Statement of Purpose Regarding the Creation of Core Data Elements

Review of the Value of the Five Dimensions of Public Health

At the core of public health are five specific dimensions:
1. Time – such as cause of death by year.
2. Place – such as locations of a specific cause of death by census tract.
3. Age – such as the cause of death among individuals 10-15 years of age.
4. Race – such as the specific cause of death among blacks and whites.
5. Sex – such as the specific cause of death among males and females.

It is a typical public health inquiry to determine the occurrences of a specific cause of death in any place, at any time, by sex, by race, and by age. Public health is interested in population trends and factors that influence the health status of communities, states, and regions. At minimum, linking data sources by the five dimensions, listed above, is sufficient for most public health planning, evaluation, and assessment. For example, *what are the top ten causes of death, by race, by age, and by sex, for census tracts that are ninety percent Medicaid eligible, for the last five years?* This inquiry requires three data sources: death files, census files, and Medicaid files for the last five years. To link the Medicaid and death files, all that is required is to standardize the race, age, and sex coding, and to geocode both files by census tract. Or, Medicaid eligibility can be determined by household income (U.S. Census data), or through external data sources such as Claritas' marketing data.

However, linking birth files to Medicaid files by determining if *specific individuals* exist in both data sources is problematic: Individual record linkage requires that more time and resources are spent on accounting for unlinked records than are expended on analysis and interpretation.

Purpose

The purpose of specifying and adopting these five core dimensions as division policy is to be able to integrate data and therefore unify public health business processes.

In order to integrate data, the division needs to align its programmatic and population-based data so that each program and district has the same format, with Time, Place, Age, Race, and Sex, coded and labeled the same. Once integrated, programs have enhanced the value of the data. For example consider vaccine-preventable disease: Before integration you know the number of vaccines delivered. After integration, you can consider where vaccines were delivered, at what time, and the age, race, sex profile of those who received the vaccinations. Furthermore, you can compare to hospital discharges (morbidity data) and vital records (mortality data) from the same time, place and population profile. Therefore you can evaluate vaccine failure and success rates based on the number of vaccine-preventable discharges and/or deaths.

Utilizing this information allows the Division of Public Health to defend, evaluate, or make the case for funding our programs and public health activities to legislators and other constituents. When all programs, and therefore branches, sections, and districts, comply with the standard domain format, the Division has implemented a basis for rational data-driven decision-making. Without decision-making based upon integrated data, the Division of Public Health cannot become a population-based business.