

CureTB: A strategy for mobile populations



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Division of Global Migration and Quarantine (DGMQ)

Outline

- History
- What is CureTB?
- How does CureTB work?
- Challenges
- Case studies
- Outcomes
- Partnerships



History of CureTB

1997

CureTB starts in San Diego County TB program as a binational collaboration with sister city Tijuana, Mexico

2013

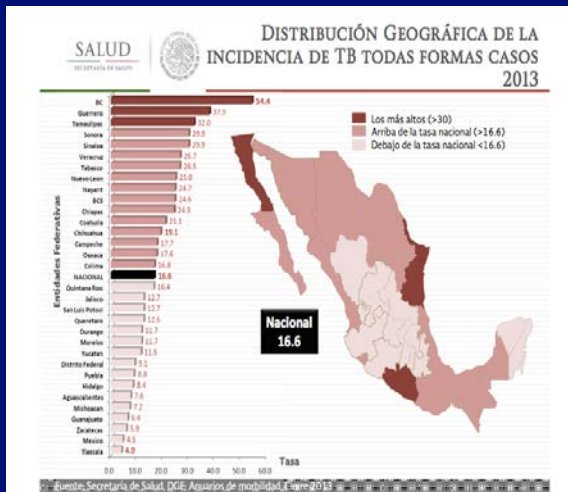
CureTB expands to routinely include all Latin America

2016

Joins CDC's Division of Global Migration and Quarantine (DGMQ) and expands to all countries, becoming transnational

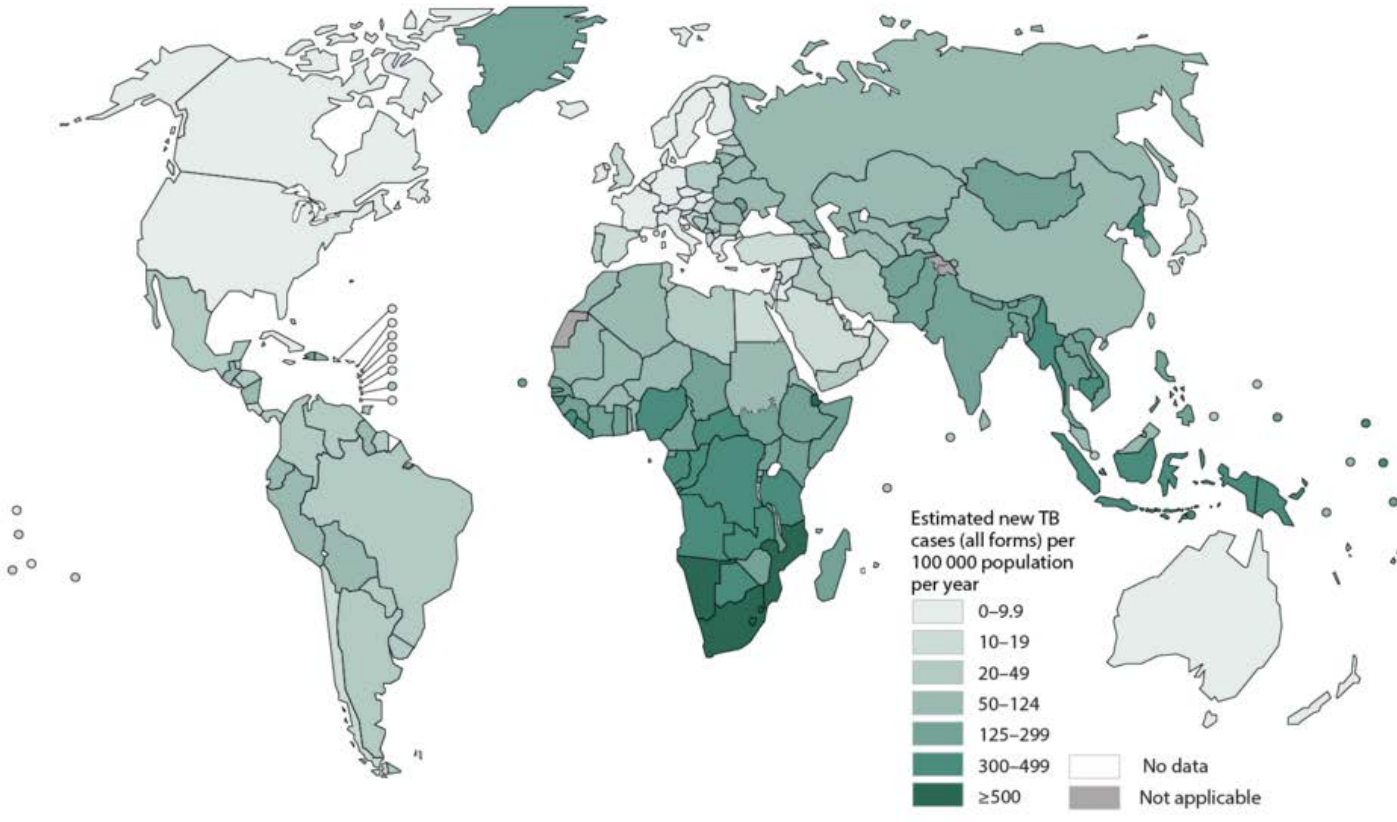
2017

Formal agreement with US Immigration and Customs Enforcement (ICE) to link outbound persons to care



CureTB's transnational mission

Estimated TB incidence rates, 2014



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: *Global Tuberculosis Report 2015*. WHO, 2015.

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What is CureTB?

CureTB is a program that helps with:

- Linkage to care for patients with active TB when they leave the United States
- Accurate and up-to-date information for receiving providers
- Motivation and resources for mobile individuals to continue care
- Linkage for comorbidities (HIV, mental health, etc.)
- Facilitation of positive outcomes and communication between partners



How does CureTB work?

Originating
jurisdiction



CureTB



Destination
jurisdiction



CureTB referral to treatment

Continuously
motivate the
patient by
maintaining
contact

Receive referral from originating provider/jurisdiction

Interview patient by telephone to develop rapport,
educate, assist

Send accurate and up-to-date clinical information to
downstream provider, state, national level

Maintain communication with patient and health
system until linked to care

Determine treatment outcome and notify originating
jurisdiction



Tips for a successful referral

- Anticipate, don't wait → Call CureTB early. Don't wait until your patient leaves. It's best if we can talk to your patient before they leave.
- Provide complete clinical information → Downstream providers need detailed information (including CXR, adverse reactions, etc.).
- Update pending information when available, e.g. drug susceptibility testing → We will follow up if you forget!
- Ask your patient for at least 2 people (and their contact information) who will always know where they are → We will also review this when we talk to the patient.



Services provided by CureTB

Referral of patients with active tuberculosis

Verified or potential TB in a person moving outside the United States and needing >30 days of treatment

Source case finding

Diagnosed patient with TB with high probability of transmission from a specific individual in another country

Contact notification

Mexico and other countries*

Past Medical history

Mexico and other countries*

*Other countries considered case by case



Telephone interview process

Step 1: Telephone interview:

- Introduce ourselves
- Build an understanding of TB and its treatment
- How we can help them, and next steps
- Collect information to contact them after departure

Step 2: Confirm locating information by contacting family and friends

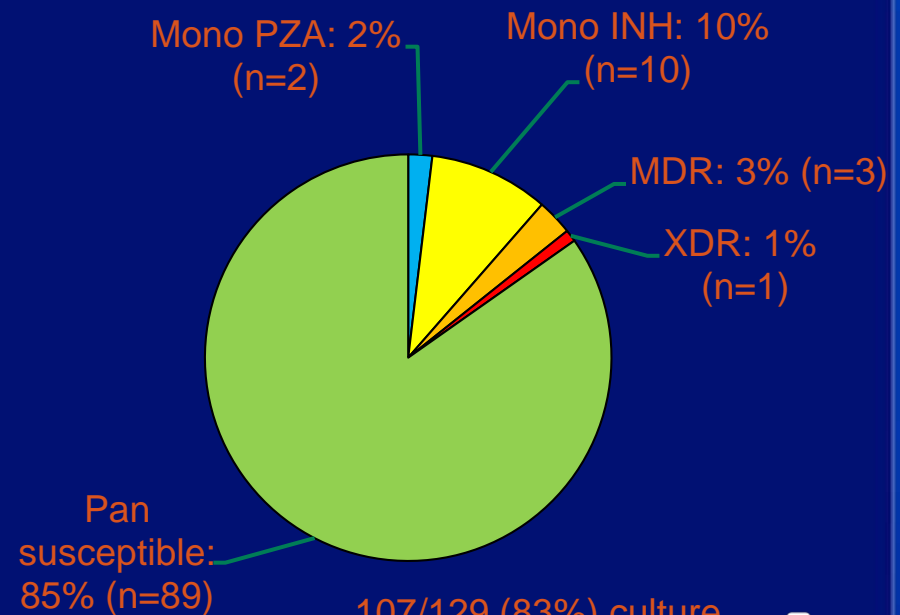
Step 3: Send information to downstream provider and national level



CureTB help combat drug-resistant TB

- Collects accurate information on drug susceptibility testing
- Results shared with provider in destination country
- Facilitates continuity of appropriate care

Drug susceptibility testing among TB culture positive cases, CureTB, 2015



107/129 (83%) culture positive
2 without DSTs
22 culture negative



Health system challenges of controlling TB across borders

- Different resources
- Different health structures
- Different languages
- Different priorities and standards of care (examples)
 - Selective testing and/or treatment of contacts for latent infection
 - Smear-based diagnosis, limited culture/molecular diagnostics
 - No standard treatment recommendations for extended regimens for delayed culture conversion
 - Directly observed therapy may be “flexible”
 - No operational method to enforce public health TB regulations



CureTB in CDC's DGMQ

- Aligns with DGMQ mission to reduce morbidity and mortality in globally mobile populations and prevent spread of communicable diseases
- System that coordinates public health interventions at US points of entry (i.e., quarantine stations)
- Participant in federal public health travel restriction activities when needed
- Linkages with Division of TB Elimination, Division of Global HIV and TB, US Department of Homeland Security, etc.
- Can leverage CDC health partners around the world
- Maintains linkage with TB control at state/local level through partnership with San Diego County TB program



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



CureTB stories



Traveler with drug resistance: 2016

- Young woman delivered baby in the United States.
 - Found small cavitory lesion at delivery; smear +, culture+
 - Started RIPE, then mutations to IR identified
 - Left United States with infant
- Final drug resistance included INH, Rif, Emb, PZA, ethionamide, possible injectable
- Patient could not be located and was placed on federal public health travel restrictions
 - CureTB located via National TB Program (NTP), and patient started on MDR regimen. Culture positive in country
 - Followed until met criteria for travel restriction removal

Travel after release from custody

- 30-year-old man entered a border state and was apprehended. Had previous entries into US border state.
- Transferred to another state while in custody and smear + TB diagnosed after transfer
- On RIPE and fully susceptible
- Released back to Mexico after non-infectiousness was established
- Concerns were
 - Re-entry before treatment completion
 - How patient could get to non-border hometown

MDR

- **28-year-old man entered a border state and was apprehended. Had recent previous entry when TB workup was initiated. Results were now available: smear neg, culture pos, resistant to INH+Rif**
- **Started on MDR regimen. Refused injectable.**
- **Concerns were**
 - Best regimen if no injectable
 - Adherence
 - MDR followup in Mexico



CureTB Transnational Notification

Division of Global Migration and Quarantine | E-mail: curetb@cdc.gov | Telephone: 619-542-4013 |
Fax For California: 619-692-8020 | Fax For other areas: 404-471-8905 | Web address: www.cdc.gov/usmatcohealth/curetb.html

¹Referring Jurisdiction: _____ ¹Date sent: _____
City County State

¹Contact person: _____ ¹Telephone: _____ Ext _____ Fax: _____

Referring Agency: _____ E-Mail Address: _____

Verified TB: RVCT#: _____ or Not reported ICE A#: _____ BOP# _____
 Suspected TB: Clinical History request (specify year): _____ Immunocompromised (specify): _____

A. Parent
¹Name: _____ Sex: M F
Paternal Maternal First Middle
Alias: _____ DOB: _____ E-Mail: _____
 Check if patient/parent not currently home. Current location: _____ Tel: _____

B. Info. in U.S.
Number Street Apt City
County State Zip code Home Phone: _____ Cell: _____
Contact person in the U.S.: Name: _____ Home Phone: _____ Cell: _____
Relationship: _____

C. Destination Country
Number Street Apt City
County State Zip code Country: _____
Contact person in the U.S.: Name: _____ Home Phone: _____ Cell: _____
Relationship: _____ Home Phone: _____ Cell: _____

D. Clinical Information
Information for: this referred patient Other, specify: _____
Site(s) of disease: Pulmonary Other(s), specify: _____
 HIV Diabetes No Symptoms Symptoms, specify: _____

² Date of collection	² Specimen type	² Smear	Culture	Susceptibility	Date	² Imaging

Other tests (specify): _____

E. Medication
For: this referred patient Not started
Comments: _____

Drug	Dose	Start date	Stop date

 Expected move date: _____
 Patient given _____ days of medication _____

1. Fields required to initiate the referral process
2. Please send imaging and laboratory reports as attachments
3. Please attach additional information, as needed.

Public reporting burden of this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB Control Number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Office, 1600 Clifton Road NE, MED-74, Atlanta, Georgia 30333; ATTN: PRA 0920-004

Submit a CureTB referral by:

1. **Fax:** 404-471-8905

2. **E-mail:** CureTB@cdc.gov
-encrypted if contains PII

3. **Call:** 619-542-4013 (primary)
or
619-692-5623 (secondary)

Attach copies of relevant clinical information (labs, CXR, etc.).





U.S. Immigration
and Customs
Enforcement

Reason for Appointment

1. TB-CM

History of Present Illness

Infectious Disease Surveillance:

Tuberculosis Reporting

Initial Report Date .
Facility at initial report .

Demographics

Month/Year Arrived in the U.S. .
Ethnicity .

Race .

Country of Citizenship .

Custody status at diagnosis: .

Facility at initial diagnosis .

TB History and Evaluation

Primary reason evaluated for TB .

TB Case Status .

Previous Diagnosis of TB .

Prior Treatment/LTBI .

TB Symptoms .

Tuberculin skin test .

Interferon Gamma Release Assay (IGRA) .

HIV Test Status .

Initial Chest X-ray .

Initial Chest CT scan or other imaging study .

6 - 8 week follow up comparison chest x-ray .

Other current medical conditions: .

Additional TB Risk Factors .

Excess alcohol use within the past year .

Non-injection drug use within the past year .

Injection drug use within the past year .

Homeless within the past year .

Occupation during the past year .

Contact with infectious TB patient within the past two years .

Contact with MDR TB patient within the past two years .

TB Laboratory Diagnostic Results

Sputum 1 Collected .

Sputum 2 Collected .

Sputum 3 Collected .

Sputum 4 Collected .

Sputum 5 Collected .

Sputum 6 Collected .

Sputum 7 Collected .

Sputum 8 Collected .

Sputum 9 Collected .

Sputum 10 Collected .

Sputum 11 Collected .

Federal correctional
facilities use their
own forms



Outcome classification

Positive outcomes	Negative outcomes
<ul style="list-style-type: none">• Continues treatment• Completed treatment• Cured• Moved back–connected to followup	<ul style="list-style-type: none">• Refused/abandoned treatment• Lost–insufficient information• Lost–arrived but lost to followup• Lost–never arrived
Treatment stopped by provider	
Referral not required*	
Died	

*Treatment completed in the US, TB ruled out, bonded out, less than one month of treatment needed



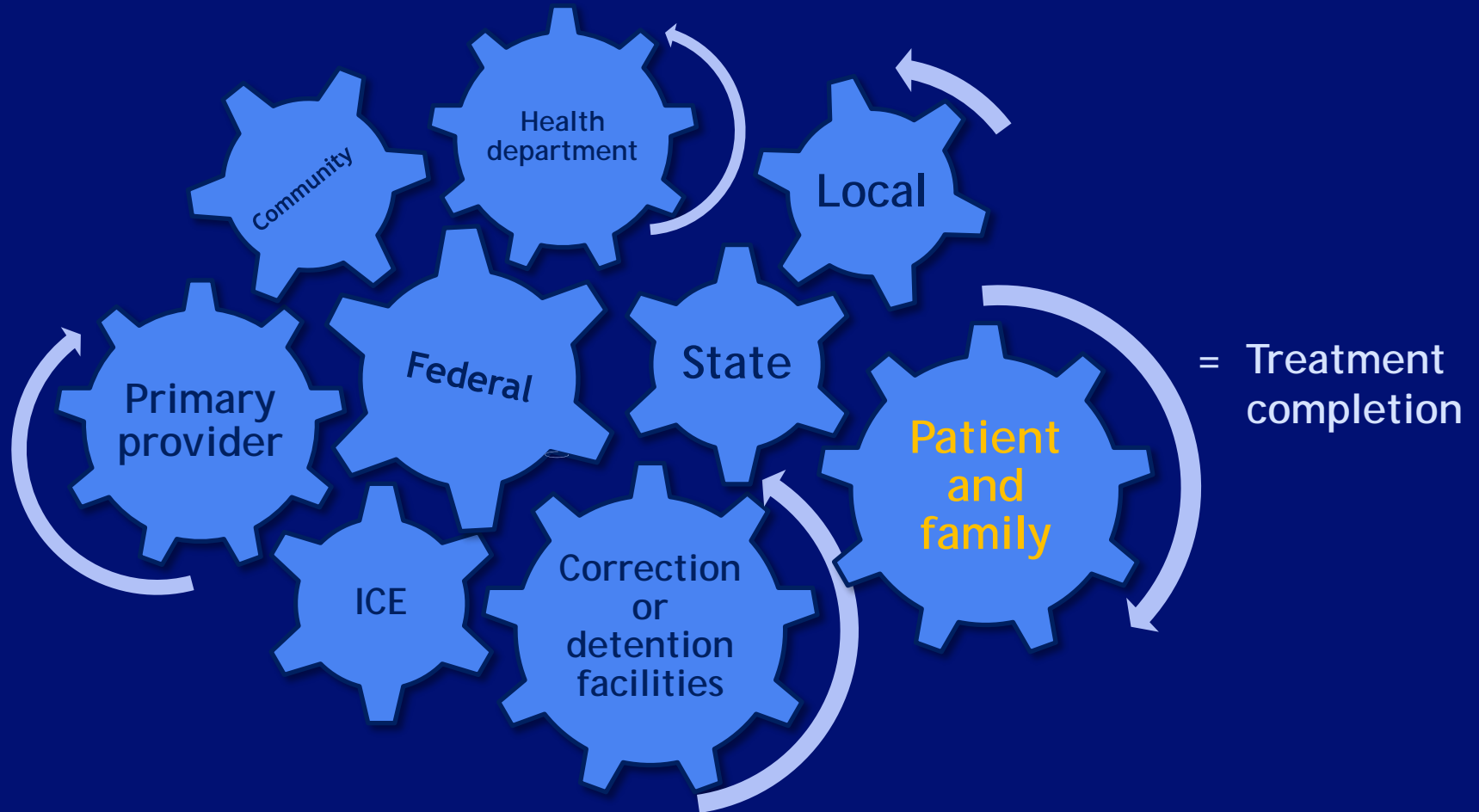
CureTB has quarterly case reviews with Mexico NTP and other partners

- Follow up to harmonize outcomes and reporting
- Discuss difficult cases or specific barriers to continuity of care

FECHA: 25/1/2012

ENTIDAD	NUMERO	ENVIADO POR	RESULTADO EN PLATAFORMA	INICIO DE TX en EU(A)	INICIO DE TX	PROBABLE FECHA DE TERMINACION DE TX	FECHA DE TERMINACION	COMORBILIDADES	GRABO CLINICO O CONFIRMADO X CULTIVO	RESISTENCIA	LUGAR QUE PROPORCIONA EL TX	OBSERVACIONES (JAN/09)
AGUASCALIENTES	1	LB	No. de Foto y/o clavo en Plataforma	6/1/2011				VIH	Cult	R - PZA	AGS	Defuncion
	---	CV										
BAJA CALIFORNIA	2	LB		no en EU					Cult	S	Hermosillo, SON	Abandona tx
	3	MB		20/12/10-7/1/11	8/8/2011	Feb-12	02/2012		Cult	S	CS Zona centro	Continua en tx
	4	LB		1/24/2011	4/20/2011		CURADO		Cult	S	Tijuana, Baja C.	Completo tx (29/7/2011)
	5	CV (2010)		no en EU	3/3/2011		Oct-2011		Cult	S		
	6	CV		9/8/10-1/4/11	3/7/2011		Sep-2011		Cult	R - (PZA) Z	CS Vto. Oro	
	7	CV		Jul-2011			Dec-11		Cult	S	California	Reinicia Tx en EU
	8	CV			1/1/2012				Cult	R - (RIF) R	CS Rosarito	Reinicia Tx en Rosarito (Ene 12)
	9	CV		Mayo-11	5/18/2011	Nov-11	11/18/2011		Cult	S	CS Algodones	Termina Tx
	10	CV		Nov-2010	Jun-2011	Ago-11	Nov-2011	VIH	Cult	S	CS Col. Obrera	Completo Tx.
	11	CV		Jul-2011	6/6/2011				Cult	R - MDR	California	Se traslado a EU
	12	LB		Jul-2011	6/5/2011		02/2012		Cult	S	CS Carlson del S.	Continua en tx
	13	LB		Mar-2011	4/19/2011		03/2012		Cult	S	CS Reacomodo	Sanchez Taboada
	14	LB		1/21/2011	2/1/2011		12/16/2011		Clin		Tijuana, BC	Perdido
	15	CV		Ago-2011	8/4/2011	Ago-12			Cult	S		Perdido
	16	CV			8/30/2011				Cult			Perdido
	17	MB		N/A	6/20/2011	Mar-12	02/2012				CS Zona centro	Continua en tx
	18	CV										No referencia. Pac. en EU
	19	CV		Mayo-11		Nov-11			Cult	no disp		Perdido/Abandona Ref
	20	LB		3/25/2011	10/20/2011		04/2012				Tijuana, BC	Perdido
	21	CV (2010)		No inicio					Cult	S		Perdido/Rechusa al Tx.
	22	LB		6/15/2011	6/22/2011				Cult	S	Mexicali, BC	Continua en tx
	23	CV			7/8/2011			Diab	Cult	S		Perdido
	24	CV			7/28/2011				Clin			Perdido
	25	CV										
	---	LB			11/9/2011		5/9/2012		Cult			Continua en tx
	---	CV			3/14/2011						Navolato, S/N	Curado
CHIHUAHUA	26	MB		30/10/10	10/30/2010	4/25/2011	CURADO 4 de abril 2011		Cult	R - PZA		
	27	LB		11/3/2010	11/3/2010		CURADO		Clin		CHIS-CHIS	Tx EN EU

Patient-centered care



CureTB contact information

Website: www.cdc.gov/usmexicohealth/curetb.html

Phone: (619) 542-4013 (primary) or (619) 692-5623 (secondary)

Email: CureTB@cdc.gov

Fax: (404) 471-8905

Address: 3851 Rosecrans St. P-575

Suite 715

San Diego, CA 92110

USA



Questions?





Thank you!

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Emerging and Zoonotic Infectious Diseases

Division of Global Migration and Quarantine

