2013 TB Program Funding Workgroup Report

Background and Purpose

Prior to 2005, funding was distributed based on historical resource distribution which was primarily driven by changing trends of the epidemiology and/or overall need of programs. The original funding distributions were determined based on several different factors including competitive application awards and current need at the time of original funding. Because of the changing demographics of the disease in the United States, there was a broad range in funding on a per case basis. In 2005 the Division of Tuberculosis Elimination (DTBE) implemented a funding formula which was phased in gradually and a revised formula in 2010. The 2005-2012 plan set aside a group of "hold harmless" cooperative agreement jurisdictions, which received lower funding amounts and had smaller TB case counts. The hold harmless jurisdictions received a flat level of funding based on historic distribution and were not subject to the formula. In addition, since 2005 each jurisdiction has received a human resource development (HRD) allotment determined by three tiers of TB morbidity: $20,000 (0 – 49 cases), $30,000 (50 – 499 cases), or $50,000 (500 or more cases). The HRD funding has decreased over time based on across-the-board congressional budget revisions and funding cuts. Based on these funding streams, in 2011 the median jurisdictional funding per case was $5,300, with a range of $3,925 to $43,833 within the U.S. State and Big City Programs. The Affiliated Islands and U.S. Territory Programs had a per case range of $1,074 to $86,173.

DTBE invited the National Tuberculosis Controllers Association (NTCA) into a partnership in 2008 to review the funding formula and structure in preparation for the 2010 Cooperative Agreement cycle. Minutes and other documents related to the work of the DTBE/NTCA work group are posted on the NTCA website for review. This joint workgroup made recommendations to the director of DTBE which ultimately resulted in the formula shown below, with no changes to the funding structure of big cities, hold harmless jurisdictions, the U.S. Affiliated Islands and other territories, or the pace of formula implementation.

Formula Element	Weight
Incident Cases	30%
US-Born Minorities/Foreign-Born	35%
Smear Positive Pulmonary	15%
HIV Co-Infection	5%
MDR TB	5%
Substance Abuse	5%
Homeless	5%

The workgroup was asked to reconvene in the summer of 2011 due to anticipation of a further decline in national resources to be distributed to the jurisdictions. Similar to the previous workgroup, the current formula workgroup includes representation from jurisdictions with high medium and low TB morbidity, and with both new and some returning members. This group was charged with the following tasks:

- Evaluate the current formula elements and weights;
- Assess the current funding structure as it relates to big cities, hold harmless jurisdictions, and islands;
- Assess the current implementation pace; and
- Develop a means of incorporating performance measure funding for a portion of allocations.

Workgroup Composition

The 2011 workgroup is co-chaired by the DTBE Field Services and Evaluation Branch (FSEB) Chief and the NTCA Past President. The current DTBE co-chair was not a participant in the previous workgroup, whereas the NTCA co-chair was a participant. In addition, the current workgroup includes representation by two NTCA members from each of the three TB incidence levels (i.e., high, medium, and low) as well as by two members representing big city programs. DTBE participation includes members from each branch, with additional representatives from the FSEB (i.e., the deputy, team leads, a program consultant, public health advisor and medical officer). The Association of Public Health Laboratories (APHL) is represented, as well as the executive director of the NTCA. The following is a list of the workgroup membership:

Co-Chairs	Terry Chorba (CDC Field Services)	Phil Griffin (NTCA, Kansas)
Low Incidence	Denise Ingman (Montana)	Pat Infield (Nebraska)
Medium Incidence	Sue Etkind (Massachusetts)	Jon Warkentin (Tennessee)
High Incidence	Charles Wallace (Texas)	Jenny Flood (California)
Big Cities	Kathy Moser (San Diego)	Diana Nilsen (New York City)
CDC	***Field Services and Evaluation*** Joe Scavotto Greg Andrews Dan Ruggerio Awal Khan (Evaluation) Mark Miner (Program Consultant) Stuart McMullen (Field PHA) Margaret Oxtoby (Field MO)	***Lab*** Angela Starks ***Surveillance/Epi/Outbreak*** Roque Miramontes ***Recorder*** Lakshmy Menon
	Director's Office Phil Talboy	***Communication/Education*** Wanda Walton
Other	Ed Desmond (APHL Field) Tam Van (APHL Org)	Carol Pozsik (NTCA ED)

Recommendations

The recommendations below represent the product of discussion among representatives of several organizations with different constituencies and stakeholders, and should not be considered statements derived from consensus within the workgroup.

1. Human Resource Development (HRD)

HRD should remain unchanged in its basic three-tiered structure based upon level of TB incident cases in jurisdictions. It is important that CDC expectations for use of these funds by jurisdictions remain flexible. Programs need to be able to use these funds to best meet the educational needs of the respective programs whether that is for salary, training internal or external staff, or travel for educational purposes. The requirement of some programs (i.e., those which are very small) to attend the annual Education Training Network conference should be relaxed if this is not a realistic priority of the program. With limited resources available, the more immediate need of such programs to focus on maintaining technical capacity for TB-related consultation and assistance may outweigh the need to train others.

Another approach supported by some members of the workgroup was to eliminate the HRD and simply add those funds to enlarge the total fund available for distribution to programs. However, overall it was felt that the flexibility of the HRD funds has been very useful to programs, and that the availability of HRD funds specifically adds value to recognition of the need for ongoing education and training activities while providing resources toward that investment.

Also, the workgroup considered a scenario of redistributing the HRD funds based on different tiers of TB morbidity. However, it was felt that the total funding available for HRD is already insufficient to meet the current or future actual HRD needs, thus adding additional tiers would diminish the value of funds now available to most programs.

2. Hold Harmless Programs

There should no longer be “hold harmless” programs, however, no program should be funded below a base amount of $65,000 (plus their HRD funding) and different program performance expectations (“objectives”) should be applied to programs with this base funding. DTBE has previously suggested that $65,000 would fund a part-time position in very low incidence jurisdictions to provide capacity for at least TB surveillance, a reporting mechanism to DTBE, and a jurisdictional point of contact for DTBE should outside resources become needed.

The workgroup considered a scenario in which all programs would receive the $65,000 funding base with the formula applied above a specific TB case count. However, it was determined that this funding model would result in a broader per-case funding disparity between programs.

Another idea explored was to have base funding for all programs set at $100,000. This would provide for a more substantial ability to maintain infrastructure in very low morbidity areas but would also divert some funding away from high morbidity areas and perpetuate the per-case funding disparity which this reassessment process aims to reduce.

3. Big City Programs

It is recommended that the Big Cities should remain intact as historically listed, with an option specified in the cooperative agreement application process for one application to be submitted if a Big City and its associated State program mutually agree that one application would be of benefit to both programs. This option follows a model recently introduced by the Division of HIV/AIDS Prevention of CDC.

Another idea discussed in relation to Big Cities was to eliminate all direct DTBE funding to big city TB programs, and to roll the funding for big cities into the corresponding state programs to support the big city TB-related activities. Within the workgroup there is concern with this idea that some big cities would consequently have reduced funding because of indirect costs being taken at the state level. There is also concern in some areas that this model would destroy the infrastructure and flexibility of TB programs where some of the highest morbidity of disease is concentrated.

4. Affiliated Islands and Territories

The workgroup recommends a “carve-out” of funding for the Affiliated Islands and Territories and that the Affiliated Islands and Territories have their own formula for distribution of this funding. This recommendation is tied to the assumption that any cuts or increases to overall DTBE funding for jurisdictions would be proportionately distributed between the State/Big City program funds and the Affiliated Island/Territory program funds. The initial carve-out will be based on the proportion of funds that would be associated with the current average morbidity in the Affiliated Islands and Territories in relation to the rest of the programs. The per-case funding for these programs should have a close median and be within the same variance as that of the funded State/Big City programs.

The other idea considered by the workgroup was to have the island programs remain in the same funding category as the State and Big City programs. However, this idea does not take into consideration the differences of infrastructure and population needs that are to be addressed within the recommendation provided above.

5. Formula

Upon review of the current formula, the workgroup agreed that all current data elements should remain within the formula. In addition, a new element should be added to account for the work associated with follow up of all immigrant and refugee “B-status” arrivals in the United States. After review of available data sources, it was determined that the Electronic Disease Notification (EDN) system should be the data source used to document the data element for class B1, B2, and B3 “arrivals.”. This data element should be weighted at 5%, coinciding with a reduction of 5% from the “U.S.-born Minority/Foreign-born” element.

The workgroup also recommends that the “MDR” data element should be changed to “Rifampin Resistant” based on the fact that mono-resistance to rifampin may be as burdensome on programs as MDR-TB or XDR-TB, and is inclusive of both MDR-TB and XDR-TB.

The final formula recommendation is:

Formula Element	Weight
Incident Cases	30%
US-Born Minorities/Foreign-Born	30%
Smear Positive Pulmonary	15%
HIV Co-Infection	5%
Substance Abuse	5%
Homeless	5%
EDN Arrivals	5%
Rifampin Resistant	5%

The workgroup set aside other formula strategies based on economic factors, bi-national morbidity, and contact investigation activities due to lack of reliable data sources for these variables.

6. Rate of Formula Implementation

The workgroup recommends that the new funding formula be implemented incrementally over the next 5-year funding cycle as follows:

Year	2013	2014	2015	2016	2017
Base	40%	30%	20%	10%	0%
Formula	60%	70%	80%	90%	100%

The concept of rapidly accelerating to 100% formula funding implementation in 2013 was considered by the workgroup, but there is concern that a funding redistribution in a short time could significantly impact infrastructure in some areas and have a negative impact on progress being made toward TB elimination. Other options for more rapid implementation of the formula (i.e., full implementation by 2015) were also discussed, but again, the impact was considered to have the same impact mentioned previously to some TB programs. At the same time, it was discussed and recognized that an incremental phase-in will delay some of the highest burden jurisdictions in raising their funding to match their share of the morbidity. It was acknowledged this will continue to delay the needed build up of infrastructure and progress toward elimination in some jurisdictions.

7. Cohort Years for Formula Calculations

In consideration of the continuing shift in TB epidemiology nationwide and ever-changing trends within TB control jurisdictions, it is reasonable that the 5-year cohort of data to be used in formula calculations should reflect that dynamic over time. Still, programs need a measure of stability to adjust effectively and efficiently to changes in funding levels. Therefore, the workgroup recommends that the 5-year data cohorts should be as follows:

Funding Year	2013	2014	2015	2016	2017
Data Cohort	2006 – 2010	2006 – 2010	2008 – 2012	2008 – 2012	2010 - 2014

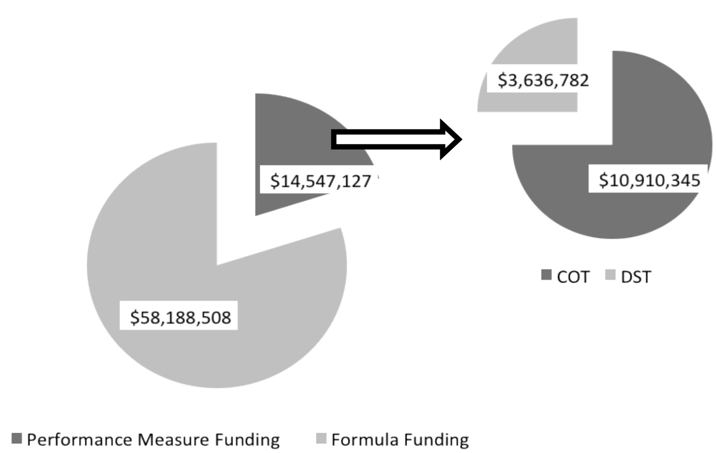
The concept of utilizing 5-year data cohorts which advance annually was also considered, but there is concern that this would involve too many unknown complications and potentially cause problems with good program planning efforts. The potential for continued decreases in funding appropriations from Congress, compounded by annual shifts in the 5-year data cohort, would create additional uncertainty for resource planning within the programs. Again, it was recognized and discussed that this may delay funding increases for areas experiencing increasing morbidity in the most recent calendar years.

8. Performance Measures

The workgroup agreed that there should be two (2) performance-driven funding measures, and that 20% of the total program funding should be determined by these measures. Of this performance funding, 75% should be derived from completion of treatment ("COT") within two years (excluding rifampin-resistant cases), and 25% should be determined by culture-positive cases having drug sensitivity test ("DST") for INH, RIF, and EMB completed. Cases that move out of the country would be excluded from the calculations for COT. Other standard adjustments to the calculations would be followed as they appear in routine reporting of outcomes by the Surveillance Branch (i.e., dead at diagnosis, died, etc.). Funding available to each program would be in direct proportion to the funding available through the morbidity-driven variable formula.

The concept of a performance measure based on known HIV status was also considered by the workgroup. However, the approach was abandoned because there is already a percentage of formula funding impacted by documented HIV status which serves as a program performance incentive. There was also concern about the negative impact of tying funding to program performance measures subject to forces outside the control of the programs, and to measures that are not impacting the national goal of TB elimination.

The follow diagram demonstrates how the funding should be distributed between formula and performance. The calculations that appear below reflect how funding would have been distributed in 2011 had this process been in place.



There are several complicating factors at play with the calculation of performance measures. For example:

- What happens to funds that are not awarded if a program fails to meet the performance measure? If funds are redistributed to the other programs one year, and the program improves and meets the performance target the next year, it will appear that the programs which have been consistently meeting target during the same period are penalized when the funds are restored to the program that once lost them.
- If a program does not meet the performance measure, is it due to lack of resources? If so, how are improvements going to be made if resources are further restricted? Are programs that are meeting targets doing so because of adequate resources?
- Since it appears that most (if not all) programs are meeting these performance measures, what is the incentive provided by tying the measure to funding?
- Will this funding mechanism add value toward achieving the goal of TB Elimination?
- In the spirit of a "cooperative agreement," what is the role of CDC in assuring that programs achieve performance measure targets?
- Are performance measures determined annually or by an average if measured performance over time? What would be the time frame?
- Given the delay between TB-related events and data reporting on the RVCT, is the delay between actual events (in aggregate, the data provided to calculate program performance) and the impact on funding of performance measure calculation too far removed? If corrective action has been taken and the program demonstrates improved performance before the "funding penalty" is implemented, does the "penalty" hamper progress that has been achieved?
- Programs with very low TB morbidity are disproportionately vulnerable to the impact of funding calculations that compare rates and percentages. For example, a program with an annual TB incidence of 30 cases would be more negatively affected by one case with a poor outcome than would a program having 500 TB cases.
- What if the performance measure tied to funding is totally out of the control of the program? For example, what if a private laboratory develops the culture but does not perform drug sensitivity testing (DST) and fails to send the isolate to the program laboratory for DST despite the best efforts by program staff?

The workgroup recommends that if a program does not meet the target of a performance measure tied to funding, DTBE should restrict and redirect within the same program the portion of funding that is not earned into activities negotiated with the program to improve program capacity to meet the performance target in the future.

Finally, the workgroup recommends that, prior to and in time to inform funding discussions related to the 2018 funding cycle, DTBE should evaluate and report to NTCA the impact of linking a portion of TB program funding to selected program performance measures.

9. Evaluation of Reported Data

The workgroup recommends data calculated for all variables of funding be reviewed with programs prior to final calculations of funding distribution. This recommendation stems from the concern there continues to be differences between data at the program level and data at DTBE. This mechanism should be used to assure accurate funding distribution and will also assist in improving national data and reports being presented by DTBE.