

Aggregate Reports for TB Program Evaluation: Follow-up and Treatment for Contacts to TB Cases (ARPE-CI) Commonly Asked Questions

1. What is the purpose of the ARPE-CI?

The purpose of the ARPE-CI is to assess the yield, efficiency, and effectiveness of TB program (local, state, national) contact investigation activities by collecting and calculating evaluation indices on these activities. Contact investigation activities are the first priority of TB control after case finding and treatment. It is important to measure performance and collect data for these activities to determine areas in which a TB program is doing well in and areas that require further effort. Such program evaluation informs program planning and program activities.

2. Why is there a California ARPE-CI?

In June 2000 the Tuberculosis Control Branch (TBCB) convened a workgroup made up of local health department representatives to further define ARPE definitions of “contact” and “contact evaluated.” This workgroup, dubbed the Contact Investigation Surveillance System Working Group (CISSWG), also recommended modifying the inclusion criteria for the “Others” column on the CDC ARPE-CI. Therefore, this column now includes contacts identified through investigations of pulmonary/laryngeal TB cases that are neither sputum smear-positive nor culture-positive (see question #5 for examples of this definition).

Unlike the CDC ARPE-CI, the California ARPE-CI (CDPH 8635) does collect data on “Cases for Investigation” and “Cases with No Contacts” under the “Other Pulmonary” column.

Contact Counts

3. Are only close contacts counted on the ARPE-CI?

Not necessarily. Persons exposed to a TB case who warrant evaluation for TB disease or latent infection, which may include both close and not close contacts, should be counted on the ARPE-CI. The California Department of Public Health (CDPH)/ California TB Controllers Association (CTCA) Joint Guidelines on contact investigations defines types of contacts and describes recommended strategies for prioritizing and identifying contacts warranting evaluation. If, for example, the number of contacts is large enough, the concentric circle model may help determine which contacts warrant evaluation. Using this model, a health department calculates the ratio of evaluated close contacts with positive tuberculin skin tests (TSTs). If the ratio exceeds the expected infection prevalence, indicating likely recent transmission, the health department may decide to evaluate the next circle of “not close” contacts. The close contacts and the “not close” contacts which the health department decides need evaluation should be counted on the ARPE. Persons the health department determines do not need an evaluation, because evidence of transmission among more exposed contacts is low or because of limited exposure, should not be included on the ARPE.

4. How can one compare outcomes between jurisdictions using different definitions of a contact?

Comparing outcomes requires common definitions. In June 2000, CISSWG, a workgroup comprised of local health department representatives, met to further define the ARPE definitions of “contact” and “contact evaluated.” Their proposed

changes were reviewed statewide and finalized in October 2000. Please refer to “Basic Instructions for the California ARPE-CI” for the new definitions. Although these definitions are more specific, they still give local health departments flexibility to accommodate a variety of differences in defining contacts. The intention of the ARPE-CI is less to compare jurisdictions than it is to gather information on individual jurisdictions. Comparisons are not always appropriate because of differences in program resources and communities. Nonetheless, use of the ARPE-CI can promote dialog and thus improve understanding of the concepts and strategies surrounding contact investigation.

5. What are some examples of cases that belong in the ‘Other Pulmonary’ stratification? How is data in this column useful for TB control?

Pulmonary/laryngeal TB cases that are neither sputum smear positive nor sputum culture positive and contacts identified through investigations of these cases should be included in the “Other Pulmonary” column. Examples of such cases include clinically diagnosed pulmonary cases and pediatric pulmonary TB cases diagnosed by gastric aspirate.

The inclusion criteria for the “Other” column changed for California ARPE-CI data as a result of a process of reviewing and redefining key CDC ARPE-CI data elements proposed in June 2000 by a working group made up of local TB program representatives. The proposed changes were reviewed statewide and finalized in October 2000. Unlike the CDC ARPE-CI instructions, therefore, extrapulmonary cases and suspect TB patients who later rule out for TB will not be included on the California ARPE-CI. In August 2003, the California TB Controllers Association agreed to exclude source case investigations for all children regardless of disease type from the ARPE-CI. Although the first two stratifications [sputum smear (+) and sputum smear (-), culture (+)] have a higher priority, it is also important to track evaluation and treatment results for contact investigations of other pulmonary cases counted in your jurisdiction. The ARPE-CI helps measure yield, efficiency, and effectiveness of these contact investigation activities.

6. How is evaluation and treatment for LTBI during the window period (time between 1st negative Tuberculin Skin Test (TST) or Interferon Gamma Release Assay (IGRA) and 2nd TST/IGRA) counted on the ARPE?

A contact is not considered fully evaluated until the final TST/IGRA is placed and read and TB disease is ruled out. “Started Treatment” and treatment outcomes (i.e., completed or reason not completed) refer to full-course treatment for LTBI (for example, 6-9 months of isoniazid), not treatment during the window period only. Thus patients on “window prophylaxis” would not be included as they have yet to be fully evaluated.

7. How are contacts with a history of prior positive TST/IGRA counted on the ARPE-CI?

Contacts with prior positive TST/IGRA can be counted under “Evaluated” if they complete a medical evaluation. However, only LTBI or active TB that is diagnosed as a result of the current investigation is counted. A known history of LTBI is not counted as LTBI on the ARPE-CI even if a contact starts treatment for LTBI as a result of the contact investigation.

8. How are contacts with negative TST results, who are prescribed full-course treatment for suspected LTBI, counted on the ARPE-CI?

In order to count their treatment outcomes and because a provider prescribed full treatment for suspected LTBI (for example, because of the potential for false-negative TST results), these contacts are counted as infected even though they have negative TSTs. For example, a provider for a contact taking immunosuppressive therapy suspects that the contact is infected and prescribes full course treatment for LTBI.

These contacts should be included under all applicable categories:

- Number of contacts,
- Evaluated,
- Latent TB Infection,
- Started Treatment (if started), and
- Treatment outcome (completed or reason not completed)

9. Under “Reasons Treatment Not Completed,” what is the difference between “Contact Moved (follow-up unknown)” and “Lost To Follow-Up?”

The “Contact Moved (follow-up unknown)” treatment outcome should be used when a contact moves to another jurisdiction with a locating address and no other specific outcome is documented. If the receiving jurisdiction reports a more specific outcome (for example, completed treatment) to the referring jurisdiction, then the referring jurisdiction can report that specific outcome on the ARPE-CI.

Please note that if the contact moves to another jurisdiction, the referring jurisdiction should complete an NTCA Interjurisdictional TB Notification form and send it to the receiving jurisdiction.

“Lost To Follow-Up” should be used when the contact cannot be found or when there was no forwarding address.

10. How are contacts identified in two related contact investigations counted?

If a contact is identified in two related contact investigations, for example, a secondary case is discovered in a contact investigation and another investigation begins, the contact should be counted only once during the calendar year. If, however, a contact is part of two unrelated contact investigations and the health department decides the contact needs a reevaluation, the contact should be counted twice.

11. How are contacts found during a source case investigation counted?

Unlike the CDC ARPE-CI where contacts in source case investigations are counted in the “Others” column starting at “Number of Contacts,” source case investigations are excluded on the California ARPE-CI. However, if a source case is found, the source case’s contact investigation should be counted on the ARPE-CI under the appropriate column (smear positive, smear negative, etc.). In this situation, the index (pediatric) case may be counted as a contact to the source case.

Contact Investigations Performed outside the Local Health Department

12. When a contact investigation is done at a work site or school, which contacts should be counted on the ARPE-CI?

Employees or students who warrant an evaluation for TB disease or latent infection because of exposure to an index case should count as contacts even if the number of contacts is large. Non-contacts, or persons who have probably not had significant exposure to the index case but who request inclusion in the contact investigation, should not be counted on the ARPE-CI. For example, persons tested only for public relations reasons or persons tested to decrease anxiety should not be counted as contacts on the ARPE-CI.

13. Do we need to collect and report data on the ARPE-CI for contact investigations managed by prisons or private providers?

Yes. Data from all contact investigations on cases counted in your jurisdiction should be reported on the ARPE-CI. CDC and TBCB encourage health department oversight of the evaluation and if recommended, treatment of all contacts to cases in your jurisdiction. To accomplish this, you may need to develop and/or strengthen communication links to collect contact data from providers outside your health department. ARPE reporting may help identify areas that need greater oversight and/or improved exchange of patient data and can document improved outcomes.

14. Should periodic testing, infection control, or surveillance testing in places of employment be counted on the ARPE-CI?

The ARPE-CI is not intended to collect information on periodic testing of employees unless the testing was specifically conducted for individuals who were known contacts to a case of infectious TB.

15. Should contact data be included in the ARPE-CI when the data is questionable?

The local health department should make every effort to ensure that their data on contact investigations is accurate. However, in situations where the health department cannot assure that the data are satisfactory, the data should not be included in the ARPE-CI. For example, if the health department receives data from a health care facility reporting an questionable number of contacts and the health department cannot verify, using the reporting definition, which contacts are actual contacts, then the index case and contacts should not be included in the ARPE-CI. In order to document and account for missing contact investigation data, it may be helpful to include a note explaining the situation with your ARPE submission to TBCB.

16. Which jurisdiction reports a contact if the case or contact is outside my local health jurisdiction?

The health department that counts a case also reports all contacts to that case. If your health department is evaluating and treating a contact exposed to a case outside your jurisdiction, your program should communicate the results of the evaluation and, if applicable, the results of treatment to the health department of the case's jurisdiction. If your jurisdiction counts the case and there are contacts managed in other jurisdictions, your program needs to inquire and collect results of the evaluation and, if applicable, results of treatment for those contacts. Cooperation and communication between health departments will help increase completeness and accuracy of contact reporting.

Reporting and Uses

17. When is the ARPE-CI due at TBCB and at CDC?

Please refer to the “Schedule for Reporting Contacts to TB Cases in California.” Beginning in 2015, ARPE data are accumulated into annual cohorts (i.e., January-December). Contacts are assigned to the cohort year in which the index TB case to which the contact is linked was counted and reported to the State using the count date (variable #6 “Date Counted” on the Report of Verified Case of TB).

18. Are Preliminary ARPE-CI submissions still required?

No. Starting in 2015, preliminary submissions are no longer required. However, internal tracking of contact investigation data relatively close to the time of the investigation is desirable and will facilitate accurate annual reporting. Specifically, the status of contacts as they are identified, evaluated, and started on treatment can be recorded as the process is occurring, and finalized for each contact when treatment completion data become available.

19. What technical support is available for completing ARPE-CI?

- **Line lists**

Upon request, the TBCB can provide line lists of pulmonary TB cases, based on RVCT data submitted to TBCB by the local health department, broken down by the three categories reportable on the ARPE (smear-positive, smear-negative and culture- or NAAT-positive, and other pulmonary). These lists are useful for confirming the overall number of TB cases, and the specific category for each case, reported as eligible for a contact investigation. The TBCB can send line lists once per year or every six months, according to how the local health department chooses to track contact investigations. However, the data will only be reported to the TBCB once per year.

- **Paper Trail**

To assist local health departments with data organization on paper, the TBCB revised the contact roster in the CDPH/CTCA joint guidelines on contact investigations to collect ARPE-CI data. Also, the TBCB developed a data tallying tool to help categorize and count data needed to complete the ARPE-CI for each contact investigation. Finally, a checklist is available to assure accurate reporting for your completed ARPE-CI. These tools can be found in the ARPE section of the TB Registry Guidelines (Poppy Manual).

- **Computer software and databases**

A number of local health departments have computer databases to track contact investigations. If you are interested in using a contact investigation database in your local health department, you may contact TBCB and the jurisdictions that have a contact investigation database to discuss options for your program.

20. How will the ARPE-CI be used?

The ARPE-CI data are used to measure TB Indicators Project (TIP) and National TIP (NTIP) contact investigation indicators. The ARPE-CI may be useful to all (TIP and non-TIP) local health departments in evaluation of their contact investigation activities for yield, efficiency, and effectiveness. Keep in mind that the quality and accuracy of reported data affect the evaluation of contact investigation activities. Manual calculation and reporting of these indices is required when using the CA ARPE reports. Local use of these indices to evaluate contact investigation activities is highly recommended. Current and historical data are available in tabular and graph form in the TIP and NTIP reports for local health departments reporting at

least 15 TB cases annually. Please contact Alex Golden at Alex.Golden@cdph.ca.gov or Melissa Ehman at Melissa.Ehman@cdph.ca.gov for access to these reports.

California objectives for NTIP indicators using ARPE-CI data

Indicator	2013	2014	2015	2016	2017	2018	2019
Contact Elicitation: Proportion of sputum smear-positive cases with at least one contact identified	95.0%	95.5%	96.0%	96.5%	97.0%	97.5%	98.0%
Contact Evaluation: Proportion of identified contacts to sputum smear-positive cases who complete evaluation for TB infection or disease	88.7%	89.8%	91.0%	92.1%	93.3%	94.4%	95.6%
Contact Treatment Initiation: Proportion of contacts to sputum smear-positive cases who start treatment for newly diagnosed LTBI	60.0%	65.7%	71.3%	76.9%	82.5%	88.2%	93.8%
Contact Treatment Completion: Proportion of contacts to sputum smear-positive cases started on treatment for newly diagnosed LTBI, who complete treatment	64.0%	68.0%	72.0%	76.0%	80.0%	84.0%	88.0%

The TBCB will regularly review the ARPE-CI data to determine how jurisdictions are performing in contact investigations. Data may indicate areas of strength and opportunities for improvement that need to be addressed on a statewide basis. The ARPE-CI data may help argue for increased resources for state and local health departments to improve contact investigations and will also inform TBCB's plans for future TB control and elimination efforts.