Tuberculosis Control Program Strategic Plan 2015-2019

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

March 1, 2015

COUNTY OF LOS ANGELES
Public Health

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Letter from the Program Director

Dear Colleagues,

I am pleased to share the Los Angeles County (LAC) Tuberculosis Control Program (TBCP) 2015-2019 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 2013, 662 TB cases were reported in LAC, the highest number in any local health jurisdiction making up nearly one third of all reported cases in California and 6.9% of the total number of cases reported in the U.S. In 2013, the incidence rate of TB in LAC was 7.0 per 100,000 population, ranking 7th among the 62 local health jurisdictions in California, and 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 2013*.

Among those with TB disease in LAC 80% are foreign-born, with the incidence rates highest among Asian enthnicities, 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, persons experiencing substance abuse and mental health challenges. Each of these conditions co-occuring 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 disese that is both curable and preventable.

Sincerely,

Peter R. Kerndt, MD, MPH
Acting 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 current 2010-14 Strategic Plan as well as recent progress 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 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 Program's 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 and analyze epidemiologic data,
- Carry out program evaluation, managementreviews of cases and contacts (Cohort Reviews), and develop performance measures

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)
- Carry out Strategic Planning to assure adoption of existing and new policies
- Provide CME and other TB education and training to public and private medical providers and community partners
- Organze resources to support TB prevention and control activities and interventions

Assurance

- Case and Contact investigation and outbreak oversight
- 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
- Approve all discharges and transfers of TB suspects and cases from health facilities
- Monitor LAC laboratories for compliance with State TB reporting mandates
- Coordinating with the Community Health Services (CHS) Refugee Health Assistance Program TB screening, and ensure treatment initiation and completion for TB infection or disease for all immigrants and refugees entering LAC
- Responding 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 are 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 duites of each section are given below:

Medical Consultation

The physicians in this section have the overall focus of providing consultation, guidance and oversight in the medical management of TB suspects, cases, and contacts for both the public and private sector.

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

The Private Hospital Surveillance team is 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 Program standards, Nurses approves the TB Discharge Care Plan (H&S Code §121361), and ensures 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 Public Health Nurses 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
In this section staff locates recalcitrant patients and brings them into care. Staff 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 the following sections: Contact Investigation Monitoring & Assessment; Education, Partnership & Community Outreach; Policy and Program Evaluation and the TB Registry.

Contact Investigation Monitoring & Assessment

This team of nurses has oversight responsibilities for contact investigations conducted by CHS. Contact investigations are monitored to ensure investigations are conducted according to TBCP guidelines, and to provide technical assistance with complex, large, or high profile investigations and TB outbreaks. Data analysis support is provided to the team by the Epidemiology & Research Unit. The team collaborates with the Genotype Cluster Investigation and Assessment Unit to assist with the investigation of TB case clusters to determine if an outbreak event is emerging. Section staff 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.

Education, Partnerships & Community Outreach

This section plans, develops, and delivers TB educational training to increase awareness and knowledge of TB infection and active TB disease. Staff assure that training and resources are available to public and private sector medical providers, and community agencies who serve high risk populations within LAC. A strong evidenced-based evaluation component is also incorporated into educational sessions. Staff partners with the Curry International TB Center on selected training activities.

Section staff collaborate with Ryan White-funded early intervention clinics 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 this high risk population. Staff also actively garners support for TB control activities through collaborative relationships with organizations of similar interests.

Policy & Program Evaluation

In this section, Policy and Partnership, staff participate with the California TB Controllers Association (CTCA) and its workgroups on legislative proposals as well as with CHS on performance measures. Staff also participate nationally with the TB Program Evaluation Network.

TB Registry

This team is responsible for managing the Tuberculosis Registry Information Management System (TRIMS). TRIMS is the primary surveillance database containing information about suspected and confirmed TB cases, contacts, and persons screened for TB infection.

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, cohort reviews, and performance improvement and uses 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 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.

Administration Unit

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

Vision:

Tuberculosis eliminated in Los Angeles County

Mission:

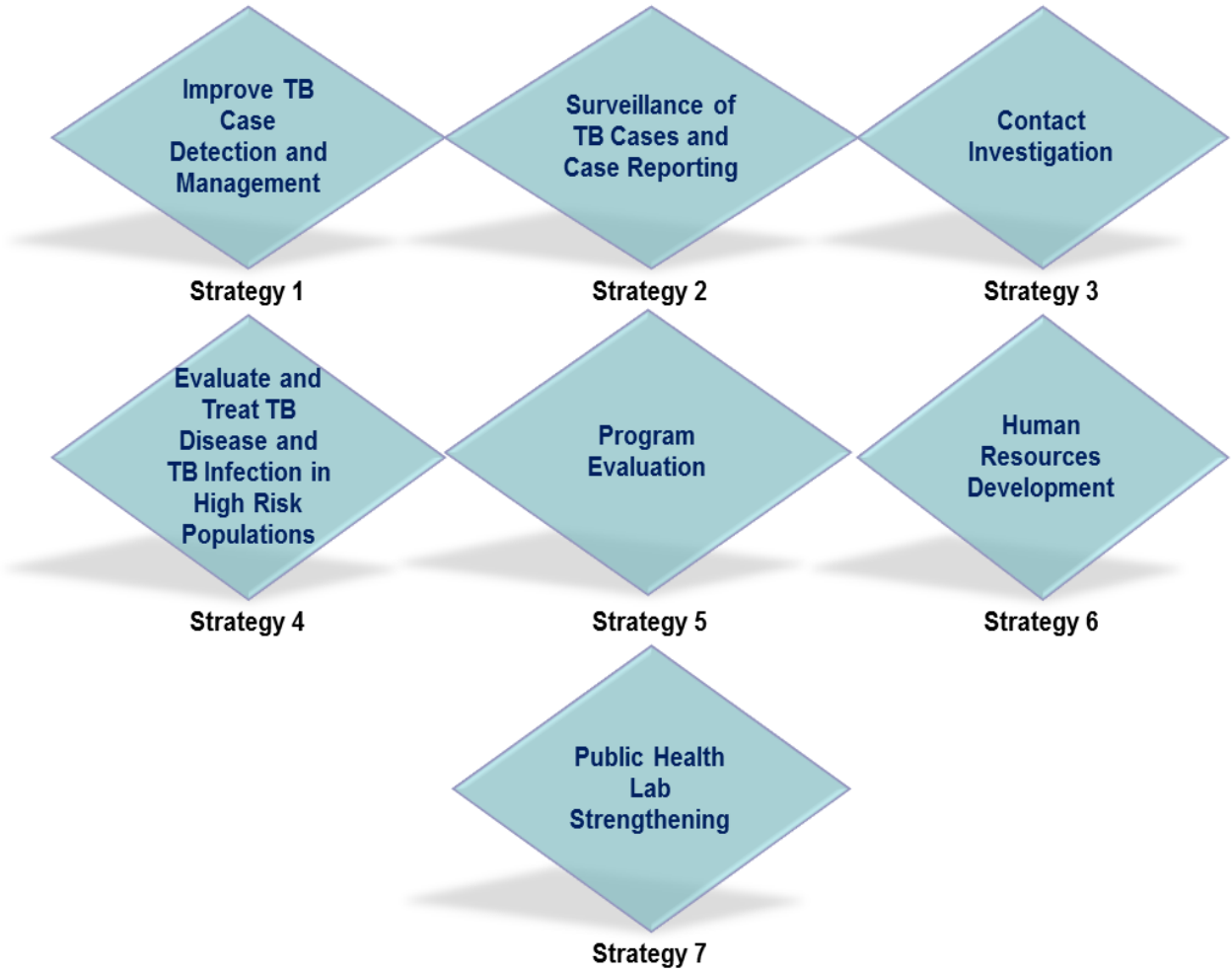
To prevent transmission of Tuberculosis in Los Angeles County

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 seven strategies below characterize the core activities that the LAC TBCP will focus resources 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 (NAA) Testing 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 NAA test for the evaluation of TB suspects.

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.

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.

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.

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.

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, private and community medical providers serving populations at high risk for TB infection, such as the homeless, persons with diabetes mellitus, person 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 streamlined 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%.

Strategy 5: Program Evaluation

Goal 5.1: A Program Evaluation Plan for Project Period: 2015 – 2019 will be developed by June 2015 to address the goals and objectives of Strategies 1-4, 6 & 7

Strategy 6: Human Resources 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 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

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.

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.a Collaborate with the PHL to ensure quick turnaround times are maintained for NAA testing services to support the integration of NAA testing within CHS Public Health Centers and targeted County health facilities.

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 ensure QuantiFERON TB Gold In-Tube (QFT) assays services continue to support expanded use of the test.

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.

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 well documented “value-added,” cost-effective activities, along with 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.

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Program Accomplishments 2010- 2014

- *DPH issued and disseminated TB Screening Recommendations for Homeless Shelter Clients and Staff* **I**mplementation will ensure: early identification and referral of symptomatic clients for evaluation; education for homeless providers regarding TB disease symptoms and prevention of transmission in congregate settings serving high risk populations.

- *Targeted TB Screening/Annual Clearance implemented through MOUs with (4) Homeless services providers*. Early identification and referral of symptomatic clients for evaluation;

- *Established* annual TB prevention in homeless shelter training for Los Angeles Homeless Services Authority staff.

- *Enhanced process for TBCP Oversight, Management & Communications of Contact Investigations.*

- *Updated CI Guidelines and Updated CI education for new and existing CHS staff***:** proactive interruption of transmission of TB infection/disease in high risk settings and those infected with latent TB infection are prioritized for prompt evaluation, initiation and completion of treatment.

- *Data Integration and Documentation*
    1) development of the TB registry codebook, and
    2) obtained access to the homeless management information system (HMIS) TB screening data as well as the California Immunization Information Registry (CAIR) for TB testing & CXR results.

- *Strengthened TB Program Data Analysis and Research Capacity*

- *School Mandate Policy* -changed to Universal TB Risk-factor assessment and testing if indicated phased into the existing California State physical examination requirement for children entering first grade. Children are now referred to medical providers for comprehensive pediatric care; and are not tested nor treated with INH unnecessarily.

- *Launched Updated TBCP Website* with direct links to external partners including the CDC Spanish language website; improved access to local national and international guidelines, provided access to training opportunities for providers and education for the public.

- *Online brochures for patient education* on “TB disease” and “TB infection” posted in several languages

- *Provided several trainings for and Implemented TB Cohort Review as performance improvement/ quality assurance/program evaluation tool at: MLK Jr. Center for Public Health, Whittier and Monrovia Health Centers* which will ensure the highest standards of patient care and successful patient outcomes.

- *Provided TRIMS access and training* to CHS staff which improved transparency of information, provided access to reports and cohort case presentation summaries.

- *Implemented QuantiFERON (QFT) Gold In-Tube testing to detect TB infection* in the heavily BCG-vaccinated population of immigrants and refugees at the RHAP clinic, then expanded to all CHS clinics.

- *Revised TB screening forms to collect additional surveillance information for TB infection and mirror the updated Contact Investigations Guidelines.*

- *Provided expertise in the development of the CMaP TB module which includes TB workload and CI and is widely used by all CHS health center staff.*

- *LAC PHL began performing TB-specific NAA testing on* all 1st time AFB smear-positive sputa received and, if indicative of the presence of *M. tuberculosis* complex, rapid genetic resistance testing is done reflexively to detect drug-resistant strains.

- *Issuance of practice guidelines for the utilization of new therapeutic regimens and diagnostic tests: use of INH + Rifapentine regimen (3HP), NAA tests, and IGRAs (QFT and T-spot).*

- *Implemented the use of INH + Rifapentine regimen (3HP) and incentives program for homeless persons with TB infection.*

- *Through collaboration with TBCP staff and implementation of TBCP recommendations for IGRA and NAA testing, the LAC jail has:*

  (1) significantly inceased use of NAA testing on sputa in their pulmonary TB suspects and also began to widely use IGRA's in their TB suspects.

  (2) initiated more complete TB contact investigations among inmates and jail staff based on usage of computerized data having locations of the index case and other inmates during the infectious period.

  (3) instituted strict AII precautions for AII pulmonary TB disease suspects compared with non-AII precautions for questionable pulmonary TB suspects.

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 ***Gotch*** ***CI Oversight*** ***Cluster/Outbreak response***	Processing of legally mandated, newly reported TB suspects and cases. Review and approve hospital discharge plans for TB suspects and cases. Provide oversight monitoring and assurance for contact investigations/clusters identification and outbreak response Follow up on clusters reported to us from the State where recent transmission may have occurred	Failure to comply with State Health and Safety Code. Delay in identifying potential TB outbreak and TB transmission in the community.
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. 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.

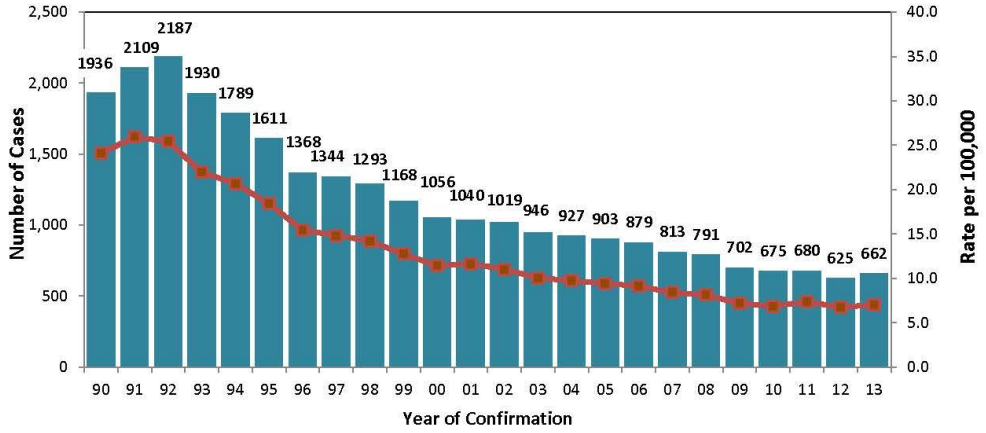
TB FACT SHEET 2013

Tuberculosis in Los Angeles County: A Snapshot

Los Angeles County Overview

- The latest state surveillance data show that tuberculosis disease (TB) continues to decline in California.[1] However, in 2013, Los Angeles County (LAC) reported a total of 662 cases, a 6% increase from 625 cases in 2012.
- In 2013, the incidence rate of TB in LAC was 7.0 per 100,000, which is the 7th highest rate among California jurisdictions, higher than the overall state incidence rate (5.7/100,000),[1] and more than twice the national incidence rate (3.0/100,000).[2]

Figure 1. TB Cases and Incidence Rates: Los Angeles County, 1990-2013



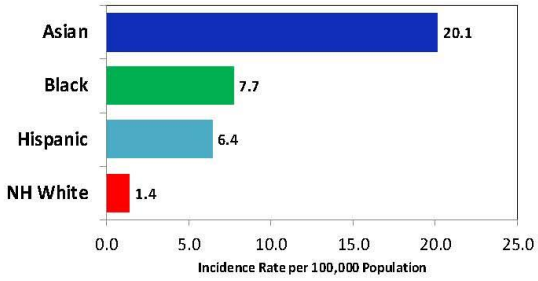
LA County TB Cases. Data exclude Pasadena and Long Beach TB cases. Data are provisional and subject to change. Population estimates source: LA County Department of Public Health, ACDC.

Most Affected Populations

Racial/Ethnic Groups

- The TB incidence rate was highest among Asians (20.1/100,000), followed by Blacks (7.7/100,000), Hispanics (6.4/100,000) and non-Hispanic Whites (1.4/100,000).
- TB incidence rates among Asians, Blacks and Hispanics were 14.4, 5.5, and 4.6 times higher than among non-Hispanic Whites, respectively.
- More TB cases were reported among Hispanics (n=292 cases) in 2013, resulting in a 2% increase from 2012 (n=286 cases).

Figure 2. TB Incidence Rate by Racial/Ethnic Group, 2013



Data exclude Pasadena and Long Beach TB cases. Race/ethnicity excludes 1 case with unknown racial/ethnic group. Data are provisional and subject to change. Population estimates source: LA County Department of Public Health, ACDC.

Suggested Citation: TB Fact Sheet 2013, Tuberculosis in Los Angeles County: A Snapshot. Los Angeles County Department of Public Health Tuberculosis Control Program, Los Angeles, CA. Revised January 2015.

Foreign-Born Individuals

- TB cases among foreign-born individuals (n=558) were 4 times higher than among U.S.-born individuals (n=133).
- Among foreign-born TB patients with a known place of birth, 50% were Asian, 44% were Hispanic, 3% were Black, and 3% were non-Hispanic White.
- About two-thirds (62%) of foreign-born TB patients originated from 6 countries (Mexico, Philippines, China, Vietnam, Guatemala, and El Salvador).

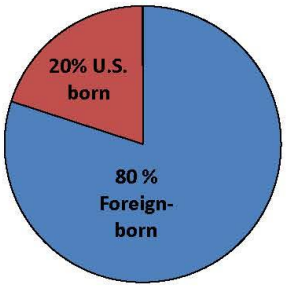


Figure 3. Proportion of TB Cases by National Origin, 2013

Medical Comorbidities

- In 2013, 44% of TB cases had one or more medical comorbidities, including diabetes mellitus, end stage renal disease, HIV, or another immunosuppressive condition. These comorbidities increase a person's risk of progression from TB infection without symptoms to active TB disease.[1] The most common comorbidity was diabetes mellitus (28% of TB cases).

Individuals Living with HIV

- Among individuals with TB and known HIV status, 3.9% were co-infected with HIV. People living with HIV are at high risk for rapid progression to TB disease and are more likely to die during treatment.[3]

Children and Older Adults

- There were 18 cases of TB among children ages 0 to 4 years, representing 2.7% of all cases reported in 2013. This represents an increase from the previous year (n=9 cases in 2012). Although the percent of cases in this age group is similar to the average from 2009 to 2012 (approximately 2.5%), the incidence rate was higher in 2013 (3.0/100,000) compared to the combined 2009-2012 rate (2.3/100,000).
- Persons 65 years of age and older represented 31% (n=208) of TB cases in 2013. In 2012, there were 196 cases (31%) in this age group.

Homelessness

- Persons experiencing homelessness are particularly vulnerable to TB. Factors such as crowded living situations can increase the risk of transmission in this population. In 2013, there were 66 (10%) TB cases reported in LAC as having been homeless within the past year.

Multidrug-Resistant (MDR) and Extensively Drug-Resistant (XDR) TB

- In 2013, there were 5 MDR cases and 1 XDR case in LAC. This was the only XDR case reported in LAC since 2007.
- Despite the significant growth of MDR TB cases in some global regions[3], in LAC, MDR TB has remained a small proportion of TB cases, averaging between 1% and 2% of TB cases during 2000-2013.
- Treatment for TB patients with MDR or XDR TB is often more complex, and requires lengthy (1 ½ to 2 years) and costly treatment regimens. [3,4]

Deaths Among Persons with TB

- Among TB cases confirmed in 2009-2011, there were 236 deaths, including deaths due to TB and deaths unrelated to TB disease. Of these, 76% died while receiving treatment.

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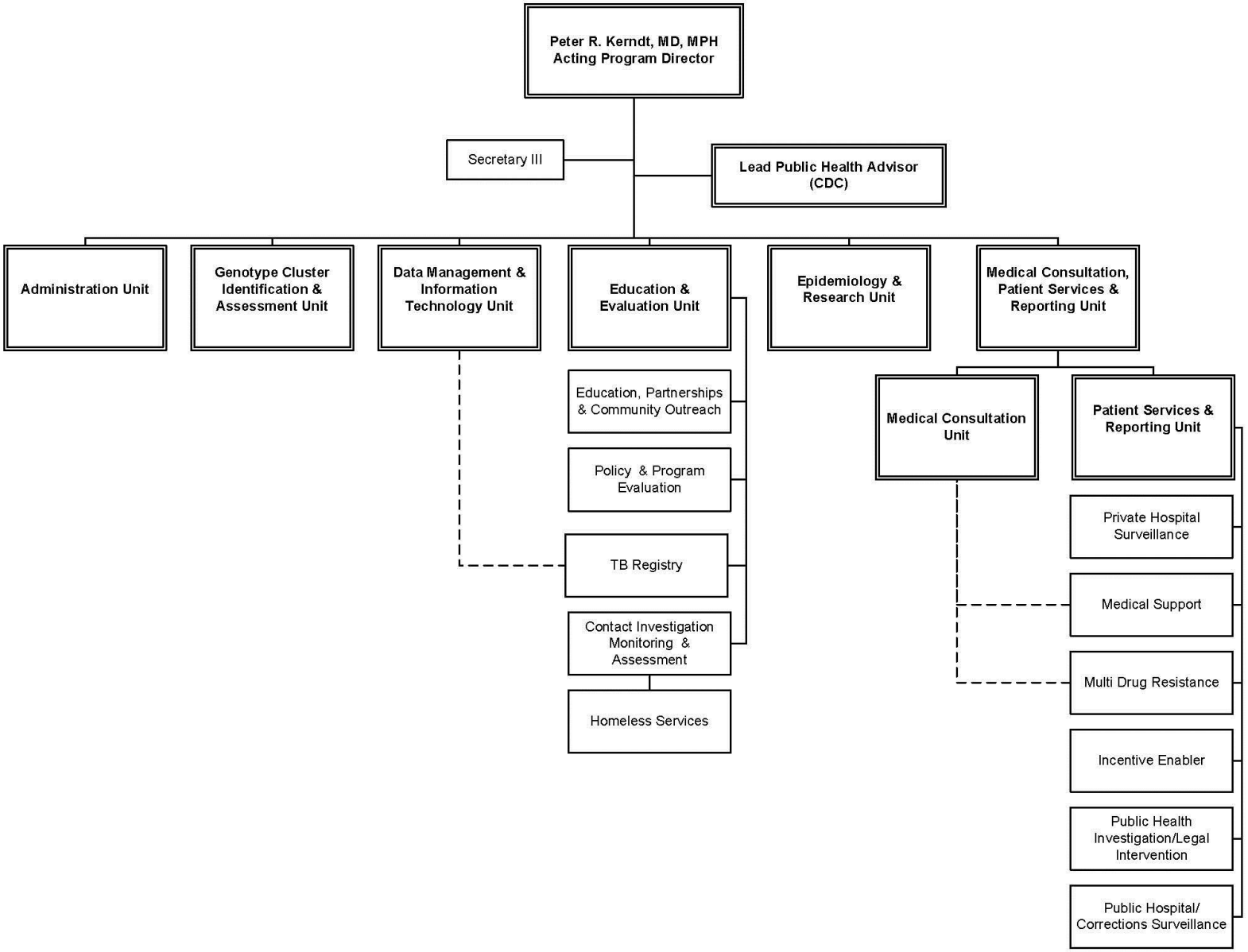
[4] Marks, S. Flood, J., Seaworth, B. et al. Treatment Practices, Outcomes, and Costs of Multidrug Resistant and Extensively Drug Resistant Tuberculosis in the United States, 2005-2007. *Emerging Infectious Disease* 2014; 20(5): 812-821.

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



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