

Aetiologic Theory Structuring Guide (ATSG)

The ATSG is designed to guide the user through a systematic process of gathering information that can be used to define fully the problem the intervention will address. In public health, problems have been defined as discrepancies between what representatives of relevant sectors of a community (i.e., the media, public health officials, primary physical and mental health care providers, government officials) think health-relevant attitudes, actions, and conditions should be and what they are, based on relevant evidence-based information (Cole et al., 1995).

The ATSG is founded on three fundamental assumptions. These are: (1) the best way to overcome a problem is to address its root causes which, in turn, requires learning what these causes are and how they relate to the problem and to one another; (2) before action is taken on any problem, it should be carefully defined in terms of a discrepancy between what is desired and what is observed in connection with a health-related situation or condition, and (3) the attributes of those experiencing the problem, the dimensions of the problem, and the causes of the problem should be clearly illustrated as a means of better understanding the nature and extent of the problem of concern. Accordingly, there are three ATSG phases that correspond with these assumptions. These include: (1) writing a problem statement, (2) describing the problem and its determinants, and (3) diagrammatically illustrating the aetiology of the problem by creating Problem Aetiology Charts (PAC).

Phase 1 in this process involves writing a problem statement which explicitly states what is expected to occur relative to what is occurring. For instance, if a group of health officials expects the smoking rate to decline among adolescents, and the opposite is observed, then it can be said that a problem exists. This problem, once it is clearly defined, becomes the focus of the intervention.

To further clarify the problem, phase 2 of the ATSG describes the problem of concern in terms of the attributes of those who experiencing it, its epidemiologic dimensions, and its causes. A thorough description of a problem that will be addressed by an intervention helps program planners focus the intervention on individuals who have the same characteristics as those who are experiencing the problem, tailor the intervention to the unique needs of the target group, discover points of intervention by focusing on the root causes of the problem, and establish priorities. Tables 1 and 2 illustrate how Phase 2 can be completed. Two different hypothetical examples are provided in these tables (Table 1: Teen Smoking, and Table 2: Handgun Violence).

In Phase 3, the ATSG user creates a Problem Aetiology Chart (PAC) for each problem to be addressed by the intervention. These charts diagram the links and relationships between the causes of the problem.

PACs are created by: 1) placing the health problem you are interested in at the focal point on the left side of a page as if beginning an organizational chart or family genealogy chart with a single individual; 2) labeling this point on the

chart sector 1, and 3) expanding the chart, from left to right, by adding new sectors. The PAC should line up the known causes of the problem in an order or sequence in which these factors contribute to, or flow into, the problem. Causal factors, and the order in which they contribute to a problem, can be identified through many different means including a consensus of the opinions of experts, a literature search, and/or an original study to collect primary data. A systematic review of the scientific literature can help ensure that the PAC is informed by, and benefits from, the collective knowledge reported in the literature about the problem of concern.

A completed PAC provides visual insight into the problem of concern. This added insight allows program planners to identify points in the causal channels that might be disrupted to mitigate or eliminate the problem. Examples of fully-developed PACs based on Tables 1 and 2 are provided in Figures 1 and 2, respectively. From a theory-based evaluation perspective, each PAC serves as a standard to which the actual problem (as observed through data collection) can be compared when assessing the validity of the expected theory of the problem or the aetiology theory.

Table 1. Hypothetical Description of Teen Smoking		
Attributes	Dimensions	Cause
<p>Physical <i>Chronic pulmonary disease among teen smokers.</i></p> <p>Behavioral <i>Inability to resist pressure to engage in risky behaviors, including cigarette smoking.</i></p> <p>Demographic <i>Age, gender, economic status, and race/ethnicity of adolescents who smoke.</i></p> <p>Psychographic <i>Attitudes regarding the use of tobacco among teens.</i></p>	<p>Incidence <i>The proportion of all teenagers who reported smoking in the past 30 days, relative to the population at risk.</i></p> <p>Prevalence <i>Number of teenagers who report having smoked at least once, relative to the population at risk.</i></p> <p>Degree of Use <i>Quantity and frequency of cigarette use among teens who consider themselves to be current smokers.</i></p> <p>Distribution <i>Number of teenagers who are current smokers in particular school district.</i></p>	<p>Direct <i>Belief that tobacco use is normative.</i> <i>Positive attitude towards smoking by teens.</i> <i>Ready access to tobacco.</i> <i>Susceptible to peer pressure.</i></p> <p>Indirect <i>Smoking by other teens.</i> <i>Tobacco use by parents.</i> <i>Inadequate training or modeling by parents to resist peer pressure.</i> <i>Promotion of cigarettes by tobacco industry.</i> <i>Lack of vigilance on the part of retailers to verify identification.</i></p>

Table 2. Hypothetical Description of Homicide		
Attributes	Dimensions	Cause
<p>Physical <i>Mental and physical health status of perpetrator.</i></p> <p>Behavioral <i>Media exposure of perpetrator; self-defense skills of victim.</i></p> <p>Demographic <i>Age and gender of perpetrators and victims</i></p> <p>Psychographic <i>Personality traits, attitudes, and behavioral intentions of perpetrators and victims.</i></p>	<p>Incidence <i>Number of homicides occurring over a given time period, relative to the population at risk.</i></p> <p>Prevalence <i>Number of homicides at a specific point in time, in relation to the population at risk.</i></p> <p>Distribution <i>Number of cases in a given area or among a certain group of individuals</i></p>	<p>Direct</p> <ul style="list-style-type: none"> • <i>Handgun</i> • <i>Knife</i> • <i>Bomb</i> <p>Indirect</p> <ul style="list-style-type: none"> • <i>Chronic exposure to violent media</i> • <i>Inadequate conflict resolution skills</i> • <i>Parents who modeled violent responses to stressful situations</i> • <i>Victim of physical child abuse</i> • <i>Raised in a violent culture</i> • <i>Paranoia</i>

Another important benefit of a PAC is that it can help intervention planners “see the problem.” That is, a carefully formulated PAC can serve to visually illustrate the aetiologic routes that constitute the direct and indirect causes of the problem.