Summary Report of the National TB Controllers Association (NTCA) and the CDC Division of TB Elimination (DTBE) Joint Funding Formula Workgroup (FFWG): Proposed 2020 TB Funding Formula

Background, Inception and Purpose

Prior to 2005, DTBE allocated tuberculosis (TB) cooperative agreement (CoAg) funds to state and selected large-city TB programs based on long-standing funding amounts that did not adjust for changing epidemiology and factors associated with TB. Beginning in 2005, DTBE began to phase in a data-driven formula to distribute TB CoAg funds. The formula was applied to all CoAg recipients with the exception of a group of low-incident recipients who were designated as "hold harmless." The hold harmless recipients received fixed funding amounts. The formula was revised for the 2010-2014 funding cycle. In 2015, the EDN Class B Arrivals component was returned to the formula (it had been removed in 2010 due to data collection issues) and the formula was modified to include two performance components, i.e. completion of treatment (COT) and drug susceptibility testing (DST). CoAg recipients previously designated as hold harmless for which the formula allocated less than $100,000 were provided with "threshold funding" in the amount of $100,000. The formula below and threshold funding have been used by DTBE since 2015 to distribute TB CoAg funds.

Table 1

2015 TB Funding Formula	
Formula Component	**Weight**
Incident Cases	24%
US-Born Minorities/Foreign-Born	24%
Smear Positive Pulmonary	12%
HIV Co-Infection	4%
Substance Abuse	4%
Homeless	4%
EDN Class B Arrivals	4%
MDR-TB	4%
Completion of treatment (cases, COT)	15%
Drug-susceptibility testing (DST)	5%

In January 2016, DTBE asked the NTCA to partner in forming a workgroup for the purpose of making funding formula recommendations to the DTBE leadership for the upcoming funding cycle. The new formula will be in effect from January 1, 2020 to December 31, 2024. DTBE

solicited workgroup members from the various Branches within DTBE. The NTCA solicited workgroup members from TB programs of various incidence levels and geographic regions and the Association of Public Health Laboratories.

Table 2

2020 TB Funding Formula Workgroup Members	
Role/Representing	**Name (Affiliation) State**
Co-Chair	Peter Davidson (NTCA, President-elect/President/Immediate Past President) Michigan
Co-Chair	Terry Chorba (CDC DTBE, Chief, Field Services Branch)
Low TB Incidence Areas	Dee Pritschet (NTCA) North Dakota
Medium TB Incidence Areas	Michael Lacassagne (NTCA) Louisiana
High TB Incidence Areas	Jenny Flood (NTCA, California); Sue Spieldenner (DTBE, California)
Large City CoAg Recipients	Joseph Burzynski (NTCA, New York City)
Southeastern National TB Center (TB COE)	Jon Warkentin (NTCA, Tennessee)
Global TB Institute (TB COE)	Steve Hughes (NTCA, New York State)
Curry International TB Center (TB COE)	Camy Retzl (NTCA, Nevada); Susan McElhaney (NTCA, Nevada)
Heartland National TB Center (TB COE)	Phil Griffin (NTCA, Kansas)
Mayo Clinic Center for TB (TB COE)	Janette Candido (NTCA, Illinois)
NTCA Executive Director	Donna Wegener (NTCA)
CDC DTBE Office of the Director	Kathryn Koski
CDC DTBE Field Services Branch	Glen Christie, Andy Heetderks, Stuart McMullen, Mark Miner, Nwabunie Nwana,(Recorder), Margaret Oxtoby, Dan Ruggerio
CDC DTBE Laboratory Branch	Angela Starks
CDC DTBE Surveillance, Epidemiology, and Outbreak Investigations Branch	Adam Langer

CDC DTBE Data Management, Statistics, and Evaluation Branch	Angela Cleveland, Maureen Kolasa, Kai Young
CDC DTBE Communications, Education, and Behavioral Studies Branch	Wanda Walton
Association of Public Health Laboratories (APHL)	Jafar Rezeq, Kelly Wroblewski

Although the Mayo Clinic Center for TB ceased to be designated as a TB COE on January 1, 2018, the workgroup maintained representation of programs in the former COE region. The workgroup held its first meeting at the end of March 2016. The workgroup identified the following broad goals as necessary to recommend a new funding formula:

- Evaluate the impact(s) of the current funding formula focusing on the final phasing in of the data-driven formula between 2010 and 2015, and the 2015 addition of performance-based components to the formula. No such evaluation had been made since these changes were implemented.
- Evaluate the values and drawbacks of current formula components and weights to determine if changes were warranted.
- Based on the first two goals, recommend changes to the funding formula to improve parity with current TB epidemiology and trends in the U.S., and to reflect better the work done by US TB programs to move toward TB elimination.

Workgroup Recommendations

Overarching Principals

The workgroup established three overarching principles to guide its efforts and discussions.

1) The funding formula should be equitable. The primary purpose of the funding formula is to distribute available funds in a fiscally-equitable manner. The principle of equitability should govern which components are used in the formula, and the weights attached to those components.
2) All formula components must be uniformly reported by all CoAg recipients, and surveillance data for new components must be available for at least three years.
3) When considering inclusion of additional components for which data are available, the FFWG should assure that the new component would make the formula more equitable, or more reflective of the work being done by US TB Programs.

The workgroup applied these principles thoroughly in all our deliberations, often spending many weeks to reach a consensus that best fulfilled these principles for all CoAg recipients. Detailed analysis and discussion are annotated in the minutes of each workgroup meeting (Appendix 1). Key findings for each of the goals identified above are presented here.

Evaluation of the Impacts of the Current Funding Formula

The workgroup extensively reviewed and discussed the impacts of the current formula, and found that overall the impacts of the full implementation of data-driven, formula-based funding and the addition of the two performance components were positive.

- Fully implemented formula-based funding allocations were more equitable than the previous model of legacy-based funding. Examining per TB case funding amounts awarded to CoAg recipients over time showed that the amount per case across all CoAg recipients became more uniform as formula-based funding was fully implemented.
- The inclusion of performance components (COT and DST) did not significantly change performance in these indicators at the national level. Rather, the overall performance for both remained remarkably constant despite their inclusion in the funding formula. Several reasons for this overall constancy of performance were posited. However, the workgroup felt that these indicators remained important because they reflect core programmatic activities.
- Threshold funding was critical in maintaining minimum programmatic capacity for low-incident CoAg recipients who would otherwise be allocated less than $100,000 by the funding formula.

Evaluation of the Values and Drawbacks of Current Formula Components and Weights

The workgroup found that the current formula had benefitted most CoAg recipients, but overall had become less reflective of current programmatic efforts and goals. Several opportunities were identified for improved parity between the funding formula and programmatic goals.

- The current formula tends to create additive funding for TB cases with specific case characteristics, whereas recent trends and epidemiology show a much broader profile of case characteristics and associated programmatic effort. The workgroup felt that broader and more inclusive indicators would make the formula more equitable and reflective of current and projected programmatic needs and goals.
- The formula would benefit from expanded recognition and consideration of risk factors, both medical and social, that reflect critical patient characteristics and the programmatic effort needed to ensure that these patients complete treatment.
- Many ideas and options were discussed to make the formula more "future-oriented." For example, it was proposed that inclusion of prevention-focused components such as LTBI diagnosis and treatment would lead toward TB elimination while maintaining core activities focused on cases of TB disease. The workgroup ultimately identified two new indicators that it felt would strike this balance.

Recommend Changes to the Funding Formula

The workgroup identified several changes to the formula that it felt would improve parity with current US TB epidemiology, be more reflective of programmatic needs and goals and would be instrumental to supporting continued progress toward TB Elimination. The workgroup recommends the following formula be adopted for the 2020 – 2024 CoAg cycle.

Table 3

Recommended 2020 Funding Formula			
Needs Components: 76% (change -4%)			
Component	**Weight**	**Change**	**Definition**
1. Incident Cases	39%	+ 15%	Total number of incident TB cases.
2. Non-US-born & US-born Minorities	8%	(-16%)	Total number of TB cases that are either born outside the US or are US-born minority.
3. Smear-positive Pulmonary	12%	No Change	Total number of TB cases with respiratory and/or pleural site of disease that are sputum smear-positive.
4. Medical Risk Factors and Comorbidities	4%	New Component	Total number of TB cases with one or more of the following risk factors: HIV, diabetes, end-stage renal disease, post-organ transplant or other immunocompromised conditions. Hepatitis B & C are recommended for inclusion in this component pending changes to the 2020 Report of Verified Case of TB (RVCT) form.
5. MDR-TB	5%	+1%	Total number of multi-drug resistant TB (MDR TB) cases (resistant to at least isoniazid and rifampin). Note: Molecular DST results will be incorporated pending 2020 RVCT implementation.
6. Social Risk Factors	4%	New Component	Total number of TB cases with one or more of the following social risk factors: homelessness, injection drug use, non-injection drug use or excessive alcohol use.
7. Class B Arrivals (B1, B2 and B3)	4%	No Change	Total number of immigrants and/or refugees with a settlement address in the Co-Ag recipient's jurisdiction, based on the Electronic Disease Network (EDN) initial notification.
Performance Component: 24% (change + 4%)			
8. TB Case Completion of Treatment (COT)	10%	(- 5%)	Total number of TB cases for whom treatment of 12 months or less is indicated, who complete treatment within 12 months (366 days).

			Data source: RVCT. See NTIP definition for detailed inclusion/exclusion criteria.
9. Drug-Susceptibility Testing (DST)	5%	No Change	Total number of cases with a positive culture result who have initial drug-susceptibility results reported. Molecular DST result will be included pending 2020 RVCT implementation. Data source: RVCT. See NTIP definition for detailed inclusion/exclusion criteria.
10. TB Contact Completion of LTBI Treatment	5%	New Component	Total number of contacts to sputum AFB smear-positive cases or to sputum AFB smear-negative, culture-positive cases who were diagnosed with LTBI and complete LTBI treatment. Contacts in the "Other" category of the ARPE report are not included. Data source: ARPE and/or line listed LTBI data reported to DTBE data system(s).
11. Completion of Examination for Class B1 (Pulmonary TB)	4%	New Component	Total number of immigrants and/or refugees with abnormal chest X-rays read overseas as consistent with TB who completed medical examination within 90 days of notification. See NTIP for indicator definition. Data source: NTIP/EDN TB Follow-up worksheet and/or line listed data reported to DTBE data system(s). Notes: (1) This indicator is based on the national objective for the completion of U.S. domestic follow-up examination of immigrants and refugees. Changes to the objective and NTIP indicator calculation shall apply here. (2) Credit for this indicator is currently given to the Co-Ag recipient where the immigrant/refugee originally arrived (see NTIP definition). Pending revision of EDN TB Follow-Up Sheet, credit should be given to jurisdiction performing the exam.

Cohort Years for Formula Calculation

Data to calculate funding allocations should be drawn from the most complete three years prior to the award year. For indicators 1 – 7, 9 and 11, data cohorts from two, three and four years

prior to the award year should be used. For indicators 8 and 10, data cohorts from four, five and six years prior to the award year should be used.

Rate of Implementation of New Formula
The workgroup recommends this new formula be implemented incrementally during the first three years of the 2020-2024 CoAg cycle.

Table 4

Recommended Implementation Schedule			
Year	**2020**	**2021**	**2022**
"Old" Formula	67%	33%	0%
"New Formula"	33%	67%	100%

Increase of Threshold Funding Amount
The workgroup recommends increasing the threshold funding amount for low-incidence programs from $100,000 to $125,000.

Summary of and Rational for Recommended Formula Changes
These recommendations retain all ten components from the present formula, but substantially change the weight of several components, create two new needs-based components (Medical Risk Factors and Comorbidities and Social Risk Factors) by combining current components, and add two new performance-based components (TB Contact Completion of LTBI Treatment and Completion of Examination for Class B1). The workgroup shared the recommended formula changes with the NTCA and the Advisory Counsel for the Elimination of Tuberculosis (ACET) and received extensive feedback from both groups. Detailed responses to this feedback are included in Appendix 3, but several significant changes merit brief explanation and justification here.

Non-US-born & US-born Minorities

- Rationale to reduce weight of non-US-born & US-born Minorities component
    - The current formula provides equal weight to the non-US-born & US-born Minorities component and the Incident Cases component; the weights for both components are 24%. Because the formula is additive, TB cases that are either non-US-born or US-born minorities are allocated twice as much funding as US-born non-minority cases. The workgroup recognized that the increasing incidence of non-US-born cases is impacting TB activities in the US and that non-US-born cases sometimes require more investment of time and resources. However, when it considered this against all the other components and demands that programs have, the workgroup felt that US-born minority and non-US-born cases do not realistically consume twice the resources as US-born non-minority cases. Rather, the workgroup felt it was more reflective of program needs to reduce the weight of the Non US-born & US-born Minorities component and distribute the emphasis to the Incident Cases and other components (e.g., increasing the weight of the

MDR TB component by 1% and the adding the TB Contact Completion of LTBI Treatment (5%) and Completion of Examination for Class B1 (4%).
    - More broadly, the workgroup felt that US TB control and elimination efforts would be best served by not emphasizing one demographic or case characteristic over others. Trying to address and assign funding for particular concerns is difficult and complex. The FFWG has tried instead to make the current formula less "prescriptive/complex" and more "inclusive/simple" in structure while ensuring that funding is equitably distributed.

Medical Risk Factors and Comorbidities

- Rationale for adding a new indicator for "Medical Risk Factors and Comorbidities"
    - In the current formula, HIV is the only recognized medical risk factor and/or comorbidity. The workgroup felt that HIV was one among several important medical risk factors and comorbidities, all of which often require increased clinical and/or programmatic resources to ensure effective treatment.
    - Moreover, the workgroup learned of proposed revisions to the RVCT, also expected to take effect in January 2020, that will substantially increase data collection on comorbidities in addition to HIV. The workgroup felt it appropriate to include these additional comorbidities as a single medical risk factor and comorbidity component.

Social Risk Factors

- Rationale for adding a new indicator for "Social Risk Factors"
    - The current formula is also cumulative when it comes to social risk factors. For example, the current weight for homelessness is 4%. If a TB patient also has a history of substance or excessive alcohol use, an additional 4% is added for a total allocation of 8%. The workgroup acknowledged that homelessness and the use or abuse of injection and non-injection drugs and/or alcohol can often represent large investments in time and resources for TB programs when providing medical and case management but felt that it was more equitable, when compared to other TB case characteristics, to combine the current two components into one social risk factor component.
    - Comparative analysis of national data from 2014 – 2016 supports the workgroup's decision by showing that among cases reported with homelessness, the vast majority also reported use of at least one substance.

Threshold Funding Amount

- Rationale to increase the threshold funding amount from $100,000 to $125,000
    - Per notes from previous formula workgroups, the original purpose of providing threshold funding was to assure that low-incidence programs would receive sufficient funding to support at least one position that could assure that minimum core activities such as TB case management, contact investigation and reporting would be carried out. The 2015 formula threshold funding was $100,000.
    - The workgroup recognized that the costs of doing business and of providing services have increased over the past five years, and several members felt that $100,000 was insufficient to assure minimum programmatic capacity especially

when considering that the recommended formula would establish funding through 2024. The workgroup recommends increasing threshold funding to $125,000. There are currently nine CoAg recipients funded at the threshold level, and modelling this increase indicated that 13 CoAg recipients would be funded at the threshold level. The workgroup acknowledges that this recommendation presents a cost to the remainder of the CoAg recipients and that this issue may need to be revisited if overall funding to all CoAg recipients is substantially decreased.

Summary and Rational of Issues Considered, But Changes Not Recommended

MDR-TB

- Split funding between CoAg recipients when MDR-TB patients move during treatment
  - The workgroup considered this, however there is no equitable method to split funding between reporting and receiving jurisdictions without adding significant complexity to the funding formula algorithm. The workgroup felt the proportion of time a patient spent in a jurisdiction alone is not sufficient to estimate the amount of resources or staff time invested in the care of patient.
  - Analysis of data from MDR-TB patients that moved during treatment showed that more moved out of the US than moved across state lines.
  - The workgroup felt both scenarios were very impactful to programs but could not identify an equitable way to apportion funding.

Correctional Setting

- Inclusion of residence in a correctional facility as a Social Factor.
  - The workgroup deliberated this idea extensively. It concluded that the majority of case management and conduct contact investigation activities in Federal and State correctional facilities was handled by staff in those facilities, rather than state or local public health staffs. TB patients residing in city or county correctional facilities would involve state or local public health staffs, but not at levels that warranted inclusion in the funding formula.
  - Data analysis revealed that completion of treatment is lower among patients in correctional settings than among patients not residing in correctional settings. However, the workgroup lacked sufficient understanding of the resource needs for patients in the correctional settings to recommend change or action on this issue. Below are key questions that should be explored further:
    - How do TB programs interface with correctional facilities?
    - Where and how does such work happen? E.g. DOT, contact investigation?
    - How time- and/or resource-intensive are cases diagnosed in correctional settings?
    - Is there a difference between cases diagnosed in local (i.e. county) facilities compared to state or Federal facilities?

FFWG Recommendations for DTBE's Further Immediate Consideration

During its deliberations, the workgroup identified several issues that impact TB programs but were outside of the group's scope or ability to address. The workgroup strongly recommends that the DTBE explore these issues in partnership with NTCA and programs, preferably before or early in the 2020-2024 CoAg cycle.

Examination of Immigrants and Refugees

- Consider changing the timeframe for the NTIP indicator on the Completion of Medical Examination for immigrants and refugees within 90 days to completion of examination within 1 year.
    - The workgroup received feedback from several programs both within and outside of the workgroup that the timeframe of within 90 days is often unattainable due to factors outside of programs' control.
    - At least one member of the FFWG expressed the same concerns during FFWG conference calls.
    - DTBE should evaluate and consider allowing more time for completing examination beyond 90 days.
    - Also, DTBE staff could provide better education about how the timeframe is calculated as there were confusions about when the clock starts (i.e., EDN Date of Notification rather than the often-believed Date of Arrival). This will help to clarify policy changes that have already been made.
- Consider equitable ways to allocate resources for the follow-up of immigrants and refugees who move shortly after arrival in the U.S.
    - Work with DGMQ to clarify and obtain accurate initial address of arrival.
    - Work with DGMQ to implement revised TB Follow-up Worksheet to collect data on the jurisdiction(s) responsible for initiating and completing follow-up examination and managing LTBI treatment, and incorporate data into indicators to ensure funding is given to jurisdictions completing the work.

Issues for DTBE's Future Consideration

Burden Cases (cases managed in a jurisdiction other than the one that reported the case in NTSS)

- Consider whether (and how) to include additional burden cases (even beyond MDR-TB) in the funding formula. If burden cases are to be included in the formula, how should this be implemented? How might burden cases be included equitably and assure that a single case is not double-funded?

Completion of treatment among the Homeless

- Consider awarding extra credit for completion of treatment among the homeless as a way to increase performance in this population.

Expanded Criteria to Allocate Funding for MDR Cases

- Consider expanding the criteria that qualify a case to receive funding under the MDR component of the formula:
    - Resistance to isoniazid and rifampin demonstrated by culture-based susceptibility testing (and documented in RVCT), **OR**
    - Resistance to isoniazid and rifampin demonstrated by molecular susceptibility testing (and documented in RVCT), **OR**
    - Resistance to isoniazid and rifampin demonstrated by a combination of culture-based and molecular testing (e.g. isoniazid mutation in molecular test plus rifampin resistance in culture, and these results being documented in the RVCT), **OR**
    - Second- or third-line drugs are prescribed on the basis of clinical presentation; the patient is treated as MDR regardless of susceptibility results or whether culture or molecular tests are performed (would rely on documentation of drugs used in the RVCT).
- These criteria would make the formula flexible and responsive to the increasing use of molecular tests for susceptibility, and for patients who are treated as MDR when susceptibilities are discrepant or unavailable. Examples include: pediatric contacts to adult known MDR cases and specimens can't be collected or don't grow in culture; patients diagnosed with extrapulmonary MDR TB and specimens can't be collected or don't grow in culture; patients who experience adverse effects from first-line drugs and must be treated with second- or third-line drugs instead.

Completion of Examination of Class B2

- Consider awarding funding for completion of examination of Class B2 immigrants and/or refugees within 90 days of notification. This could be combined with the component for completion of examination of Class B1 (component 11) or a separate component.
- This could help incentivize expanded identification and treatment of LTBI in adult immigrants and/or refugees. This proposal may also improve equitability for CoAg recipients that typically have low numbers of TB cases but do perform examination of Class B2 immigrants and/or refugees.

Appendix 1
FFWG Meeting Minutes

Date- 03/30/2016

Time 2:30pm-3:10pm EST

Attendees-
Davidson, Peter
Chorba, Terence L.
Candido, Janette
Cleveland, Angela
Pritschet, Dee
Flood, Jennifer
Griffin, Phil
Heetderks, Andy
Hughes, Stephen
Rezeq, Jafar
Wegener, Donna
Wroblewski, Kelly
Langer, Adam J.
McMullen, Stuart
Miner, Mark
Oxtoby, Margaret
Starks, Angela M
Nwana, Nwabunie

Minutes

Meeting Documents
Four documents were sent to call participants in preparation for the call.

- List of workgroup members
- Current Timeline
- Formula Workgroup recommendations 2012_04_03: This is a summary of recommendations made by the 2012 FFWG and final decision from Division of Tuberculosis Elimination (DTBE) leadership at that time. Its immediate use is to show the standing/current version of the funding formula, which will be our starting point for this work group. Otherwise this document is for reference purposes, and several of the items referenced in this document will not be relevant for this FFWG. It is also a good example of how we may want to summarize our work when we are close to finishing.
- Workgroup Recommendations Draft: This summary from the 2012 FFWG is a more expansive summary of 2012 FFWG activities and considerations throughout their work process. This is also intended for reference purposes, and may be another good example of how to summarize and report on our work when we are close to finishing.

Reason for Work Group

Traditionally, DTBE and National Tuberculosis Controllers Association (NTCA) partner to work on formula for funding cycle. The main reason for workgroup is to examine current funding formula that DTBE uses to award cooperative agreements for funding TB-related projects in state and county level programs. The workgroup will provide recommendations to DTBE on changes to be made to the current formula that will be used in awarding cooperative agreements.

Standing Time for Meetings

Proposed time for meetings is 2-3pm EST on the following dates anticipated on timeline-

3/14/2016
3/30/2016
4/13/2016
4/27/2016 * pending progress
5/18/2016
6/1/2016
6/22/2016
7/6/2016 * pending progress around 7/4 holiday
7/27/2016
9/7/2016
9/14/2016

Timeline proposed will be held closely, and will provide guidelines on scheduled activities related to the workgroup. Some members (Angela and Jafar) had time conflicts with the proposed time, and Peter Davidson will follow up with all members under separate cover to establish an optimal time for conference calls. In addition, several members brought to our attention that timeline may not be practical as history has proven there could be need to run numbers to inform subsequent decisions during the course of the project, and this process could have implications on time as it is a lengthy process. Nonetheless, Peter assured group that the current timeline was built with such anticipated setbacks in mind, and should still be practical given our current project goals.

Deadline for sending formula to Grants Management Office

DTE will inform Office of Grant Services that there is a technical group meeting to decide funding mechanism for next funding cycle, and inquire about deadline to submit recommendations to them. The funding formula workgroup will benefit from knowing the deadline for submitting recommendations and formula to PGO, so that timeline for achieving project goals can be revised based on this information.

There are two potential goals in mind for this workgroup-

- Provide recommendations for changing the funding formula of the current project period, mid-cycle. If there is no need for this mid-cycle change, then the timeline should be extended.
- Provide recommendations for determining the structure of the funding formula to be used in the next project period, beginning in 2020.

Based on these potential goals, DTBE needs to confirm and nail down the timeline with two deadlines in mind

- Deadline to submit mid-cycle changes for this current funding formula
- Deadline to submit a completely new funding formula for new cycle starting in 2020
- Terry Chorba has shared that the lead-time required to submit funding formula changes is 16 months prior to the award date. This 16 month lead-time applies to changes in the current project period, as well as for the project period beginning in 2020. For example, this would mean that a desired funding formula for the 2020 project period would need to be submitted to PGO by August of 2018.

Establishing Funding Formula Work Group Purpose

After DTE investigates the two deadlines for submitting cooperative agreements enumerated above, they would need to be clear on the actual purpose (mid-cycle change to formula or changes for next funding cycle) of group to be fair to work group members.

Current timeline will remain as it is until we hear from the Grants Management Office on the deadline. If we are still pursuing the 2020 funding cycle, we will review timeline and roles to make suitable for the goal and deadline we are working with.

Meeting was adjourned, and will be reconvened after hearing from Terry, Andy and the Grants Office.

Peter: My thoughts are to keep the FFWG active now, and begin by thoroughly evaluating the impact of the current formula upon TB programs, with particular attention to the performance measures. This would serve two useful purposes: (a) it would give the FFWG a baseline from which to consider formula changes effective for 2020 or for changes to the current project period; (b) it would help to address the stated need for mid-project evaluation elaborated in the 2013 Funding Formula Workgroup recommendation. Outcomes from this initial evaluation should help to clarify if changes to the current project period funding formula are needed.

Date- Thursday, 04/21/2016

Time 1:30pm-2:30pm EST

Attendees
Davidson, Peter
Chorba, Terence
Candido, Janette
Cleveland, Angela
Miner, Mark
Wroblewski, Kelly
Rezeq, Jafar
Lacassagne, Michael
Warkentin, Jon
Flood, Jennifer
Griffin, Phil
Walton Wanda
Wegener, Donna
Hughes, Stephen
Burzynski, Joseph
Nwana, Nwabunie
Pritschet, Dee
Retzl, Camy

Minutes

1. Proposal to begin FFWG efforts by evaluating impact and effectiveness of current funding formula
    - There is need to evaluate current funding formula with its performance indicators before finalizing a new formula for 2020 funding cycle.
    - Current formula's performance indicators are: 1) drug-susceptibility testing (accounts for 5% of the formula) and 2) treatment completion (accounts for 15% of formula).
    - Consensus was reached that initial effort should be to evaluate current funding formula.
    - Suggested starting point for this evaluation exercise are as follows-
        - Review the most recent FFWG recommendations report. Concerns highlighted at the end of report will be beneficial to look at, so we can gather data that will assist us in answering these questions.
        - Re-evaluate the effectiveness of the two performance indicators. The proportion of cases completing treatment within 12 months has remained quite level (2011=89.6%, 2012=89.7%, 2013=89.1%, and 2014=84.8%). It should be noted that 2014 treatment completion data is not yet final. The proportion of cases with drug susceptibility testing completed has also remained level, ranging from 97.4% to 98.1% during the same period.
            - There was some discussion that since performance on these indicators has not changed appreciably after the implementation of

performance-based funding, perhaps these indicators have not significantly improved performance at the national level.
        - Nonetheless, these indicators have value in that they are transparent and universally reported by all CoAg-funded programs. Any other performance indicators that may be considered for inclusion in the 2020 funding formula could only be indicators that are universally reported by all CoAg-funded programs.
        - There was a suggestion to consider expanding the time period for completion of therapy beyond one year. Patients who require more than one year of treatment are often more complicated and require more resources to treat successfully. Could this indicator be weighted differently, and how best can we honor the purpose of the funding formula using this indicator? These questions will be revisited.
        - Other potential indicators were mentioned: sputum culture result reported, sputum culture conversion within 60 days of treatment, patients who are started on the recommended initial 4-drug regimen when TB disease is suspected, treatment initiation within 7 days, lab turnaround in 25 days, and NAAT within 6 days.
    - Evaluation of the funding formula should account for the proportions of TB program funding coming from Federal, State or Local sources. We also need to account for the context in which programs function, i.e. state, county or city level and also centralized or decentralized infrastructures. Three questions should be considered in parallel: 1) How has TB CoAg funding changed for programs (e.g. during past 5 years)? 2) How have other sources of funding (state, city, local) changed during the same period? 3) How closely does the funding formula reflect the actual cost of doing business?
        - These questions will most effectively be addressed by NTCA's survey committee. Peter Davidson and Donna Wegener will begin working with the survey committee to draft survey language, and will share a draft back with FFWG.
        - The survey should include options for programs to suggest increased or decreased weight be given to each formula indicator.
    - Evaluation must also address the effect of the four significant changes (listed below) made with the last formula:
        - Implementation of performance indicators
        - Implementation of 100% formula-driven funding
        - Conversion of hold-harmless to minimum funding base of $100,000
        - Carve out Pacific Islands programs
    - Can we address LTBI in the 2020 funding formula?
        - May be difficult since LTBI is not a reportable condition in all 61 jurisdictions.
        - Data from NHANES (National Health and Nutritional Examination Survey) or ARPEs (The Aggregate Reports for

Tuberculosis Program Evaluation) could be a source of data for this purpose.

2. Reevaluate the timeline and "calendar" for workgroup activities.
    - Reminder that the deadline to submit a desired funding formula to PGO is 16 months prior to the award date. For an award date of 1/1/2020, the formula submission deadline would be August 2018. FFWG activities should be framed with this timeline in mind.
    - Consensus was to complete evaluation of current formula within 6 months (October, 2016).
    - Decision of whether to revise current funding formula during current project period will be reached after completion of evaluation of current funding formula.

Date- Thursday, 05/05/2016

Time 1:30pm-2:30pm EST

Attendees
Davidson, Peter
Chorba, Terence
Candido, Janette
Cleveland, Angela
Miner, Mark
Rezeq, Jafar
Lacassagne, Michael
Warkentin, Jon
Flood, Jennifer
Griffin, Phil
Walton Wanda
Wegener, Donna
Hughes, Stephen
Burzynski, Joseph
Nwana, Nwabunie
Pritschet, Dee
Langer, Adam
McMullen, Stuart
Starks, Angela

Minutes

1. Discussion of ideas and responses to the 2012 FFWG summary report, and how that report may guide efforts to evaluate the current funding formula.
    - Phil Griffin and Jon Warkentin clarified item 1a from the agenda. The 2012 FFWG never intended that a CoAg recipient program which failed to meet a performance-based funding indicator should be subjected to withdrawal of funding. Rather, a program's failure to meet a performance-based funding indicator should trigger increased partnership between DTBE and the recipient. Efforts should be focused on identifying the cause of the program's failure to meet the indicator, and how best to increase the program's capacity to meet the indicator. Penalties were never intended, nor are they believed likely to be helpful. It is also important that performance-based funding indicators can show programs' progress.
    - Terry Chorba clarified that direct susceptibility testing (DST) and completion of therapy (COT) are not purely performance-based. They are actually case-based and performance-based, in as much as the amount of funding tied to each is dependent on both the total number of patients in the national cohort to which each indicator is relevant, as well as to the actual performance of each program in achieving each indicator.
    - Janette Candido asked to clarify why DST and COT were chosen for the current funding formula. Was this to incentivize performance in these activities, or to

flag and recognize the need of these activities? There was quite a bit of discussion around these questions. The consensus response from Terry Chorba, Phil Griffin and Peter Davidson, was that both reasons were in play. Terry Chorba also reiterated that another reason DST and COT were chosen was that they were universally reported by all programs. Phil Griffin stressed that any performance-based indicator must be within the program's ability to control. For example, known HIV status was considered by the 2012 FFWG as a performance-based indicator, but was rejected because HIV counseling and testing is often not within TB programs' complete control.

2. Discussion of survey to assess the impact of changes in TB CoAg funding. The survey will be open to all TB programs that receive a CDC TB CoAg.
    - Peter Davidson presented initial work by himself, Jon Warkentin and Donna Wegener, to draft a survey as called for during the 4/21 FFWG conference call. Peter, Jon and Donna had considered the following topics for inclusion in the survey:
        i. Program's jurisdiction (city, county, state, U.S. territory)
        ii. Whether program operates in a centralized, decentralized, or hybrid infrastructure
        iii. Change in program's federal TB CoAg funding from 2010 to 2014
        iv. Change in programs other funding sources (e.g. state, county, city) from 2010 to 2014
        v. Proportion of program's resources that are spent on funding formula indicators
        vi. Proportion of program's overall 2010 budget that was federal TB CoAg
        vii. Proportion of program's overall 2014 budget that was federal TB CoAg
    - Additional topics could include (but we haven't fleshed these out yet):
        i. Changes in program capacity as a result of the increase or decrease in federal CoAg funding over time. Would it be worthwhile to ask programs what services or staff programs have eliminated or expanded as a result of funding changes?
        ii. Changes in funding resulting from inclusion of performance indicators?
        iii. Specifically for former 'hold harmless' programs, what changes did they experience as a result of conversion to full formula funding?
    - Phil Griffin suggested that we avoid asking programs to respond about changes in federal CoAg funding, since this information is available from DTBE. Rather, effort should be focused on questions which only programs can answer. DTBE should share funding changes for each year of the previous CoAg period (2010 – 2014) with the FFWG and correlate to each program's number of reported cases. This would help to assess whether changes in funding were in parity to TB burden, and assess 'dollars per case' over time.
    - Jenny Flood suggested we use the survey as an opportunity to generation 'actionable' feedback from programs, which DTBE could use in internal advocacy opportunities. For example:

i. A question exploring the notion of requiring matching funds from a CoAg recipient to support CoAg activities (e.g. requiring some amount of state or local funds in order to receive federal CoAg)
ii. A question exploring the notion of allowing federal TB CoAg funds to be used for purchasing medications

- Terry Chorba indicated that DTBE would be able to assemble prior period funding amounts to programs, and correlate with numbers of reported cases.
- Janette Candido suggested referencing minimum requirements for program capacity to help identify or frame questions for the survey, as well as planning for the 2020 funding formula.
- Peter suggested material from the Essential Components document (published in 1995, currently undergoing revision through NTCA/ACET) might be useful. May be possible to assess changes in capacity for core programmatic activities or areas as defined by the Essential Components document.
- Wanda Walton indicated she had done doctoral dissertation research evaluating implementation of the Essential Components by TB programs, and would share relevant survey language from her surveys to Peter for reference.

3. Peter concluded the call by asking workgroup members to brainstorm about additional topics for evaluating the effectiveness and impact of the current funding formula, as well as specific questions and sets of data we would need to address those topics and questions. For example, four items were suggested on the 4/21 call, and several others were shared since the call.

Topic	**Evaluation Questions**	**Sources of Data**
Implementation of performance indicators	Does the 80/20 reward jurisdictions for poor performance? Would a more even distribution of funds between 'burden' and 'performance' improve performance overall?	
	Might it be worthwhile to revise COT indicator to "completion ever" rather than 12 months?	
Implementation of 100% formula-driven funding		
Conversion of hold-harmless programs to minimum funding base ($100k)		
Carve-out of Pacific Islands programs to their own funding formula		
Reflection of morbidity	Does the current formula accurately reflect morbidity?	

Reflection of true program activities	Would incentivizing contact investigation outcomes be feasible if LTBI was reportable by 2020?	

Date- Thursday, 06/09/2016

Time 1:30pm-2:30pm EST

Attendees
Davidson, Peter
Chorba, Terence
Candido, Janette
Miner, Mark
Wegener, Donna
Hughes, Stephen
Nwana, Nwabunie
Pritschet, Dee
McMullen, Stuart
Retzl, Camy
Khan, Awal
Dalton, Tracy (Representing Starks, Angela)
Kolasa, Maureen
Walton, Wanda
Lacassagne, Michael

Attachments- Excel file titled "2015-2016 funding wout perf de-id wout PR USVI"
Word file titled "NTCA Funding survey v2"

Minutes

1. Discuss spreadsheet showing comparison of 2015 and 2016 funding, modeled with and without DST and COT performance-based indicators.

Cc: Excel file titled "2015-2016 funding wout perf de-id wout PR USVI"

- During initial conference meetings, we discussed assessing the impact of the two performance indicators, drug susceptibility testing (DST) and completion of treatment (COT), on the funding awarded to programs. Specifically, what would funding across all programs look like if these indicators were removed from the formula, and all funding were awarded based solely on the case-based indicators?
- As shown in the attached excel file, funding impacts would vary by program. In this model, some programs would lose significantly, while others would gain significantly.
- Dee Pritschet asked if the current funding formula includes burden cases, and indicated that burden cases can represent a large proportion of the workload in low-incidence areas. The current funding formula does not include burden cases. Janette Candido suggested that burden cases should be added to the formula, and there was general agreement to look further into including burden cases. Terry Chorba indicated that he would follow-up with colleagues in Surveillance, Epidemiology and Outbreak Investigation Branch to determine if burden cases are universally reported across all states, and assess other logistic needs to potentially include burden cases in the 2020 funding formula.

- Question on relevance of dollar by case funding was also discussed. The scatter-plots included in the spreadsheet illustrate a wide spread in dollar-per-case funding across all TB CoAg recipients. Peter Davidson asked if it is reasonable to push for more equal dollar per case funding across all programs, and if so, what changes to the funding formula might be needed to achieve that? Terry Chorba indicated this could most readily be achieved by substantially increasing the weight given to incident cases, while reducing the weights given to other more case-specific indicators and performance-based indicators. Terry also mentioned that during the 2012-2013 FFWG, there was consensus to accept variance in dollar per case funding in the interest of allocating more funding toward cases that were deemed to be more complex. There was general agreement that keeping the formula responsive to complexities of each case was more important, and to accept variance in dollar per case funding in that interest.
- Several proposals were made with respect to TB patients with diabetes. The first was to exclude TB-diabetes patients from the completion of therapy indicator, since these patients may require more than 12 months to complete treatment due to complications from the diabetes. The second was to include TB-diabetes as an additional case-based indicator to the funding formula, similar and in addition to TB-HIV patients.
- The group also felt it was important to review critically the proportional weighting of all indicators in the funding formula. Mark Miner pointed out that certain types of patients are essentially guaranteed to draw a given amount of funding. For example, an MDR patient in 2015 would garner at least $29,000, based on the weighting in the current formula, the total amount of funding available for CoAgs in 2015, and the number of MDR patients reported. This example highlighted the importance of understanding how patient characteristics impact the amount of money a program receives.

2. Discuss survey design and language to assess impacts of funding formula and changes in TB program funding during prior project period.

Cc: Word file titled “NTCA Funding survey v2”

- Preliminary survey questions aim to gather information from TB Controllers that cannot be gathered from CDC colleagues. Once the language and content of the survey are vetted through the FFWG and finalized, Peter Davidson and Donna Wegener plan to deploy the survey through the NTCA Survey Committee to all TB Controllers.
- Peter Davidson asked workgroup members to review questions for appropriateness and relevance, and email suggestions to him.
- Discussion on the survey design and content will continue on the next call.

Date- Thursday, 06/23/2016

Time 1:00pm-2:00pm EST

Attendees
Davidson, Peter
Chorba, Terence
Candido, Janette
Miner, Mark
Wegener, Donna
Hughes, Stephen
Nwana, Nwabunie
Pritschet, Dee
McMullen, Stuart
Retzl, Camy
Khan, Awal
Starks, Angela
Kolasa, Maureen
Walton, Wanda
Griffin, Phil
Rezeq, Jafar
Warkentin, Jon
Langer, Adam
Flood, Jennifer
Burzynski, Joe

Attachments- PDF file titled "NTCA Funding Survey – Draft 4"

Minutes

1. Discuss survey design and language to assess impacts of funding formula and changes in TB program funding during prior project period.

Cc: Word file titled "NTCA Funding survey v2"

- Preliminary survey questions aim to gather information from TB Controllers that cannot be gathered from CDC colleagues. Once the language and content of the survey are vetted through the FFWG and finalized, Peter Davidson and Donna Wegener plan to deploy the survey through the NTCA Survey Committee to all TB Controllers.
- Survey questions were reviewed during the call, with each question having a specific objective in mind.
    - Question 1 asks for name of the TB Program that is responding to the survey. This is for internal quality assurance purposes and will not be included in the report of responses gathered.
    - Question 2 identifies the jurisdictional level of the program responding.
    - Question 3 identifies the type of infrastructure in which the program operates.

- Question 4 identifies how funding sources other than TB CoAg changed during the prior project period (with option to indicate that no other sources of funds are available).
- Questions 5 and 6 identify what proportion of the program's overall budget in 2010 came from the TB CoAg.
- Questions 7 and 8 identify what proportion of the program's overall budget in 2014 came from the TB CoAg. Taken together, Questions 5 through 8 should illustrate whether TB programs became more or less dependent upon CoAg funding during the prior project period.
- Question 9 indicates which core activities programs support with CoAg funding. Core activities are in reference to the Essential Components document.
- Question 10 indicates the change in program capacity to carry out these core activities during the prior project period.
- Questions 11 through 13 are intended to capture feedback on several strategic action items that could change the way CoAg funds are used by recipients.
    - Question 11 indicates how feasible programs feel it would be for their agencies to provide matching funds toward TB control efforts.
    - Question 12 indicates how helpful programs feel it would be to use CoAg funds to purchase medications. This is not a guarantee that this will be advanced as an agenda item. It is simply an opinion poll.
    - Question 13 indicates how helpful programs feel it would be to cap the allowable indirect rate at 10% for the TB CoAg. The value of 10% was chosen in reference to Ryan White, which has been capped at 10% for many years.

- Jon Warkentin asked if DTBE can provide a list of all indirect rates submitted by programs in their TB CoAg budget narratives. This list should be de-identified to avoid directly naming which program reports which rate, however it would allow the FFWG to determine the range, average, and median rates for comparison. Terry Chorba expressed concern that this could be difficult information to compile, but Jenny Flood and Phil Griffin pointed out that FSB program consultants already have this information from budget narratives contained in annual progress reports. Terry agreed to pursue and compile this information. Mark Miner reminded the FFWG that DTBE attempted to cap the indirect rate at 10% in the 2010 – 2014 project period, but this was overruled by PGO. Phil Griffin asked Peter Davidson and Donna Wegener to approach NASTAD to see how they succeeded in getting the indirect rate capped at 10% in Ryan White. Peter and Donna will pursue. Mark Miner also mentioned that San Diego and Houston TB programs have renegotiated their own indirect rates to be lower than the rate established by the City.
- The group also discussed possibly including burden cases in the funding formula. Terry made a comment that reporting burden cases has not been enforced or incentivized since it is not included in the formula, and has not been reported

systematically by all sites. Moreover, there is not any anticipation of additional funding available to programs, so inclusion of burden cases as an indicator would come at the expense of another established indicator. Would this really benefit programs? Adam Langer mentioned that a survey of TB programs conducted by SEOIB indicated that programs did not feel reporting of burden cases to be a worthwhile activity. Jenny Flood countered that if funding were attached to reporting burden cases, programs would be much more likely to do so. Phil Griffin recommended that programs reporting burden cases should be credited/acknowledged. The consensus was that inclusion of burden cases in the formula should be pursued further.

- Adam Langer also mentioned "rule out" cases (where TB was suspected but eventually ruled out) as another activity that can be resource-intensive but is not accounted for in the funding formula. Jon Warkentin confirmed that "rule out" cases may continue on DOT and nursing case management for up to two months before being ruled out, and they do represent a significant investment by programs with no return in funding. However, there is no uniform data on the number of "rule out" cases (they are not reportable), nor is there a standard or strategy by which to assess the cost they represent. There was not clear consensus whether to continue pursuing "rule out" cases.
- Peter Davidson asked workgroup members to continue to review questions for appropriateness and relevance, and email questions/comments to him by June 30th, 2016.
- An apology was given for the schedule change due to conflicts with Terry's and Peter's schedules. June 30th, call will be cancelled and we will reconvene on July 14th.

Date- Thursday, 07/14/2016

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Candido, Janette
Miner, Mark
Hughes, Stephen
Nwana, Nwabunie
Pritschet, Dee
Retzl, Camy
Kolasa, Maureen
Griffin, Phil
Warkentin, Jon
Langer, Adam
Burzynski, Joe

Attachments- Word "FFWG Meeting Minutes 06-23-16_final"; Excel "IRA 2016 Sanitized"; Word "NTCA Funding Survey – Draft v6".

Minutes

1. Discuss updates to NTCA Funding Survey. Peter Davidson received comments and feedback from FFWG members following the 6/23/2016 FFWG call, and with Donna Wegener presented an updated version of the survey document to the NTCA Survey Committee on 7/7/2016. All updates received to date are included in Word "NTCA Funding Survey – Draft v6", shared and discussed during conference call.
    - Question 8: The group discussed how #8 ought to be answered, as currently written. Dee Pritschet questioned how she would respond, given that her program has access to state general funds for TB, but on an as-needed basis. There is not a fixed amount of funding dedicated to her program, making it difficult for her to choose a percentage of increase or decrease. Janette Candido suggested rewording the question to compare the dollar amount of other funds available in 2014 versus 2010. GROUP TO DO: please send suggestions for rewording to Peter with cc to Terry before the next call. We will also discuss this further on the next call.
    - Original Questions 9 & 10: Phil Griffin questioned how we would understand or interpret these as written. Dollar amounts have different impacts in different states, depending on overall program budget and burden of TB. Group discussed, and consensus was to delete these questions.
    - New Questions 9 & 10: Phil Griffin asked how to define treatment? What does treatment include or entail? For example, direct patient care and purchase of medications are not allowed in TB CoAg, so we should make the question clear to exclude those activities. Dee Pritschet asked what is included in case management, and how that is different from directly-observed therapy or treatment. Peter suggested that the original intent of 11 & 12 was to focus

attention on a smaller set of core TB Program activities that would be universally understood by all respondents, and the inclusion of many nuanced activities likely causes confusion. Phil Griffin agreed. Consensus was to review the list of core activities and condense to a smaller number of easily-understood activities that are more universally understood. GROUP TO DO: please send suggestions of how to condense or simplify the list of core activities to Peter with cc to Terry before the next call.

- Questions 14 & 15: New questions suggested by NTCA Survey Committee, probing for which specific activities would be reduced in the face of a cut in funding. FFWG members agreed to include, but chose to add examples of 5% and 25% cut in funding, and to distinguish between cuts to Program versus Lab. Program core activities will be the same as settled upon for Questions 9 & 10. Lab core activities will be provided by Angela Starks and Kelly Wroblewski. PETER TO DO: will connect with Angela Starks and Kelly Wroblewski for suggested lab activities.

2. Peter mentioned the Excel file "IRA 2016 Sanitized", which contains a de-identified list of indirect cost rates reported by TB programs in their budgets. This information had been requested on prior FFWG calls, and was shared on today's call but there was not sufficient time to discuss it.
3. Peter asked if FFWG members wanted to continue meeting during August, in view of the TB CoAg APR due-date at end of August. Consensus was that we will continue meeting during August.
4. Next FFWG call will be 7/28 @ 1:30 ET.

Date- Thursday, 09/22/2016

Time 1:30 pm-2:40 pm EST

Attendees
Davidson, Peter
Candido, Janette
Hughes, Stephen
Nwana, Nwabunie
Warkentin, Jon
Langer, Adam
Burzynski, Joe
McMullen, Stuart
Wegner, Donna
Cleveland, Angela

Attachments- Word "NTCA Funding Survey – Draft v11"; Excel "2010-2015-CoAg_Funding_by_Categry_Template_deid"

Minutes
NTCA survey committee met yesterday afternoon to review the draft funding survey. The revisions made by the survey committee were discussed at today's meeting.

- Addition of "Affiliated Pacific Islands" in the "dear colleague" letter that will be sent out with the survey- The rationale for adding U.S. affiliated pacific islands is for completeness. However, during the call, Donna Wegner suggested not including the "affiliated pacific islands" because the Affiliated Pacific Islands are not included in the same cooperative agreement as the 68 State or City programs. This has been addressed in v11 of the survey.
- De-identifying data that will be shared with FFWG- The identifying information is contained in question #1. Peter inquired if the workgroup would be okay with not receiving the response to question #1. Jon responded to Peter's inquiry by stating that it was important to know the program providing the information so as to better understand program-specific needs. Jo and Steve agreed, emphasizing that the program source is not sensitive information. Peter will explain to Michelle Macaraig that the FFWG wants to receive the name of the program with each response. This has been reflected in v11 of the survey.
- Explanation to question #2a (Centralized) will be modified by replacing "State" with "Your program". The example of New York State (NYS) and New York City (NYC) was helpful in this discussion, as NYC is centralized but NYS is de-centralized.
- Survey questions 4 and 6 on budget for laboratory will be amended to include an explanation that "Laboratory" includes diagnostic and monitoring tests.
- The survey logic in question 7 will be amended to include an option for 7c to jump to question 8. Survey logic for other responses to question 7 will remain unchanged.

- **TO DO:** Survey committee asked for clarification of question 8e and f, to differentiate between live DOT vs recorded DOT. FFWG needs consensus whether to address this, or to leave as written. Peter believes the FFWG's intent was for distinction between DOT performed in-person vs electronic (including live video or recorded video). Might it help to add a brief explanation to this effect to 8f?
- **TO DO:** RE question 11, survey committee asked (where it allowed) if the use of TB CoAg funds to purchase TB meds would run contrary to 340B Program requirements. Is one of our FFWG members sufficiently versed in 340B policy to answer this? Or can we respond that this issue should be deferred for a later point, and the question should be included as written?

Other Comments/Suggestions

- Donna Wegner brought up the issue of burden cases, and how it should be incorporated in future formulas. The resolution was to defer burden cases until the FFWG begins modelling new formulae for 2020.
- Adam Langer suggested adding a qualitative question to the survey that asks about what factor disproportionately affects programs. Responses to this open-ended question will provide valuable information on challenges experienced by the programs that the workgroup is not aware of. Everyone was in support of this addition. This has been added as question 15.
- Peter will revise survey to reflect all that was discussed and distribute to workgroup for review.

Plan for Survey Distribution

- Final survey will be built into online tool, then pilot-tested.
- The goal is to launch survey by end of October.
- After launching, there will be a 2-week window to gather data. The date survey is due will be two weeks from the launching date, and this will be inserted into the "dear colleague" letter.

Next Meeting

- October 6th 2016 at 1:30pm EST

Date- Thursday, 11/17/2016

Time 1:30 pm-2:20 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Flood, Jenny
Hughes, Stephen
Nwana, Nwabunie
Lacassagne, Michael
Warkentin, Jon
Retzl, Camy
Pritschet, Dee
Wegener, Donna
Cleveland, Angela

Attachment(s)- MS Excel Spreadsheet "2010-2015_CoAg-Funding-by-Category_Glen_no usapi_deid.xlsx".

Minutes

1. Quick update on status of funding survey with NTCA Survey Committee
    - Survey is in final stages of testing with NTCA survey committee. It has been built in survey tool and should be deployed in about two weeks.
    - Goal is to launch survey by the 1st week after thanksgiving; Survey will be open during the last days in November and close right before the December holiday season.
    - Not sure if the results will be available to FFWG before our 12/15 meeting.
    - Discussion on how to analyze data will take place in the near future.

2. Discussion of spreadsheet CoAg funding by category. Identify if any additional items are needed to make this useful for evaluation of current funding formula
    - Spreadsheet attached for call was provided by Glen Christie, Deputy Branch Chief of Field Services Branch, Division of Tuberculosis Elimination, Centers for Disease Control and Prevention (CDC).
    - Version of spreadsheet distributed is de-identified. Identity of programs may be shared later. Also, Pacific Island programs was removed from the spreadsheet.
    - Peter Davidson will provide correct number of reported cases in 2010, 2011, and 2012 columns before next call.
    - Jon Warkentin proposed and shared via email a new design of the CoAg funding worksheet. Below is the summary of the points discussed on today's call.
        - New design proposed is to add a few more columns for each of the five years (see layout below). Each year's data will then be propagated on a separate spreadsheet/tab.

Program ID	2010								
	P&C		HRD		Lab		Total Award		Total Cases - 2010
	$	(% of Award)	$	(% of Award)	$	(% of Award)	$	(% of Award)	
1								(100.0)	
2								(100.0)	
3								(100.0)	
4								(100.0)	
5								(100.0)	
Etc.								(100.0)	
Etc.								(100.0)	

- A new tab would then contain the summary data, similar to column G below.

A	B		C		D		E		F		G	
Program ID	2010		2011		2012		2013		2014		% Change 2010 to 2014	
	Total Award ($)	Total Cases (#)	Total Award ($)	Total Cases (#)	Total Award ($)	Total Cases (#)	Total Award ($)	Total Cases (#)	Total Award ($)	Total Cases (#)	COAG Funding	Total Cases
1												
2												
3												
Etc.												

- Adapting the worksheet to this new design can be handled by the workgroup. Peter will work with Jon Warkentin and Michael Lassagne to carry out the task of changing the design of the workbook to that proposed by Jon.
- Angela Cleveland inquired if the "% of award" column would reflect the proportion each component comprised of the recipient's total award, and reminded the group that the laboratory portion of the CoAg is based on a different formula than the Prevention & Control and HRD components. Jon Warkentin and Peter Davidson confirmed that the proportions will reflect the respective contributions of each component to the recipient's total award amount.
- Significant shifts and changes by year will be incorporated into the second table John referenced above.
- Peter Davidson will inquire if 2015 funding was 100% formula based as this information will be vital to the planned comparative analyses activity to take place.

- Terry Chorba recommended that analyzing funding changes from years prior to 2013 was not necessary since funding formula took into effect in 2013. However, Peter Davidson countered the recommendation by mentioning that performing a comparison of pre- and post- formula funding would enable workgroup to better evaluate the impacts of formula-based funding.
- Steve Hughes indicated that the version of the spreadsheet distributed contains inaccurate case # and dollar amount for his jurisdiction. Peter Davidson is working with Jon Warkentin, Steve Hughes, Michael Lacassagne and Dee Pritschet to verify that budget amounts are correct.
- Glen Christie, Angela Starks, and Rickenya will iron out discrepancies with the spreadsheet by Monday, December 21st 2016.
- December 29th, 2016 call is cancelled due to the holidays.
- Next Call will take place at 1:30pm EST on Thursday, December 1st 2016.

Date- Thursday, 01/26/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Hughes, Stephen
Nwana, Nwabunie
Warkentin, Jon
Pritschet, Dee
Wegener, Donna
Young, Kai
Griffin, Phil
Miner, Mark
Warkentin, Jon
Langer, Adam
Burzynski, Joseph
Candido, Janette

Attachment(s)- Word "FFWG survey report 11917", Excel "Copy of NTCA survey clean 12317, and Excel "2010-2015 coag-funding-by-category_updated 1.23.16 fixed."

Minutes

1. Introduce Kai Young, who is taking Angela Cleveland's place in the FFWG. Angela has left DTBE for a new role.

2. Update timeline request from ACET: share draft of 2020 formula during December, 2017 ACET in-person meeting; receive ACET feedback from April, 2018 ACET meeting.
    a. During the December 2016 ACET meeting, Peter Davidson presented brief update on FFWG progress. Barbara Cole, chair of ACET, asked that a current draft of the 2020 funding formula be presented at the December, 2017 ACET meeting. ACET would provide final feedback to the FFWG after the April, 2018 ACET meeting. Peter agreed to Barbara's request. It is anticipated that feedback from ACET will be constructive. Donna Wegener inquired if the time period between April 2018 and summer will be enough for the workgroup to respond to requests from ACET. Peter responded that ACET's receipt of the 2020 formula is largely for informational sharing, and unlikely to draw any real criticism. Phil Griffin also recommended giving a copy to the DTBE director's office prior to the December, 2017 ACET meeting, to allow time for suggestions from DTBE to be addressed.

3. Unveil results from NTCA Survey Committee (Word "FFWG survey report 11917" and Excel "Copy of NTCA survey clean 12317).
    a. Will need to initiate discussion of how FFWG wants to further analyze these data, and who will take on any such work.

b. Summary results from the survey are contained in the Word document "FFWG survey report 11917". Work group should review these results between now and the next call. Raw data of the survey results is included in the Excel document "Copy of NTCA survey clean 12317". The survey summary was done by a volunteer in the Epi group of the NTCA survey committee. Major question for WG to answer is the kind of analyses that should be conducted and who to conduct the analyses. Donna mentioned that NTCA survey committee can help out, but will be limited in the scope and depth of work they can take on. Donna also reminded the FFWG that data should be used strictly for the purpose of informing the 2020 funding formula.
c. Summary of Peter's cursory look at the results compiled by the survey committee is as follows-
    - There is an equal distribution of programs (centralized, de-centralized and hybrid)
    - Q3-6 showed that about the same proportion of programs reported >80% of their P&C and HRD budgets coming from the TB CoAg in 2010 and in 2015. However, it appears that most programs experienced a reduction in dependence on TB CoAg funding for their laboratory budgets.
    - Fig 1 and 2 should be replotted to show proportions of funding by year.
    - In Fig 4, the very low proportion of programs supporting targeted testing is very concerning.
    - Terry commented that there is a tremendous amount of information in the data. Work group is given till next call on Feb 9th 2017 to review the results.

4. Share revised/updated funding tables (Excel "2010-2015 coag-funding….")
    a. Hopefully these tables provide the granularity that was requested during the fall FFWG meetings.
    b. The "2010-2015 coag-funding…." Excel sheet has been revised by Jon Warkentin and Michael Lacassagne. Each year is separated by sheet tab, and shows the proportion of award by P&C, HRD and Lab. It also shows the total award, total case and proportion of total cases. The last tab highlights the percent change from 2010 to 2015, thereby showing the change over time. Phil mentioned the importance of looking at percent change specifically for program funding, i.e. excluding laboratory funding. Peter will revise columns to accommodate this suggestion from Phil. Joe Burzynski inquired if the funding was adjusted for inflation. The response was no, but Janette Candido will follow up with Peter on an excel feature that can help account for the inflation. Other questions that were presented are as follows-
        - Is the range of funding per case acceptable?
        - Is it advisable to shift the range of funding, thereby bringing the "ends" (minimum and maximum) closer together?
        - Comparing funding per case from 2015 to 2010, was there increase or decrease of funding per case?
        - Does survey data help to show impacts of changes in funding?
        - Peter reasserted that the ultimate goal is to develop a new formula that includes appropriate variables and metrics, and that the weight for each variable is acceptable.

5. Next call- Thursday, February 9th at 1:30pm EST
    - Plan to round up review of survey results
    - Peter will revise "2010 to 2015 changes" tab in "2010-2015 coag-funding…." Excel spreadsheet to show pre and post columns to allow easy comparison of 2010 to 2015 years for program funding.

Date- Thursday, 02/09/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Nwana, Nwabunie
Warkentin, Jon
Pritschet, Dee
Lacassagne, Michael
Wegener, Donna
Young, Kai
Burzynski, Joseph
Candido, Janette
Kolasa, Maureen
Starks, Angela
Retzl, Camy
Spieldenner, Sue (Representing Jenny Flood)

Attachment(s)- Excel "2010-2015_CoAg-Funding-by-Category_ Updated 012617 (BN with JW format 02-08-2017)."

Minutes

1. Present updated funding tables. These still do not account for inflation adjustment.

Jon Warkentin added a tab to the excel spreadsheet that provided a comparison of the P&C funding changes only from 2010 to 2015, and impact on the average programmatic funding per case. Cursory look at that tab showed that P&C funding change from 2010 to 2015 across programs fluctuated. A consensus was finally reached that the best way to evaluate the funding changes was to remove programs that received "floor funding" of approximately $100,000.00. The questions then arose, what was the original purpose of the funding tables, and how the funding tables would guide critical thinking on components of the new funding formula. It was suggested to consider additional performance measures such as completion of treatment, culture conversion, and LTBI testing and treatment.

2. Continue reviewing the NTCA survey results document.

The objective of the survey was to understand the programmatic effects of the funding formula, how the proportions of funding that programs receive from the TB CoAg and other sources changed over time, and assess how programs prioritize specific core activities. Question 12 of the survey was reviewed in this meeting. Question 12's objective was to assess how programs prioritize core activities in the context of hypothetical budget limitations. The group agreed that the core activities in question 8, 9, and 12 should be compared and associated with indicators in the existing funding formula. Each FFWG member should finish reviewing the survey results

and make their own comparisons and associations between the core activities and current formula indicators, and we will discuss on the 2/23/2017 call.

Date- Thursday, 02/23/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Nwana, Nwabunie
Pritschet, Dee
Spieldenner, Sue (Representing Jenny Flood)
Young, Kai
Langer, Adam
Miner, Mark
Griffin, Phil
Hughes, Steve
Kolasa, Maureen
Wegener, Donna
McMullen, Stuart

Attachment(s)- Excel "Funding P and C allocations 20170222" and Excel "Core Activities vs Funding Formula"

Minutes

1. Review of Excel "Funding P and C allocations 20170222"- Kai Young

Kai presented a stratification of the current funding formula weights by TB case management (TB control), and by contact investigation and immigrants/refugee evaluation (TB prevention). Elements in the TB Control component totaled 80% of the total formula allocation and included: incident cases, US born minorities and foreign born, HIV co-infection, substance abuse, homelessness, MDR cases, completion of therapy, and drug susceptibility testing. Elements in the TB Prevention component totaled 20% of the total formula allocation and included: smear-positive pulmonary, substance abuse, homelessness, and EDN Class B arrivals. The current weights of substance abuse and homelessness were split event between the Control and Prevention components. The purpose of the stratification was to understand how current funding weights correspond to surveillance and program evaluation data (e.g. ARPE and EDN). Phil Griffin expressed concerns that data from ARPE has long been felt by programs to be an inadequate description of full contact investigation activities, and that EDN data is only partially reported by programs as data reporting is not required. Phil reminded the workgroup that any formula metric must be uniformly reported across all programs. Deliberations were made about the inherent bias in some of the weight allocations given funding amount. However, Kai concluded that the goal is to find right formula to allocate current funds.

2. Review of Excel "Core Activities vs Funding Formula"- Peter Davidson

Peter presented a simple mapping of core program activities from survey question 8 to current formula indicators and potential new formula indicators. This highlighted that many of the core

activities do not currently have corresponding funding metrics, and that discreet surveillance or evaluation data is not presently collected on many core activities. Moreover, it would be impossible to change data collection in time to feed into the 2020 formula. Phil Griffin remarked that this workgroup was hitting the same wall that previous funding groups had, in that the desire to expand or refine the formula was unsupportable with available data. While the consideration of additional variables or metrics was very important in the context of optimizing data collection to accurately describe program operations and costs, this approach was not helpful in updating the current funding formula due to constraints of available data. Phil encourage Peter and Terry to regroup and make sure that the focus of the FFWG remains on revising the formula for 2020 using available data, rather than diverging into discussions of improved or expanded data collection.

Terry and Peter discussed these concerns offline and make several proposals in response. They ask all FFWG members to consider these proposals and discuss them on the next call.

1) Three principles should guide future FFWG discussions and efforts.
    a) The funding formula should be equitable. The primary purpose of the funding formula is to distribute available funds in a fiscally equitable manner. Funding should flow to areas of need, as demonstrated by available data. Moreover, the funding formula is meant to provide funds to supplement state and local investments, not a full package of funding. As such, the formula cannot address all the needs of programs. The principle of equitability should govern which metrics are used in the formula, and the weights attached to those metrics.
    b) All formula metrics must be uniformly reported by all CoAg recipients, and available for at least the past three years.
    c) When considering inclusion of additional metrics for which data is available, the FFWG should assure that the new metric would make the formula more equitable, or more reflective or core programmatic values.
2) The current formula stratification of 80% dedicated to burden and 20% dedicated to performance seems reasonable. This stratification should be maintained, unless a different stratification would improve formula equitability.
3) Consider the inclusion of two additional performance indicators: number of contacts to smear-positive patients who begin treatment, and number of contacts to smear-positive patients who complete treatment. Peter and Terry feel these meet the criteria of the three principles, but would like FFWG feedback on next call.

Next FFWG call: March 9, 2017 at 1:30 pm eastern.

Date- Thursday, 03/09/2017
Time 1:30 pm-2:30 pm EST
Attendees
Davidson, Peter
Chorba, Terrence
Nwana, Nwabunie
Pritschet, Dee
Spieldenner, Sue (Representing Jenny Flood)
Young, Kai
Langer, Adam
Miner, Mark
Griffin, Phil
Hughes, Steve
Candido, Janette

Attachment(s)- None

Minutes
Discussion of proposals included from 2/23/2017 meeting minutes.

4) Three principles should guide future FFWG discussions and efforts.
    a) The funding formula should be equitable. The primary purpose of the funding formula is to distribute available funds in a fiscally equitable manner. Funding should flow to areas of need, as demonstrated by available data. Moreover, the funding formula is meant to provide funds to supplement state and local investments, not a full package of funding. As such, the formula cannot address all the needs of programs. The principle of equitability should govern which metrics are used in the formula, and the weights attached to those metrics.
    b) All formula metrics must be uniformly reported by all CoAg recipients, and available for at least the past three years.
    c) When considering inclusion of additional metrics for which data is available, the FFWG should assure that the new metric would make the formula more equitable, or more reflective or core programmatic values.

Call participants generally agreed with this proposal, but Phil Griffin suggested with the caveat that there is a commitment to maintaining the floor safety net funding. All FFWG members agreed.

5) The current formula stratification of 80% dedicated to burden and 20% dedicated to performance seems reasonable. This stratification should be maintained, unless a different stratification would improve formula equitability.

Phil Griffin suggested that since national performance on the current performance indicators has remained level during the past five to six years, there is little or no value of retaining the current performance indicators in the formula. Peter agreed the current indicators do not appear to have changed performance nationally, but maintained that completion of treatment is a core function for TB control and programs. Even if performance per se has not changed, there is value in keeping completion of treatment in the formula to legitimize its significance as an activity. In

addition, Peter reminded the group that this is an opportunity to come up with other performance-based indicators, seguing into proposal #3 below. Janette Candido also confirmed the importance of performance indicator in providing justification for funding.

6) Consider the inclusion of two additional performance indicators: number of contacts to smear-positive patients who begin treatment, and number of contacts to smear-positive patients who complete treatment.

Peter asked the group to consider these as additional performance indicators. Phil mentioned several inherent flaws with using these two additional performance indicators. One flaw is the unreliable nature of the data source- Aggregated Reports for Program Evaluation of contacts (ARPE). The second bias, he mentioned, is with the unit of measurement that is whether the indicator will be measuring the percentage of contacts or the number of contacts. He then further stated that numbers will be more advantageous to larger jurisdictions because it will show more burden on these programs, and thus more funding will be allocated to them. On the other hand, measuring using percentage will also result in skewed data that is more favorable for smaller jurisdictions. Terry responded that using numbers would be more equitable to allocate funding, as it would reflect need on a case basis.

Steve conveyed concerns with using contacts and completion of treatment as a performance indicator because TB controllers in decentralized jurisdictions like New York and Michigan, would have little influence, and performance of this indicator would depend on local resources. Peter acknowledged Steve's concern but concluded that there is still need to see actual numbers and what programs would get if these indicators were implemented. Even if larger jurisdictions get more funding, it would not be a bad situation as the objective of an equitable formula will still be met. Kai Young will take over task of modelling using national data, with a possible example being to allocate a 5% weight to all 4 performance indicators- completion of treatment, susceptibility testing, number of contacts starting treatment and number of contacts completing treatment.

Sue Spieldenner asked that since addressing LTBI is so crucial to eliminating TB, should we consider other elements of the contact investigation process? For example, is there value in considering performance indicators to address the entire spectrum of contact investigation and LTBI treatment, including # of contacts, # of evaluations, # diagnosed w/ LTBI, # started treatment, # completed treatment. Peter agreed that all were important, but they represented different sets of activities and the group would need to consider further the relative values and impacts of including them in the formula.

For the March 23 call, Peter charged the group to focus on the Incident Cases and US-born minority/foreign-born indicators, and consider how well they meet the principles of equitability, uniformity of reporting, and core programmatic value. If the discussion on these two indicators moves quickly, the group may consider other current indicators on the March 23 call.

Next FFWG call: March 23, 2017 at 1:30 pm eastern.

Date- Thursday, 03/23/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Nwana, Nwabunie
Pritschet, Dee
Spieldenner, Sue (Representing Jenny Flood)
Young, Kai
Langer, Adam
Miner, Mark
Griffin, Phil
Hughes, Steve
Lacassagne, Michael
Kolasa, Maureen
Wegener, Donna
Warkentin, Jon
Janette Candido

Attachment(s)- FY2016-Formula_Variable-Weight-Analysis FFWG 20170323, FFWG Contact LTBI 20170323

Minutes

1) Discussion of the Incident Cases and US-born minority/foreign-born (USM-FB) indicators, and consider how well they meet the principles of equitability, uniformity of reporting, and core programmatic value.

Peter gave an overview of the "FY2016-Formula_Variable-Weight-Analysis FFWG 20170323" spreadsheet, created by Stuart McMullen as an extension of 03/09/2017 FFWG conversation. Stuart wanted to model the relative impacts of the Incident and USM-FB indicators. Stuart experimented with three scenarios: providing only the Incidence indicator at 48% (shifting the 24% from USM-FB to Incidence); providing only the USM-FB indicator at 48% (shifting the 24% from Incidence to USM-FB); and providing only the Incidence indicator at 50% (shifting 24% from USM-FB and 2% from Smear-Positive both to Incidence). The third scenario provided the greatest reduction in spread between minimum and maximum funding in this category across the programs. Further discussion will be needed on the 4/6/2017 call to determine if these types of adjustments address equitability, uniformity of reporting and core programmatic value.

Later in the call, Sue Spieldenner asked about whether equal weighting between Incidence and USM-FB equitably addresses the difference in effort that foreign-born cases often require. Peter seconded the question, and asked if US born minority should be separated from foreign-born. Phil Griffin explained that the previous FFWG recognized regional differences in burden between US-born minority and foreign-born cases. Many southeastern states experienced higher

case burdens among US-born minority groups, while several coastal states experienced higher burdens among foreign-born. Due to these differences, the previous FFWG felt it was most appropriate to combine the two into a single indicator. These points will be revisited in the 4/6/2017 call.

2) Review Kai Young's model of including LTBI treatment initiation and LTBI treatment completion, as reported in the ARPE, in performance components of funding formula.

Kai Young gave us a run through of the excel spreadsheet "FFWG Contact LTBI 20170323." The performance component of the formula currently takes up 20% in percentage weights, which is equivalent to $13,385,019 of the total budget allocation of $67,825,096. The composition of the performance component of the current formula is distributed such that 15% ($10,038,764) is allocated to completion of treatment while 5% ($3,346, 255) is allocated to drug susceptibility testing. The average pay per case completed is $1343. The current formula was juxtaposed against three other options with contributing factors. Option 1 considered the addition of contacts to culture-positive (smear-positive and smear-negative) cases, who were diagnosed with LTBI. Four performance indicators (number of patients with active disease who completed treatment [COT], number of contacts diagnosed with LTBI who initiated latent tuberculosis infection [LTBI] treatment, number of contacts who initiated LTBI treatment that completed LTBI treatment, and number of patients with active disease and positive cultures, for whom drug susceptibility testing [DST] was performed) with dollar amount distribution of 5% for each indicator were modelled in option 1. Option 2 referenced LTBI treatment initiation and completion for all persons reported in the ARPE as diagnosed with LTBI (including the "Other" category), along with active disease COT and DST, and all weighted at 5%. Option 3 combined COT for active disease and all LTBI patients (contacts to culture-positive patients and "Other") into a single COT indicator weighted at 10%, and retained initiation of LTBI treatment and DST at 5% each. The dollar amount differences across each proposed option and the current formula were also calculated and presented.

Phil commented that Option 1 is most consistent with the current understand and use of the ARPE by programs. He also cautioned that reporting of LTBI in the "Other" category is not standardized or uniform, and Options 2 and 3 were therefore subject to great inconsistencies and biases across programs. Phil questioned if programs would be asked to retroactively gather data on the "Other" category of LTBI to garner funding. Peter agreed and added that it would be impractical to retroactively gather additional data for the purpose of determining funding. The FFWG group gave a unanimous vote to remove options 2 and 3 from further consideration. During this discussion, the group also realized that although the total national allocation for Performance indicators is 20%, individual grantees often do not receive exactly 20% of their award from the Performance indicators. This is due to variance in performance across programs, with some programs receiving more than 20% of their award in the Performance indicators and others receiving less than 20%. Terry Chorba, Kai Young and Sue Spieldenner clarified that this is what should happen and is equitable with respect to work performed by programs. Phil Griffin agreed in principle, but mentioned that this was not the way the distribution of performance-based funds were originally discussed in the 2012 FFWG. Also, several percentage and calculation errors were identified in Kai's spreadsheet. Kai has already reviewed and corrected

her spreadsheet, and sent it to the FFWG members. We will discuss the corrected version further on the next call.

Next FFWG call will be April 6th 2017 at 1:30pm EST. Major goals will be to continue discussion about addition of LTBI treatment initiation and completion as performance indicators, as well as Incident cases and USM-FB cases.

Date- Thursday, 04/06/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terrence
Nwana, Nwabunie
Spieldenner, Sue
Young, Kai
Hughes, Steve
Lacassagne, Michael
Kolasa, Maureen
Wegener, Donna
Candido, Janette
McMullen, Stuart

Attachment(s)- FFWG Contact LTBI 20170324

Minutes

1) Continuation of Kai Young's model of including LTBI treatment initiation and LTBI treatment completion, as reported in the ARPE, in performance components of funding formula.

Kai informed call participants that the threshold amount of $900,000, which is the baseline amount provided to nine "threshold" programs, is not included in the overall US TB budget amount. The funding formula weight distribution of 80% needs component and 20% performance component is only reflected accurately for the total US TB budget less the threshold amount of $900,000. The proportion of funding that each program receives for the needs and performance components varies, and does not always comport exactly to 80% needs and 20% performance at the individual program level. The percentage of a program's total funding amount coming from performance component can be greater or less than 20% depending on the contributions of other variables like MDR, Homelessness, FB etc.

Terry Chorba shared his recent conversation with Phil Lobue, Director of Division of Tuberculosis Elimination, on the consideration of LTBI initiation and completion as new performance indicators. Dr. LoBue recommended against the inclusion of LTBI treatment initiation as a performance indicator, but agreed with the inclusion of LTBI treatment completion. Dr. LoBue's logic was that starting LTBI treatment in and of itself is not beneficial to the patient or to public health generally; rather it is the completion of LTBI treatment that should be recognized in the funding formula. The FFWG agreed to include only LTBI treatment completion in the performance components, such that 10% is allocated to COT, 5% to DST and 5% to LTBI completed. Stuart also reminded the group that since the cooperative agreement language puts identification and treatment of contacts on the same level as identification and treatment of cases, both scenarios should be considered. Kai Young will send the revised table showing performance weighs distribution of 10% COT, 5% DST, and 5% LTBI completed.

2) Discussion toward Incidence & USM-FB to solidify if we all agree these metrics satisfy the 3 principles and also discuss if the weights are appropriate- Peter Davidson
    a) For USM-FB, revisit the issue of whether the group feels they should remain together or be separated. If separated, we'll need to figure out how to weight each individually.

Stuart mentioned that it may be unnecessarily compounding to the work of programs if USM and FB indicators are separated, especially in programs with stable patient population, for example, LA treats mostly FB.

Kai suggested refining this topic into two related questions. First, Do USM or FB cases actually cost more than non-minority US-born cases? The FFWG is unlikely to have data on this or be able to address it at present (see prior meeting minutes regarding uncertainty or unavailability of cost data). Second, were there changes in demographics among programs in prior years? If there were not many changes in demographics between or within programs, then the costs associated with USM or FB cases also may not have changed much. Conversely, if there were larger changes in demographics (i.e. the numbers of USM or FB between or within programs changed markedly), those changes may well translate to changes in cost at the program level.
Peter asked if the group preferred evaluating changes in demographics by proportion of patients or by number of patients. Peter preferred evaluating by numbers, as it serves equitability better. Kai Young will look at change numbers of USM and FB patients over time, and report to group with results.

Stuart asked even if burdens of USM or FB did change, do those cases really cost double compared to non-minority US-born cases? The current formula gives 24% to all incident cases, plus another 24% to USM and FB cases, essentially doubling funding upon those cases. Peter suggested that if USM and FB cases are recognized for extra funding, burden cases should also be considered for inclusion in the formula. Burden cases are cases that are counted more than once during treatment as a result of a patient moving from one state or reporting are to another. For example, a patient diagnosed in Michigan will be reported as a case by Michigan, but if they move to Ohio during treatment, Ohio can also report them as a burden case. This is especially impactful for MDR cases that move during treatment, wherein the reporting jurisdiction gets all funding for the MDR case but the receiving jurisdiction gets none.

Terry asked if there are disparities in the number of burden cases nationwide, and whether the relative impacts of burden cases might be neutral at the national level. Peter responded that we cannot be sure, since we haven't looked at the data. We know anecdotally that some programs claim disproportionately large numbers of burden cases compared to their neighbors. Kai Young will inquire from surveillance team on the number and characteristics of confirmed burden cases. Peter clarified that for purposes of this discussion, burden cases referred to verified cases that received treatment in a reporting area other than where they were originally reported as an incident case. This discussion did not include suspect or rule-out cases.

Next call will be held Thursday, May 4th 2017; Peter, will not be available to lead this call but Terry Chorba will lead the call. The April 20th call is cancelled due to NTCA conference.

Date- Thursday, 05/04/2017

Time 1:30 pm-2:30 pm EST

Attendees
Chorba, Terry
Nwana, Nwabunie
Spieldenner, Sue
Young, Kai
Hughes, Steve
Kolasa, Maureen
Wegener, Donna
Candido, Janette
McMullen, Stuart
Pritschet, Dee
Miner, Mark
Kolasa, Maureen
Langer, Adam
Burzynski, Joe
Warkentin, Jon

Attachment(s)- Excel file-"FFWG Contact LTBI 20170410", Excel file-"US-born minority foreign-born 1993 - 2016 ky 20170501 share expanded"

Minutes
Prologue- Terry talked with Peter and discussed professional issues in preparation for the call.

1) Discussion of LTBI treatment completion as a performance indicator.

CC: Excel file-"FFWG Contact LTBI 20170410"

Kai Young previously sent the revised table showing performance weights distribution of 10% COT, 5% DST, and 5% LTBI completed.

Goal of today's meeting is to reach a resolution on potentially including completion of LTBI treatment (COT LTBI) among contacts of persons with culture positive TB from ARPEs data as a performance indicator. The consideration of including the variable of LTBI completed is to recognize importance of this activity and to show justification that programs should engage in this activity. Plan is to present to Dr LoBue the preliminary picture of the distribution of variables in the new formula by summer. Also, the summer deadline is important so that ACET can review and pass judgment at their December meeting. FFWG meetings will be regularly scheduled through September on a bi-weekly basis to tackle revisions to the current formula. Dee Pritschet inquired about the COT LTBI based on number or percentage of cases. Terry responded by confirming that the COT LTBI variable will be based on number so as to allow allocating funds to where the problem really is. The whole formula is case-based on absolute number. Stuart McMullen commented that he likes the COT LTBI variable because it is based on smear positive cases, and thus encourages contact investigation and COT LTBI.

Questions inquiring about the nature of the cases to whom the contacts were exposed came up from Kai Young and Bunie Nwana. Terry Chorba clarified that cases refer to culture positives that are either smear negative or smear positive. All cases are pulmonary cases. Kai Young will check to make sure calculations in spreadsheet included contacts to culture-positive smear-negative cases or to culture-positive smear-positive cases. She will revise accordingly and send to the working group.

2) Introduction of discussion of "US-born minority / foreign born" as a case-based indicator.

CC: Excel file-"US-born minority foreign-born 1993 - 2016 ky 20170501 share expanded"

Kai Young walked us through the spreadsheet shared the day prior to the call. The spreadsheet contains incidence level for US-born minority (USBM) and foreign born (FB) TB cases from years 1993-2016. The spreadsheet is sorted based on the 3-year (2014-2016) incidence average so we can easily review the data by high, medium and low incidence areas. The case counts (raw data) are hidden in the spreadsheet and can be viewed by expanding the columns. (Note: Puerto Rico and U.S. Virgin Islands were left out on this spreadsheet). USBM has steadily increased from 1993 to 2016, with high incidence areas in the 90th percentile. Kai recounted that the reason for reviewing USBM and FB cases is to see if change over the years has been drastic, thereby indicating a changing population. Review of the spreadsheet indicates that the change has been steady. This change would not have been noted if we simply looked at the numbers, and not proportions, as the number of total cases are decreasing while this group is increasing. Most, if not all, of high incidence programs are mainly serving USB minority and FB (85% and above, mostly in 90%+ - noted in Green). In contrast, medium incidence programs have an increasing proportion of patients who are USB minority/FB, but the proportion is around 70-80% range (noted in Red). This funding formula element favors high incidence programs because it reflects the majority of population served in the high incidence programs. From the last call, we noted that it only makes sense to base funding on this element if this element reflects a new population served by a program where program would require a kick-start funding to address culture or language issue that they did not have the capacity to address before. From the spreadsheet, there were no programs with a sudden increase in this population, so there will be no need for kick-start funding. Even if there are a few high incidence programs with a need in this area, the funding gets diluted because they all go towards high-incidence programs that have well established infrastructure.

The current formula allocates 24% to incident TB cases and 24% to USB-Minority and FB cases. Stuart McMullen mentioned that even though there are cultural and language barriers to addressing this population, there is no requirement for double resources to manage USBM and FB populations. Consequently, a proposal to modify allocation of funds to 4% USBM and 4% FB. The excess 16% from the current allocation formula can then be added to the incidence level to make 40%. Kai Young will run numbers to see how that funding allocation would look.
Kai Young asked if the floor funding can be applied to all programs regardless of their incidence level status as an initial approach when then constructing the percent-allocations of the funding formula. Terry answered that this is a novel idea that can be considered in a future call.
Next call will be May 18th at 1:30pm EST.

Date- Thursday, 05/18/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terry
Nwana, Nwabunie
Spieldenner, Sue
Young, Kai
Hughes, Steve
Kolasa, Maureen
Wegener, Donna
Candido, Janette
Lacassagne, Mike
McMullen, Stuart
Pritschet, Dee
Miner, Mark
Hughes, Steve
Retzl, Camy
Griffin, Phil

Attachment(s)- Excel file-"FFWG FB USBM 20170511 Share", Excel file-"FFWG Contact LTBI 20170511 Share"

Minutes
Main agenda of today's meeting was to focus on the following two items-

1. Recap discussion of Kai's proposal to give "floor funding" to all CoAg recipients, rather than just the lowest-burden.
2. Begin discussion of Smear-positive pulmonary and MDR indicators. I somewhat arbitrarily grouped these together as related to clinical complexity and/or population impact.

However, the meeting theme deviated from the above items, and discussed reducing the proportion of funding allocated to USB minority, and then redistributing the surplus gained from this reduction to the incident cases balance. The new proposal is to allocate 4% each to USB-M and FB cases, and if both types of cases are conglomerated, a total of 8% will be allocated. FFWG needs to reach a consensus on if USB-M and FB should be kept separate or aggregated.

Kai Young reminded the group that the excel sheet sent out treats the two items as separates (4% allocated to USB-M and 4% allocated to FB). Terry supports conglomerating the two items and illustrated with an example- Alaska patients will be mostly native born, and MS population will be USB-M; sites may only have one or the other group, and so better to conglomerate the two items. Peter indicated that either way the items are presented (separated or aggregated) should work so long as it is clear that the total allocation of 8% represents the two groups.

Terry reminded FFWG that the FF is intended for fairness and equity, in order that money be put where the problem is. Any change to the formula made will result in some redistribution of funds, and we have to be concerned here with the big picture impact of these federal dollars. The intent is to maximize utility; on the issue of FB and USB-M, it has been noted that these cases are currently ascribed percents that result in funding that is disproportionate to the amount of funding that goes into other cases, given the level of effort. We have to be honest and objective in the construction of the formula; that is our task as a workgroup.

A cursory look at the excel sheet "FFWG FB USBM 20170511 Share" shows trends in the redistribution of funds from areas that receive funding more than 1 million dollars to areas that receive less. In general, programs funded at over $1 million tended to lose funding through the proposed change to 4% USM and 4% FB, while programs funded between $500,000 and $999,999 tended to gain funding. Programs funded less than $500,000 also gained, but a lesser amount.

Phil presented a thought-provoking perspective about the trend noticed. He asked the overall increase in proportion of USM and FB cases was due more to a decrease in overall numbers of cases, or to actual changes in the USM and FB populations. Kai responded that based on the data in "FFWG FB USBM 20170511 Share", it appears that both factors contributed. We know the total number of cases has decreased, however it appears that the numbers of USM and FB cases have also changed over time.

Peter responded that in order to provide an answer, there would be need to know what certain cases cost. It would be best to numbers of USB-M and FB separately to see if and how the numbers are changing. Kai will present new table by the next meeting so that we can decide if it is more equitable to redistribute funding from USBM and FB to incidence cases.

Plan for next call is to discuss the new table showing separation of USM and FB data and try to decide if the proposal for 4% USM, 4% FB, 40% Incidence still makes sense. We also hope to begin discussing the formula weights for smear positive and MDR cases. Also, Peter proposed going line by line on current formula to determine if each variable is equitable the way they are or if they should be given a different weight and then have a discussion on each variable. Next call will take place June 1st, 2017 at 1:30pm EST.

NB- Based on discussion from last call on the LTBI completion variable, Kai Young has revised spreadsheet to include contacts to culture-positive smear-negative cases or to culture-positive smear-positive cases.

Date- Thursday, 06/01/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Chorba, Terry
Nwana, Nwabunie
Spieldenner, Sue
Young, Kai
Hughes, Steve
Kolasa, Maureen
Wegener, Donna
McMullen, Stuart
Pritschet, Dee
Miner, Mark
Warkentin, Jon
Burzynski, Joseph

Attachment(s)- Excel file-"FFWG FB USBM 20170601 Share", Excel file-"FFWG FB USBM 20170526 Share"

Minutes

1. Discussion of funding for USM and FB.

Discussion on allocating 4% each to USB-M and FB cases was revisited. This proposal would result in adding the remaining 16% to the incidence variable, for a total 40% for incidence. See updated version of Funding Formula showing all proposed changes to date, at the end of these minutes. Peter Davidson asked if it is logical to allocate 4% each to USB-M and FB as separate indicators, while allocating the rest to incidence. Kai recommended combining the funding allocation for USB-M and FB cases, to make a total of 8% allocated funds. Terry seconded the recommendation with the argument that this approach levels out cases especially if there is a preponderance of one type of case. Terry suggested the group consider whether the average USB-M and FB case costs more than 1.2X of USB non-minority TB cases. If yes, total should be more than 8% but if no, then it is hard to justify why it should be more than 8%. Jon Warkentin indicated that medical complexity often is the reason for added effort or cost to take care of a case, and emphasized that attaching undue proportion of funding to individual risk factors could make the formula unfair or unequitable.

Peter then suggested reviewing HIV and other factors that may increase medical complexity or require added effort, at the next meeting.

Peter also asked the group for a vote to accept giving 40% funding to Incident Cases, and 8% funding to a combined indicator for USB-minorities and FB cases. The group approved and accepted this change.

Dee Pritschet asked whether these changes will effect funding allocation for low incidence programs that receive threshold funding (i.e. fixed amount of $100,000). Kai responded that it would not, because none of the elements being used to estimate the "needs" portion of the funding formula apply to low incidence programs. Kai then asked whether it would make sense to give all programs some threshold amount, and have the remaining amount of funding allocated to all programs based on the funding formula. Peter advised that the workgroup defer this question until all formula elements have been reviewed and decided upon.

2. Discussion of funding for smear positive pulmonary and MDR.

Current weights allocated to MDR-TB and smear positive cases are as follows-
Smear positive- 12%
MDR-TB Cases- 4%
HIV cases – 4%

Peter questioned whether the current formula weights for smear-positive and MDR are equitable. Discussion quickly focused on the question of whether the MDR indicator should be recognized as "compensation" (i.e. for extraordinary cost or effort), or as "burden" (recognizing the importance of MDR cases, but not attempting to provide funding as compensation for their cost). The workgroup generally agreed it's unfeasible to regard the MDR line in formula as compensation, because there isn't enough money available to adequately reimburse costs.

Sue Spieldenner questioned the equitability of having equal proportions of funding to MDR and HIV co-infected cases. There are far more HIV-positive cases than MDR, and in total they may cost more than the MDR cases. Peter asked whether other health conditions should be added to account for the complexity of a cases. Alternately, might it be productive to come up with an indicator that addresses complexity more broadly, rather than attempting to enumerate and fund multiple individual factors? For example, an aggregate indicator that might include MDR, HIV, diabetes, etc. Stuart McMullen reminded the group that MDR costs continue for more than one year. Using three-year cohorts of data helps to account for this, but given the long-term investment that is required for MDR cases, we should consider keeping MDR as a separate indicator.

3. Summary of proposed and accepted changes to funding formula as of June 1, 2017.

*Incident cases: 40%
*US-born minority/Foreign-born: 8%
Smear-positive pulmonary: 12%
HIV co-infected: 4%
Substance abuse: 4%
Homeless: 4%
Class B: 4%
MDR: 4%
*Completion of treatment (disease): 10%
*DST: 5%
*Completion of treatment (LTBI contacts to cult+ cases): 5%
* indicates change

Next Meeting is Thursday, 15th of June at 1:30pm EST.

Date- Thursday, 06/15/2017

Time 1:30 pm-2:30 pm EST

Attendees
Langer, Adam
McMullen, Stuart
Pritschet, Dee
Candido, Janette
Spieldenner, Sue
Davidson, Peter
Kolasa, Maureen
Warkentin, Jon
Nwana, Nwabunie
Young, Kai
Wegener, Donna

Attachment(s)

- Word document "FFWG Medical complexity list 20170614" – shows examples of currently-funded indicators of medical complexity and some proposed additional ones.
- Excel file "FFWG FB USBM 201700602" – shows revision of combining FB & USBM to total 8% of funding formula.
- Excel file "2017 P&C Overall Funding Distribution" – shows total amount of $ allocated under each indicator, and the $ per case for each indicator, for 2017 only. This is a non-year snapshot that is designed to go out with the 2017 co-ag funding announcement. There is a tab to generate spreadsheet that shows comparison of recipient with national level. Need for further discussion with Terry Chorba and Glen Christie on how to proceed with this in the future.

Minutes

1. Resume discussion of smear-positive pulmonary cases.

Current funding weight for smear positive cases is 12%. Peter asked if the group thought this was an appropriate amount. Peter also mentioned that smear positive case is a proxy for contact investigation, and asked whether the inclusion of LTBI completion of treatment (contacts to cult+) might reduce the need for a proxy in contact investigation activities. Jon Warkentin agreed with the funding weight, and emphasized that the labor for contact investigation is significant and crucial for public health and prevention. Jon also urged consideration of patients with co-morbidities since it is possible to double or triple count such patients, thereby skewing results unintentionally. Peter agreed with Jon's assertion, but asked the group to review smear positive cases in their own right. Jon then reiterated his desire to keep the12% weight. Sue Spieldenner also agreed to keep 12% funding for smear positive cases, and emphasized that the identification and evaluation of contacts are quite different activities than the completion of LTBI treatment. Therefore, the presence of both variables in the formula is reasonable. Dee Pritschet also agreed, especially since the number of positives from contact investigation is unknown. The group unanimously decided to keep funding for smear-positive pulmonary cases at 12%.

The group also agreed that in the final write-up and description of the new formula, we must clarify that smear-positive cases include lung, laryngeal and pleural sites of disease.

Jon Warkentin brought up contact investigation for class B immigrants, given that smear positive case is a proxy for contact investigation. Given the labor investment with this group, the current allocation at 4% is not adequate. Peter is aware of this issue, and promised to discuss this more later. Kai Young reminded the group that we have 12% of funding that was shifted from USB-M and FB to incidence cases; this excess amount could be re-allocated to Class B cases.

2. Resume discussion of MDR cases. What proportion of funding should be attached to this?

Brief rehashing of background points relating to the MDR metric in the formula. Treatment of MDR cases takes at least 18 months, so the costs to a program necessarily span multiple budget periods. The amount of money allocated per MDR case is substantially high (peaking at $29000 per case), and the amount of work is significant (Drug O grams, lab reports, etc). Also, finding contacts to MDR cases and following positives needs to be factored in to the consideration for amount of weight to be allocated to this variable. Jon expressed that the current funding of 4% for MDR cases seems fair, and asked how many programs diagnose or treat MDR cases each year. Kai responded that from 2011-2013, the average was 95 to 105 MDR cases per year, but only about 15 programs reported MDR per year during the same period. This means the burden of MDR is not uniformly distributed among programs, and some programs (e.g. New York City, Texas, California) are more likely to report or treat MDR cases than are other programs.

The issue of burden cases with MDR was also discussed. Since the treatment duration is more than a year long, there is increased likelihood of patients moving out of the reporting program during treatment. Kai explained that from 2011-2013, 32 MDR cases moved out of the U.S., while another 14 moved between states. Stuart McMullen proposed that MDR funding should be count-based for the cohort period, rather than averaged over the cohort. This would mean that a program reporting an MDR case would receive 'full' funding for that case for at least two years. This change would be in distinction to other metrics in the formula, which are averaged over the cohort period.

In light of this discussion, Jon proposed increasing the MDR funding to 5%, and aggregating other risk factors (e.g. HIV-positive, substance abuse, homelessness) into one metric. For the risk factors, a case reported with any of the listed factors would receive the indicated funding. Jon had to leave the call before his suggestion could be discussed further.

The group then circled back to the issue of burden MDR cases. Recognizing that ~14% of MDR cases appear to move between states during treatment, the group felt it appropriate to allocate funding to the reporting program as well as the program where treatment was completed (when MDR cases move between states during treatment). Peter questioned if the current time-periods of the cohorts make it impossible to fund MDR completion of treatment in a timely or equitable manner. Kai and Sue responded that the issue is not the timing of the cohorts, but that we need to add a metric for MDR completion of treatment. Kai and Sue went on to propose splitting the

MDR metric into two components: one for reporting MDR and initiating treatment, and the second for completing MDR treatment. Kai will do some research and report back to the group on strategies for reporting completion of treatment for MDR cases (e.g. improved utilization of burden case report and linking to incident case report for the same case).

3. Summary of proposed and accepted changes to funding formula as of June 15, 2017.

*Incident cases: 40%
*US-born minority/Foreign-born: 8%
Smear-positive pulmonary: 12%
*Risk & Comorbidity (HIV, substance abuse, homeless): 11%
Class B: 4%
*MDR incidence/initiation of treatment: 2.5%
*MDR completion of treatment: 2.5%
*Completion of treatment (disease, not MDR): 10%
*DST: 5%
*Completion of treatment (LTBI contacts to cult+ cases): 5%

* indicates change

NOTE: this is for summary and discussion purposes. Peter has taken the liberty of assigning a weight of 11% to the aggregated risk and comorbidity metric per Jon's suggestions. 11% was derived by totaling the previously-separate 4% for the three listed factors, minus 1% to accommodate the increase of MDR total from 4% to 5%.

Next Meeting is Thursday, 29th of June at 1:30pm EST. Discussion should start with a thorough review and consideration of the proposed changes to Risk & Comorbidity, and MDR metrics.

Date- Thursday, 06/29/2017

Time 1:30 pm-2:30 pm EST

Attendees
Miner, Mark
Nwana, Nwabunie
Langer, Adam
Chorba, Terrence
Pritschet, Dee
Hughes, Steve
Davidson, Peter
Candido, Janette
Spieldenner, Sue
Burzynski, Joe
Wegener, Donna
Young, Kai
Warkentin, Jon

Attachment(s)
- MS Word document "FFWG Meeting Minutes 06-15-2017_final"
- Adobe pdf "RVCT manual 36 37 MDR transfer"

Minutes
1. Seek full consensus on proposal to increase MDR funding line from 4% (current) to 5%. This was proposed but not fully ratified during the 6/15 call.

Peter inquired from group on thoughts about increasing the MDR funding from 4% to 5%. The workgroup concurred and reached consensus to increase MDR funding to 5%. Joe asked if there is a way to address culture-positive cases that are treated as MDR but lack DST results to confirm MDR. For example, incomplete drug susceptibility testing on culture-confirmed cases, or drug intolerance or drug-drug interactions which necessitate the use of second line drugs approximating an MDR regimen. Peter and Terry theorized that use of second-line drugs when DST results are absent or show pan-sensitive could be a proxy for Joe's question. These elements are captured in the RVCT and should be uniformly reported. The group did not reach any decision on Joe's question, and all parties agreed to revisit the question later.

2. Revisit proposal to split funding for MDR for cases that moved to another jurisdiction while on treatment. During the June 15 call, the workgroup explored the option to split the MDR funding into 2 related indicators:
    a. incidence/initiation of treatment, and
    b. completion of treatment.

This proposal was intended to address the movement of MDR patients from one CoAg-funded jurisdiction to another during treatment. The second indicator, completion of treatment, could be used to allocate funds to the program that received an MDR patient.

Does this improve equitability? How would such a change affect funding distribution?

From an analysis done by Kai and the Surveillance Team, an average of 100 cases of MDR are reported every year. Of these 100 cases, 15% moved during treatment: 10% moved out of the country, and 5% moved to another state.

Jon and Sue felt this was more trouble than worth, given the small number of MDR patients that moved between CoAg-funded jurisdictions in the US. Dee also expressed concern about the equitability of splitting funding equally between a CoAg-funded jurisdictions that report versus complete an MDR case, given the reality that patients may move at any point during treatment. It did not seem equitable to constrain funding to be split evenly between jurisdictions when most patients spend more time in one jurisdiction than another. In light of these concerns, the group reached consensus not to pursue or implement the proposal to split MDR funding. Rather, it will be retained as a single indicator and all funding will be allocated to the CoAg-funded jurisdiction that reports an MDR case.

Dee asked whether MDR funding affects any low-incidence programs. Kai explained that under the current funding formula, low-incidence programs receive threshold funding and are not affected by the MDR indicator. Currently, 4 of 9 low-incidence states that typically receive floor funding have reported MDR cases in the last 3 years. Two of these states have reported sufficient numbers of cases to exceed the threshold, so their funding is now based on formula indicators.

3. Revisit proposal to allocate MDR funding using count-based vs. average-based (current method). Peter asked to clarify what is meant by 'count-based', and how this is different from 'averaged'. How would this affect funding distribution?
    a. Average-based (current) = funding awarded based on the average number of MDR cases across a three-year cohort. For example, a program that reported one case of MDR in 2017 would receive funding for 1/3 of an MDR case during the years 2018, 2019 and 2020.
    b. Count-based (proposed) = funding based on the actual number of MDR cases reported in the previous year. For example, a program that reported one case of MDR in 2017 would receive full funding for that case in 2018, but no MDR funding in 2019 or 2020.

Kai explained that the monetary difference between the 2 methods (based on 2014-2016 data) would be an additional $68 per MDR case for the count-base method. This difference is most likely due to rounding of decimal points.

Sue mentioned that the real issue is in the timing of funding, rather than a difference of $68. Count-based funding would give all MDR funding in one year, whereas average-based funding would give smaller amounts of money over three years. Terry asked if this would result in programs receive MDR funding sooner, and Sue confirmed yes it would, but again all at once. Steve commented that he would prefer average-based funding over a three-year period, rather than count-based funding allocated all in one year. He explained that a lump sum funding is

chaotic, while funding spreading across a few years will be more stable and more helpful with program planning and budgeting. Everyone agreed. Consensus was reached to keep the current average-based funding over a three-year cohort to fund MDR cases.

4. Discuss proposal to aggregate risk factors and comorbidities into one indicator for funding. For example: HIV, substance abuse, homelessness would be combined into one category as opposed to each having its own line of 4%. Under this proposal, a case with one or multiple conditions would only be counted once, not multiple times for each characteristic. This was proposed but not fully ratified during the 6/15 call. Also, it was suggested that there may be other risk factors or comorbidities that could be considered for adding to this indicator/category. For example, diabetes has been mentioned several times in prior calls.

Jon expressed concern that current formula likely counts individual patients more than once (e.g. substance abuse and homelessness are often reported in same patients). Sue agreed that substance abuse and homelessness often co-occur in the same patient, but thought that HIV did not fit well with substance abuse and homelessness in an aggregated indicator. HIV is a medical risk factor, while substance abuse and homelessness are more sociologic risk factors. Jon mentioned alcohol abuse as an additional risk factor, and whether it was included in the broader term of substance abuse. Jon also suggested that the definition of medical risk factors should be based on item #34 on the RVCT form. Terry suggested the group consider two umbrella indicators: medical risk factors and sociologic risk factors. There was much discussion of which specific factors to include in either category, but this was not fully resolved on the call. Peter asked under what circumstances it was appropriate and acceptable to count patients twice for funding. For example, if a patient had factors that applied as both medical and sociologic, was it appropriate to count that patient twice for funding? Jon and Sue responded that we should model what aggregated medical risk factors and aggregated sociologic risk factors would look like.

The call was adjourned due to over-running our time, but Peter and Jon continued to brain-storm after others left the call. They identified the following risk factors for each category, based on group discussion:

Medical risk factors:

- HIV/AIDS
- Diabetes
- End stage renal disease
- Post-organ transplant
- Immunosuppression (not HIV/AIDS) (e.g. high-dose steroids, cancer before or during TB treatment)
- Hepatitis C (not currently in the RVCT)

Social risk factors:

- Injecting drug use
- Non-injecting drug use
- Alcohol abuse
- Homelessness

Peter and Jon asked Kai to prepare tables showing the numbers and percentages of patients with each of these risk factors reported from 2014 through 2016. This comparison should be helpful for the group to make a decision on this issue.

Next call will be July 13, 2017, at 1:30 pm Eastern. Agenda to include final decision on aggregating medical and social risk factors, and (if possible) beginning discussion of the Class B indicator.

Date- Thursday, 07/13/2017

Time 1:30 pm-2:30 pm EST

Attendees
Candido, Janette
Pritschet, Dee
Langer, Adam
Mcmullen, Stewart
Nwana, Nwabunie
Chorba, Terrence
Spieldenner, Sue
Young, Kai
Miner, Mark
Kolasa, Maureen
Burzynski, Joe

Attachment(s)
- MS Excel document "Med Soc Risk Factors ky 20170713"

Minutes
1. Discussion as to whether there are any concerns about the minutes and interpretation of the discussions for the last meeting, as set forth in the minutes-

No concerns were expressed from work group members.

2. Discussion as to what the medical and social risk factors are as identified in the last meeting and as set out by Peter and Jon in subsequent discussion that could be potentially included as variables from the RVCT. Current proposed list of medical risk factors could include: HIV/AIDS, Diabetes, End stage renal disease, Post-organ transplant, Immunosuppression (not HIV/AIDS) (e.g., high-dose steroids, cancer before or during TB treatment, TNF-a usage), and hepatitis C (not currently in the RVCT). Current proposed list of social risk factors could include: Injecting drug use, non-injecting drug use, alcohol abuse, and homelessness. There should be an attempt to reach resolution as to whether these should be individually enumerated with percentages of the funding formula, or lumped into two categories, or lumped into one category, to which a percentage of the funding formula would then be ascribed.

The proposed Social Risk Factors include 2 categories in the existing funding formula: Substance abuse (4%) and Homeless (4%).

From Kai and Surveillance Team's analysis, approximately 96-97% of TB patients reported to have been homeless within the last year also reported to have used one or more substances (i.e., injection drug, non-injection drug, and alcohol abuse).

The group agreed to group homeless and substance abuse into one category under Social Risk Factor.

Conditions that constitute medical risk factors were reviewed, and it was noted that Hepatitis C was not on the RVCT, but Hep. B or C is currently being proposed for collection in the RVCT revision. Many work group members is not sure about including TNF-alpha in the medical risk factors. Terry indicated that observations were made that TB and TNF alpha blockers tend to be smear negative, non-cavitary and on way to becoming culture negative. Such patients gain more medical attention, and should not necessarily be remunerated. Diabetes is also typically reported with TNF-alpha or organ transplant. Discussion on if TNF-alpha should be part of the medical risk group will be addressed next week after Terry dialogues with Peter.

During the conversation before the call, Peter lobbied that medical and social factors be lumped together; such that, if a patient had any of these factors, then the patient will get a certain percent more as a result of the difficulty in treating this patient. After in house deliberation, it was decided to split into two main risk groups- medical and social risk factors, whereby a percentage of the funding formula would be assigned to each group.

3. Discussion of B notifications as a funding formula variable and its advantages and disadvantages.

Disadvantages- the EDN data does not accurately reflect program burden, where patients ultimately settled after arriving in the U.S. Terry and Kai discussed an email from MN illustrating the issue.

In addition, EDN activity for class B is not uniformly reported given that it is optional and not all states work on it (especially in the low incidence states).

The group agreed follow-up of Class B constitutes an important part of the TB control and prevention strategy and activities for TB programs, and it should be funded despite issues with the primary jurisdiction and secondary migration.

While not a required activity under the CoAg for low-incidence programs that receives floor funding, the group proposes to add ‘Completion of Evaluation/Examination of Class B’ to the performance component of the formula. In this way, programs that receive this group of individuals as secondary migration will be compensated. Furthermore, the follow-up and successful completion of medical examinations of this group becomes an incentive for ALL programs, not just those required under the CoAg. Low-incidence programs will be eligible to earn extra funding if they chooses to follow up and report on Class B efforts.

The current funding allocated for Class B is 4%.
Kai will run analyses on the data with 4% (2% B’ notifications and 2% completion of evaluation) and 8% (4% B’ notifications and 4% completion of evaluation) funding allocation weights, and present findings. Stay tuned.

4. Brief discussion of the next meeting topics.

Next meeting will focus on discussion of where we are and the future course of the funding formula. The plan is to present a rough picture to the center before the ACET meeting in December. B-notifications will also be re-discussed. Next call will be July 27, 2017, at 1:30 pm Eastern.

Date- Thursday, 07/27/2017

Time 1:30 pm-2:30 pm EST

Attendees
Chorba, Terrence
Davidson, Peter
Nwana, Nwabunie
Miner, Mark
Warkentin, Jon
Mcmullen, Stewart
Young, Kai
Hughes, Steve

Attachment(s)
- MS Excel document "FFWG CLASS B 20170724"

Minutes
1. Finalize discussion on 2 categories of risk factors: social and medical.
    a. Include homelessness as a social risk factor?

FFWG deliberated on the possibility of including homelessness as a social risk factor by assessing the overlap between substance abuse and homeless persons. 97% of homeless persons were substance users or drank heavily. Based on this considerable amount of overlap, decision was reached to include homelessness as a social risk factor. The social risk factor category will include homelessness, injection drug, and non-injection drug use.

    b. Determine appropriate funding levels for social and medical categories? Alternately, should medical and social risk factors be combined into a single risk category?

Varying opinions were expressed on whether to combine medical and social risk factors into one category, or leave them as separate factors. Jon reminded the group that to reach an equitable decision, we need to evaluate what actually adds labor or costs to the work. Terry advocated that whatever is added, needs to be systematically gathered in the RVCT. Jon advised that the medical factors list needs to be revised, since the items on the list are not all the same. He also proposed to assign 6% of funding to any patient who has a medical or social risk factor, and that the patient should be counted once regardless of whether the patient has both factors, or just one factor. Peter responded that the burden and cost for a medically complex patient is not equivalent to a socially complex patient. A cursory look at the data shows that there are generally more patients with medical risk factors than social risk factors, and only 38% of patients have both medical and social risk factors (Kai's table "Med Soc Risk Factors ky 20170713"). The remaining 62% have only medical or only social risk factors, or no risk factors at all. Programmatically, the burden and effort to manage a person with only TB is different from that of patients with co-morbidities (medical risk factors), patients with social risk factors, or patients with medical and social risk factors. For example, if a patient is homeless and underinsured or

uninsured, we often have to think of options available to manage substance abuse. Terry suggested combining both factors only if there is enough overlap between them. Peter reiterated that 38% of patients have both medical and social risk factors, and suggested they should remain as separate categories since fewer than 50% of patients have both. Jon agreed, and proposed that medical risk and social risk categories each be assigned 4% of funding. **NEED TO CLARIFY IF FUNDING IS CUMULATIVE (PT W BOTH = 8%) OR ONLY SINGLE (PT W BOTH = 4%).**

Terry then asked what to do with proposed medical risks such as TNF-α blockers and Hepatitis C? These are not uniformly collected. Kai noted that only about 2% of patients have TNF-α reported in the RVCT. Terry also reminded the group that TNF-α blockers increase the risk of progression from LTBI to TB disease, but do not impact treatment of disease. In light of these points, the group agreed not to include TNF-α blockers in the medical risk factor list. Regarding Hep C, there is ongoing discussion within the DTBE RVCT revision workgroup of including it in the 2019/2020 revision of the RVCT. Peter and Terry suggested that Hep C could be included as a medical risk factor in 2021 (i.e. one year after its inclusion in the RVCT). However, Terry immediately followed up that Phil LoBue may prefer to wait until 2023 to include Hep C in the formula, so that three full years of RVCT data including Hep C would be available for funding calculations. Group final decision was medical risk factors will include: diabetes, HIV, ESRD, Post-Organ Transplant, and other immunocompromised conditions. Hepatitis C will be included after its approval and addition to the RVCT form.

2. Review & discuss new data from Kai regarding Class B notification.
    a. Spreadsheets (see attached). Enclosed are 2 tabs to help guide funding decision for Class B:
        i. Tab Class B – 8%: Incidence (35%), Class B Arrival (4%), Class B Examined (4%)
        ii. Tab Class B – 4%: Incidence (39%), Class B Arrival (2%), Class B Examined (2%)

Column titled “Class B arrivals” includes all Class B (i.e. cases treated overseas, TB ruled out, LTBI, contacts to cases, etc.) Column titled “Class B Examined” includes only Class B1 examined within 90 days of arrival (63% of class B). These definitions are based on National Objectives and data gathered in NTIP. Between years 2000 and 2010, there were roughly 23,000 class B arrivals. Peter asked whether the group should consider expanding the “Class B Examined” category to include B2 and B3, as this would represent a large pool likely at higher risk for LTBI. Kai explained that since this is not consistent with the National Objectives or NTIP data, if we did expand the “Class B Examined” category we would need to give programs prior notice so they could adjust if possible. Stuart and Mark advised to stay with the current metrics of only B1 (90 days), to avoid forcing programs to choose between evaluation of B1 versus other Class B persons.

At the next meeting on August 10th, we would revisit issue of class B and decide if we want to stick to B1 for performance metric of evaluation.

Date- Thursday, 08/10/2017

Time 1:30 pm-2:30 pm EST

Attendees
Davidson, Peter
Nwana, Nwabunie
Langer, Adam
Young, Kai
Pritschet, Dee
Lacassagne, Michael
Spieldenner, Sue
Candido, Janet
Warkentin, Jon
Hughes, Steve
Donna Wegener

Attachment(s)
- MS Excel document "FFWG CLASS B 20170807"
- MS Excel document "FY2018 table shell Class B 20170807 FFWG share"
- MS Word document "Secondary Arrivals to Minnesota with a TB Class 2013-2015 for Kai 8.7.17..."

Minutes
1. Determine appropriate funding levels for social and medical categories?

A verdict was reached on the funding to be allocated for social and medical categories. Medical risk and social risk categories will be assigned 4% of funding each (which translates to a total of 8% if a patient has both medical and social risk factors). Patients with multiple conditions in one category will be counted only once, and thus be allocated only 4%. But if a patient has conditions in both categories (medical and social risk), the patient will be counted twice and assigned 8%.

2. Finalize discussion and decision about Class B funding. Do we want to stick with the current system of funding all Class B arrivals, then funding the 90 day evaluation only for Class B1? Or should the evaluation component be expanded to include other Class B?

Phil Griffin provided feedback on this topic via email since he has a standing meeting that now conflicts with our regular meetings. In his email, he highlighted that since evaluation of Class B is not an expected activity of low-incidence (Tier 1) jurisdictions based on the COAG, it is not uniformly collected by programs and so it is not an appropriate performance indicator. He also mentioned that there are discrepancies in how programs report to EDN, and that evaluations of Class B1 persons may be completed but are not entered into EDN due to lack of resources to enter the data.

Peter then opened the floor for people to express their thoughts. Kai reminded the group that Tier 1 programs will be rewarded, if evaluation of class B is used and categorized as a performance indicator. Under the existing formula, Class B arrivals are given 4%. Low incidence programs receiving floor funding do not benefit from the follow-up examination of Class B. She also reminded the group that on a previous call that the group had already agreed to and expressed the need that if the examination of Class B are to be included in the formula, that programs should be made aware ahead of time so staff can follow-up as necessary to make sure data are submitted to EDN.

Sue expressed that the evaluation of Class B is important for the funding formula, but acknowledged that it would be good to incorporate in the formula after it is incorporated in the FOA (or CoAg). Kai reminded the group that the current CoAg cycle is set to end in 2019. The language and requirements for the new CoAg cycle may not remain the same as the current CoAg. As such, it might not be necessary for the group to develop the formula in adherence to the current CoAg language. Rather, it may make more sense for the group to develop the formula to what the group believe is optional for TB control in the U.S., and then make suggestions to DTBE on aligning the new FOA/CoAg to better support TB control priorities as recommended by the FFWG.

Essentially, it was advised that this topic be discussed further so as to allow more time for in depth analysis. Some programs are already doing the work on Class B follow-up and so just need to start entering the data so they are accounted for, while most other programs are already doing the work and entering data as the work is progressing. It's important that programs see their work rewarded or compensated in some way. There are also some states in which EDN evaluation and data entry are handled by Refugee Services Programs, in collaboration with the TB Program but administratively separate. Finally, for some states or programs that receive very few Class B arrivals, gathering and entering Class B follow-up data into EDN may not be worth the effort if the payout is $200 per case.

With the range of scenarios programs may face, it is important to ask the Tier 1 programs how they would feel if class B was added as an indicator. Kai will identify the CoAg language and ask DTBE program consults how the CoAg language is currently being interpreted for Tier 1, and report back to the group. Once clarifications for the CoAg language of Tier 1 has been received, Donna would be willing to utilize NTCA resources to send out a survey to programs to gather input on how Tier 1 programs feel about having Class B as a performance indicator.

Next meeting will be August 24th, 2017 at 1:30PM EST.

Date- Thursday, 08/24/2017

Time 1:30 pm-2:30 pm EST

Attendees
Warkentin, Jon
Pritschett, Dee
Langer, Adam
Spieldenner, Sue
Hughes, Steve
Davidson, Peter
McMullen, Stuart
Young, Kai
Kolasa, Maureen
Wegener, Donna

Attachment(s)
- MS Word "Domestic Follow Class B DTBE FSB Discussion 20170823"
- Adobe PDF "PS15-1501 FINAL FOA Excerpt FFWG"
- MS Excel "FFWG CLASS B 20170807 highted"

Minutes
1. Kai gave the group an overview of DTBE discussion RE the intent of Tier 1 program activities related to medical examination for Class B persons (reference attachments).
    a. Class B follow-up is not required CoAg activity for Tier 1 programs, but all programs including those in Tier 1 are funded to perform this task per current Funding Formula. All programs receive funding based on their proportions of Class B arrivals.
    b. Performance components of the funding formula are meant to provide incentives for programs to complete certain activities that advance TB control in the U.S. It is a mechanism to provide additional support to programs for the work done. It is not a mechanism to penalize programs for not being able to do the work because they didn't have the resources.
    c. Development of Funding Formula should be done independently of the existing CoAg/FOA requirement. A final set of indicators implemented in the Performance components of the formula will become a required activity in the new CoAg cycle.
    d. In the Excel spreadsheet, all Tier 1 programs (including threshold programs) are highlighted in orange. Currently, there are 19 programs classified as Tier 1. Based on data currently available in EDN and NTIP, the majority of Tier 1 programs would receive more funding with the addition of a Class B1 examination component than they do for Class B arrivals only. Stuart McMullen asked if there is a good reason to consider Class B1 examination as different from a domestic suspect or active case referral that is received from another US jurisdiction. The group quickly decided there was no difference, and therefore Class B1

examination should be included in the funding formula as an incentive to initiate a domestic medical evaluation.

e. The group also discussed whether Tier 1 CoAg recipients should be surveyed to assess the impacts of this change. Dee Pritschett commented that most Tier 1 programs already seem to be doing fairly well with examining Class B1 persons, so a survey may not be necessary. However, it would be best to phase in this component over time, to allow all programs (and especially Tier 1) to adjust and enter back-logged evaluation data into EDN if possible. The group agreed to a phased-in approach for this component.

2. The group also discussed that awarding funding for examination of Class B persons can be skewed because many Class B persons move soon after entry, and may receive their medical examination in a different CoAg jurisdiction than the one to which they were originally assigned (or arrival). For example, a Class B person may be originally assigned to New York, but move to Minnesota and receive their medical exam in Minnesota. This raised the question of whether funding for the examination should be given to the jurisdiction of original settlement or the jurisdiction in which the examination was performed. [A detailed data analysis of impact of secondary migration illustrating this issue was submitted by Minnesota TB programs and emailed to the FFWG for review in July]
    a. The group felt that ideally, incentive funding for the examination should be assigned to the jurisdiction in which the examination was performed. Kai shared that DTBE is working to improve the accounting processes while and managing EDN data in NTIP. One goal of improving these processes is to support the assignment of credit to the jurisdiction where the examination was done and data reported. This process would allow funding to be partitioned between jurisdiction where immigrants/refugees indicated for arrival and those jurisdiction that performs the follow-up and examination. However, this proposed process would work only if the jurisdiction that performed the examination entered the data. Steve from New York shared that often time immigrants/refugees were examined in their jurisdiction before moving. In these cases, the EDN records were immediately transferred to the new jurisdiction to ensure continuity of care, and test results often not available for input into EDN before the transfer of records.
    b. After discussing the current process and the needs to support such a delineation of funding, the group felt it was not a feasible objective in the near future. Rather, the group felt it was more appropriate at present to allocate funding for Class B1 examination to the jurisdiction of the original settlement.
    c. The group strongly encourages continued improvement to the data sharing process between EDN and NTIP, as well as improved data capture within EDN. The group hopes that more strategic delineation of funding for Class B arrivals versus Class B1 examination will be possible during the 2020 – 2024 CoAg period.

Summary of proposed 2020 funding formula to date.

Needs components (76%)	
Incident cases	39%
Foreign-born / US-born minorities	8%
Smear-positive pulmonary	12%
Medical risk factors	4%
MDR	5%
Social risk factors	4%
Class B arrivals	4%
Performance components (24%)	
Completion of disease treatment (cases)	10%
Direct Susceptibility Testing (DST)	5%
Completion of LTBI treatment (contacts)	5%
Class B1 examined	4%

September 7 meeting was deferred; next FFWG meeting will be September 21 at 1:30 PM eastern.

Date- Thursday, 09/21/2017

Time 1:30 pm-2:30 pm EST

Attendees
Candido, Janette
Langer, Adam
Miner, Mark
Spieldenner, Sue
Young, Kai
Wegener, Donna
Hughes, Steve
Pritschett, Dee
Chorba, Terry
Davidson, Peter
McMullen, Stuart

Attachment(s)
- MS Excel "FFWG Baseline 2017."

Minutes
1. Revisit definition of contacts for LTBI treatment completion. Peter shared concerns from the NTCA Board about the definition of contacts completing LTBI treatment used in the performance components of the funding formula. Previously FFWG indicated that the funding would be based on the number of contacts to culture-positive cases, regardless of smear status. However, concerns were noted that the contacts reported in the Smear+ column on the ARPE are not restricted to culture-positive cases. Additionally, there were changes issued regarding the inclusion of contacts to NAAT-positive cases to be reported under the category for Smear-/Culture+.

   After much deliberation, the workgroup decided that the language for the definition of contacts for LTBI completion of treatment will be framed in a manner that is consistent with the ARPE definition for contacts. Such that a contact would be defined as a contact to "a positive acid-fast bacilli (AFB) sputum-smear result, whether or not any culture result is positive, or sputum smear negative and culture positive case."

   Similarly, the language for the immigrants and refugees examined within 90 days indicator will be made consistent with those written in NTIP to avoid confusions.

2. Peter shared feedback from NTCA Board and membership RE FFWG progress and current proposals.

   It was noted that a member of NTCA Board suggested that Completion of treatment within 12 months should be removed and replaced with the completion of treatment ever. However, there were pushed back on the FFWG call expressing the importance and need for the "12 months" threshold. The threshold or 12 month treatment completion was

made so program staff could strive for that. Additionally, Peter communicated that since the cohort of case-data used in the formula advances each year, there needs to be some cut-off.

3. Begin discussing the possibility of expanding baseline or threshold funding from a few (currently seven programs) to all programs.

   Peter explained rational was to consider ways of better assuring capacity and stability for low-incidence programs. Kai reviewed excel spreadsheet for the proposal which includes the comparison of no baseline or threshold funding, current baseline funding (limiting to those under $100K), proposed baseline of $100K for all program, and an alternative proposed baseline increase to $150K for all programs.

   Analysis from the spreadsheet suggests that 40/61 programs (mostly low and medium incidence programs) would see an increase if the baseline of $100K or $150K is applied to all. 19/61 programs (i.e., medium and high incidence programs) would see a decrease in funding. The break-even point rests at programs that currently receive funding at $1.1-1.2 million. These programs would receive roughly the same amount regardless if a baseline is applied, while programs that currently receive less than $1.1 million would see increased funding and programs that currently receive more than $1.2 million would see decreased funding.

   Overall, the application baseline funding to all programs will result in redirecting funding away from high incidence programs. In the most extreme scenario, a high incidence program could see a loss as much as $1 million if $150K baseline funding is applied to all.

   Sue raised the concern that this proposal seems to defeat the purpose of funding formula which is to allocated resources based on the disease burden.

   Peter evaluated that this change may inflict more harm than good, especially since the reasoning for the change is not as a result of a burden issue but a policy issue. He then proposed an alternative, retaining the current threshold model but increasing the threshold amount to $150K. Further discussion on this subject will continue next call.

4. Take stock of other strategic items the FFWG needs to address (e.g. cohort periods for data inclusion and updating). Will be discussed next call as well.

Next call will take place October 5th, 2017 at 1:30 pm EST

Date- Thursday, 10/5/2017

Time 1:30 pm-2:30 pm EST

Attendees
Mark Miner
Sue Spieldenner
Steve Hughes
Peter Davidson
Terry Chorba
Kai Young
Joe Burzynski
Adam Langer

Attachment(s)
- MS Excel "FFWG Baseline 150K"

Minutes
1. Discuss new model of keeping threshold funding, but raising the amount to $150k. Kai oriented the group on the new spreadsheet, all data is modeled for 2018. Current threshold under the proposed formula includes 6 programs and pulls $600k out of the formula. Increasing to $150k based on Needs + Performance funding would include a total of 12 programs and would pull $1.8 million out of the formula. Increasing to $150k based on Needs funding only would include a total of 13 programs and would pull $1.95 million out of the formula. On average, threshold programs would gain $51k - $52k, while non-threshold programs would lose 0.9 – 1.2% of their total funding.

   Currently, the threshold is applied to programs with the total award amount (i.e., needs and performance components) less than $100K. In these programs, $100K is applied to the needs component and the performance component is then added. Essentially, these programs get their base amount AND the bonus for the performance. The first option presented was to increase the threshold amount to $150K, and continue applying it to programs whose total award amount (Needs + Performance) was below $150K.

   The issue with this is that programs that exceeded the threshold limit miss out on the bonus that the performance component brings. Kai indicated that typically 9 programs meet the criteria for the threshold, this year only 7 programs meet the criteria. Further analysis revealed that the 2 programs got dropped because they each had an MDR case which bumped them over the threshold limit. As a result, these 2 programs receive LESS funding than previous years when they didn't have an MDR case. The second proposed option ($150K based on the Needs only) is an attempt to address this issue. In this option, $150K base is applied to programs with needs component that is less than the threshold limit.

   Sue Spieldenner asked about the possibility of a rescission in 2018, and Terry responded that we should expect 0.6 – 0.7%. This translates to an estimated loss to non-threshold of

more like 1.5 – 2%. Sue asked if the proposed expansion of threshold funding is in the best interest of nation-wide TB control? Even a 1% or 2% reduction of funding in large or high-incidence programs may cost a position. How do we choose a position in one program over another?

Peter responded that this is about assuring minimum capacity. Low-incidence programs are in more immediate risk of losing staff and cutting services. If a low-incidence program cuts staff, they are likely to go from 1 or 0.5 FTE to zero, whereas a higher-incidence program would still have staff remaining.

Kai mentioned that several low-incidence programs have seen decreases in the total number of cases and funding, but increases in the number of MDR cases. This causes a disconnect because the increase in funding for MDR cases does not adequately offset the other losses.

Terry added that money must always be prioritized and maintained for programs where we most strongly predict that cases will occur: those of high-incidence. However, Ken Castro committed DTBE to assuring minimum capacity in all programs, and he raised the initially-proposed threshold from $80k to $100k. An increase of threshold in 2020 to $150k seems reasonable to account for increased operating costs during the past 5 years.

2. Peter reminded the group of several important benchmarks and unaddressed items.
    a. Phil LoBue has requested a summary-to-date in PowerPoint by 11/10/2017. This will allow Phil and Jono Mermin to review progress and any recommendations prior to the December ACET meeting. To meet this goal, we must:
        i. Resolve threshold funding by/on 10/19 call
        ii. Include final version of formula indicators and weights
        iii. Include definitions of which data and/or cases are included for each indicator
    b. FFWG still needs to address how to implement the new formula in 2020:
        i. Should it be phased-in over several years? How many years and in what proportions each year?
        ii. We should examine the cohorts of cases and data used for the new formula, to determine if they are still reasonable and relevant.

Sue suggested developing an overall comparison of existing formula and all proposed changes to date. All agreed; Peter & Kai will develop and share comparison spreadsheet as quickly as possible.

Nest FFWG call @ 1:30 pm eastern, October 19, 2017.

Date Thursday, 10/19/2017

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Mark Miner
Maureen Kolasa
Sue Spieldenner
Steve Hughes
Jon Warkentin
Dee Pritschet
Kai Young
Janette Candido
Donna Wegener

Attachments
- Word "FFWG Meeting Minutes 10-05-17_final"
- Excel "FFWG 20171006"
- Word "FFWG FAQs 101717"

Minutes
Revisit threshold funding, and whether to raise threshold to $150k. Kai provided another explanation of the spreadsheet "FFWG 20171006", comparing current formula and funding to proposed formula and $100k threshold of Needs + Performance, $150k threshold of Needs + Performance, and $150k threshold of Needs only.

The current application of the formula involves the threshold being compared to the Needs and Performance components combined. The difference between basing the threshold on [Needs + Performance] vs. [Needs only] is that the Performance component is included in the comparison to determine whether a program meets the threshold level.

As an example, imagine that threshold funding is set at $100k and a program would receive $90K in Needs and $25K in Performance, for a total of $115K. Under a threshold that is based on [Needs + Performance], this program would not be eligible for threshold funding because its Needs + Performance amount ($115K) exceeded the threshold of $100K. If the threshold were based on Needs only, this program would meet the requirement for receiving the threshold funding because its Need ($90K) is less than the threshold of $100K. Under a Needs-only threshold rule, this program would receive a total of $125K ($100K for needs and $25K for performance) instead of only $115K when threshold is based on Needs + Performance.

In essence, when the Performance component is included in consideration for the threshold funding, the Performance component is no longer a bonus. The group has agreed (at the end of this meeting) to base the threshold on the Needs component only.

Sue asked if the group should first consider whether to raise threshold funding, and if yes, then to determine the appropriate amount. Peter asked Dee if, as a low-incidence program and representative, she felt the current threshold amount of $100k was sufficient. Dee responded that it was not. Peter then asked the entire group to consider if $100k seemed sufficient to guarantee minimum program operations in any of our jurisdictions, or across the US generally.

Jon and Sue reminded the group that there were two original intentions behind threshold funding. The first was to assure at least 1.0 FTE nurse in every Co-Ag recipient, and the second was to provide a more equitable option than legacy funding with which to fund low-incidence programs. Sue remarked that in CA, a typical salary + fringe cost was less than $100k, and Jon concurred from TN. Sue also advocated that an increase of threshold funding should be based on more evidence than just perceived salaries and costs. She described some research one of her epidemiologists did to adjusting for consumer price index inflation. From that research, $100k in 2011 would be about $110k in 2017. Projecting forward to 2020, this value would be closer to $115k. It appeared that the consumer price index increased an average of 1% - 2% per year.

Jon then asked Dee if she thought $115k would be a substantial enough increase, and Dee responded that a threshold amount of $125k would be better, while $150k would be optimal. Sue reiterated concerns about the amount of money pulled away from the formula to support the increased threshold amounts, but Peter reminded the group that at the $150k level, we were talking about pulling at most 2.9% of the total available funding out for threshold.

Jon asked Peter if he had a strong preference on this issue, and Peter responded that as a Controller, he felt that a $125k threshold would not be enough to assure minimum program capacity and 1.0 FTE in all low-incidence Co-Ag recipients from 2020 through 2024. Peter reminded the group that 2020 was only the first year of the new Co-Ag and formula, and the threshold would need to be sufficient to support minimum capacity until the year 2025. Janette Candido agreed. Peter suggested that if the group chose to base our decision on consumer price index increase alone, that calculation should be made from 2011 until 2025. Assuming an average 2% increase per year: 14 years x 2% per year = 28% increase on $100k = $128,000.

Jon proposed that the group also consider that labor costs would increase along with consumer price index, and that a threshold of $125,000 seemed a reasonable compromise. He asked if the group felt comfortable to vote for or against a threshold of $125k. Sue responded that we should see a revised spreadsheet to compare thresholds of $100k, $125k, and $150k before voting. Peter agreed to the need for a revised spreadsheet, but reminded the group that we must resolve this decision by 11/2 in order to provide the summary presentation to Phil LoBue on 11/10. The updated spreadsheets will reflect each threshold amount calculated by Needs only. Peter asked if the group felt comfortable sending an updated spreadsheet with the three stated threshold amounts, and voting would be conducted by email. Everyone on the call agreed to voting by email. Workgroup members will be asked to vote for one threshold amount.

Next FFWG call will be on Thursday, 11/2 at 1:30 pm EST.

Date Thursday, 11/02/2017

Time 1:30 pm – 2:30 pm EST

Attendees
Steve Hughes
Adam Langer
Terry Chorba
Peter Davidson
Mark Miner
Maureen Kolasa
Sue Spieldenner
Jafar Zazeq
Dee Pritschet
Kai Young
Susan McElhaney

Attachments
- PDQ "NTIP Funding Formula Variables Snapshot CoAg FY2017"
- Word "FFWG Meeting Minutes 10-17-17_final"
- Word "FFWG FAQs Indicators only 110117"

Minutes

1. Welcome to Susan McElhaney (NV) who will be filling in for Camy Retzl's position as Curry Region representative.

2. A total of 15 votes received for the threshold funding:
   - 3 for $100k
   - 10 for $125k
   - 2 for $150k

   Two additional members responded but abstained from voting. Based on the voting, the FFWG recommends $125k for the 2020 threshold amount. Terry said the voting results including the reasons why members voted for the amount will be presented to DTBE and Dr. LoBue. Ultimately, Dr. LoBue will decide on the amount of the threshold.

3. Peter asked if everyone is ok with the wording presented on the "FFWG FAQ Indicators" document. The introductory paragraph attempting to explain the data sources and the rolling average still seems confusing. The "NTIP Funding Formula Snapshot CoAg" illustrates the 3-year cohort periods used for the needs and performance components. Treatment completion data takes 2 years to be available and reported, and is reported on a different cycle than other variables. Sue suggested adding a column to the end of the table to indicate the cohort periods to be used for each variable. In general, FF will be based on the data most currently available reported to DTBE/CDC.

4. ACET Timeline:

- Slides due to DTBE and Dr. LoBue by Nov. 10
- Presentation: 20 mins presentation and 10 mins Q/A

Peter asked the groups for ideas and suggestions and talking points for presentation.

a. Brief explanation of why/how current FFWG was formed
    - Membership: representation from high, medium, and low programs
    - Sue suggested an acknowledgment of all members listed at the end of the slides
b. Brief comparison of current formula with proposed formula
    - Call out reasons for change
c. Explanations of why we proposed the changes
    - Focus emphasis on prevention
    - Simplify social and medical risk factors
    - Increase recognition in the importance of performance

    Sue asked whether it's a good idea to describe some of the changes from the current funding formula. For example, the change in funding by XXX programs ranges 2 to 13% drops.
d. Next steps:
    i. Assess and develop plan for phasing in formula
    ii. Review cohort period for each variable

The group briefly discussed other issues such as changes to the RVCT, ARPE and EDN data system changes and how they may impact funding formula. These changes include the proposal of Hepatitis C, molecular DST testing results, and contact investigation data currently reported in ARPE for data collection in the RVCT in 2020.

Purpose of ACET presentation

The group sought clarification on the purpose of the ACET presentation. Peter explained that in general, the presenter has to be very clear at the end of the presentation what he/she is asking ACET to do. If we ask ACET for input, the group will likely be asked to respond back to ACET on follow-up issues. Terry said we cannot ask for ACET for approval on the FFWG recommendation because there is a conflict of interest. Both Terry and Peter indicated that the purpose of this presentation is not to ask for ACET for approval or inputs, but to inform ACET of FFWG's progress to date.

Kai asked whether this is the final recommendation given to DTBE. Peter clarified that our deadline for submitting the final recommendation to DTBE will be April/May 2018. At that time, we are expected to have a final written report for DTBE and Dr. LoBue.

Peter will work with Terry and Kai to put together ACET ppt presentation slides for the group to review early next week (11/6 or 11/7). Peter asked members to review slides quickly and provide comments ASAP so they can be incorporated into the final slide set for submitting to Dr. LoBue.

Next FFWG call will be on Thursday, 11/16 at 1:30 pm EST.

Date Thursday, 11/16/2017

Time 1:30 pm – 2:30 pm EST

Attendees
Terry Chorba
Jon Warkentin
Sue Spieldenner
Kai Young
Michael Lacassagne
Dee Pritschet
Susan McElhaney

Attachments
- PDQ "NTIP Funding Formula Variables Snapshot CoAg FY2017" final
- Word "FFWG Meeting Minutes 11-02-17_final"
- Word "FFWG FAQs Indicators only 11162017" (with cohort period)
- PPT "FFWG ACET slides 111417"

Minutes
1. Peter is out today; Terry facilitated the call.
2. Determining the cohort period for the new indicators
3. ACET 12/11/2017
4. Strategies for phasing in the formula for FY 2020

Determine cohort period

Terry explains that most recent three full years of data for each indicator will be used for the funding formula calculation.

Kai sent out an email during the call with an updated document for the FAQ indicator. This document includes a newly added column reflecting the cohort period for each indicator for FY 2020. For Y 2021, the time period gets forwarded a year. Everyone agreed that this look reasonable.

For FY 2020 formula, formula calculation will be done in the summer of 2019 using 2018 frozen dataset. The time period for the RVCT based indicators will be 2016-2018. These indicators include those data for medical and social risk factors.

- COT: 2014-2016 will be used for FY 2020.
- Contacts COT (ARPE): 2014-2016
- Class B arrival (EDN): data of arrival, 2016-2018

For the Class B arrival, Terry explained the Date of Notification should be used in place of the Date of Arrival, which is used currently. He shared the incidence in the Northeast region where EDN notifications were sent to jurisdictions months after immigrants/refugees due to resources being pulled away to help control issues arise with the Ebola outbreak.

Dee agreed. Sue said CA uses the Date of Arrival for funding in their jurisdiction.

Kai asked whether funding credit will be given to the primary jurisdiction if no notification was ever sent out. The group agreed that funding would only be allocated if a notification is sent out to the state (i.e., Jurisdiction of primary arrival). If no notification was issued, there is no follow-up action required. Thus no funding will be allocated. Using the Date of Notification will better align the funding with the time and effort needed to follow-up.

Kai explained that for the performance indicator, the Date of Notification is already being used as the basis for calculating the completion of the medical examination within 90 days. So there will be no change there. For example, an individual arrived at the end of December, the health department would be notified in December (hopefully), and health department/program is given until March for follow-up examination. The examination date is the date when a diagnosis (TB or LTBI or neither) is given. However, the data cohort is still based on the Date of Arrival, not the Date of Notification. Changing the cohort period will impact all 4 NTIP indicated on immigrants and refugees. Kai will work with Terry and Roque to evaluate these changes and implement the change if needed.

FFWG Role and ACET presentation

Dr. LoBue and Terry suggest that the ACET presentation focuses on the first 15 slides since time is limited. Terry asked everyone to provide comments if they haven't already.
ACET presentation will be on 12/11.

Terry shared that Dr. LoBue wants to emphasize to the group that this group's task is not to define the formula but to make recommendations to the Division and the Center. The presentation to ACET should not be presented as this is what the formula is going to be, but rather that these are what the FFWG is recommending to the agency. ACET may want to have input as well as the CDC director.

This workgroup services as a recommending function, not as a regulatory function.

Phasing in the new formula

Terry recommends that the formula be ease in:
Yr. 1: 1/3 new; 2/3 old
Yr. 2: 2/3 new; 1/3 old
Yr. 3: 3/3 new

Kai clarified that the threshold funding would be applied on day 1. The group agreed.
Since several programs will be losing over $200K, the group agreed that phase-in approach makes sense.

Performance Expectation and impact on funding

Jon W. sought clarification on performance expectation and impact of lack of performance on funding. Jon said that the in current funding formula it is not clear what the financial impact on the program would be if the performance expectations were not met.

He explained that there are some programs that do not meet performance objective due to barriers outside of their control. These programs can be either penalized (funding taken away) or provided additional funding to help them overcome barriers.

Jon asked for explanation on the practical impact performance has on program funding last several years and how CDC imagine this happening under the new formula?

Terry said there is not a tremendous amount of impact. The performance of the two components (COT and DST) has been high from the beginning.

Jon asked whether any programs actually have lost funding because they didn't meet performance expectation.

Kai explained that based on the formula, CDC do not retain funding due to programs' lack of performance. The way formula works is that "the pie is divided by the total number of cases that met the objectives nationally, not the number of cases eligible (e.g., eligible to complete treatment). As such, all available funding is divided and distributed to grantees. In general, the better a program does, the more funds it will receive for performance. However, the funding per case decrease as the overall number of cases that completed treatment increases.

Kai shared that in a study that she undertook on the topic of performance-based funding in the context of NTIP where both program and CDC staff were interviewed, performance-based funding was perceived positively. It encourages staff to work harder thinking funding is at stake. Most staff does not know the extent or the how much impact performance has on their funding, but most said they work harder because of it.

The workgroup asked Kai to provide an analysis of an estimated funding losses over the years due to performance. For example, running the formula with performance variable and another without and compare the two.

Sue pointed out that the new indicators (contact LTBI treatment completion and immigrants and refugees) currently being recommended as performance indicators in the formula will create greater differentiation in funding between programs because of the variability in performance.

Jon stated that in the interest of transparency that the calculation for the funding formula should not be a myth. It is important to clarify what is the potential impact of the performance funding in the formula. What happened when programs do not meet the expectation? I have not heard for example, what happened if a program does not meet certain performance expectation." Or happened if less than 50% of their cases do not complete therapy.

Terry indicated that no program is just doing 50% on completion of treatment. Most programs are doing much higher. The funding formula is not meant to be punitive. The performance indicators were included in the formula to recognize the importance of the activity and give something for programs to strive for. Also, these were the only two variables at the time could be pointed to as measuring performance across the board in a way that is systematic over three yrs.

Sue said it would be helpful to know what the payout is for each variable. For example, in CA for each B notification completed, it was $200 added to that jurisdiction's award. A way to look at it is how much would be missing if a program doesn't do it. If a case doesn't complete in 12 months, this much isn't added to your award.

Kai will run some analysis to share with the group on the next call.

Next FFWG call will be on Thursday, 11/30 at 1:30 pm EST.

Date Thursday, 12/14/2017

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Terry Chorba
Sue Spieldenner
Kai Young
Mark Miner
Maureen Kolasa
Dee Pritschet
Susan McElhaney
Steve Hughes
Michael Lacassagne
Joe Burzynski

Attachments
- Word "FFWG Meeting Minutes 11-16-17_draft A"
- Excel "Performance Component Impact 20171206 Shared 2"

Agenda

1) (All) discuss/approve minutes from 11/16.
2) (Kai) walk through spreadsheet showing comparison and impacts of Needs only versus Needs + Performance in the funding formula.
3) (Peter & Terry) share comments from ACET.
4) (All) discuss next steps and whether we are ready to start writing full recommendations to DTBE.

1. Peter asked everyone to help review the **minutes from 11-16-2017** and provide edits/corrects if needed.
   - Sue indicated that from a previous conversation about California using the Date of Notification for funding allocation in CA is incorrect. CA currently uses the Date of Arrival.

2. Overview of the Performance Component Impact spreadsheet.

Tab 1: Sheet 4
- This spreadsheet models the funding amount under the current formula (80% Needs + 20% performance) using data for FY 2018 and compare funding with and without the performance component.
- Column B: Needs only – the amount each grantee would receive if funding were allocated using 100% Needs

- Column C: Needs + performance – the amount with 80% Needs and 20% performance (15% COT and 5% DST). This column reflects the funding amount currently allocated to each grantee for FY 2018.
- Column D: Difference between Column B (Needs) and Column C (Needs + performance). This column reflects the amount gain or loss as result of allocating 20% of funding based on performance.
- 31 programs received less funding under the formula with performance component than they would from Needs alone. (see red). Range: -$549 to -$64,382
- 30 programs had no change or had an increase in their funding. Range: 0 to +$92,771. Some programs benefit from the performance component because it's a different metric. Other programs receive additional funding because they performed well.

Tab 2: Sheet 3

- This spreadsheet focuses in on allocation for COT (15% of funding)
- Column B (COT Funded) = the number of patients eligible to complete treatment within 12 months who completed treatment for each Coag grantee.
    - Nationally, 7253 patients completed treatment (3-yr average of 2012, 2013, 2014)
- Column D (COT elig) = the number of patients eligible to complete treatment within 12months.
    - Nationally, 8247 patients were eligible for treatment
- Column C (Funded) = funding amount for each grantee based on the number of patients who completed treatment within 12 months.
- The payout for each patient who completed treatment: $1372/case
- Column E (Min. Fund) = funding amount for each grantee if funding were based on the maximum number of eligible patients who could have completed treatment within 12 months for each patient
- The payout for each patient who completed treatment if ALL (100%) eligible patients complete treatment within 12 months = $1207
- Column F reflects the percent of patients who completed treatment within 12 months
- Column G = the difference between Column C and E

Tab 3: COT Ranked

- This spreadsheet contains the same data as Tab2 ranked in the order of performance.
- Row 37 highlighted in yellow reflects the national average for COT, 87.9%
- Based on Column G, grantees that perform above the national average receive more funding than they would have if each grantee performed at 100%
- Grantees with COT performance less than the national average receive less funding than they would have if each grantee performed at 100%
- Column H shows the percent performance above or below the national average the percent funding gain or loss respectively

Tab 4: DST Ranked

- This spreadsheet contains funding based on 5% DST
- The national average for DST is 97.4%

- 38 grantees performed above the national average, 23 grantees performed below the national average

Peter asked whether this analysis made a difference on how people feel about the decisions the workgroup has made thus far on performance indicator. All members think the analysis is interesting, but does not change their recommendations.

Sue suggested that we include this analysis in the appendix for reference in the final recommendation report.

Comments from ACET presentation

Peter shared feedback from ACET.

- To consider patients in the correctional facilities
    - Mark commented that patients in the correctional facilities do not usually increase case management burden. Most of contact investigation work in the correctional setting is done by the correctional facility, not by the health department.
- To consider Hepatitis B and C
    - Both Hepatitis B & C are recommended for collection in the RVCT revision. If this variable is accepted in the final RVCT revision, Hepatitis B & C will be captured.
    - As an extension of this, be mindful that Hep B and Hep C are not medical risk factors per se, but they can complicate medical management. It was suggested to include Hep B in the Medical Risk Factor line, but changing the title to something like “Medical Risk Factors and Comorbidities” or “Medical Risk and Co-management Factors.”
- To consider patients who are drug intolerant. These patients are usually treated like MDR patients.
- To consider the "denominator" or population size in the funding distribution. Currently funding is driven by the number of incident TB cases without consideration of the population affected. A large amount of prevention work is being done or needs to be done at the population level among the high risks groups for TB control. FFWG was asked to consider population size and density in the funding formula if possible.
- To consider looking at whether proposed 2020 funding distribution would track with purely Incidence-based funding. The context of this comment was from an ACET member who is not familiar with the TB CoAg nor the current formula, and felt that a comparison of proposed formula distribution against purely incidence-based distribution of funds would help other ACET members to assess the implications of proposed formula.
- Ensure that the molecular DST result will be valid for consideration in the DST indicator and assessment of MDR cases.

Peter asked the group to start thinking about how we might address and respond to these recommendations.

Next FFWG call will be on Thursday, 1/11/18 at 1:30 pm EST.

Date Thursday, 1/11/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Terry Chorba
Kai Young
Adam Langer
Mark Miner
Sue Spieldenner
Steve Hughes
Janette Candido
Susan McElhaney
Dee Pritschett

No attachments

Agenda

1. Discuss feedback items from December, 2017 ACET meeting.
    a. Consider including patients in correctional facilities.
        i. This is collected currently in RVCT and will continue to be collected in 2020 RVCT.
        ii. Mark & Sue felt that contact investigations in state or Federal prisons are typically handled internally by staff in the correctional facilities. Investigations in local or county jails may involve public health department staff more and represent some level of expense, but not at a level that would warrant inclusion in the formula.
        iii. Consensus not to add to formula.
    b. Consider inclusion of pts with Hep B & C in the formula (somehow). One reason specifically stated for this is that Hep B & C can complicate medical management of TB. One ACET member suggested including them with Medical Risk Factors.
        i. Hep B and Hep C were proposed to be included in the 2020 RVCT, but are currently removed as a result of feedback. This status may still change.
        ii. Current recommendation includes Hep C pending 2020 RVCT, and we will add Hep B to that statement.
        iii. Group also agreed to change title to "Medical Risk Factors and Comorbidities".
    c. Consider including patients who are drug-intolerant. These patients are often treated like MDR patients.
        i. Janette thought this would be a very subjective scenario, and may be difficult to capture uniformly even in the 2020 RVCT, especially due to differences in perception among private providers compared to public health regarding tolerance.

ii. Kai asked if we could use other variables as proxies for intolerance, e.g. follow-up DST or Reason treatment not completed.
iii. Adam explained that the 2020 RVCT will include variable to capture patients for whom first line drugs were not used, but will not include an option for intolerance per se. Moreover, intolerance often appears after a patient has been on a drug for some period of time, and the RVCT is designed to capture treatment regimen within the first two weeks.
iv. Consensus that it would be impossible to adequately or accurately capture data to support this as a funding indicator.

d. Consider whether (or how closely) proposed 2020 funding distribution would track with purely incidence-based funding.
    i. We can model this in a spreadsheet.
    ii. It's unlikely to change our recommendations, but can be a good justification of why we think the proposed formula is equitable, and how it recognizes the costs and efforts involved in TB Control and Elimination.
e. Ensure that molecular drug susceptibility results will be valid/included in funding formula for both "DST" and "MDR" lines.
    i. This will be addressed as part of expanded molecular drug testing in the 2020 RVCT. It will not require any effort or action from the FFWG.
f. Consider "denominator" or population size in funding distribution.
    i. This was deferred to the 1/25 call to give more time for full discussion.

2. Next call will be 1/25. We'll discuss the "Denominator" topic and also review a spreadsheet from Kai that compares proposed formula funding with strictly incidence-based funding.

Date Thursday, 1/25/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Sue Spieldenner
Dee Pritschett
Steve Hughes
Susan McElhaney
Janette Candido
Maureen Kolasa
Elvin McGee (on behalf of Adam Langer)

Attachments
PDF: CSTE 11-SI-04 position statement regarding Country of Usual Residence; Excel: FFWG Proposed Incidence comparison 20180124 share (with analysis) SS; Excel: FFWG Proposed Incidence comparison 20180124 share.

Agenda

1. Discuss impacts of CSTE statement on Country of Usual Residence, upon 2020 RVCT and funding.
    a. Steve gave example that if CSTE statement is interpreted stringently, NY State could 'lose' at least 10% of currently-countable cases. Other programs that have high proportions of their cases among students or temporary workers might see similar or worse decreases in countable cases.
    b. Peter shared that he had a different interpretation at least for students, in that they would still be countable by US jurisdictions. Sue asked about people who are undocumented, and the group felt there was no clear answer whether they were countable. The group felt that the CSTE statement is not clear, and in parts appears self-contradictory.
    c. A clear definition is needed of how the CSTE statement will apply to TB cases, for surveillance and for funding formula purposes. The FFWG urges DTBE to provide this definition/interpretation as soon as possible, so we can evaluate if/how the funding formula needs to change in response to this.
    d. Peter and Elvin shared suggestions from Adam that FFWG revisit the idea of using data from non-countable cases in the funding formula (counting cases that would be counted under the current rules). If this is possible, it could help to mitigate the uncertainty and possible loss of countable cases from the CSTE statement.

2. Walked through spreadsheet comparing proposed formula funding with purely incidence-based funding.
    a. Kai created and shared a spreadsheet showing the difference between incidence-based funding and proposed formula funding, "FFWG Proposed Incidence comparison 20180124 share". Sue expanded on this in her spreadsheet "FFWG

Proposed Incidence comparison 20180124 share (with analysis) SS". Conclusion was that proposed formula results in a redistribution of ~2% of total funding compared to incidence only, but this redistribution occurs across all burden and funding levels. Sue suggested that the formula provides a benefit beyond just distributing funds as it places emphasis on key indicators and strategies (e.g. performance indicators).

3. Continue discussion of "Denominator" topic from ACET.
    a. Peter explained that denominator may mean more than just total TB cases reported, for example total population served. Sue mentioned that in California's state funding formula discussions, they considered things like geographic distributions of population and TB cases relative to health department offices, and the extra costs of DOT due to travel distance and time.
    b. Overall, the group felt this question was interesting, but we need further definition or clarification of what types of denominators to consider this further. This question was originally posed at ACET by Shama Ahuja from New York City, and group resolved to invite Shama to a February call, so she could explain her ideas in more detail.
    c. The group also anticipated that we may not be able fully to address this topic in the remaining months before providing a final report to Dr. LoBue. In that case, we will include our discussions and any recommendations or conceptual framework in the written summary, in hopes that the next funding formula group might give it further consideration.

Adjourned. Next call will be 2/8 at 1:30 pm eastern time.

- Pending Shama's availability, we will revisit the issue of denominators.
- We hope to learn more from DTBE about the interpretation and application of Usual Residence.

Date Thursday, 2/08/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Terry Chorba
Kai Young
Adam Langer
Sue Spieldenner
Steve Hughes
Janette Candido
Susan McElhaney
Maureen Kolasa
Bridget

No attachments

Agenda

1. At ACET meeting December 2017, Shama from NYC expressed concern about the denominator FFWG will be using for FF. FFWG asked Sharma to provide a paragraph documenting her concerns and to present it on the call on 3/8/18.

The concern stems from that in densely populated jurisdictions, there will be a lot more work involved than less populated areas.

2. Case count based on state or country of residence
   - CSTE has put forward a request to CDC in asking the agency to institute the guideline for reporting the National Notifiable Disease Surveillance System based on residency.
   - Background: In 2011, Florida had snowbirds coming to FL that were infected with disease. Without considering the state residency, the numbers suggested FL was disproportionately affected by this particular disease. Former director, Steve Thacker, wanted to see CSTE guideline accommodated.
   - Currently, there is no data gathered in RVCT that codes for the state of permanent residence. Adam said the RVCT is planning to collect the country of residence, but whether it effects case counted is to be determined.
   - Individuals from other countries, under worker visa, often are not state residents.
   - Under CSTE definition, the residence of another country would be included in the national statistics, but would not be counted towards the state. Sue and Steve both agreed that it does fit for TB.
   - Under the current RVCT definition, non-US residents who have stayed in the US for at least 90 days are counted as a case. However, under the CSTE definition, these cases would no longer be counted.
   - Adam indicated that even if CSTE definition is adopted, surveillance data can still be filtered and analyzed for funding purposes and include non-residents.

- Sue indicated that cases regardless of state or country residency still added to disease burden management for the programs.

3. Next call will be 2/22. FFWG will start drafting the final summary of work and recommendations to prepare for the April ACET meeting (April 17, 2018) and to submit a final document to Dr. LoBue by early June 2018.

Date Thursday, 2/22/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Terry Chorba
Adam Langer
Kai Young
Peter Davidson
Susan McElhany
Janette Candido
Dee Pritschett
Mark Miner

Attachments
No attachments

Agenda

1. Continued discussion of CSTE statement regarding Country of Usual Residence. Adam clarified that as long as a person with TB lives in the US > 90 days, they would count for surveillance and Funding Formula purposes. An example of a non-countable person (per CSTE definition) would be a vacationer from another country, visiting the US and staying < 90 days. Terry asked what to do with patients serving in the military (stationed in the US) at time of diagnosis. Adam explained that the country of residence is of course the US, and the state of usual residence is wherever the soldier is stationed at time of diagnosis. Terry asked if the FFWG would (or would not) be bound by the CSTE statement. Adam felt that the FFWG should be free to use whatever data it sees fit. MMWR articles and Annual Surveillance Reports may be based on countable cases per the CSTE statement, but funding can be allocated based on all reported cases. Reference discussion from 2/8/2018 in which Adam described the ability within DTBE and SEOIB to filter data so that all reported cases can be used for funding purposes, but only countable cases (per CSTE statement) could be used for surveillance systems and reports.

2. Peter reiterated the need to begin writing the summary of work and recommendations. Terry reminded the group that FFWG is expected to present final recommendations to ACET on April 17, and explained that Dr. LoBue has asked that FFWG vet final recommendations through ACET first, and try to address any final ACET feedback before providing the recommendations and report to him in June. Dee Pritschett volunteered to review the document after it's written. Peter and Terry are automatically considered as authors, but would like to secure two or at most three other members from the FFWG as co-authors of the final report. Peter will approach a couple of other FFWG members to participate as co-authors.

3. Peter also shared a comment from Joe Burzynski, expressing concern that proposed indicators for Class B initiation of evaluation within 30 days, and completion of

evaluation within 90 days, are burdensome and unrealistic. Peter asked if this issue should be reflected in the final summary document as a topic with which the FFWG wrestled, but which also requires further consideration in the future. Terry asked if it would be better to consider completion of LTBI treatment for Class B persons diagnosed with LTBI, instead of completion of evaluation at 90 days. Would this be more reasonable than completion of evaluation within 90 days? We also would need to define a cohort period for this, if it is deemed a better option. Kai suggested it would help to look at NTIP National LTBI Cascade for Class B (all NTIP users have access to this), and that she would put together a 3-year side-by-side comparison of completion of evaluation at 90 days versus LTBI treatment completion for Class B.

Call was adjourned. Next call is on 3/8/2018 at 1:30. Shama Ahuja will present ideas for additional denominators, as a follow-up to the suggestion from the December ACET meeting.

Date Thursday, 3/8/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Terry Chorba
Dee Pritschett
Janette Candido
Mark Miner
Adam Langer
Maureen Kolasa
Sue Spieldenner
Susan McElhaney
Steve Hughes
Shama Ahuja
Kai Young

Attachments
Excel "Funding EDN Notification Table shared_pjd"; Excel "Funding EDN Notification Table shared"; screenshot of NTIP Treatment Cascade "Number of Immigrants and Refugees Arrived with Abnormal Chest X-Rays Read Overseas as Consistent with TB by Examination and Treatment Disposition, 2015".

1. Shama Ahuja presented ideas on additional denominators that may be relevant for funding formula. TB Control involves a lot of work, and when advocating for additional resources, case counts alone may not be enough to describe the costs and impacts of the work we do. For example, a TB Program controls TB in X thousand or million people. For example, NYC TB Program may reference a denominator of 9 million people served. Also could consider testing performed at worksites (assuming that testing is done by public health) or the number of clinics (locations or frequencies of services provided). Terry responded that the funding formula is intended to give equitable distribution of funds that supplement state/local investments in TB Prevention & Control, and to provide assurance of basic program capacity in areas where TB is at very low prevalence. Any new or alternate denominator would need to be systematically gathered over the same cohort periods as used for the funding formula indicators. Shama suggested perhaps considering some type of weighting based on population size. Janette asked if a population adjustment would be intended to predict future needs? Shama responded not necessarily to predict future needs per se, but could allow for more refined tailoring of funding flow that includes the populations served. Sue mentioned there are proxies for this in the form of Class B arrivals, but not to the extent Shama is describing. Peter wondered if a population comparison using formula indicators (e.g. XXX) would be helpful. Dee mentioned that from a low-incidence perspective, numbers of cases are low but when they occur they tend to happen in areas that do not have infrastructure or experience with TB. They therefore require proportionally more investment than perhaps is common in higher-burden areas.

2. Re-visitation of the CSTE statement on usual residence. Foremost, whatever data is considered in the funding formula must be consistently gathered by all reporting jurisdictions, and must be clearly identified as required or financially impactful by DTBE to all reporting jurisdictions. This has not been the case for non-countable TB cases to date. Terry suggested that adding non-countable cases constitutes a reporting burden to jurisdictions, and questioned if such a move would really increase TB Elimination. Moreover, in discussion with Tom Navin and Phil LoBue, the consensus was that adding the CSTE statement into the funding formula is not a direction that DTBE wishes to go. Peter, Steve and Sue clarified that the original question to FFWG was whether programs would stand to lose cases for funding purposes due to the CSTE statement. There is no indication from DTBE that programs do stand to lose funding, and indeed appears there will not be any effect from the CSTE statement for the foreseeable future. CONSENSUS AGREED – the workgroup considers this issue resolved.

3. Kai discussed comparisons of Class B1 completion of examination within 90 days, versus Class B1 completion of treatment for LTBI. Terry asked if the differences between completion of evaluation and completion of LTBI treatment are due to reporting difficulties at the state or local level. Kai responded that reporting issues are very likely in many programs, but not in all. Sue asked whether the problem programs expressed was with the completion of evaluation at all, or the fixation on a 90-day cut point. Peter shared that most feedback from NTCA members was concern about the 90-day timepoint, but programs overall felt the activity of completing evaluation was important and worth of funding. There are several factors outside of programs' control that can make completion of evaluation within 90 days exceedingly unlikely. Sue responded that perhaps we should consider a longer endpoint for completion of evaluation, rather than shifting funding to completion of LTBI treatment. Peter shared that assuming 100% completion of evaluation (but all other cascade levels the same) yields an increase of 703 patients completing LTBI treatment, while assuming 100% completion of LTBI treatment (but all other cascade levels the same) yields an increase of 717 patients completing LTBI treatment. Given the significant change in funding and the little change in outcomes, it seems more appropriate to retain funding on completion of evaluation rather than shifting to completion of LTBI treatment. Sue proposed splitting funding between completion of evaluation at 90 days and completion of evaluation at some later time point. Peter asked if we can at least resolve to maintain funding on completion of evaluation (endpoint pending) and avoid the financial disruption associated with funding LTBI treatment completion. ADDENDUM: after the call, Terry changed his position to support funding Completion of Evaluation within 90 days.

Call adjourned. Tentatively, next call will be 3/22/2018 at 1:30 pm Eastern.

Date Thursday, 3/22/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Terry Chorba
Dee Pritschett
Mark Miner
Adam Langer
Maureen Kolasa
Steve Hughes
Joe Burzynski
Kai Young

Attachments
None.

Minutes

1. Continued discussion about Completion of Class B1 Evaluation Within 90 days. Peter summarized prior discussions on this topic, referencing minutes from 3/8/2018 call, and consensus not to shift funding toward completion of LTBI treatment. Peter suggested that we maintain the current indicator of Completion of Evaluation Within 90 days, and suggestions to change the time point for this indicator should be addressed through NTIP rather than in the FFWG. In our written summary, the FFWG can recommend DTBE to work with programs to evaluate changing the NTIP indicator for Class B1 Completion of Evaluation. Joe B sought clarification and confirmation that the indicator is based on date of notification, not date of arrival. Kai confirmed this. CONSENSUS: Completion of Evaluation for Class B1 Within 90 days will remain as currently written in the FFWG recommendations. However, our report will contain a recommendation that DTBE address this issue in conjunction with programs to reevaluate the NTIP indicator.

2. Terry asked the group to revisit the question of including burden cases in the funding formula. Would the reporting of burden cases represent a difficult amount of extra work for programs? Would this effort necessitate reduction of other core activities? Peter, Dee, and Steve indicated their programs already gather surveillance data on burden cases, so this work is already occurring. Terry then asked if the reporting of burden cases should be mandated in order to be included in the formula. Peter thought a mandate would not be required, and it would be acceptable for programs to report burden cases voluntarily. Kai questioned how we would make sure that burden cases are not double-funded, i.e. funded to the program that counted them and then funded again to the program who reported them as burden. Also, would other funding formula elements (e.g., homeless, substance abuse, non-US-born etc.) also be factored in for burden cases? This reopened the discussion and questions about splitting funding between programs, and how best to go about that. Kai reminded the group of the previous decision not to split funding between programs for MDR cases. Steve, Peter and Dee expressed concerns

about how complicated splitting funding would be (for DTBE and for programs), regardless for which types of cases. Kai offered to network further with other Surveillance, Epidemiology and Outbreak Investigation Branch staff on this, but Peter expressed concerns that this topic is too broad and far-reaching for the FFWG to deal with in the short time remaining before our recommendations are due to Dr. LoBue. Other workgroup members agreed. CONSENSUS: this topic will be recommended for future consideration and action by DTBE, including the development of a model(s) of how funding for the same patient could be split between CoAg recipients.

3. Peter proposed that the investigative and development work of the FFWG is now complete and the group's efforts should now shift to writing the summary document. All participants on this call agreed. We also agreed we do not need to hold conference calls until after the ACET meeting on 4/17, at which point we will discuss any additional feedback from ACET.

Call adjourned. Next call will be 4/19/2018 at 1:30 pm Eastern.

Date Thursday, 4/26/2018

Time 1:30 pm – 2:30 pm EST

Attendees
Peter Davidson
Terry Chorba
Maureen Kolasa
Steve Hughes
Kai Young
Susan McEalhaney
Janette Candido
Sue Spieldenner
Donna Wegener

Attachments
Excel: "COT 2012 - 2016 US homeless Correction"

1. Terry Chorba provided summary and feedback from ACET meeting on 4/17/2018. Overall, feedback from FFWG was received positively. No new items or work was requested.
    a. Shama Ahuja presented on the notion of denominators, citing examples of people from NJ or other surrounding areas to go to NYC TB clinics for care and treatment. ACET did not recommend or discuss plans/strategies to award additional money to NYC or other large cities by virtue of their being "catchment centers".
    b. ACET briefly rehashed the concerns about MDR patients who move during treatment and the associated investments made by the initiating and receiving health departments. ACET agreed there is no viable way to split funding for these situations.
    c. Lisa Armitage again asked the FFWG to reconsider the costs associated with cases in correctional facilities, this time suggesting that cases diagnosed in correctional settings be added into the Social Risk Factors category. Lisa also recommended that DTBE consider expanding correctional questions to include "resident of correctional facility ever" in the 2020 RVCT. Kai Young explained that the current RVCT and proposed 2020 RVCT both collect correctional status at time of diagnosis, but there are no current plans to expand the question in the way Lisa requested. There was extensive discussion of whether to add cases diagnosed in correctional facility into Social Risk Factors. The FFWG still felt the majority of work for corrections cases is done by the correctional facility. Kai showed data (attachment) that completion of treatment is lower among cases diagnosed in correctional facilities than US overall or homeless. However, the group identified many possible causes of this difference and did not arrive at any interpretation of this difference. Sue Spieldenner reiterated her concerns from prior discussions on this topic, that the FFWG does not understand how TB programs interface with correctional facilities, nor where the work with TB cases

in corrections settings really happens. Kai shared that about 40% of all US corrections cases were reported from TX. Peter Davidson felt that acceding to Lisa's request would primarily benefit TX, with little benefit or change to most other programs, and this did not seem equitable at a national level. Janette Candido questioned how much additional effort this question merited, and thought the FFWG had already addressed the major concerns for national funding. Steve Hughes and Susan McElhaney agreed. CONSENSUS: The FFWG upheld our previous position and chose not to add cases diagnosed in correctional facilities into the funding formula. However, the FFWG did feel that better understanding of how TB programs interface with correctional facilities, and where such work actually happens, is needed. These questions will be included for future work and consideration in the summary document.

2. Meeting was adjourned. Peter, Sue Spieldenner and Terry will begin writing the summary document. Drafts will be sent for review and comment by email, but we do not plan future conference calls unless necessary.

Appendix 2
Detailed Workgroup Responses to Feedback from NTCA and ACET

Responses to Feedback from NTCA all-member calls of September 2017 and March 2018

1. Is there any way to recognize (in the funding formula) when a patient moves within the US to another jurisdiction and that jurisdiction provides a substantial (not sure how to quantify this) amount of care?

- The funding formula work group (FFWG) discussed this question at length, especially regarding the indicators for MDR and Completion of examination for Class B1 immigrants and refugees within 90 days. There was overwhelming consensus that this question is important, and the group tried to identify ways to address this. Unfortunately, there were difficulties for both indicators that the group felt unable to address in an equitable manner.
    - For MDR, the problem was that the group felt there was no practicable way to award funding for MDR cases who move in a proportional manner to the time spent in one jurisdiction or another. That is, funding is awarded for a full calendar year at a time, and that award is based on a cohort of data that is at least one year passed by the time awards are released. The group felt that trying to "pro-rate" formula funding by numbers of months would be very complicated, and difficult to make equitable to all jurisdictions involved. Therefore, the group recommended to continue allocating funding for MDR to the jurisdiction that originally reported the case, regardless of when the case moved.
    - For Completion of examination for Class B1 immigrants and refugees, the difficulty lies in the data capture and the transfer of EDN records (i.e., TB Follow-up Worksheet) between jurisdictions when patients move. EDN is managed by the Division of Global Migration and Quarantine (DGMQ). DTBE staff perform weekly data extraction from EDN to obtain the data for NTIP and funding formula indicators. Although EDN retains the dates of address change in individual records, it is not currently feasible to associate the dates of address change with which jurisdiction(s) perform the examination. Various options for identifying and assigning credit to jurisdiction were explored through data processing and flow. However, the group felt it was more appropriate at present to allocate funding for examination to the jurisdiction of original settlement. The work group strongly encourages continued improvement to the data sharing process between EDN and NTIP, in particular, improvement to the data collection in EDN. The group hopes that more strategic delineation of funding for the timely examination of immigrants and refugees will be possible in the future.

2. How would completion of LTBI treatment be measured for inclusion in the funding formula? My concern is differences in data reporting/data quality between states with LTBI reporting and states that do not require LTBI reporting. Would it be limited to contacts with LTBI only?

- The FFWG recognized that this variable could be biased by jurisdictional differences in LTBI reporting, and chose to base this on ARPE data and limit LTBI treatment to only contacts in hopes of minimizing such bias.
- Data regarding completion of LTBI treatment for contacts will be drawn from ARPE reports. As described in the summary table, eligible contacts are defined based on the

definition and guidance provided in the ARPE manual, or as described in the revised RVCT 2020.

3. How do the funding formula percentages translate to dollar amounts?
   - The funding formula operates as a cascading series of proportions. Although data is collected in terms of numbers of relevant cases or contacts, it is analyzed in the formula in the form of proportions. Think of the total available funding to Co-Ag recipients as a large pie (e.g. $65 million). Each indicator of the formula is like a piece of the pie, its size determined by its proportion of the total. For Incident Cases, at 39% of total, this corresponds to $25.35 million (39% of $65 million). Within this indicator, each Co-Ag recipient is awarded funding proportional to their total contribution toward incident cases in the cohort period. If we consider a single year in which the total US incidence was 9,500 cases and Program A reported 950 cases, they would be awarded $2.535 million (10% of $25.35 million) based on that year. In practice, the formula is analyzed each year using rolling three-year cohorts of data, but the logic is the same and applies for all other indicators.

4. What was the rationale behind the change in US minority/foreign born funding factor?
   - The FFWG wrestled with many similar questions of how much 'weight' or emphasis should be given to any of the indicators. Regarding US-born minority/foreign-born, the current formula provides equal weight to US-born minority and foreign-born cases as it does to any other incident case; both receive 24% of total funding. This is essentially saying that simply because of their demographics, these cases are awarded twice as much funding as US-born non-minority cases. The FFWG recognized the increasing incidence and community impact that foreign-born cases make in US TB, and that foreign-born cases sometimes do require more investment of time and resource. However, when we considered this against all other indicators and investments that programs make, we felt that US-born minority and foreign-born cases do not really consume double the resources as US-born non-minority cases. Rather, we felt it was more equitable overall to shift funding away from US-born minority and foreign-born cases as a group, and distribute it more broadly across all incident cases and other indicators. For example, the increase in weight for MDR and the addition of completion for LTBI treatment and examination of Class B1 immigrants and refugees were supported through redistribution of funds from the US-born minority and foreign-born indicator.
   - More broadly, the FFWG has come to feel that it's in the best interest of TB Control and Elimination for the whole US to avoid emphasizing one particular demographic or "type" of case over others. Trying to delineate specific granular concerns and then channel funding to address them is exceedingly difficult to achieve equitably, and results in an unwieldy formula that is liable to sudden change by even small shifts in epidemiology. The FFWG has tried instead to make the current formula less "prescriptive" and more "inclusive" in structure, so that funding is more equitably distributed according to data that we as programs uniformly collect.

5. Does sputum smear-positive cases with respiratory and pleural site of disease cases include bronchial washings, lung tissue, pleura fluid, etc? If not sputum smear positive?

- No. For this indicator, only those with site of disease reported as 'pulmonary," "laryngeal," "or "pleural" AND sputum smear is reported as "positive" are included.

6. Is drug-susceptibility testing (DST) referring to culture-based testing? Many labs do not offer this testing. Does this include molecular testing directly from the specimen (e.g. GeneXpert)?

- Currently DST results collected in the RVCT include only results from culture-based testing. Rapid or molecular drug susceptibility test methods such as GeneXpert, molecular beacons or line probes, are not included.
- Starting in 2020, the revised RVCT will include data collection for DST results for molecular tests. At that time, these results will be counted in the performance components.

7. Will the overall funding allocation be affected by the percentages proposed in the new formula? For example, if we expect $100,000, will that remain the same but divided into the new categories?

- This is closely related to #3. All Co-Ag recipients will receive funding per the structure of the new formula. See #3 for an example of how this would look for the Incident Cases indicator.
- Given the number and scope of changes proposed, programs should anticipate that their funding under the new formula may not be the same as current levels.

8. Will the 2020 formula retain some minimum or threshold funding level for low-incidence programs?

- Yes. The FFWG resolved to increase threshold funding to $125,000 (compared to present threshold of $100,000).

9. Regarding the indicators for Completion of Treatment for TB Cases and Completion of Examination of Class B1 immigrants and refugees Within 90 Days of Notification, there is concern about the 12-month and 90-day endpoints. There are situations outside the control of the program (medication intolerance, drug resistance, site of disease, etc) which can lead to treatment extending beyond 12 months. There are situations outside the control of the program (late arrival of immigrant, delays in notification by EDN, etc) which can lead to delays in examination. Can the required time points be removed from these indicators, such that they do not have a prescribed end point?

- The FFWG considered and deliberated on this topic for both indicators, but ultimately resolved to maintain the current deadlines for both indicators in the proposed 2020 formula.
    - Regarding Completion of Treatment for TB Cases, the 12-month benchmark is intended to be a target for programs to strive to achieve. Given that standard treatment for drug-sensitive disease is expected to last six months, the 12-month benchmark seems reasonable. Moreover, current RVCT and NTIP guidance provide exclusions for patients for whom treatment is not reasonably expected to be completed within 12 months, and these patients are excluded from this denominator in the formula.

- Regarding Completion of Examination of Class B1immigrants and refugees, the FFWG generally agreed that subsequent migration within the US was a major barrier to programs completing examination within 90 days. Delayed notification from EDN to programs was also acknowledged, but at least within the FFWG was not perceived to be as significant a barrier as subsequent migration. These discussions overlapped with those highlighted in #1, and as stated in #1, the FFWG felt that striving for improved data capture and management within EDN and with DTBE was more appropriate than removing the benchmark.

Responses to Feedback from ACET meetings in December 2017 and April 2018

FFWG Response to ACET Guidance	
ACET Guidance	**FFWG Response**
Describe the potential opportunities for DTBE to scale-up funding for LTBI testing and treatment.	The 2020 TB funding formula will include indicators for (1) the completion of LTBI treatment in TB contacts and (2) the completion of examination for immigrants and refugees with Class B1 status. A broader effort that is more community-focused will need to be based on available funds.
Maintain the capacity of an increasing number of TB programs in low incidence states over time in the event of level funding or budget cuts.	FFWG recommended an increase in threshold funding from $100,000 to $125,000 for the 2020 TB funding formula. In the current formula, nine programs receive threshold funding. In the 2020 formula, 13 programs will receive threshold funding.
Clarify the rationale for the reduction in the weight (from 24 percent to 8 percent) for non-U.S.-born and U.S.-born minority TB patients.	The current TB funding formula assigns weights of 24 percent for both (1) TB cases in U.S.-born and non-U.S.-born minorities and (2) TB incident cases. Because U.S.-born and non-U.S.-born minorities account for the majority of demographics of TB cases in the United States, these cases currently are being doubly funded by the current formula. On a case basis, the burden of caring for these populations does not consume twice the level of resources compared to U.S.-born non-minorities. The TB controllers who serve on the FFWG have first-hand knowledge of and experience in allocating funds to care for TB cases in non-U.S.-born and U.S.-born minorities. Based on their strong recommendation, FFWG reduced the weight for these populations from 24 to 8 percent to increase the weight for TB incident cases from 24 to 39 percent.
Ensure alignment between the 2020 TB funding formula and TB incidence.	The funding distribution that is proposed for the 2020 TB funding formula was compared to a strictly incidence-based allocation. Based on this

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	analysis, the 2020 formula will (1) utilize 2 percent of the total funds that would have been awarded to 22 programs if an incidence-only funding formula was used and (2) distribute the funds among the remaining 39 programs. The decrease will range from $6,183 to $351,295, while the increase will range from $296 to $116,016. The analysis also showed that under the proposed 2020 formula, 40 programs will receive more funding and 21 programs will receive less funding. FFWG's position is that compared to incidence-only funding, formula-based funding is more equitable and favorable to most programs overall. The purpose of incorporating variables into a funding formula is to redistribute funding to address the added costs of treating certain cases.
Revise the 2020 TB funding formula to account for TB cases in correctional settings, particularly since contact investigations for these cases place a tremendous burden on programs.	Contact investigations in state or federal prisons typically are managed by staff in these facilities. Contact investigations in local or county jails might require more involvement by public health department staff and additional expenses. However, these resources will not be at a level that would warrant the inclusion of TB cases in correctional settings in the 2020 TB funding formula.
Consider revising the 2020 TB funding formula to account for molecular DST results, including the proposed weight of 5 percent for DST.	The collection of expanded molecular drug testing variables currently is scheduled for the 2020 RVCT. After these data are gathered, molecular susceptibility results will be considered along with conventional test results for funding purposes.
Consider including drug intolerance in the "Medical Factors" element of the 2020 TB funding formula based on the following reasons: (1) an increased intolerance of TB drugs in the aging population and (2) similar difficulties in treating some patients with an intolerance to TB drugs and MDR-TB cases.	The subjective nature of "drug intolerance" increases the difficulty in harmonizing a standard definition and promoting uniform data collection across all TB programs. Drug intolerance often appears after a patient has been on a drug for some period of time. Due to limited capacity to support a standardized definition and consistent data collection, drug intolerance will not be included in the 2020 TB funding formula. However, the 2020 RVCT is expected to include a variable to identify and report patients who did not use first-line drugs. This variable will be

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	designed to capture changes in the patient's regimen within the first two weeks of treatment initiation. Similar to the 2020 formula, however, the 2020 RVCT also will not include a specific variable to capture data on drug intolerance.
Further examine patients who transfer between jurisdictions to address the issue of split funding.	The first jurisdiction will serve as the jurisdiction of record for the purpose of allocating funding under the 2020 TB formula. To support this recommendation, FFWG reviewed data and considered two categories of TB patients who account for the majority of cross-jurisdictional transfers. ➢ For MDR-TB patients, a "pro-rating" funding formula based on the number of months spent in a specific jurisdiction will be complex to implement and difficult to make equitable decisions for all jurisdictions involved in the case. Moreover, data show that the majority of MDR-TB patients relocate to other countries rather than to other states in the United States. ➢ For follow-up examination of immigrants and refugees in the United States, Electronic Disease Notification records (i.e., the TB Follow-up Worksheet) do not necessarily capture the jurisdiction that performs the TB examination. The "Date of Patient Transfer" variable is not designed to identify the specific jurisdiction that performed the TB examination. However, DTBE and DGMQ currently are collaborating to revise the TB Follow-up Worksheet to capture the specific jurisdiction that performs an examination. The revised worksheet has been submitted to OMB and is expected to be launched for TB programs to collect these data by the end of 2018.
Consider accounting for the denominator of TB cases in jurisdictions in addition to the numerator.	Dr. Shama Ahuja, the ACET liaison representative for the Council of State and Territorial Epidemiologists, was invited to propose potential strategies to FFWG to address

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	this issue. Several key points were raised during the discussion. ➢ Multiple denominators potentially can be used, but no single denominator has been identified that will be appropriate in all analytic frameworks to reasonably reflect an increased workload per population member. ➢ Any new or alternate denominator will need to be systematically gathered over the same cohort periods to be used in the 2020 TB funding formula. ➢ A denominator variable is not being considered for inclusion in the 2020 RVCT. Moreover, a denominator variable has not been systematically gathered to date as part of the activities conducted by TB CoAg-funded jurisdictions. FFWG reached consensus on not recommending an adjustment to the 2020 TB funding formula to account for a denominator of TB cases.

Dr. Ahuja noted that FFWG's response on split funding was based on the transfer of TB patients between two jurisdictions. She questioned whether FFWG considered the involvement of multiple jurisdictions in the cross-jurisdictional transfer of one TB case. Dr. Chorba clarified that FFWG did not address this issue.

Dr. Armitige thanked FFWG for its thoughtful consideration of her previous suggestion to revise the 2020 TB funding formula to account for TB cases in correctional settings. Based on Dr. Chorba's update, however, FFWG will take no action in this regard because staff in federal/state prisons and local/county jails are responsible for the oversight and management of TB cases, contact investigations, and cross-jurisdictional transfers of their incarcerated populations. During the final editing process of the 2020 TB funding formula, she urged FFWG to be mindful of the lack of public health expertise or interest in public health impact among corrections staff. As a resource in the final decision-making effort, she offered to provide the FFWG co-chairs with contact information for health departments in the six states of the country that will be most significantly impacted due to their high incarceration rates of newly diagnosed TB cases.