in collaboration with community providers at Pathways to Home, to coordinate referral of patients diagnosed with TB infection to CHS clinics and ensure medical evaluation and treatment with 3HP
- Initiated pilot use of Video DOT at Pacoima Health Center to monitor TB treatment adherence by smartphone or secure internet video, through the Automated Video DOT Services Project, a Productivity Investment Fund grant from the Los Angeles County Board of Supervisor's Quality and Productivity Commission
- Between 2015-2016, conducted 31 TB cohort review sessions highlighting key indicators of 1. documenting sputum conversion, and 2. In appropriate SAT

TB CONTROL PROGRAM: STRATEGIC PLAN 2015-2019

Strategy: Program Evaluation

- Submitted Program Evaluation report to CDC for progress on 2015-2016 activities
- Provided CHS administration an annual progress update on TB indicators and performance
- Integrated electronic lab reporting between PHLs for TRIMS & VCMR TB reports.

Strategy: Human Resource Development

DPH Staff Training

- (2/2016) Presented TB Epi data, screening, TST/IGRA, Pathology, Diagnosis, Treatment, Patient Interview, Case Management and Contact Investigation at New Nurse Orientation
- (4/2016) Trained DPH, CHS & TBCP staff on TB Epidemiology which included discussions on performance measures and improvement efforts
- (5/2016) Provided a course on TB Screening for the DHS-Employee Health Services nurses
- (8/2016) Co-Facilitated TB 101: Get the Facts – Public Health Investigators (PHI's)
- Expanded quarterly TB cohort review sessions at three additional district health center sites for a total of five sites
- Enrolled three TBCP staff in the 14 month "Leading Effective Collaboration" Training Program
- TB First Friday CME trainings 2015=5 total, 2016=8 total
- Three TBCP staff received training on ACCME standards

Community Training / Outreach

- (1/2016) Provided TB training, introduction to the TB Registry Information Management System (TRIMS), and screening and reporting forms to medical staff from 8 community health centers.
- (6/2016) Delivered Civil Surgeons' Training in collaboration with Curry International TB Center, CDC, and the US Citizenship and Immigration
- Facilitated a total of 18 University student nurse rotations with the TBCP
- (8/2016) TB screening training provided to Harbor UCLA Clinical Professional Development Team and UCLA School of Nursing Health Clinic at Union Rescue Mission
- (8/2016) Trained homeless shelter staff at prioritized HIV care AOM sites, Pathways to Home as well as Winter Shelter Providers (11/2016) in TB screening, medical referral and cough alert protocol
- (9/2016) Provided TB Risk Assessment and Legislative updates at the Los Angeles County Office of Education to 99 nurses at the school health program manager's meeting

- (11/2016) Disseminated reports describing the use of 3HP TB infection treatment regimen within the homeless population and implemented shelter guidelines in LAC.
- Administered 6-month intensive proctoring and provided oversight of new CHS chest physicians
- Updated TB privileging oversight process and made resources available in website
- Developed a series of LAC TB Fact Sheets that served as resource tools and highlight the current state of TB disease in priority populations. TB Fact Sheets are live on our website http://publichealth.lacounty.gov/tb/tbfacts.htm
- (10/2016) Participated in five "Mes de la Salud" Health Fairs for David Figueroa Ortega the Consulate General of Mexico in Los Angeles

Conferences

- (2/2016) TBCP staff participated at National Tuberculosis Controllers Association (NTCA)/Union-North America Region TB conference with poster presentations in Denver, Colorado
- (4/2016) Hosted the 50th Annual California TB Controllers Association (CTCA) Conference at the California Endowment Los Angeles Conference Center
- (5/2016) Presented two posters at American Thoracic Society Conference
- (9/2016) Attended the Joint TB Program Evaluation Network (PEN)/ Education Training Network (ETN) Conference in Atlanta, Georgia. Co-authored "*Targeted training of civil surgeons to enhance the delivery of tuberculosis prevention services in Los Angeles County*"
- (9/2016) Awarded best ePoster at the Educational Forum and Conference of the Western Users of SAS Software
- (2016) Submitted three poster abstracts and gave one presentation for the DPH Science Summit

CME

- (7/2016) TBCP MD gave lecture at Lakewood Regional Medical Center about TB disease and targeted testing
- (11/2016) Hosted a webinar organized by the Curry International Tuberculosis Center and offered CME on the newly published ATS/CDC/IDSA active tuberculosis treatment guidelines
- (12/2016) Hosted webinar on Morbidity and Mortality case review illustrating key concepts in clinical practice for TB control and prevention

Essential Functions:

Essential Function	Description	Business Impact
Information Systems and Telecommunications	Maintain TRIMS, network infrastructure, phone and fax	Legally mandated reporting of TB suspects and cases impaired without information systems and telecommunications
Patient Services & Reporting	Processing of legally mandated, newly reported TB suspects and cases.	Failure to comply with State Health and Safety Code. Delay in identifying potential TB outbreak and TB transmission in the community.
Gotch	Review and approve hospital discharge plans for TB suspects and cases.	
Contact Investigation Oversight / Outbreak response	Provide oversight monitoring and assurance for contact investigations conducted by CHS /and outbreak response	
Cluster Investigation	Follow up on clusters reported from State to TBCP where recent transmission may have occurred to establish Epi links	
Medical Consultation	Providing expert medical and nursing advice to public and private medical providers	Failure to assist public and private health care providers with management of complicated TB suspects and cases. Potential mismanagement of TB patients including inappropriate treatment leading to worsened outcomes
Treatment Adherence and Enforcement	Provision of incentive/enablers and rehabilitation referral services to ensure completion of treatment for TB cases and high risk contacts.. Serving legal orders to noncompliant TB suspects and cases as specified by local and state statutes	Increased public threat of infectious TB cases – greater TB exposure of susceptible persons, and development of drug resistance or relapse.
Core Administrative Functions	Enabling basic operations of the TBCP, including facilities and materials management, and HR.	Failure to support aforementioned Program functions and failure to support the daily environmental resource needs of staff in performing their assignments.

TB CONTROL PROGRAM: STRATEGIC PLAN 2017-2019

A-3

Tuberculosis in Los Angeles County: A Snapshot

PROVISIONAL* - *Fact Sheet 2016*

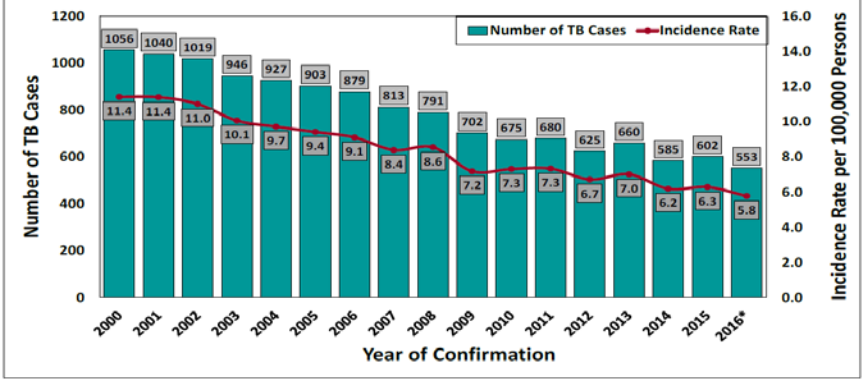
County of Los Angeles Public Health

*This is provisional data as of February 2017

Overview of Tuberculosis in Los Angeles County

- In 2016, a total of 553 new tuberculosis (TB) cases were reported in Los Angeles County (LAC), an 8.1% decrease from 602 cases in 2015 (Figure 1). The latest state surveillance data indicate that in the past decade LAC has accounted for about 30% of TB cases in the state of California.[1]
- In 2016, the incidence rate of TB in LAC was 5.8 per 100,000 persons. In the past few years, LAC's incidence rate has been ranked among the 10 highest rates among California's local health jurisdictions, and has been higher than the overall state incidence rate,[1] and twice the national incidence rate.[1,2]

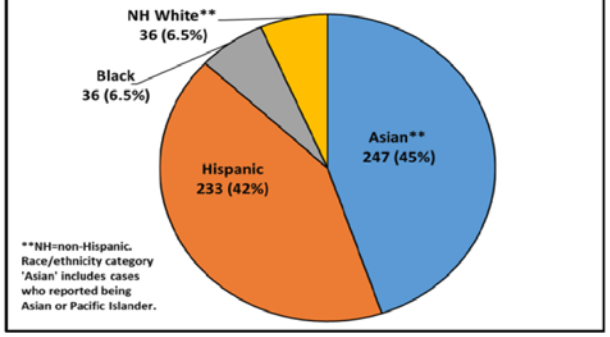
Figure 1. TB Cases and Incidence Rates: Los Angeles County, 2000-2016



Racial/Ethnic Group

- In 2016, TB cases were comprised of 45%
- Asians (n=247), 42% (n=233) Hispanics,
- 6.5% (n=36) Blacks, and 6.5% (n=36) non-
- Hispanic Whites (Figure 2).
- The TB incidence rate was highest among Asians (17.7/100,000), followed by Hispanics (5.0/100,000), Blacks (4.6/100,000), and non-Hispanic (NH) Whites (1.3/100,000).
- For the third year in a row, Asians were the racial/ethnic group with the largest number of
- TB cases. In 2015, they also accounted for 45%
- of TB cases.

Figure 2. TB Cases by Racial/Ethnic Group: Los Angeles County, 2016



Persons Born Outside the U.S.

- Among TB cases with a known place of birth, there were four times as many cases born outside the U.S. (n=448, 82%) than there were cases born in the U.S. (n=99, 18%). Among TB cases born outside the U.S., 73% (n=322) originated from the following five countries: Mexico, Philippines, China, Vietnam, and Korea. Also, 81% (n=362) of TB cases born outside the U.S. reported having spent 5 or more years in the U.S. at the time of TB diagnosis.

*Pasadena and Long Beach TB cases are excluded because these two cities have their own TB Control Programs. LAC TB data last updated 2/21/17. *Data are provisional and subject to change. Population estimates source: Internal Services Department, Los Angeles County. 2015 population estimates used to calculate 2016 incidence rate.*

***Suggested Citation:** Tuberculosis in Los Angeles County: A Snapshot: Provisional Fact Sheet 2016. Los Angeles County Department of Public Health, Tuberculosis Control Program, Los Angeles, CA. March 2017.*

Provisional Fact Sheet Published: 3/24/2017

TB CONTROL PROGRAM: STRATEGIC PLAN 2017-2019

Tuberculosis in Los Angeles County: A Snapshot

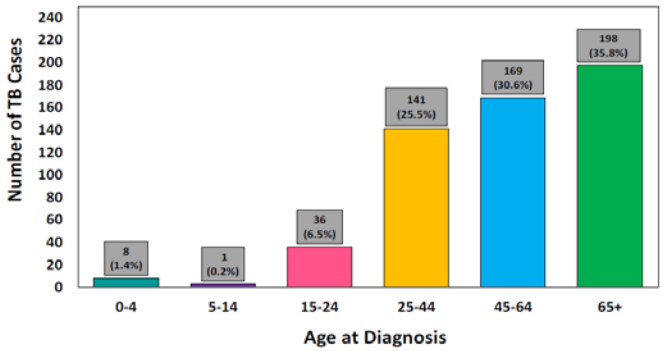
PROVISIONAL* - *Fact Sheet 2016*

COUNTY OF LOS ANGELES Public Health

Young Children and Older Adults

- There were 1.4% (n=8) cases of TB among children ages 0 to 4 years (Figure 3), an increase from 5 cases reported in 2015. Young children had one of the lowest rates of TB (1.3/100,000).
- Older adults continue to represent the age group with the largest number of TB cases (Figure 3). In 2016, persons 65+ years of age represented 35.8% (n=198) of TB cases. This age group had the highest rate of TB (16.6/100,000).

Figure 3. TB Cases by Age Group: Los Angeles County 2016



HIV and Other Medical Comorbidities

- Among all TB cases with known HIV status, 5% (n=26) were infected with HIV; slightly higher than in 2015 (3%). People living with HIV have one of the highest risks for rapid progression from TB infection to TB disease.[3]
- 39% (n=211) of adult (18+ years of age) TB cases had one or more medical comorbidities, such as diabetes mellitus, end-stage renal disease, or another immunosuppressive condition (not HIV). These comorbidities increase a person's likelihood to progress from TB infection without symptoms to active TB disease. The most common comorbidity was diabetes mellitus (n=156 or 29% of adult TB cases).

Homelessness

- Persons experiencing homelessness are particularly vulnerable to TB. Factors such as crowded living situations, lack of access to health care, and delayed diagnosis increase the risk of transmission in this population. In 2016, 7% (n=39) of TB cases in LAC reported experiencing homelessness within the past year, similar to 2015 (7.6%).

Multidrug-Resistant (MDR) TB

- In 2016, there were 2% (n=9) new MDR-TB cases reported in LAC. Despite the significant increase of MDR-TB in some global regions[3], in LAC, the proportion of MDR-TB cases has remained relatively constant, averaging between 1% and 2% of TB cases during 2012-2016.
- Treatment of MDR-TB is more complex, lengthy (1 ½ to 2 years), and costly than treatment of drug-susceptible TB.[4]

Deaths among Persons with TB

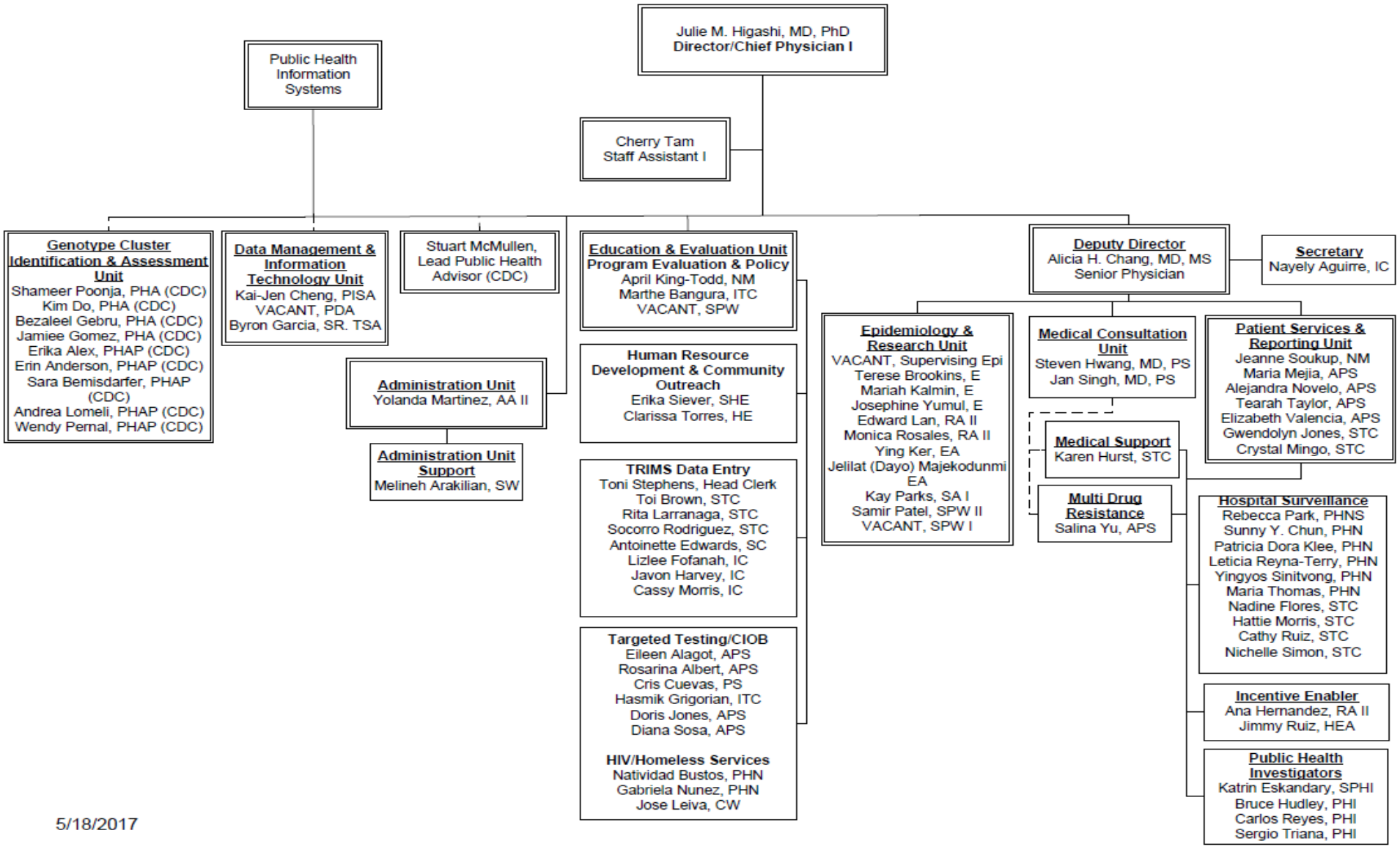
- Among TB cases confirmed between 2012 and 2016 (n=3,026), there were 12% (n=353) deaths, including deaths due to TB and deaths unrelated to TB disease. Of these, 76% (n=269) died while receiving TB treatment.

References

1. California Department of Public Health, TCB. *Report on Tuberculosis in California, 2015*. 2016: Richmond, CA.
2. Centers for Disease Control and Prevention. *Leveling of Tuberculosis Incidence - United States, 2013-2015*. MMWR, 2016. 65(11): p. 273-278.
3. World Health Organization. *Global Tuberculosis Report 2016*. 2016.
4. Marks, S., et al. *Treatment Practices, Outcomes, and Costs of Multidrug Resistant and Extensively Drug Resistant Tuberculosis in the United States, 2005-2007*. Emerging Infectious Disease, 2014. 20(5): p. 812-821.

Provisional Fact Sheet Published: 3/24/2017

COUNTY OF LOS ANGELES – DEPARTMENT OF PUBLIC HEALTH
TUBERCULOSIS CONTROL PROGRAM



5/18/2017

Acknowledgements

Tuberculosis Control Program acknowledges with gratitude those who spent considerable time contributing to the development of the 2017-2019 Strategic Plan:

Core Strategic Planning Team: TB Control Program Executive Staff:

Alicia H. Chang, MD, MS
April King-Todd, RN, BSN, MPH
Jeanne Soukup, RN, BSN
Julie M. Higashi, MD, PhD
Kai-Jen Cheng
R. Jan Singh, MD
Shameer Poonja, MPH
Steven K. Hwang, MD
Stuart McMullen
Yolanda Martinez

California Department of Public Health Support:

Anne Cass, MPH
Jan Young, RN, MSN
Jennifer Flood, MD, MPH
Michael Joseph

Overall Coordination of Plan Development and Finalization:

April King-Todd, RN, BSN, MPH
Julie M. Higashi, MD, PhD

TB Control Program Staff / Volunteers:

Alejandra Novelo, Ana Hernandez, Andrea Lomeli, Antoinette Dixon-Edwards, Bezaleel Gebru, Bruce Hudley, Byron Garcia, Cassy Morris, Carlos Reyes, Cathy Ruiz, Cherry Tam, Claire Torres, Crystal Mingo, Dean Prince, Diana Sosa, Dora (Patricia) Klee, Doris Jones, Edward Lan, Eileen Alagot, Elizabeth Valencia, Erika Alex, Erika Siever, Erin Anderson, Fatima Castaneda, Gabriela Nunez, Gwendolyn Jones, Hasmik Grigorian, Hattie Morris, J. Dayo Majekodunmi, Jamiee Gomez, Javonschae (Javon) Harvey, Jeniffer Kim, Jimmy Ruiz, Jose Leiva, Josephine Yumul, Karen Hurst, Katrin Eskandary, Kay Parks, Kim Do, Leticia Reyna- Terry, Lizlee Fofanah, Maria (Cris) Cuevas, Maria Mejia, Mariah Kalmin, Marthe Bangura, Melineh Arakilian, Monica Rosales, Nadine Flores, Nayely Aguirre, Nichelle Simon, Rebecca Park, Rita Larrañaga, Rosarina Albert, Salina Yu, Sandra Bible, Sandra Martinez, Sanghyuk Shing, Sara Bemisdarfer, Sergio Triana, Socorro Rodriguez, Tearah Taylor, Terese Brookins, Toi Brown, Toni Stephens, Wendy Pernal, Ying Ker, Yingyos (Yos) Sinitvong, Young Sun (Sunny) Chun, Zaira Chavez

TB CONTROL PROGRAM: STRATEGIC PLAN 2017-2019

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC HEALTH

Barbara Ferrer, PhD, MPH, MEd
Director

Cynthia A. Harding, MPH
Chief Deputy Director

Jeffrey D. Gunzenhauser, MD, MPH
Interim Health Officer and Medical Director

DIVISION OF COMMUNICABLE DISEASE AND PREVENTION

Robert Kim-Farley, MD, MPH
Division Director

TUBERCULOSIS CONTROL PROGRAM

Julie M. Higashi, MD, PhD
Director

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC HEALTH
TUBERCULOSIS CONTROL PROGRAM
2615 S. Grand Avenue Room 507
Los Angeles, CA 90007

http://publichealth.lacounty.gov/tb/