COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES TOBACCO CONTROL AND PREVENTION PROGRAM

# Development of an Evidence-Based Tobacco Control Resource Model for Los Angeles County

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## Problem/Objective

In an era of shrinking budgets and increasing demand for accountability, it is more important than ever that funding decisions are evidence-based.

The objective of the Tobacco Control & Prevention Resource Allocation Model is to develop an evidence-based needs assessment model to inform funding decisions for the eight Service Planning Areas (SPAs) of the Los Angeles County Department of Health Services.

## Methods

In order to characterize the tobacco-related needs of Los Angeles County, indicators of disease burden, tobacco use behaviors, and socio-economic status were obtained from multiple sources including vital statistics, Los Angeles County Health Survey, and CDC Smoking-Attributable Mortality, Morbidity, and Economic Costs software (SAMMEC 3.0).

Specific indicators include: smoking-attributable mortality, years of potential life lost (YPLL) for tobacco-related diseases, current smoking and heavy smoking prevalence, and Federal Poverty Level.

SPA-specific scores were derived for each of the five standardized indicators. Two summary scores were also derived for each of the eight SPAs–one is an average of the five indicators and the other, a summary score weighted by each SPA's population size.

## Results

(See Tables 1-6 for SPA-specific indicator scores and weighted and unweighted summary scores)

## Conclusions

The resource allocation model was successful in characterizing the tobacco-related needs of the county SPAs. For example, the northern SPA was ranked highest on four out of the five indicators including current smoking, heavy smoking, tobacco-related mortality, and YPLL. Correspondingly, this SPA ranked highest on the unweighted summary score and projected funding allocation.

The model provides an evidenced-based methodology for informing funding decisions, diagnosing tobacco-related community needs, and developing targeted tobacco control and prevention activities. Moreover, the methodology can be easily extended to assess the comprehensive health needs of a community or specific community health issues such as alcohol/drug use, obesity, and health care access/quality.

### 1. Age-Adjusted Smoking-Attributable Mortality Rate*

| SPA | Adjusted Mortality Rate (per 100,000) | Adjusted Mortality Rate: Transformed Score | Adjusted Mortality Rate: Percentage Score | Rank |
|---|---|---|---|---|
| 1 | 452.3 | 63.31 | .152 | 1 |
| 2 | 298.7 | 51.66 | .124 | 3 |
| 3 | 257.8 | 48.56 | .117 | 5 |
| 4 | 295.7 | 51.44 | .124 | 4 |
| 5 | 212.7 | 45.14 | .109 | 8 |
| 6 | 217.4 | 45.50 | .110 | 7 |
| 7 | 249.4 | 47.93 | .115 | 6 |
| 8 | 431.8 | 61.76 | .149 | 2 |

*Age-adjusted smoking-attributable mortality rates based on Los Angeles County vital statistics and calculated using CDC SAMMEC 3.0 software.

### 2. Age-Adjusted Smoking-Attributable Years of Potential Life Lost (YPLL)*

| SPA | Adjusted YPLL Rate (per 100,000) | Adjusted YPLL Rate: Transformed Score | Adjusted YPLL Rate: Percentage Score | Rank |
|---|---|---|---|---|
| 1 | 1714.0 | 65.59 | .155 | 1 |
| 2 | 762.3 | 49.89 | .118 | 5 |
| 3 | 572.5 | 46.76 | .110 | 7 |
| 4 | 816.5 | 50.78 | .120 | 3 |
| 5 | 545.0 | 46.30 | .109 | 8 |
| 6 | 1679.0 | 65.01 | .154 | 2 |
| 7 | 775.8 | 50.11 | .118 | 4 |
| 8 | 710.9 | 49.04 | .116 | 6 |

*Age-adjusted smoking-attributable years of potential life lost based on Los Angeles County vital statistics and calculated using CDC SAMMEC 3.0 software.

### 3. Prevalence of Cigarette Smoking*

| SPA | Prevalence of Smoking | Prevalence of Smoking: Transformed Score | Prevalence of Smoking: Percentage Score | Rank |
|---|---|---|---|---|
| 1 | 24.4 | 76.60 | .187 | 1 |
| 2 | 18.1 | 47.17 | .115 | 6 |
| 3 | 15.4 | 34.26 | .084 | 8 |
| 4 | 20.3 | 57.13 | .139 | 2 |
| 5 | 19.2 | 52.34 | .128 | 3 |
| 6 | 19.1 | 51.70 | .126 | 4 |
| 7 | 17.1 | 42.30 | .103 | 7 |
| 8 | 18.4 | 48.30 | .118 | 5 |

*Smoking prevalence based on 1999 Los Angeles County Health Survey.

### 4. Prevalence of Heavy Smoking*

| SPA | Prevalence of Heavy Smoking | Prevalence of Heavy Smoking: Transformed Score | Prevalence of Heavy Smoking: Percentage Score | Rank |
|---|---|---|---|---|
| 1 | 39.2 | 60.51 | .148 | 1 |
| 2 | 35.8 | 58.01 | .142 | 2 |
| 3 | 24.9 | 49.86 | .122 | 5 |
| 4 | 18.7 | 45.16 | .110 | 7 |
| 5 | 25.3 | 50.14 | .123 | 4 |
| 6 | 13.7 | 41.46 | .101 | 8 |
| 7 | 22.8 | 48.29 | .118 | 6 |
| 8 | 32.4 | 55.43 | .136 | 3 |

*Heavy smoking prevalence based on 1999 Los Angeles County Health Survey. Heavy smoking defined as smoking one or more packs (20 cigarettes) of cigarettes per day.

### 5. Population Proportion < 200% of Federal Poverty Level (FPL)*

| SPA | Proportion Below 200% FPL | Proportion Below 200% FPL: Transformed Score | Proportion Below 200% FPL: Percentage Score | Rank |
|---|---|---|---|---|
| 1 | 33.3 | 48.47 | .113 | 6 |
| 2 | 30.3 | 46.67 | .109 | 7 |
| 3 | 36.5 | 50.35 | .118 | 4 |
| 4 | 49.5 | 58.15 | .136 | 2 |
| 5 | 29.0 | 45.87 | .107 | 8 |
| 6 | 72.5 | 71.86 | .168 | 1 |
| 7 | 47.6 | 56.97 | .133 | 3 |
| 8 | 35.3 | 49.65 | .116 | 5 |

*Federal poverty level data based on 1999 Los Angeles County Health Survey.

### 6. Weighted and Unweighted Summary Scores, Rankings, and Score-Based Funding Recommendations*

| SPA | Weighted Score | Rank | Funding Recommendation | Unweighted Score | Rank | Funding Recommendation |
|---|---|---|---|---|---|---|
| 1 | .038 | 8 | $76,000 | .151 | 1 | $302,000 |
| 2 | .196 | 1 | $392,000 | .121 | 5 | $242,000 |
| 3 | .177 | 2 | $354,000 | .110 | 8 | $220,000 |
| 4 | .122 | 5 | $244,000 | .126 | 4 | $252,000 |
| 5 | .061 | 7 | $122,000 | .115 | 7 | $230,000 |
| 6 | .108 | 6 | $216,000 | .132 | 2 | $264,000 |
| 7 | .135 | 4 | $270,000 | .118 | 6 | $236,000 |
| 8 | .163 | 3 | $326,000 | .127 | 3 | $254,000 |

*SPA-specific funding recommendation based on hypothetical total funding allocation of $2 million.