

The IOM Model:

A Tool for Prevention Planning and Implementation

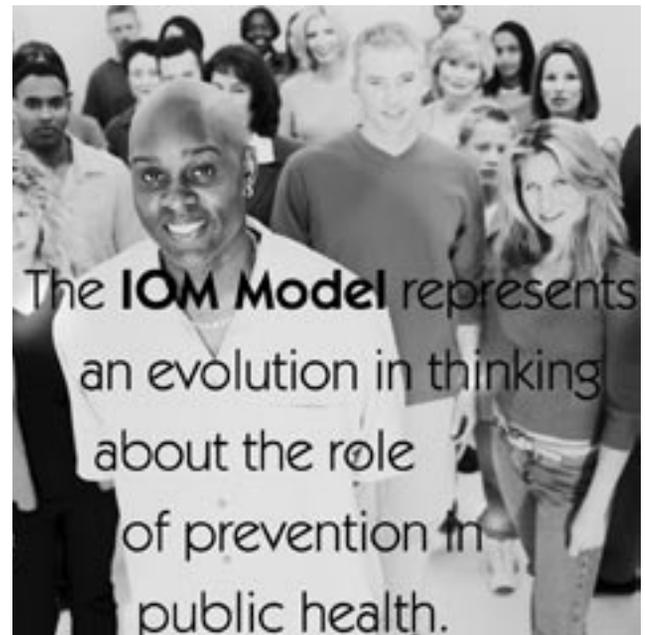
By Fred Springer, Ph.D and Joel L. Phillips

Introduction

In recent years, prevention planners and policy makers have focused increasingly on identifying populations with differing prevention needs. Greater focus on diverse population needs will help meet multiple policy and planning objectives by better aligning need and services, and supporting more efficient allocation of resources. Importantly, it will also strengthen implementation and use of evaluation and evidence-based practice. New initiatives in building capacity in prevention systems, such as SAMHSA's Strategic Planning Framework (SPF), are designed to build capacity to better align prevention with need, and to better achieve results. The Institute of Medicine (IOM) continuum of care model is an important, and currently underutilized, tool for strengthening capacity. As explained in this *Prevention Tactic*, the IOM model has great potential for guiding the identification of population groups and individuals with differing prevention needs, and aligning these needs with appropriate policies, programs and practices. This *Tactic* (a) provides a brief history of the development of the IOM model and its application to prevention, and (b) outlines applications of the IOM model that will strengthen prevention planning, implementation and outcomes.

The IOM Model: What Is It?

The IOM Model represents an evolution in thinking about the role of prevention in public health planning. Until recently, the dominant framework for distinguishing between progressive types of pre-



vention and their relation to treatment was the 1957 Commission on Chronic Health model which made the distinctions between primary (prevention), secondary (intervention), and tertiary (treatment) phases. In the 1980s this model came under increasing criticism because it was based on assumptions that the causes and development of a disease were clearly understood, and that primary, secondary and tertiary interventions could be clearly distinguished based on the progression of the disease. Researchers in the mental health field were concerned that the clear chain of events assumed in

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Tactics (tak'tiks) n. **1.** a plan for promoting a desired end. **2.** the art of the possible.

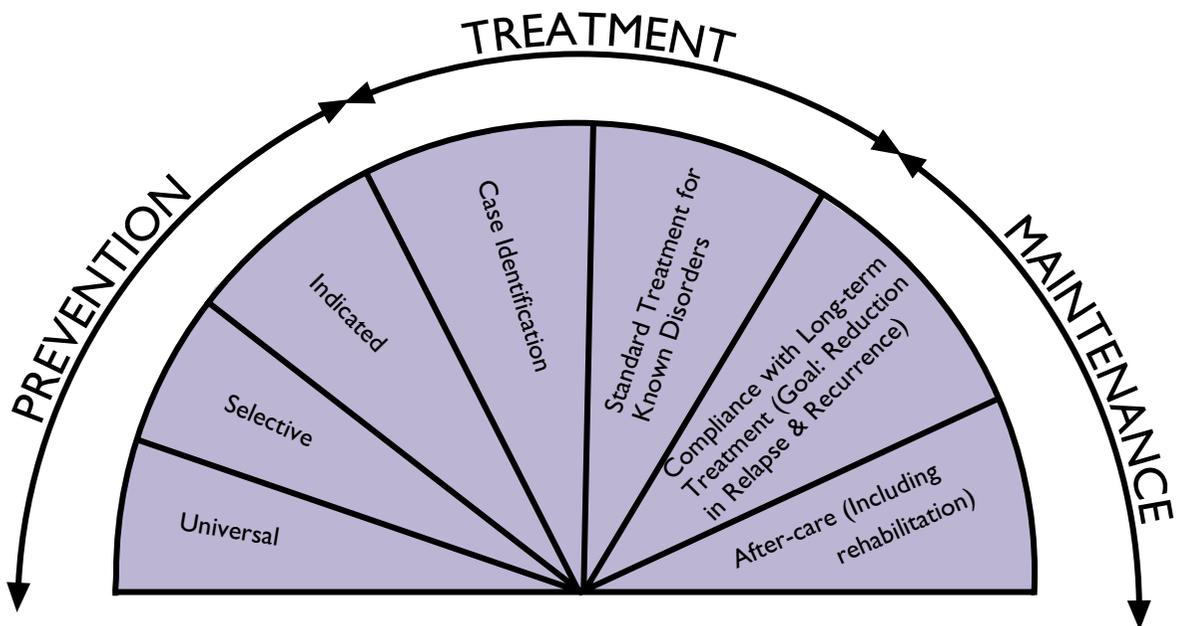
this model did not accurately reflect the multiple, interacting pathways and contextual factors related to development of behavioral health consequences.

In 1983, Robert Gordon introduced the terms, *universal*, *selected*, and *indicated* to better define the broad term primary prevention. These distinctions in terms reflected the needs of diverse subpopulations that presented different levels of risk for developing diagnosable health problems. While Gordon’s focus was initially on disease and general health, it was particularly suitable for prevention of behavioral health problems such as substance abuse, mental illness, and mental health issues, eating disorders, obesity, and problem gambling, and their associated mix of personal and social harms. These behavioral health problems all have multiple individual and environmental risks as precursors, and are characterized by probabilistic and complex relations between risk and the progression of the behavioral health problem. By focusing on population groups characterized by different levels

of risk, Gordon’s framework provided a better fit with what was known about prevention of behavioral health conditions.

In 1994, the Institute of Medicine commissioned an investigation on Mental Health Interventions that resulted in the development of the IOM Model summarized in the familiar IOM “protractor” (Exhibit One). This continuum of care model for mental health has several advantages over the older primary, secondary, and tertiary phased model. First, intervention phases are divided into prevention, treatment and maintenance. Second, clear distinctions are made between each of these three broad phases. For example, treatment begins only when case identification (diagnosis) is achieved. With respect to substance abuse, prevention can be concretely defined as all services provided prior to a specific diagnosis of abuse or dependence – treatment comes after. Third, the IOM model provides for additional phased distinctions in activities within each of the three broad phases. In the prevention portion of the arc, Gordon’s typology of

EXHIBIT ONE: THE IOM PROTRACTOR



universal, selected and indicated were used. The advantages of the IOM model as a useful description of the actual activities that constitute the continuum of care in behavioral health have increasingly become the focus of policy makers, practitioners, and researchers. It has quickly spread to becoming the standard way of conceptualizing prevention in behavioral health fields. Though each application requires some adaptation to particular substance use prevention issues, for prevention, the model provides an opportunity to more effectively develop and provide prevention services that meet the needs of diverse populations.

How has the IOM Model Been Applied to Substance Abuse Prevention?

In the past few years CSAP and the prevention field has adopted the IOM continuum. The model has strong appeal and a strong apparent applicability to categorize targeted populations and intervention strategies for substance abuse prevention. The IOM categories have been applied in substance abuse prevention to make the following important distinctions. We have taken one broad population – high school students – to demonstrate the distinctions that follow from the IOM model.

- **Universal prevention includes strategies that are delivered to broad populations without consideration of individual differences in risk for substance abuse.** These strategies include broad school-based programs delivered to all students in the classroom, community media campaigns, prevention outreach in the offices of health providers, or a range of policy and environmental strategies. An example of a universal population with respect to the prevention of alcohol abuse would be all high school students.

- **Selected prevention includes programs and practices that are delivered to sub-groups of individuals identified on the basis of their membership in a group that has an elevated risk for developing substance abuse problems.** These vulnerable groups may be at different levels of risk, and not all members may share the same degree of risk.

**EXHIBIT TWO:
VULNERABLE GROUPS**

- Homeless Youth
- Young Offenders
- Foster Youth
- School Drop-outs
- Rave Party-Goers
- Students with Low Grades

These examples demonstrate the diversity that exists within selected groups, and the importance of specifically identifying, recruiting and serving their different needs. The fact that the members in a group are exposed to this risk allows the design of interventions specifically tailored to address the kinds of risk factors that they may share. An example of a selected population for prevention of alcohol abuse might be all 11th grade students because of the sharply increased statistical incidence of binge drinking for that grade level.

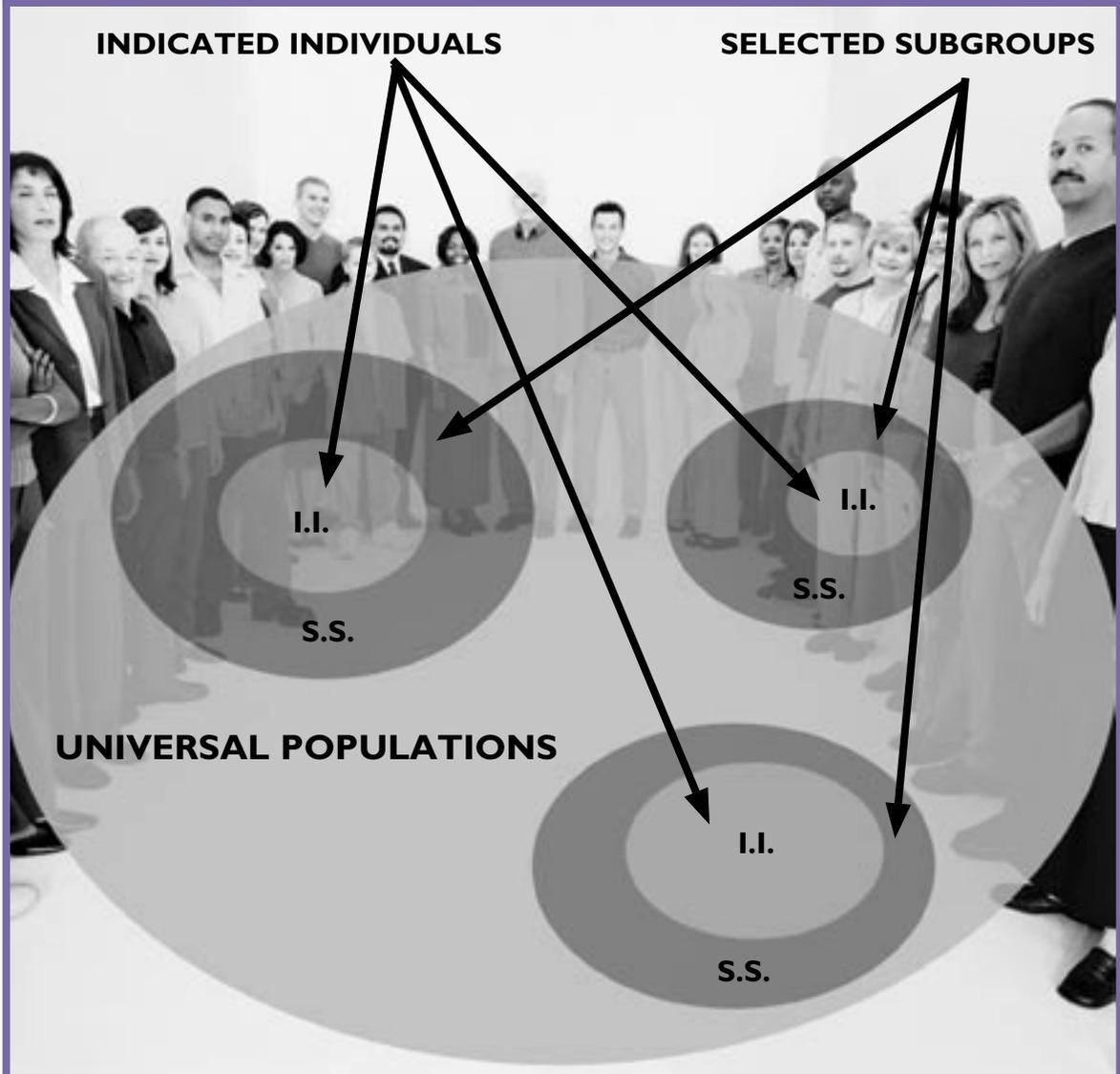
- **Indicated prevention further focuses the ability to design interventions to address specific risk conditions.** Specifically, indicated populations are identified on the basis of individual risk factors or initiation behaviors that put them at high risk for developing substance abuse problems. An example of an indicated group with respect to alcohol abuse prevention would be students who have initiated binge drinking, because they are at specific risk for developing long term substance abuse problems.

The potential utility of the IOM categorization for substance use prevention is evident. As depicted in Exhibit 2, the categories are circles within circles, supporting potentially clear decisions about targeting groups and tailoring interventions at higher levels of risk.

In summary, the IOM model provides a systematic framework for thinking about the nature and degree of risk faced by multiple vulnerable populations. These populations are interrelated in complex ways. For example,

indicated individuals tend to emerge from a selected population (e.g. the example of binge drinkers cited above), but the overlap is not necessary or complete. The precision of the IOM model is important for clearly and accurately understanding the need and services appropriate to these diverse groups. The following discussion defines a few of the ways in which this can occur. It is also important to remember there are multiple universal populations, as well (i.e. high school students being only one).

EXHIBIT TWO: THE IOM MODEL CIRCLES WITHIN CIRCLES



The Model has been adopted as a classification for programs by CSAP and other prevention sponsors, but there has been relatively little specific exploration or guidance concerning how these categories should be applied or used. For example, there are no explicit criteria for determining whether a given intervention should be categorized as selective or indicated, and there is limited guidance on which interventions are targeted

Selection, Alignment of Need, and Appropriate Strategy: A Mini Case Study

In the late 1990's CSAP funded a "selective" cooperative agreement that targeted pregnant or parenting teens. The underlying assumption was that pregnant teens were at higher risk for substance abuse. Selection to the program was based on a group characteristic: all members were pregnant or parenting teens. All programs were required to address the presumed shared risk for substance abuse through prevention interventions appropriate to the assumed needs of this population. A rigorous evaluation conducted by EMT Associates produced no evidence of positive intervention impact on substance use. The comprehensive process data generated through the evaluation documented low participation rates and high drop-out rates – this, despite strong efforts to provide participation support in the form of transportation, child care, and strong case manager outreach. To explore the reasons for the apparently low relevance of the program to participant need, the evaluators used statistical clustering techniques to identify groups of participants characterized by distinct patterns of risk. Four groups emerged. The high substance use risk group was the smallest of the four – including approximately one in ten of the participants across the programs. The largest group, including nearly one half of the participants, was at the lowest risk for substance use, and members were relatively low in risk associated with school, family, or individual factors. What did distinguish this large group was low use of contraception – the lower risk participants were the least likely to have knowledge, access or experience with contraception. The misalignment of presumed need and group selection meant that the intervention designed to meet the presumed needs of pregnant and parenting teens was being delivered to an audience for which it was not a core issue.

to specific patterns of risk. In practice, many interventions that are developed for one category of population are used to serve participants in another. For example, school-based universal interventions are frequently used in selective settings. Furthermore, although the terms universal, selective and indicated are frequently used as descriptors of prevention efforts, there is little explicit discussion of the different design and implementation requirements of different levels of effort. While more research and development in this area are necessary, the IOM Model has many implications of immediate utility to policy makers, prevention practitioners and researchers who apply it carefully.

How Can the IOM Model Help Prevention Planning and Implementation?

The IOM Model has implications throughout the planning, implementation and evaluation of prevention interventions. The following discussion identifies a selected set of examples, including implications for prevention setting and access, alignment of need and strategy, improved specification of outcomes, and improved implementation evaluation and use.

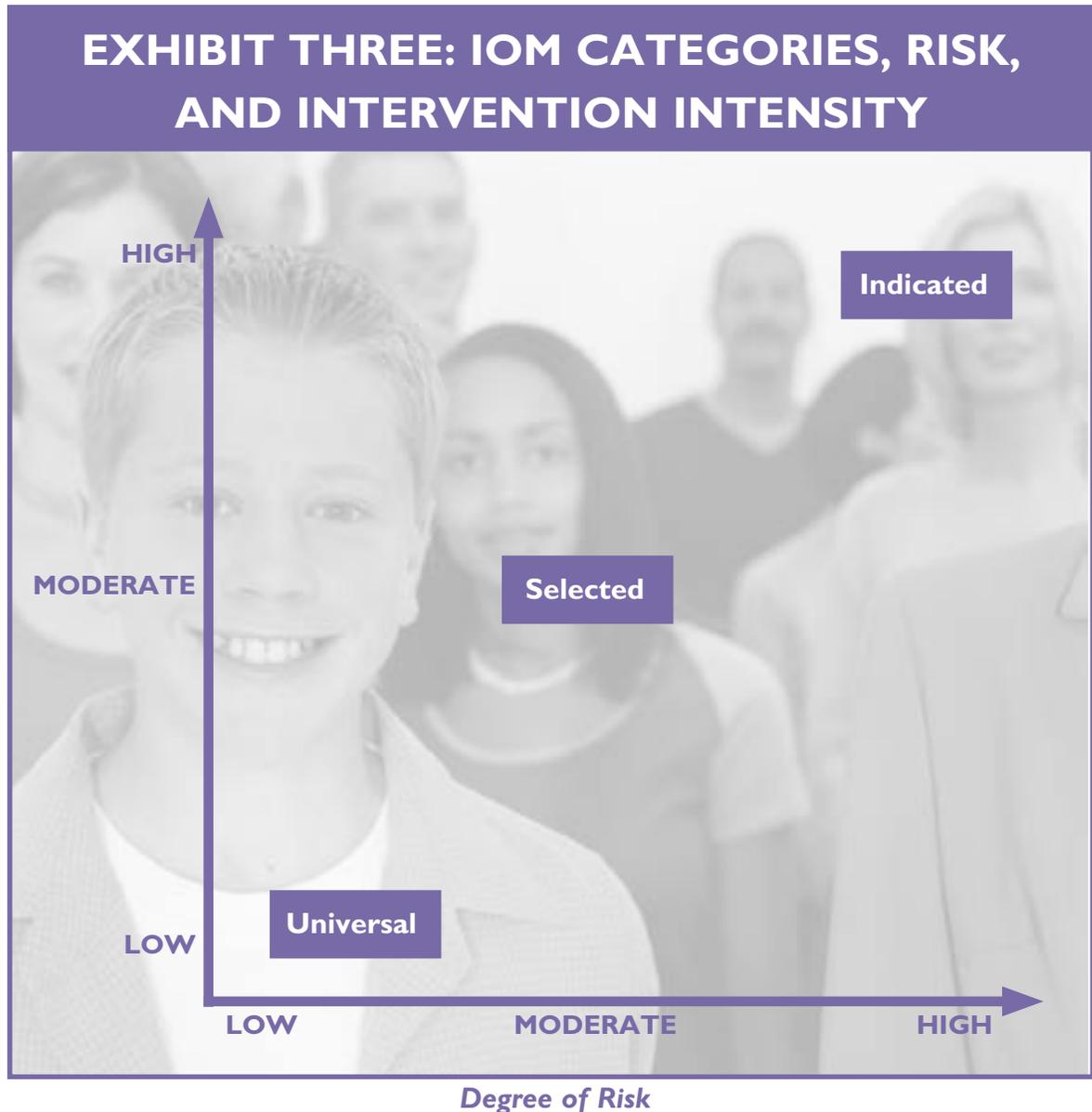
Setting and Access. The IOM Model highlights the need for careful attention to issues of setting and access across the three prevention levels. Universal prevention requires less attention to outreach and recruitment because audiences are not narrowly selected. However, demonstrating relevance and competing for attention are important issues. For selective interventions, two issues stand out. First, it is important to have a clear, evidence-based understanding of the relation between the shared risk that defines the selected group and the behaviors targeted for prevention. The boxed Mini Case Study of a prevention program for pregnant and

parenting teens provides an example of the importance of correct assumptions about relations between risk and targeted behavior. For indicated programs, individual screening to identify the indicated risk behavior or condition is necessary to meet the requirement of a truly indicated intervention.

Alignment of Need and Strategy

Some of the most important implications of the IOM Model for substance abuse prevention concern the alignment of participant need and the nature and intensity of prevention strategy. Exhibit Three

depicts the overall relation of prevention level and the appropriate intensity of the intervention. As prevention efforts move from universal to indicated, they increase in the degree and specificity of the risks for substance abuse and related harms experienced by participants. Accordingly, the need for specificity and intensity in prevention interventions also increases. Typically, this means that the ‘costs’ of prevention goes up considerably (as measured by individuals involved) from universal to indicated types of programming.



IOM levels also have important, and little explored, implications for the design and implementation of interventions. (For example, in a universal approach, explicit focus on risk factors or substance use itself will lack salience and may be counterproductive. The complementary mix of protective factors and promotion of opportunities for positive development is more appropriate.) On the other end of the spectrum, indicated strategies, such as Student Assistance Programs (SAPs) in school settings, require explicit individual screening and focused interventions providing intense education and skills development related to specific risks of this indicated subpopulation.

Improved Outcome Evaluation and Use

Another important and little explored implication of the IOM Model is the guidance it provides for improved evaluation design and utility. Prevention evaluation has been plagued with outcomes that are often unrealistic for the intervention being evaluated, and impossible to confirm through rigorous evaluation. Assigning outcomes appropriate and attainable at one level to an intervention at another level is one major reason for this problem. Reductions in 30-day substance use, or in substance-related life problems, may be a very important and attainable outcome in an indicated program, but an irrelevant outcome that cannot be demonstrated at the universal level. This is particularly true if the universal population is very young. Careful attention to developing different evaluation expectations for different IOM levels is important to making evaluation more productive and useful.

The IOM Model and Prevention: Where Do We Go From Here?

The IOM Model is a powerful tool for prevention planning that can provide important guidance for prevention planners and practitioners. This Prevention Tactic has provided a brief history of the development and adoption of this Model, and identified select implications for substance abuse prevention. It has also emphasized that current applications of the model do not take advantage of its full potential. Application of the tool has only scratched the surface of its potential as a framework for prevention policy, planning, implementation and research.

Future development on the full potential of the IOM Model must occur on at least at three levels. **(1)** Policy makers and funders must carefully consider and examine the cost effectiveness implications of the different levels (e.g., to be cost effective, universal strategies must be very low cost). **(2)** At the implementation level, the concrete implications of the IOM Model for recruitment, strategy selection, and intervention implementation need to be more fully understood and woven into the fabric of prevention planning and support (e.g., training). **(3)** Finally, the IOM Model provides powerful guidance to important questions and products for researchers who focus on taking research to practice (e.g., identifying the specific practices that are most effective for high school binge drinkers). In summary, the IOM Model is a powerful tool that deserves careful development and application by prevention planners and providers. Its current visibility in the prevention field is important, but it is only a first step in realizing the benefits of better understanding and meeting the diverse prevention needs in our vulnerable communities.



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