

## Appendix 2: Determination of Eligible HSDAs based on HIV Morbidity Scores

Activities focused on HSDAs with the highest population morbidity for HIV are considered eligible for funding under this RFA. These areas are referenced as Eligible HSDAs.

To determine population morbidity, the DSHS calculates a morbidity score based on the following four (4) variables for each of the twenty-six (26) HSDAs in Texas: the number of persons living with a diagnosed HIV infection in 2021 (i.e., HIV prevalence); the number of persons living with HIV in 2021 per 100,000 members of the population in the HSDA (i.e., HIV prevalence rate); the number of persons with new diagnoses living in the HSDA from 2017-2021; and the number of diagnoses made in 2021 per 100,000 members of the population in the HSDA (i.e., the new diagnosis rate).

Note that values of these four variables are on different scales—for example, the number of persons living with HIV are represented by a whole number with an indefinite range while prevalence rates are represented by ratios ranging from zero (0) to one (1). To standardize these variables, values are transformed into decile scores by first ranking values from lowest to highest and then dividing the ordered set by ten equal subgroups. For example, the group of HSDAs with the lowest number of persons living with HIV in 2021 are assigned a decile score of one (1); the group with the next lowest values are assigned a score of two (2), and so on, until the group with highest values are assigned a score of ten (10). Transforming the values of the twenty-six (26) HSDAs into deciles results in two (2) or three (3) HSDAs per group.

Decile scores for each variable are then multiplied by a predetermined weighted constant. (See Table 3).

**Table 3: Variable Weights**

Variable	Weight
Prevalence	30
Prevalence Rate	5
Number of New Diagnoses	60
New Diagnosis Rate	5

The final morbidity score is calculated by taking the sum of the weighted decile scores (see Equation 1 below):

$$\text{Total Score} = (30 * \text{prevalence decile score}) + (5 * \text{prevalence rate decile score}) + (60 * \text{number of new diagnosis decile score}) + (5 * \text{new diagnosis decile score})$$
$$\text{Total score} = (30 * \text{prevalence decile score}) + (5 * \text{prevalence rate decile score}) + (60 * \text{number of new diagnoses decile score}) + (5 * \text{diagnosis rate decile score})$$

*Example:* Dallas HSDA score was  $(30*10) + (5*10) + (60*10) + (5*10) = 1,000$  and the El Paso HSDA score was  $(30*8) + (5*8) + (60*8) + (5*9) = 805$ .

HSDAs are then ranked from highest to lowest final score and divided into quartiles called Tiers. HSDAs that score within tiers one through three are designated as Eligible HSDAs. Decile scores, total morbidity scores, and tier categorization for each HSDA are shown on Table 4 below:

**Table 4: HSDAs scored by morbidity**

	<b>PLWH Decile</b>	<b>PLWH Rate Decile</b>	<b>New Decile</b>	<b>New Rate Decile</b>	<b>Total</b>	<b>Tier</b>
<i>Weight</i>	30	5	60	5		
Dallas HSDA	10	10	10	10	1,000	1
San Antonio HSDA	9	9	9	9	900	1
Austin HSDA	9	9	9	8	895	1
Fort Worth HSDA	9	8	9	8	890	1
Houston HSDA (w/o City of Houston)	9	6	9	6	1,000	1
El Paso HSDA	8	8	8	9	805	1
Brownsville HSDA	8	6	8	7	785	2
Tyler HSDA	7	7	8	6	755	2
Galveston HSDA	8	8	7	6	730	2
Beaumont-Port Arthur HSDA	7	9	7	9	720	2
Temple-Killeen HSDA	6	6	6	5	595	2
Corpus Christi HSDA	6	4	6	5	585	2
Permian Basin- Midland- Odessa HSDA	5	3	6	8	565	2
Waco HSDA	5	6	5	6	510	3
Amarillo HSDA	4	3	5	5	460	3
Laredo HSDA	3	4	5	7	445	3
Lubbock HSDA	5	5	4	4	435	3
Lufkin HSDA	6	7	3	1	400	3
Bryan-College Sta. HSDA	4	5	4	3	400	3
Texarkana HSDA	3	5	3	4	315	3
Abilene HSDA (not eligible for funding)	3	2	3	2	290	4

Sherman-Denison HSDA (not eligible for funding)	2	3	2	2	205	4
Victoria HSDA (not eligible for funding)	2	2	2	3	205	4
Concho Plateau HSDA (not eligible for funding)	1	2	2	3	175	4
Wichita Falls HSDA (not eligible for funding)	2	1	1	1	130	4
Uvalde HSDA (not eligible for funding)	1	1	1	2	105	4