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Science-Based Prevention through Communities That Care: A Model of Social Work Practice for Public Health

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This article describes a public health orientation to drug and alcohol abuse prevention; reviews the state of the science underlying a risk and protective factor approach to alcohol and drug abuse prevention; describes Communities That Care, a community practice model that makes use of this evidence; and considers how this model reflects four important principles of social work practice. The intent of this article is to provide guidance to social workers who support the National Association of Social Work's intention to make prevention practice central to the provision of alcohol and drug abuse services by social workers.

Keywords: Community practice, social work and public health, Communities That Care, science-based prevention, evidence-based practice, protective factors

Preventing alcohol, tobacco, and other drug use is a national priority (U.S. Department of Health and Human Services, 2006). Nearly 10% of individuals in the United States older than age 12 meet diagnostic criteria for substance abuse and dependence (Substance Abuse and Mental Health Services Administration Office of Applied Studies [SAMHSA], 2003). The estimated annual cost of abuse and dependence in the United States exceeds \$530 billion, which includes health care, law enforcement, crime, and other costs (National Institute on Drug Abuse, 2007). Bouchery, Harwood, Sacks, Simon, and Brewer (2011) estimate, for example, that the costs of excessive drinking in lost productivity, health care, criminal justice, and other expenditures amount to about \$1.90 per alcoholic drink consumed in the United States (in 2006 dollars). Although alcohol remains the most prevalently abused drug, prescription drug use has recently been identified as the fastest growing drug problem (Office of National Drug Control Policy, 2011); deaths from prescription painkillers outpaced deaths from heroin and cocaine, combined, in 2008 (Brown, Hawkins, Arthur, Briney, & Fagan, 2011). The National Monitoring the Future study (Johnston, O'Malley, Bachman, & Schulenberg, 2011) found that 21.6% of high school seniors have used prescription painkillers without a prescription, and 7.2% used them within the past month.

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Alcohol and drug abuse is such a widespread and costly problem in the United States, because, at least in part, it is difficult to treat. Many people with the problem do not recognize that they need treatment, whereas other people choose not to get treatment because of the associated stigma, and others who seek treatment do not find appropriate and effective services, especially during times of public budget austerity (National Association of Social Workers [NASW], 2009).

The NASW (2009) issued a policy statement on alcohol, tobacco, and other drugs (ATOD) that states, "Social workers must advocate for an approach to ATOD that emphasizes prevention and treatment" (p. 33). Preventing alcohol and drug abuse before problems occur requires an expansion of the diagnose-and-treat model in behavioral health care to include an emphasis on community-based prevention practice. This article provides a roadmap for social worker involvement in community-based alcohol and drug abuse prevention. Specifically, this article describes a public health orientation to drug and alcohol abuse prevention, reviews the science underlying a risk and protective factor approach to alcohol and drug abuse prevention, describes a community practice model that makes use of this evidence, and considers how this model reflects four important principles of social work practice.

The Public Health Orientation

As with all social problems social workers seek to address, the use of research knowledge and the application of scientific processes to decision making are central to the prevention of alcohol and drug abuse (Kirk & Reid, 2002). Calls for the integration of science into social work practice throughout the 20th century, however, have been influenced by professional turf battles that have led social workers to predominately embrace some fields of research knowledge and some aspects of the scientific process more than others (Patel & Rushefsky, 2005; Siefert, 1983). Specifically, social workers have largely adopted the research knowledge and scientific methods of psychiatry, as advanced by Mary Richmond and Florence Hollis, more than that of public health, as envisioned by Jane Adams (Austin, 1983; Lubove, 1993; Van Pelt, 2009). What sets social work apart is the attention to the micro- and the macropactice, individual and community contexts.

It is now widely recognized that both approaches to reducing health and behavior problems such as alcohol and drug abuse are important. Each approach has a substantial knowledge base and uses scientific processes to systematically address problems. Yet, the approaches continue to have different emphases. The emphasis in psychiatry-oriented practice is on (a) identification of individual cases that exceed a precise criterion for a specific problem and (b) provision of an effective remediation technique to address an individual's problem. Alternatively, the emphasis of public health-oriented prevention is on (a) identification of threats to a population's well-being and (b) preventing exposure of the population to those threats to prevent the disease. Although there is clearly a value and a place for a case-orientated direct practice with individuals and cause-orientated indirect practice with communities for addressing the problem of drug abuse, the evidence for using a science-based public health approach to prevent drug abuse at the community level is emerging and strong. This is called prevention science. Prevention science uses scientific theory, research, and practice to prevent or moderate human dysfunction at the individual and the community level (Coie et al., 1993; O'Connell, Boat, & Warner, 2009).

Preventing drug and alcohol abuse through an effective public health approach therefore requires a requisite understanding of the causes, or predictors, of drug and alcohol abuse. Most young people who initiate use of alcohol, tobacco, or other substances do not go on to develop a problem with abuse or dependence (Thombs, 2006). In fact, nearly two thirds of young people who try a substance do not develop a chronic problem (Hingson, Heeren, Zakocs, Winter, & Wechsler, 2003). Yet about one third of young people eventually meet criteria for abuse or dependence. What is the difference between those whose use becomes problematic and those who do not develop problems? This article next summarizes research on the underlying factors that contribute

to the development of substance abuse and dependence, and the factors that promote healthy development or make substance abuse and dependence less likely (see, e.g., Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Hawkins, Catalano, & Miller, 1992; Stone, Becker, Huber, & Catalano, 2012).

A Risk and Protective Factor Approach

The epidemiology of drug use suggests that although use is widespread during adolescence, diagnosable abuse is not. Johnston et al. (2011) reported that although more than 56% of 10th-grade students had initiated the use of alcohol, and 27.2% used it monthly, only 13.7% used sufficient alcohol to have been drunk in the past month, and less than 1% reported daily use. Although 34.5% of 10th-grade students had initiated marijuana use, and 17.6% had used it in the past month, only 3.4% reported daily use in the past month. Our task, therefore, is to determine the individual and environmental characteristics that make problem use more likely in hopes of finding points for preventive interventions. For example, one of the strongest predictors of later abuse and dependence is age at first use (Grant & Dawson, 1997; Grant, Stinson, & Harford, 2001; Pitkänen, Kokko, Lyyra, & Pulkkinen, 2008; Windle & Wiesner, 2004). Therefore, delaying the age of first use is one important goal of preventive interventions (Hawkins, Catalano, Morrison, et al., 1992). When predictors of abuse and dependence are understood, preventive efforts can focus on these reliable predictors before problems occur.

Longitudinal studies have identified a number of individual, familial, and environmental factors associated with abuse and dependence. Experimental trials have demonstrated that many of these factors can be altered through effective interventions, such that fewer undesirable outcomes occur over time (Biglan, Brennan, Foster, & Holder, 2004; Catalano et al., 2012; Jenson, Anthony, & Howard, 2011; O'Connell et al., 2009). There is not one cause that, if changed, would definitively stop a young person's progression to abuse and dependence. There are many sources of increased risk for, and many ways to buffer the impact of exposure to risk on the acquisition of substance abuse problems.

Effective prevention efforts seek to simultaneously change many of the predictors of drug abuse. These predictors fall into two basic categories, termed protective/promotive factors and risk factors (Catalano, Hill, Haggerty, Fleming, & Hawkins, 2010; Hawkins, Catalano, & Miller, 1992; Jenson & Fraser, 2011; Stone et al., 2012). Protective and promotive factors are characteristics that decrease the likelihood of alcohol and drug abuse. Risk factors are characteristics that make alcohol and drug abuse more likely. Risk, promotive, and protective factors can be characteristics of the individual, family, and social environment.

Protective and Promotive Factors

Researchers find that many children exposed to substantial risk are able to avoid undesirable developmental outcomes (Garmezy, 1985; Werner & Smith, 1982, 1992). This has led to the investigation of characteristics that predict positive developmental outcomes in the face of adversity (Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Masten & Garmezy, 1985). This inquiry reveals factors that promote positive outcomes and protect against the impact of risk exposure (Gorman-Smith, Tolan, & Henry, 2005; Hill, Hawkins, Catalano, Abbott, & Guo, 2005). Protective factors buffer, or moderate, the effects of risk factors on substance abuse, whereas promotive factors have a direct negative relationship with substance use and abuse.

Longitudinal, prospective research studies have identified seven factors that protect youth from risk and promote positive development. The first three are characteristics of the individual youth: (a) high intelligence, (b) a resilient temperament characterized by an individual's capacity for

adapting to change and stressful events in healthy and flexible ways, and (c) a wide range of social, emotional, and cognitive skills that help youth integrate feelings, thinking, and actions to solve problems and accomplish specific interpersonal goals (Caplan et al., 1992; Greenberg, Domitrovich, & Bumbarger, 2001; Hawkins, Catalano, & Miller, 1992; Masten, Best, & Garmezy, 1990; Rutter, 1985; Weissberg, Caplan, & Sivo, 1989; Werner, 1995; Williams, Sanson, Toumbourou, & Smart, 2000; Zins, Bloodworth, Weissberg, & Walberg, 2004). In experimental studies, the enhancement of social and emotional competence has led to lower rates of drug abuse (Botvin, Schinke, Epstein, Diaz, & Botvin, 1995).

The second set of factors is composed of key environmental processes that protect young people: (a) developmentally appropriate opportunities to be meaningfully involved with the family, school, or community; (b) recognition and reward for positive involvement; (c) bonding with positive adults; and (d) healthy beliefs and standards for behavior that promote healthy and ethical behavior (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Brook, Brook, Gordon, Whiteman, & Cohen, 1990; Catalano & Hawkins, 1996; Chalk, Phillips, & National Research Council Institute of Medicine, 1996; Garmezy, 1985; Guo, Hawkins, Hill, & Abbott, 2001; Hawkins, Catalano, Morrison et al., 1992; Hawkins, Lishner, Jenson, & Catalano, 1987; Locke & Newcomb, 2004; Luthar et al., 2000; Morojele & Brook, 2001; Oesterle, Hill, Hawkins, & Abbott, 2008; Patterson, Chamberlain, & Reid, 1982; Peterson, Hawkins, Abbott, & Catalano, 1994).

This evidence substantiates the social development model (Catalano & Hawkins, 1996), a theory of protection and prevention that suggests that when young people are provided with opportunities to make a contribution, they act skillfully and competently within these opportunities to successfully make a contribution; are recognized for their contribution; develop strong connections with and commitment to the peers, families, schools, and communities that provided the opportunities; and are more likely to follow their standards for healthy and lawful behavior.

Risk Factors

Effective prevention not only seeks to promote protection, but also to reduce risks (Biglan et al., 2004; Catalano et al., 2012; O'Connell et al., 2009). Risk factors have been found within the individual (e.g., genetic predisposition, early initiation, favorable attitudes toward drug use) and in the environments in which young people are socialized, including the peer group (e.g., friends who use), family (e.g., poor family management, family conflict), school (e.g., school failure, low commitment to school), and community (e.g., availability of alcohol and drugs, norms favorable toward use).

Patterns of risk exposure. There appear to be two common patterns of risk exposure. In some children, risks begin to accumulate early, as early challenges without protection lead to increasing challenges as youth are exposed to new environments (e.g., school, peers). This has been referred to as a "snowball" pattern of risk (Mitchell et al., 2001). For example, a mother's smoking during pregnancy might affect fetal and early childhood development, which may lead to cognitive delays. Such delays may in turn lead to poor school adjustment and greater association with other poorly achieving youth. This may then lead to greater vulnerability to early substance use and abuse.

For children without early life risk exposure, a second pattern of risk develops. In adolescence, some youth are exposed to friends who use, and to positive norms about drug use. Over time, this exposure, when not countered with protective influences, may lead some to succumb to this "snowstorm" pattern of risk (Toumbourou & Catalano, 2005). For example, during a time of increasing independence, greater exposure to drug availability, favorable attitudes towards use, peer use, and weakening protection from the family may lead some youth, even those without earlier patterns of risk, to develop substance use problems. Risk factors in each domain are briefly reviewed below.

Individual risk factors. One of the most stable distal predictors of later substance abuse and dependence is early antisocial behavior (Englund, Egeland, Oliva, & Collins, 2008; Zucker, 2006). The greater the variety, frequency, and seriousness of antisocial behavior in childhood, the greater the likelihood of future abuse and dependence. Likewise, there is a strong relationship between substance abuse and dependence and rebellious behavior (Zucker, 2008). Sensation seeking, risk taking, and impulsivity predict early-onset alcoholism and frequent marijuana use (King & Chassin, 2008; Merline, Jager, & Schulenberg, 2008; Tarter, Laird, Kabene, & Bukstein, 1990). Some who have investigated the biological mechanisms for this suggest that sensation seeking may be linked to platelet monoamine oxidase (MAO) activity, MAO's play an important role in the inactivation of neurotransmitters in the brain. Low MAO has been associated with early-onset (Type II) alcoholism (von Knorring, Orelund, & von Knorring, 1987; Zuckerman & Kuhlman, 2000).

Peer substance use is also a consistent predictor of substance use among youth (Ary, Duncan, Duncan, & Hops, 1999; Elliott, Huizinga, & Ageton, 1985; Guo et al., 2001; Kandel & Andrews, 1987; Oxford, Harachi, Catalano, & Abbott, 2001). Children who grow up without other risk factors, but associate with those who use drugs, are at higher risk for substance use (Toumbourou & Catalano, 2005). However, those who grow up with fewer risk factors aren't as likely to associate with peer substance users during adolescence, because individuals are typically found in the company of peers with similar behaviors and attitudes. For example, children that grow up in well-managed families, who set guidelines for not using drugs, and consistently monitor their children's behavior, are less likely to have friends that use drugs (Dishion & McMahon, 1998; Oxford et al., 2000).

The more favorable a young person's attitude toward use, the more likely he or she is to use at an earlier age (Arthur et al., 2002). This risk factor has been validated not only through predictor research, but also through successful preventive interventions. For example, school programs that demonstrate to teens that the majority of their peers do not have favorable attitudes toward drug use reduce teens' favorable attitudes toward substance use and the prevalence of alcohol, tobacco, and other drug use (Botvin, Griffin, Paul, & Macaulay, 2003; Ellickson & Bell, 1990; Hansen & Graham, 1991; Spoth, Greenberg, & Turrisi, 2008; Sussman, Dent, Stacy, & Craig, 1998).

A number of studies have documented that early substance use is a strong risk factor for more serious substance use and abuse (Grant et al., 2001; Lonczak et al., 2001; Windle & Wiesner, 2004; Zucker, 2008). Pitkänen et al. (2008) examined drinking in early adolescence and found it was highly predictive of heavy drinking at age 42. Likewise, Robins and Prysbeck (1985) found those who tried drugs before age 15 nearly doubled their risk of drug abuse compared to those who first tried drugs after age 19. In addition, early tobacco use appears to be a particularly strong predictor of later adult abuse and dependence (Brook, Balka, Ning, & Brook, 2007; Costello, Erkanli, Federman, & Angold, 1999).

Family risk factors. There is substantial evidence that children born to and/or raised by parents who abuse alcohol or drugs are at greater risk of developing abuse and dependence (Haggerty, Skinner, MacKenzie, & Catalano, 2007). We know from genetic studies that there is a substantial genetic influence on the use and abuse of tobacco and alcohol (Kendler, Prescott, Myers, & Neale, 2003; Rhee et al., 2003). There is also evidence that genetic vulnerability for use is generalized across substances in adolescence (Young, Rhee, Stallings, Corley, & Hewitt, 2006). As youth develop from a period of life where environmental influences are overlapping and highly integrated (i.e., children socializing with peers selected by the family and under the supervision of the family) to a period of independent and isolated environmental influences, the impact of genetic vulnerability and of each unique environment appears to increase (Pagan et al., 2006; Rhee et al., 2003). Furthermore, this developmental progression appears to be accompanied by a decline in the influence of generalized risk across substances and an increase in the importance of

substance-specific risks (Tsuang, Bar, Harley, & Lyons, 2001). It seems likely that persistent and progressive substance use, abuse, and dependence reflects a heritable phenotype (Kendler et al., 2003).

Poor family management practices that elevate risk for substance use and problem behavior include unclear caregiver expectations for children's behavior, limited caregiver supervision and monitoring of children, and excessively severe, harsh, or inconsistent punishment by caregivers (Brewer, Hawkins, Catalano, & Neckerman, 1995; Dishion & McMahon, 1998; Gorman-Smith, Tolan, Zelli, & Huesmann, 1996; Haggerty et al., 2007; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000). Additionally, children who grow up in an environment of extreme conflict among family members—between caregivers or between caregivers and children—are more likely to engage in drug and alcohol use and exhibit problem behaviors than are children raised in families without significant conflict (Kilpatrick et al., 2000; Maggs, Patrick, & Feinstein, 2008; O'Connell et al., 2009; Sartor, Lynskey, Heath, Jacob, & True, 2007). Finally, parental approval of drinking (Barnes & Welte, 1986) and drug use (Brook, Whiteman, Gordon, Nomura, & Brook, 1986) significantly predicts increased alcohol and drug use by teenagers. This relationship has been shown to persist across diverse races and ethnic backgrounds (Gillmore et al., 1990; Glaser, Van Horn, Arthur, Hawkins, & Catalano, 2005).

School risk factors. Beginning in late elementary school, academic failure increases the risk of later substance abuse. Young people do poorly in school for a variety of reasons, such as having nonengaging teachers or feeling isolated or bullied at school. However, the experience of failure itself, regardless of the source, increases the risk of substance use and abuse. Additionally, when a young person no longer sees the role of student as meaningful and rewarding, or lacks investment or commitment to school, he or she is at elevated risk for substance use and abuse (Gottfredson, 2001; Kosterman et al., 2000; Najaka et al., 2001).

Community risk factors. Multiple risk factors at the community level have been associated with substance use and abuse. Perceived or actual availability of drugs (Duncan, Duncan, & Strycker, 2002; Johnston et al., 2008), high levels of transitions and mobility, community laws or norms favorable to drug use (Carpenter & Cook, 2008; Wagenaar, Salois, & Komro, 2009), media portrayals of alcohol use and smoking (Dalton et al., 2003; Hanewinkel & Sargent, 2009; Sargent, Wills, Stoolmiller, Gibbons, & Gibson, 2006), low neighborhood attachment (Beyers, Toumbourou, Catalano, Arthur, & Hawkins, 2004; Hawkins, Arthur, & Catalano, 1995; Wagenaar & Perry, 1994), and community disorganization, characterized by weak social institutions and a lack of shared norms and values (Beyers, Bates, Pettit, & Dodge, 2003; Elliott et al., 1996; Sampson & Groves, 1989), are risk factors for drug abuse. Finally, young people who live in deteriorating conditions, characterized by extreme poverty and high unemployment, are at risk for alcohol and substance use. Children of color live in poverty more often than White children. Census data in 2010 found 17% of White children were living in poverty, compared to nearly 32.3% of Latino and 38.2% of African American children. In addition, children living in poverty who display a high degree of behavior or adjustment problems earlier in life, including difficulty with self-regulation and impulsivity, are even more likely to develop problems with drug abuse than children with either risk factor alone (Elliott, Huizinga, & Menard, 1989; Sampson & Lauritsen, 1994).

RELIABILITY AND VALIDITY OF RISK AND PROTECTIVE FACTORS

The reliability and predictive validity of risk and protective factors as related to substance abuse are strong across gender, ethnicity, and diverse geographic communities (Arthur et al., 2007; Beyers et al., 2004; Fagan, Van Horn, Hawkins, & Arthur, 2007; Glaser et al., 2005; Hawkins &

Catalano, 2004; Oesterle et al., 2012). This suggests that we have excellent measurement tools for assessing the presence of these risk and protective factors in youth in ways that consistently predict the probability of undesirable outcomes. In fact, researchers have found that the strength of the correlations between risk and protective factors and drug use were comparable between the United States and Australia and between the United States and the Netherlands. Analyses comparing the strength of these associations in the United States to those in India, Chile, and Colombia are underway. To make use of this knowledge to inform social work public health practice in communities, a community practice model of risk and protective factor-focused prevention has been developed, known as Communities That Care (CTC).

Implementation of Communities That Care

The CTC practice model is a coalition-based approach to preventing problem behavior, such as alcohol and drug abuse, in young people (Hawkins, Catalano, & Associates, 1992). The premise underlying CTC is that a reduction in the prevalence of adolescent problem behaviors in a community can be achieved by identifying elevated risk factors and depressed protective factors experienced by the community's youth population, and then selecting and implementing preventive interventions that have been shown in experimental or quasi-experimental studies to affect those specific risk and protective factors, and in turn, adolescent problem behaviors. CTC is a community-wide approach that requires the community to embrace a public health orientation to the problem of drug abuse. It provides a framework for how community change toward a risk and protective factor approach to prevention can be navigated and achieved.

CTC is implemented by communities in five sequential phases. Phase 1 of CTC involves defining the community, identifying community stakeholders, deciding the scope of the prevention effort, ensuring support for community collaboration and a risk and protective factor approach to prevention, and addressing any community readiness issues. This phase can be quite variable in length depending on the size of the community, complexity of governance, basic sense of trust and safety, history of collaborative efforts, community segregation and heterogeneity of service needs, and any major barriers to the participation of diverse stakeholder groups (Feinberg, Greenberg, & Osgood, 2004; Kegler, Rigler, & Honeycutt, 2010; Quinby et al., 2008).

Phase 2 of CTC orients community decision makers to CTC and formalizes a diverse and comprehensive coalition of stakeholders to serve as the working group for CTC implementation. Coalition members typically include parents, youth, advocates, residents, local business owners, elected officials, religious leaders, philanthropists, media representatives, and professionals from education, public health, juvenile justice, law enforcement, child welfare, and youth recreation sectors. The principles of a risk and protective factor approach to prevention provide a common language and framework for community leaders and coalition members representing diverse sectors and perspectives to discuss and organize their work. The coalition articulates an organizational structure and operational procedures, develops a community vision for youth development, and creates a plan for continuous community engagement. The coalition hires a paid coordinator who may be a professional social worker with an interest or background in community organizing, systems change, and/or management and planning (Hawkins, Shapiro, & Fagan, 2010; Shapiro, Oesterle, Abbott, Arthur, & Hawkins, in press).

In Phase 3 of CTC, the coalition collects data through school-based surveys from a census sample of all adolescents in their community using the CTC Youth Survey to obtain local estimates of the levels of risk, protection, and problem behavior. This epidemiological data becomes an important resource to inform decision making. The risk and protective factors measured through this survey are derived from the research findings discussed above; they each have been demonstrated to reliably predict undesirable youth outcomes (Arthur et al., 2007; Glaser et al., 2005). The coalition uses this data to prioritize risk and protective factors for change.

To complete the needs assessment phase, coalitions also assess local community resources and existing programs and policies, and identify service gaps that affect prioritized risk and protective factors.

In Phase 4 of CTC the coalition creates an action plan. This involves addressing community service gaps by selecting programs, policies, and practices that have been scientifically tested and demonstrated to be effective at addressing the prioritized risk and protective factors. Once appropriate programs have been identified, coalitions develop a work plan, budget, and timeline to implement the selected approaches; create an evaluation plan for each action; and communicate the plan to other community leaders and community residents. The action plans are intended to be highly individualized to local community needs; plans are the result of choices that reflect local values, priorities, capacities, and constraints. A list of such programs can be found in the CTC Prevention Strategies Guide (SAMHSA, 2003) or in the Blueprints database (<http://www.colorado.edu/cspv/blueprints/>).

Phase 5 of CTC involves implementing the new programs, policies, and practices; monitoring them to ensure they are reaching the intended population with requisite levels of intensity; and refining them as necessary. Where practical, coalition members observe the implementation of their selected programs. Monitoring the quality of implementation helps communities to problem solve any threats to the type of high-quality implementation required to replicate in their own communities the results found in experimental trials. In this phase, communities also evaluate the community-wide outcomes of their actions by conducting new community-level assessments at least every 2 years to ensure that the strategies are changing the rates of youth problem behavior and continue to be relevant to the local community context. CTC communities with high levels of readiness are likely to be implementing new programs within a single year. Effects on the community-wide rates of adolescent problem behavior are expected within 3 years for communities implementing CTC with high fidelity to the model (Quinby et al., 2008).

CTC is being implemented in communities across the United States and in many regions of the world. Results from a multisite community randomized trial of CTC in seven states in the United States (Hawkins, Catalano et al., 2008; Hawkins & Kuklinski, 2011), coupled with quasi-experimental results from CTC in Pennsylvania (Feinberg, Greenberg, Osgood, Sartorius, & Bontempo, 2007; Feinberg, Jones, Greenberg, Osgood, & Bontempo, 2010), suggest that high-quality implementations of CTC contribute to long-term, community-wide improvements in public health. Relative to control communities, CTC communities were more likely to use a risk and protective factor approach to community planning, implement a greater number of effective prevention programs, achieve a higher degree of quality in their implementation of effective prevention programs, and have more support for prevention among community key leaders (Arthur et al., 2010; Brown, Hawkins, Arthur, Abbott, & Van Horn, 2008; Brown, Hawkins, Arthur, Briney, & Abbott, 2007; Brown et al., 2011; Fagan, Hanson, Hawkins, & Arthur, 2008a, 2008b, 2009; Quinby et al., 2008). CTC has also been shown to reduce developmentally normative increases in prioritized risk factors across adolescence and the initiation and prevalence of youth problem behaviors, including smoking, alcohol use, delinquency, and violence (Hawkins, Brown, et al., 2008; Hawkins et al., 2009; Hawkins et al., 2012). Many of these changes have been sustained 1 to 1 1/2 years after the 5-year randomized trial ended (Gloppen, Arthur, Hawkins, & Shapiro, 2012; Hawkins et al., 2012; Rhew, Brown, Hawkins, & Briney, 2013). Additionally, cost-benefit analyses have shown a \$5.30 return on investment for every dollar invested in CTC by preventing adolescent tobacco use and delinquency initiation (Kuklinski, Briney, Hawkins, & Catalano, 2012).

An example of a community that became involved in CTC as part of the Community Youth Development study is a southwestern community that wanted to address the root causes of several issues affecting adolescents, including high levels of alcohol and other drug use. In 2003, as they began, they found nearly 30% of 10th graders reported using alcohol in the past 30 days,

compared to 15.7% of 10th graders in their state. The community prioritized its risk and protective factors, and chose programs to match their local community needs. These included Life Skills Training, Lions Quest Skills for Adolescence, and the parenting program, Guiding Good Choices. Through the commitment of various community stakeholders, including the city mayor, the police chief, and the school superintendent, the CTC coalition helped the city effectively reduce rates of alcohol and substance abuse among adolescents. In 2009, the rate of 10th graders in the city who reported using alcohol in the past 30 days dropped to 18.2%, a 60% reduction. In 2008, the city government began funding CTC, and it continues to make a significant impact on the community's youth. The community has been successful with the sustainability of CTC because they have taken some intentional key steps that include developing relationships with local and state policy makers, using program implementation data to determine how well programs are being implemented and course correcting where necessary, providing ongoing training of coalition members about prevention science, and creating detailed and realistic budgets needed to address prioritized risk and protective factors.

Implications for Social Work Practice

CTC is unusual among models of social work community practice. Although there are eight broad approaches to community practice described in the *Handbook of Community Practice* (Weil & Gamble, 2005), few are as clearly specified, as rigorously tested, or as demonstrative of outcomes as CTC. In a review conducted on the community practice literature from 1985 to 2001, Ohmer and Korr (2006) found 269 articles on community practice, and only nine studies included a comparison group or longitudinal follow-up to explore intervention efficacy and/or generalizability. Although a more systemic review would be helpful, it is clear that most evidence for the impact of community practice has been generated through case studies, deeply embedded in a specific context, and difficult to replicate or transfer to other conditions.

On the other hand, the community-randomized trial of CTC was an opportunity to compare communities randomly assigned to implement CTC to communities doing prevention planning as usual. The results demonstrate that the model is an improvement compared to prevention planning as usual for the purpose of reducing the rates of community-wide alcohol use among teens. The major difference between CTC and many other community approaches is the explicit use of a science-based approach to prevention to match evidence-based prevention programs to the community's specific needs.

The use of evidence to inform decision making in social work practice is one of the core contemporary values of the profession. Yet the use of scientific approaches to social work practice has faced skepticism by some community-level practitioners. There appear to be at least two reasons. First is a perceived tension between the scientific ideal of generalizable knowledge and the practical reality of local differences in assets, problems, and shared customs. A second reason for skepticism among community practitioners may be an association between evidence-based practice and top-down mandates that ignore the local need, preferences, and insights of community professionals and residents. CTC, however, is an example of where evidence-informed practice does not displace strength-based and justice-promoting practice. The remainder of this article describes how CTC integrates the principles of evidence-informed, ecologically grounded, strength-based, and justice-promoting practice.

CTC makes use of the science on risk and promotive/protective factors for alcohol and drug abuse and evidence-informed practice. The policy manual of the NASW (2009) calls on "Providers of ATOD prevention and treatment services . . . to assess their approaches and use those with demonstrated effectiveness" (p. 34). Such imperatives are in place to protect clients, to the greatest extent possible, from persistent errors in judgment by well-intended workers who fail to think critically about their work (Gambrill, 2005). In social work practice with individuals, the use of

research to inform one's work helps workers and clients make thoughtful decisions about their treatment. The same is true at the community level with preventive interventions. CTC is a model of evidence-informed community practice.

CTC also reflects the ideals of ecologically grounded practice that appreciates the influence of human behavior and social environments and considers the multiple levels of interventions (Bronfenbrenner, 1979). CTC uses the community assessment of youth risk and protective factors at various levels, including the individual, peer, family, school, and community. CTC also requires a comprehensive assessment of community service resources and gaps. Beyond assessment, CTC supports interventions focused at various levels. As examples, CTC coalitions implement strategies that focus on the skills of young people, change perceptions of peer-group norms, offer parent training programs, change allocations of funding for prevention services at the community level, and/or alter or enforce local policies to prevent the sale of alcohol to minors.

Strength-based social work practice means engaging and leveraging resources and assets in the individual and social environment to promote wellbeing (Saleebey, 2008; Simmons & Lehmann, 2012). The CTC model proscribes time to developing a positive vision for each community. Consensus is built between professionals, parents, and youth, as each gives voice to their hopes. Phase 1 of the CTC model assesses community readiness and capacity at baseline, whereas the other phases of implementation use a training and technical assistance model to build the capacities of community members. Skills for teamwork, political change, and science-based prevention are developed through CTC (Shapiro, Hawkins, & Oesterle, 2012b). In this way, CTC makes the technical knowledge and skills of science-based prevention accessible and empowers communities to wield its potential through their own capacity.

Strength-based practice is also visible in the assessment of protective factors reported by youth and in the assessment of resources in the community during Phase 3. In these assessments, positive attributes become important considerations for the goal of promoting positive youth development. As coalitions develop consensus around their priorities, they systematically assess community assets for addressing these prioritized areas. By articulating a clear, written action plan in Phase 4, and monitoring implementation progress and outcomes in Phase 5, CTC provides genuine opportunities for communities to celebrate their successes.

Justice-promoting practice supports processes that promote power sharing. In most communities, planning is the exclusive task of elected or hired community leaders. In CTC, community planning is done by a comprehensive coalition of members representing diverse sectors and positions of the community. These stakeholders include residents, school and human services staff, business leaders, faith leaders, concerned citizens, parents, media representatives, and youth. Although the work is ambitious, the results of the CTC trial indicate that well-functioning CTC coalitions predict growth in community member skills and the engagement of diverse community sectors, which in turn predict community-wide changes in prevention practice related to reductions in substance abuse (Shapiro, Hawkins, & Oesterle, 2012a).

Emphasis in the implementation of CTC is placed on community self-determination. The community makes decisions throughout implementation to individualize the process based on the strengths/resources and needs/limitations of their own people and their own place. It is locally decided who should serve on the community coalition that implements CTC. The composition of the coalition is decided by people and groups who know how to best represent the fullness of their community. Every community determines their own priorities for action based upon local data. The process is owned and operated by the community and they determine what to consider a problem and what to consider a strength. Coalitions can disaggregate the local data by neighborhood, class, gender, and race to determine where disparities exist and whether a universal or selective approach would be more beneficial. The community coalition selects preventive interventions to implement from a menu of tested-effective strategies based on their local values, priorities, capacities, and constraints. And finally, institutions hosting coalition-sponsored programs (i.e., schools) open their

doors to observers from the coalition in the interest of transparency, accountability, and continuous quality improvement of prevention services.

CTC also spans boundaries. Boundary spanning is an ecologically grounded practice orientation that “traverses barriers to give social workers greater understanding of context, more latitude in interventions, and increased access to systems” (Kerson, 2004, p. 39). Practice with CTC spans the boundaries of knowledge silos by adding public health-oriented practice knowledge and methods to existing psychiatry-oriented practice knowledge and methods used to address substance abuse. It brings together diverse community stakeholders, and their respective system knowledge, to make informed decisions. Research has shown that the greater the number of sectors involved in CTC, the greater the expected community-level change (Shapiro et al., 2012b). Finally, CTC spans levels of practice, allowing social workers to address problems and look for solutions up and down the continuum from individuals to policies simultaneously. Because assessment and intervention is conducted at individual, organizational, and community levels, and because CTC expands the boundaries of social work practice, CTC is well aligned with ecologically grounded practice.

The CTC framework is owned by the U.S. government and is publicly available through SAMHSA (<http://www.communitiesthatcare.net>). Typically, communities might use their SAMHSA prevention block grant or submit a Drug Free Communities grant to start the process in their community. The CTC process provides a manualized approach for implementing SAMHSA’s Strategic Prevention Framework through the State Incentive Grants. Communities considering implementation of CTC should consider local municipal resources as well as business partners to help underwrite the cost of implementing CTC and the evidence-based programs that are needed to demonstrate community-level change.

CONCLUSION

The Institute of Medicine report *Preventing Mental, Emotional, and Behavioral Disorders Among Young People* (O’Connell et al., 2009) repeatedly calls on social workers to be the workforce of prevention. This call to social workers has not previously been contextualized for goodness of fit with the major practice principles of the profession. Prevention science, guided by research on risk and protective factors and put into practice through models such as CTC, provides a roadmap for conducting social work practice to prevent alcohol and drug abuse that is evidence informed, ecologically grounded, strength based, and justice promoting. The application of a science-based public health orientation to community prevention practice demonstrates promise for reducing the prevalence of drug and alcohol abuse and creating community conditions that promote well-being.

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