

Using social marketing to create communities for our children and adolescents that do not model and encourage drinking

Sandra C. Jones

Centre for Health and Social Research, Australian Catholic University

Highlights

- 33 published articles were identified; 15 reported on interventions targeting specific segments within the community and 18 on whole of community interventions.
- Interventions targeting youth in the community showed limited effectiveness, as did those which sought to limit youth access to alcohol
- Interventions that target the whole of community have the potential to change behavior; social norms; and the social, policy and physical environment
- There is a clear need for the systematic conduct and evaluation of whole of community interventions in different socio-demographic groups, countries and cultures

Abstract

Our children and adolescents are growing up in environments that support, and even, encourage (excessive) drinking. Thus, if we are to address the problem of underage drinking our focus needs to move beyond eliciting behavior change among children and adolescents to changing underlying community attitudes, social norms, and the environment itself. This review sought to examine the evidence base surrounding ‘community-based’ interventions designed to address underage drinking; to determine the extent to which ‘community’ interventions have thus far targeted the broader community and gone beyond behavior-focused strategies and endeavored to change social and physical environments. The review found surprisingly few interventions that sought to comprehensively address social norms at a community level. We need to move (research and interventions) beyond narrowly-focused efforts targeting teens and their parents; it is only when we address alcohol consumption at a population level that we will be able to provide an environment for children and adolescents which does not model (excessive) drinking as a normative social behavior.

Keywords: Alcohol; adolescents; community; intervention; social norm; review

1. Introduction

Countries such as Australia, New Zealand, the United States and the United Kingdom have been described as having an environment in which commercial, social and cultural factors facilitate and encourage excessive alcohol consumption (Huckle *et al.*, 2008, House of Commons Health Committee 2011, Kypri *et al.*, 2005a, Gruenewald, 2004). Thus, it is not surprising that these, and many other, countries consistently find high rates of alcohol consumption and alcohol-related harm among their children and adolescents.¹

The decisions children and adolescents make as to whether or not to engage in (excessive) drinking are influenced by a wide range of factors: the alcohol-related attitudes and behaviors of their peers, siblings and parents; the nature of their relationship with their parents, including parenting style and informal and formal rules around drinking; the commercial environment (including the price, availability and promotion of alcohol); and the (descriptive and injunctive) social and cultural norms in their community.

It is clear, therefore, that if we are to address the problem of underage drinking our focus needs to move beyond eliciting behavior change among children and adolescents, their parents, and alcohol retailers to changing underlying community attitudes, social norms, and the environment itself.

There is compelling evidence that adolescents perceive strong descriptive norms encouraging drinking and weak injunctive norms discouraging drinking; and increasing evidence that parents perceive similar norms in relation to the provision of alcohol to adolescents. An

¹ While the WHO defines adolescence as the period between 10 and 19 years of age, and other definitions abound, the focus of this paper is in those who are under the 'legal drinking age' (or its equivalent) in the relevant jurisdiction.

interesting, and important, finding from many surveys of parents and community members is that the majority of adults do not hold permissive attitudes towards underage drinking, but believe that others in their community do. For example, a recent survey of more than 3,500 adults from 12 communities in Washington, US found that parents and other adults were consistently more likely to agree that they personally disapproved of underage drinking and/or had discussed rules with their children than to believe that other adults or parents had done so (Gabriel *et al.*, 2013).

1.1 The role of social marketing

Social marketing is ideally placed to bring about the necessary changes in community attitudes and social norms, and to begin to address the pro-alcohol environment in which our children and adolescents are developing their sense of identity and place in the world.

Community-based social marketing (CBSM) utilizes these tools to bring about positive changes at a community level. CBSM involves identifying the barriers to a behavior (change), developing a program to overcome these barriers, and implementing and evaluating the program at the community level (McKenzie-Mohr and Smith, 1999). Extending this to community-based prevention marketing (CPBM) – applying social marketing to the development, implementation and evaluation of programs to promote health – researchers from the University of Southern Florida (Bryant *et al.*, 2007) have proposed that, by encouraging community members to utilize a marketing mindset to defining problems and strategies can empower the community and democratize planning and evaluation by placing community members in control of the issues investigated (p. 156). Clearly, if we are going to

bring about change at a community level this engagement and empowerment of the community is essential.

This view is supported by research from the field of prevention science. In his review of the effectiveness of youth-targeted drug education programs, Midford concluded that studies suggest that prevention interventions for young people that contain a community component in combination with a school component may be more effective than each component in isolation (p. 1689) although he cautioned that such interventions are also more expensive and time consuming (Midford, 2010). Experts recommend that interventions utilize standardized surveys to determine needs and assess outcomes, prioritize areas of greatest need, utilize evidence-based programs, and engage the community in all aspects of the intervention (Arthur and Blitz, 2000). Specifically, it is argued that local ownership and a community's readiness, in terms of both attitudes and organizational capacity, must be in place in order for a comprehensive community assessment, planning, and monitoring effort to succeed (p. 251)

1.2 Purpose of the review

A review of 31 interventions targeting underage drinking, published between 1980 and 2006, found that 12 interventions met the criteria for most promising evidence and 29 for mixed or emerging evidence (Spoth *et al.*, 2008). Of these, 13 targeted children/teenagers and were delivered in schools, eight targeted parents, six targeted children and parents, and one targeted workplaces. Only four were described as 'multi-component' and this included two selective interventions targeting high-risk children, leaving only two community interventions: Project Northland (Perry *et al.*, 1996) and Project STAR (Pentz and Valente, 1995).

The current review sought to examine the evidence base (in the peer-reviewed academic literature) surrounding interventions designed to address underage drinking that were described as ‘community-based’ (whether or not they were self-described as social marketing, CBSM, or CBPM, particularly those published subsequent to the Spoth review (Spoth *et al.*, 2008). Specifically, it aimed to determine the extent to which published ‘community’ interventions have thus far targeted the broader community rather than targeting adolescents themselves and/or their parents and educators.² Further, it aimed to determine the extent to which these interventions went beyond behavior-focused strategies (such as education and enforcement) to attempt to change attitudes, values, norms and/or culture.

2. Method

Two searches were conducted in February 2014. Search one used the search string “(adolescent* OR child* OR teen* OR underage) AND (alcohol) AND (community) AND (intervention OR program)”, modified to the specific search tool in each database and limited to the year 2000 onwards. Databases searched were ProQuest Central, PsycInfo, Medline, Scopus and PBSC; fields searched were title, keywords and abstract. A total of 96 articles were found (after excluding duplicates). The search was re-run in Scopus and PBSC using the ‘Smart Text Searching’ function and this identified an additional four articles that appeared to meet the inclusion criteria.

Abstracts of the 100 papers were reviewed by two coders (the author and a research assistant) and 62 were excluded as being outside the focus of the review (see Table 1). The inclusion

² While the term ‘community’ has a range of meanings, this review focuses on the common understanding of the word ‘community’ (i.e., the people, groups and structures that surround the underage drinker); defined by the Oxford Dictionary as “A body of people organized into a political, municipal, or social unity”.

criteria were: primary focus was alcohol use and/or substance use (including alcohol); target group (for reduction of alcohol use) was ‘underage’ drinkers (for most countries this is under 18 years, whereas for the US it is 21 and for some European countries it is 16); and target group for the intervention was the community. Full copies of the remaining 38 papers were obtained and considered for inclusion.

****INSERT TABLE 1 HERE****

Search two used the search string “alcohol AND community AND intervention OR program “ (modified to the specific search tool in each database) and was again limited to the year 2000 onwards. Databases searched were ProQuest Central, PsycInfo, Medline, Science Direct, Web of Science, Expanded Academic ASAP, and PBSC; searching only titles and keywords. A total of 146 articles were found (after excluding duplicates). Of the 36 articles identified that met the inclusion criteria, there were only five that were not identified in search one (Izeboud *et al.*, 2007, Stafström and Östergren, 2008, Huckle *et al.*, 2005, Wolff *et al.*, 2011, Huckle *et al.*, 2007)

Thus, a total of 43 articles were obtained and read in full. Four of the articles were found on review of the full manuscript not to focus on community interventions (which was not evident from the titles or abstracts. Two of these articles reported on solely school-based interventions (Ellickson *et al.*, 2003, MacKillop *et al.*, 2006); one an individual (one-on-one) intervention (Bellamy *et al.*, 2004); and one an intervention with young people who had been referred for counseling or treatment (Lowe *et al.*, 2012).

Four of the articles, whilst addressing topics of interest were excluded as they were editorials (Holder, 2006) commentaries (Salom *et al.*, 2012, Rowland and Toumbourou, 2010) or responses to commentaries (Gilligan and Sanson-Fisher, 2012) on articles that were themselves already included in the review. Five were excluded as they were opinion pieces or suggestions for intervention and/or evaluation approaches and thus did not provide outcome data (Arthur and Blitz, 2000, Gabriel *et al.*, 2013, Gilligan *et al.*, 2011, Midford, 2010, Williams *et al.*, 2012). Where relevant, articles did not present data but rather provided summations of the evidence and/or suggestions and recommendations for community-based interventions have been integrated into the Introduction (Arthur and Blitz, 2000, Gabriel *et al.*, 2013, Midford, 2010).

Two of the studies were described – in the title, abstract and/or body – as ‘community’ interventions but focused on educational and/or skills development for adolescents and their parents (Elder, 2002, Koutakis *et al.*, 2008) and did not contain a community component and thus these are not discussed further. A further study included both prevention and treatment in its aims; the community component was limited to the treatment activities, with prevention activities being school-based (Paige *et al.*, 2003).

The reference lists of the 27 remaining articles were scanned for additional relevant articles that had not been identified in either search; and additional hand searches were conducted to follow up on papers that did not report outcome data. This resulted in the identification of a further six articles that appeared to meet the inclusion criteria (Hawkins *et al.*, 2012, Brown *et al.*, 2007, Fagan *et al.*, 2009, Wagenaar *et al.*, 2000a, Wagenaar *et al.*, 2000b, West *et al.*, 2008).

Thus, a total of 33 articles were included in the review.

3. Results

The results are tabulated in two tables. Table 2 provides detail on the 15 papers that reported on interventions targeting specific segments within the community and/or focusing solely on provision of alcohol to minors. Table 3 provides detail on the 18 papers that reported on whole of community interventions.

INSERT TABLE 2 HERE

3.1 Targeting youth in the community

Three papers reported on interventions that primarily targeted underage drinkers. ‘Xperience’ was targeted at addressing social norms among Connecticut (US) urban youth aged 14-20 (Diamond *et al.*, 2009. and is described as a multilevel, community-based strategy (p. 292). The program recruited youth artists (from different genres) to produce original works incorporating prevention messages and utilize these to engage the target group. While no evaluation data is provided, the program is described as having successfully involved youth in the creation of branded, multi-media drug prevention products and entertainment events (p. 307).

The Coalition for Youth Quality of Life Project in Quebec (Canada) aimed to prevent alcohol and drug use among youth by providing education, support and alternatives for youth (Dedobbeleer and Desjardins, 2001). The intervention components in year one included

educational programs for youth and parents, provision of alternate activities for youth, and support systems; in year two the youth education component was dropped; and in year three the program focused on at-risk youth. Thus, while the intervention was in part delivered at a community level the target audience was youth and parents and the program aim was to change youth behavior. The evaluation found no impact of the intervention on alcohol use, although there was some effect on hypothesized mediating variables.

An intervention to reduce binge drinking and alcohol-related violence at graduation parties on licensed premises in Stockholm (Ramstedt *et al.*, 2013) provided students with information about alcohol laws and tips for safe partying; delivered information brochures to parents; and increased enforcement (venues notified police of graduation parties and police attended each party at least twice). As with the retailer-targeted interventions described above, the evaluation demonstrated that the intervention was effective – with a 23% reduction in violence among young people – although no data is available to determine the impact on drinking levels per se or whether this had an impact beyond graduation week.

In summary, there is limited support for interventions targeting youth in the community. Of the three studies, one found no effect, one found an effect on a single immediate outcome (but did not measure other outcomes); and one did not provide any evaluation data.

3.2 Reducing access in the community

Seven of the articles reported on six interventions that, while indeed delivered at a whole-of-community level, were solely targeted at enforcement of alcohol sales (minimum purchase age) laws. These included an evaluation of the implementation of ‘Cops in Shops’ and

compliance checks programs in all 50 states of the US (Montgomery *et al.*, 2006); implementation of an ‘Enforcing Underage Drinking Laws (EUDL)’ initiative in communities surrounding US Air Force bases (Spera *et al.*, 2012); a culturally tailored reward and reminder program in stores surrounding nine American Indian reservations (Moore *et al.*, 2012); increased inspections and sanctions for repeated offences in The Netherlands (Schelleman-Offermans *et al.*, 2012); two articles reporting short- and longer-term outcomes of the use of alcohol purchase surveys³ in New Zealand (Huckle *et al.*, 2005, Huckle *et al.*, 2007); and the provision of alcohol retailer toolkits in Massachusetts, US (Wolff *et al.*, 2011). It is noteworthy that the alcohol retailer toolkit, with no enforcement element, resulted in materials being posted in store or handed out to staff but no changes in policies or practices (Wolff *et al.*, 2011). All of the interventions that included an enforcement element reported positive effects – that is reduction in sales to (apparent) minors and, where measured, reductions in alcohol-related offences (Spera *et al.*, 2012). However, the one study that also collected data from adolescents found that while this intensified enforcement was associated with reduced risk of drunkenness it had no impact on weekly drinking or drinking initiation (Schelleman-Offermans *et al.*, 2012).

Consistent with the principles of social marketing, and with the focus of the current review, these latter authors suggested that to increase the effect of enforcement, it is important to increase social support for restrictive alcohol policy measures and mobilize parents, teachers, sport trainers, and other relevant people in the direct environment of the adolescent to be more outspoken against adolescent drinking and drunkenness (p. 586).

Five papers reported on three interventions that aimed to reduce underage access to alcohol by

³ This refers to the use of ‘decoy buyers’ who look to be under the legal purchase age (but are actually over this age) to ascertain whether retail staff will ask for proof of age and refuse to sell alcohol if this is not provided.

targeting both formal and informal supply. An intervention in the Netherlands utilized three components to address formal supply (increased frequency of compliance inspections, introduction of a ‘three strikes’ law, and press releases to raise awareness and perceived risk of apprehension); and four components to address informal supply (a parent-targeted media campaign addressing health consequences and the role of parenting guidelines, a Website developed by a parent committee with similar objectives, requests to local high-schools to introduce alcohol-free policies, and press releases on intervention activities to raise community awareness (Schelleman-Offermans *et al.*, 2014). Surveys of adolescents in the intervention and comparison community found a 15% reduction in drunkenness but no reduction in weekly drinking. They also found no impact on the intermediate intervention goals (alcohol-specific rules, alcohol provision by parents, frequency of alcohol purchase, perceived ease of purchasing) among 14-15-year-olds but a positive effect on parental alcohol supply and alcohol-specific rules among 13-year-olds. Disturbingly, they also found a significantly greater increase in the frequency of alcohol purchases among 13- to 15-year-olds in the intervention community (primarily 15-year-olds, who are approaching the legal purchase age of 16 years in that jurisdiction). The authors caution that the strong focus of the intervention on discouraging drinking below the legal purchase age for alcohol may have led to a stronger response in exercising one’s (new) right to purchase alcohol once reaching this age (p.330).

The New Zealand ‘Think before you buy under-18s drink’ (Kypri *et al.*, 2005) aimed to discourage inappropriate provision of alcohol to teenagers (defined as provision by someone other than a parent and/or for consumption without adult supervision). The three primary goals were to: increase knowledge of the risks of underage drinking, communicate that parents are the only appropriate people to supply alcohol to teens and that any drinking should

be under adult supervision, and reduce supply to teens for unsupervised consumption. The campaign, which ran for approximately six weeks, included print and broadcast media advertising, point-of-sale advertising, and awareness-raising events. An evaluation survey with adolescents found non-significant decreases in supply for unsupervised consumption and no change in binge drinking. The parent survey found a reported increase in talking to children, and other parents, about the supply of alcohol. As non-parent adults were not surveyed it is not known whether this group was influenced by the intervention.

Reducing Youth Access to Alcohol (RYAA) was a program implemented in 18 communities in Oregon (with 18 matched comparison communities). RYAA consisted of: reward and reminder visits to alcohol outlets, media advocacy (including articles in local papers and school newsletters on underage drinking laws and dangers. enforcement (compliance checks in alcohol outlets. and community coordination (including presentations and training). The evaluation consisted of annual surveys of 11th grade students and alcohol purchase surveys (decoy buyers) (Flewelling *et al.*, 2013). Consistent with other studies, the intervention was found to be particularly effective in reducing sales to minors but did not impact on perceived availability or self-reported drinking, and the authors similarly concluded without concomitant reductions in social access, it may be unrealistic to expect that reducing retail access could have a substantial impact on overall availability (p.275).

Also in the US, Communities Mobilizing for Change, a randomized 15-community trial, aimed to reduce commercial and social access to alcohol among youth aged less than 21 years. Surveys of 12th grade students, 18-20 year olds and retailers found reductions in sales to minors, 18-20 year olds provision to other minors, although it had minimal impact on younger adolescents (Wagenaar *et al.*, 2000a). A follow-up intervention using arrest and

traffic crash data found declines on both variables, including a statistically significant decline in DUI arrests among 18-20-year-olds (Wagenaar *et al.*, 2000b).

In summary, it appears that interventions which seek to limit youth access to alcohol have limited effectiveness. The six studies (seven papers) that evaluated interventions to reduce formal access found that enforcement generally results in a reduction in direct sales of alcohol to minors but has little, if any, impact on their alcohol consumption. The three studies (five papers) that reported on interventions to reduce both formal and informal supply generally found minimal impact on perceived availability of alcohol or drinking behaviors. This suggests that focusing on the illegality of supplying alcohol to minors impacts on those who are likely to be subject to enforcement action (e.g., retail staff. but has limited impact on the general community. This is consistent with a mixed-method study conducted in New South Wales (Australia) which found that adults in the community did not perceive that the illegality of secondary supply was sufficient to motivate them not to provide alcohol to family members and friends; and that the social norms supporting this behavior were a more powerful influence (Jones and Barrie, 2013).

INSERT TABLE 3 HERE

3.3 Targeting whole-of-community

The Trelleborg Project in Sweden aimed to reduce alcohol related accidents and violence among 9th grade students. The stated objectives of the program were to (1) develop alcohol and drug preventive strategies for children and adolescents, (2) decrease heavy episodic drinking, (3) delay the onset age of alcohol consumption, and (4) change attitudes toward

alcohol and drinking behavior in the adult population (Stafström *et al.*, 2006, Stafström and Östergren, 2008). The implemented strategies targeted adolescents (alcohol and drug curriculum, school policy and action plan, new clubhouse for the youth club, parents (information on keeping children drug and alcohol free); as well as commercial (enforcement) and environmental factors (community policy and action plan). Aside from mass media publication of the results of a survey on adolescent drug and alcohol use, there appear to have been no community-targeted messages as might have been expected given the fourth objective. Cross-sectional (i.e., non-cohort) survey data showed significant decreases in alcohol consumption and excessive drinking among 9th grade students between 1999 and 2002, although no significant change in parent or other adult provision of alcohol (Stafström *et al.*, 2006, and subsequent decreases in alcohol-related accidents and violence (Stafström and Östergren, 2008).

The use of coalitions to implement community-level environmental strategies to prevent underage drinking was the focus of five articles (Nargiso *et al.*, 2013, Hallfors *et al.*, 2002, Eddy *et al.*, 2012, Collins *et al.*, 2007, Bryant *et al.*, 2007). One study explored associations between coalition capacity and implementation efforts and outputs in 14 communities in Rhode Island which received funding from SAMHSA to develop a community coalition to implement appropriate strategies from SAMHSA's Strategic Prevention Framework (SPF) (Nargiso *et al.*, 2013). The evaluation consisted of quantitative ratings from key informants and expert raters. They found that the communities varied in the strategies they implemented, the amount of time expended on each category of strategies (media, policy, enforcement, and the outputs produced; and that there was an association between capacity and outputs, and between uptake of training and technical assistance and policy change. However, no data was reported on changes in outcomes as a result of the outputs.

SMAHSA's SPF was also implemented in Eau Claire County, a rural community in Wisconsin (US). The Eau Claire County intervention included youth programs (in schools and in the community – including goal setting, refusal skills and social norms); parent programs (designed to increase parental disapproval of alcohol use and rule enforcement); and community programs (community awareness, policy change). Data from middle school and high school surveys showed significant declines in alcohol use, binge drinking, and perceived ease of obtaining alcohol; and a significant increase in perceived parental disapproval of alcohol use (Eddy *et al.*, 2012).

Fighting Back was a community coalition demonstration program in the US, funded by the Robert Wood Johnson Foundation, that required political, business and grassroots leaders to work together to develop a coordinated response to substance abuse problems in their community (Jellinek and Hearn, 1991).⁴ While each community was tasked with developing programs that were relevant to local needs, they were required to ensure that this included a community-wide system of prevention and treatment that incorporated public awareness; prevention, targeted especially at youth and children; early identification and intervention; and treatment and relapse prevention. Outcomes were evaluated via three waves of data collected in 12 of the 14 communities and 29 comparison communities, consisting of large-scale telephone surveys of residents aged 14 to 44 (Hallfors *et al.*, 2002). The findings of the evaluation were discouraging: there was no significant effect on the community goals (such as seeing drug use in public) or youth goals (licit and illicit drug use, AOD treatment, and an apparent negative effect on adult-targeted goals (licit and illicit drug use, AOD treatment).

⁴ Note that this article did not form part of the review per se (as it was published in 1991) but is included here for background on the evaluation study included in the review

However, the authors propose a number of possible reasons for these findings – including difficulties with implementation and the potential that the intervention communities were high-risk compared to the comparison communities. Importantly, they also conclude that broad goals do not lend themselves to effects on specific outcomes. Fighting Back had extremely broad goals to reduce demand for all drugs and alcohol among all groups and to prevent harms associated with use that targeted adults actually did worse on related indicators over time compared to matched controls (p 244). This is consistent with the principles of social marketing – particularly the need to segment and select specific target groups, and to develop a marketing mix that is appropriate for each target segment.

The Kentucky Incentives for Prevention (KIP) Project involved 19 community coalitions in Kentucky (US) implementing ‘science-based’ (more commonly referred to as evidence-based) adolescent substance use prevention interventions. The communities differed in the number, and focus, of implemented interventions – which included school-based (including Project ALERT, family-based, and environmental (Project Northland, see below). Short-term results (defined as survey results from 8th-graders as this age-group was the primary target for the intervention) showed no significant decrease in substance use; but longer-term (defined as survey results from 10th-graders who had been exposed to the intervention two years earlier) results showed small decreases in cigarette use, alcohol use and binge drinking (Collins *et al.*, 2007). Baseline data is not included in the paper, so it is unclear whether the higher usage rates for tobacco and alcohol in the intervention communities in year 8 (short-term follow up) reflect underlying differences between the populations.

Believe in All Your Possibilities is a social marketing intervention in Sarasota, Florida (US) that is a collaboration between the health department, community board (coalition of 35

organizations) and the Florida Prevention Research Center. This intervention targets middle-school students (primary target); and parents, middle-school teachers, administrators, and youth-oriented community organizations (secondary target). This comprehensive intervention includes: enforcement (citations for tobacco and alcohol sales to minors); policy changes (such as smoke-free schools); use of the Florida Comprehensive Assessment Test (FCAT) module on tobacco and alcohol for teachers; parent education addressing self-efficacy to discuss and control children's substance use; enhancing youth knowledge and competency in refusal skills (using a teen theatre production); and additional education for youth who are cited for tobacco use (Bryant *et al.*, 2007). While policy changes and a variety of other indicators were monitored, no outcome data was collected due to budget limitations.⁵

Two interventions are top-of-mind for most people when considering community-based underage drinking interventions: Communities that Care and Project Northland. These two programs dominate the literature; both ran for several years, both have been conducted in different regions (and in one case different countries. and both have elements that have been utilized in other published intervention studies.

Communities that Care (CTC) was a multi-component intervention conducted in 12 towns across the United States (with 12 matched comparison communities) that aimed to reduce initiation of and engagement in substance use and delinquent behaviors (Oesterle *et al.*, 2010, Brown *et al.*, 2007, Fagan *et al.*, 2009). Intervention communities (led by community coalitions) were able to select from a range of evidence-based programs set out in the CTC Prevention Strategies Guide (Substance Abuse and Mental Health Services Administration, 2005). These included school-based programs, family-focused programs, and community-

⁵ Confirmed by personal correspondence with the article's first author

based, youth-focused programs (such as support, tutoring and mentoring programs). Evaluation data from a panel of students who were in Grade 5 at baseline (2004) and surveyed annually until 2007 found significant differences between intervention and control communities for past 30-day drinking (AOR 0.70 for non-drinkers at baseline; 0.85 for drinkers at baseline) and binge drinking (AOR 0.77 for non-drinkers at baseline; 0.90 for drinkers at baseline) (Oesterle *et al.*, 2010); and the lower incidence of alcohol consumption, tobacco smoking and delinquent behavior was still evident in the 2009 survey, 12 months after the study-provided resources ended (Hawkins *et al.*, 2012). Interviews with community leaders (928 participants, four waves) found no absolute difference between intervention and control communities in 2009 community norms against adolescent drug use, but a greater increase in this support from baseline; and no difference in general community support for prevention, community collaboration (Rhew *et al.*, 2013). However, it is not clear the extent to which the program was disseminated into the community (beyond the community leaders and the individuals and organizations that implemented the program activities). Further, it is not possible to determine actual community attitudes – that is the community leaders reported their perceptions but no data was collected from the broader community. Based on its success in reducing substance use and delinquent behavior among adolescents, CTC has been adopted in other locations, including Canada (Flynn, 2008).

Project Northland is described as being an example of the latest generation of comprehensive community trials focusing on the prevention of alcohol-related problems using multiple interventions... (combining) ...individual behavior change strategies primarily focusing on demand reduction, with social-environmental approaches targeting supply reduction and normative change (Perry *et al.*, 2000). The initial cohort for the project was all sixth grade students enrolled in 24 public school districts in Minnesota (US. with schools randomized to

intervention or control. At the end of Phase One (eighth grade) there were significant reductions in alcohol use among intervention students, but by tenth grade (two years post-intervention) there were no significant differences in alcohol use between students in the intervention and reference communities (Perry *et al.*, 2000). Phase Two continued with the same cohort of students; with new school curriculum material developed for this age group. The project also included youth development activities (such as video projects and festivals); parent education; and community action teams recruited to develop action plans indicating the methods they would use to decrease commercial (liquor stores, bars, convenience stores) and/or social (adults, peers, siblings) availability of alcohol to adolescents (p.34). The Phase Two evaluation found that, compared to the control communities, students in the intervention schools were less likely to have increased their past month alcohol use, binge drinking, or tendency to use alcohol; although the effects were considerably smaller than in Phase One when the students were younger (Perry *et al.*, 2002). The Phase Two intervention also found significantly lower buy rates (successful purchase attempts by pseudo-buyers) in the intervention compared to control communities; and parent surveys found significantly lower ‘permissive norms’ among parents in the intervention communities (Perry *et al.*, 2002).

In a subsequent study, the Project Northland team investigated the effectiveness of the intervention in urban, low-income and multi-ethnic communities in Chicago (US) (Komro *et al.*, 2008, Komro *et al.*, 2004). Project Northland Chicago used similar strategies to the original Project Northland, tailored to the context of these communities. Thus PNC included peer-led classroom curricula (modified from the previous curricula); parental involvement and education; peer leadership and youth-planned community service projects (rather than the social activities in the previous program); and a greater emphasis on community organizing and environmental neighborhood change, with this focused in neighborhoods rather than in

schools (Komro *et al.*, 2004). The same evaluation strategies were utilized (student surveys, alcohol purchase attempts, parent surveys, and parent and community leader surveys). The results showed no statistically significant differences between the intervention and control communities in substance use (illicit drug use, alcohol use and alcohol intentions); on the intermediate variables (e.g., norms, expectancies, self-efficacy); or parent and community attitudes (e.g., parental monitoring, access to alcohol, support for policy changes) (Komro *et al.*, 2008). The authors concluded that the findings from the current study and others highlight the importance of conducting replications and appropriate adaptations with different populations. We cannot assume that a program or strategy that works within one context will work within another (p.616). This is consistent with the principles of social marketing; we must always know our target group and have a customer orientation – we must fully understand their lives, behavior and the issue using a mix of data sources and research methods (National Social Marketing Centre, 2006).

In 2002, Project Northland was adapted for use in Split (Croatia); 26 schools were recruited and randomly allocated to intervention or control. The school-based curricula was translated and modified to be culturally appropriate; local government, NGOs and media were recruited to participate in the planning and implementation of the community-based components of the program. Process evaluation demonstrated strong acceptance and support for the program among parents and teachers (Abatemarco *et al.*, 2004). The data from student surveys showed positive effects of the intervention on intention to use and recent use among younger female (but not male) students; but no significant effects among older students (consistent with the original Project Northland). Based on this data, combined with focus groups with parents and teachers, the authors concluded that the program should be implemented with students at an earlier age (West *et al.*, 2008).

In summary, it appears that interventions that target the whole of community have the potential not only to change behavior but also to change social norms as well as social, policy and physical environment - but that more evidence is needed. Of the 10 interventions (17 articles, seven evaluated the impact on youth drinking and five of these found a positive effect. However, only one assessed environmental, social and community attitude changes, finding positive changes on all measures, although several provided anecdotal evidence or process evaluation data to suggest that similar changes may be occurring in the intervention communities. Given the promising nature of these findings, and the theoretical and practical rationale for addressing underage drinking at the whole of community level (and the lack of success of programs that target only specific elements of the community, there is a clear need for the systematic conduct and evaluation of whole of community interventions in different socio-demographic groups, countries and cultures.

4. Discussion

The majority of community interventions have been delivered in, and at times by selected members of, communities. However, the majority have targeted children and adolescents themselves and/or their parents; a strategy that can be perceived by target groups as ‘victim blaming’ – a criticism that is often levelled at health education interventions (Watt, 2007, Crawford, 1977) and which social marketing seeks to avoid (Hoek and Jones, 2011). Some have targeted retailers (with a focus on enforcement and penalties, but few have actually targeted the communities within which children and adolescents form their attitudes and norms regarding alcohol consumption.

Children and adolescents experience considerable pressure to drink - from their peers, commercial interests, and their community - and perceive strong pro-alcohol social norms. Parents experience considerable pressure to allow their teenagers to drink, and to provide them with alcohol. Thus, it is not surprising that interventions which seek solely to change behaviour generally fail to bring about, or sustain, reductions in underage drinking.

In order to change these behaviours, we need to change the conversation. While much of the focus of the media and public discourse has been on the negative changes among children and adolescents, there have been some positive changes. In Australia, for example, the most recent national survey of Australian secondary students (the ASSAD survey) found that more teenagers are choosing not to drink (White and Bariola, 2012). Data from the ASSAD surveys – which have been conducted every three years since 1984 – clearly show that the proportion of teenagers who are regular drinkers (drank alcohol in the last week) has declined over time: from 30% of 12-15-year-olds in 1984 to 11% of 12-15-year-olds in 2011, and from 50% of 16-17-year-olds in 1984 to 33% of 16-17-year-olds in 2011. The decline is particularly noticeable in the period from 2002 onwards.

Social movements led by young adults, such as Hello Sunday Morning (HSM), have demonstrated to many that you can enjoy life without excessive drinking and begun to make it acceptable to talk about not drinking. An evaluation of HSM found that participants were motivated to change their behaviour to improve their quality of life and that, while the data was insufficient to assess statistical significance, there appeared to be a reduction in consumption and an increase in well-being over time. Importantly, reported barriers to goal achievement included not only discrepancies between personal commitment and ambitious goals but a lack of support from peers and pressure to consume alcohol in social situations

(Hamley and Carah, 2012). This is consistent with the finding of this review that changing individual drinking requires changing the broader environment and pro-alcohol social norms.

Our children and adolescents are growing up in an environment with an unprecedented level of alcohol marketing. Decades of research have demonstrated the powerful effect of alcohol advertising and marketing on drinking initiation and ongoing consumption (for a review of this evidence see Anderson et al., 2009a). The association between alcohol marketing receptivity and binge-drinking has been demonstrated across jurisdictions (Morgenstern, in press). Alcohol marketers are extremely savvy at being where their target market lives and plays (Jones, in press); and are increasingly active on social media platforms (Mart et al., 2009; Nicholls, 2012) where they can engage directly with young people and embed alcohol brands (and excessive drinking) into young people's personal and social identities (Carah, 2014). Thus, social marketers need to both build on the positive changes in adolescent and young adult drinking behaviours and attitudes, and to counter the pro-alcohol messages that are increasingly ubiquitous in young people's lives.

First, we need to support children, adolescents and young adults in their efforts to change their culture. The media, and public forums, are replete with stories about young people drinking excessively, but strangely silent about these positive changes. Given the incredible power of social norms, we need to promote to children and adolescents not the harms of alcohol (which they already know) but that many of their peers choose not to, or would like to choose not to drink.

Second, we need to communicate clearly to communities, and to policy makers, the approaches that work; and advocate for appropriate policy changes. For example,

governments currently expend substantial funding on ‘education’ and ‘information’ campaigns, which have been shown to be ineffective (Babor *et al.*, 2010); but are reluctant to introduce measures to control price, availability and advertising, which have been shown to be the most effective approaches (Anderson *et al.*, 2009b, Babor *et al.*, 2010). Social marketers have an important role to play in communicating the evidence to the community and engaging them in bringing about changes at the community, state and national level.

Third, we need to critically engage with messages and tactics the industry is using to promote the (excessive) use of its products (Jones, 2011). Community interventions, and social marketing campaigns, encouraging responsible drinking are delivered in a pro-alcohol, advertising-saturated media environment that reinforces the belief that alcohol is harmless, socially normative and essential to having a good time. Given the substantial body of evidence that current (quasi) regulatory systems are ineffective in regulating even mainstream advertising (Fortin and Rempel, 2007; Hastings *et al.*, 2010; Jones *et al.*, 2008), and that newer forms of alcohol marketing are even more complex to measure (Jernigan and Rushman, 2014) and to regulate (Brodmerkel and Carah, 2013), there is a need for social marketers to advocate for the introduction of effective advertising regulation by an independent body which includes monitoring and penalties for non-compliance (Heung *et al.*, 2012; Jones and Gordon, 2013).

Fourth, we need to move beyond narrowly-focused efforts targeting teens and their parents to efforts which target whole communities. Focusing on small groups will only bring about small changes in overall consumption, and continue to engender a culture in which ‘our’ drinking is acceptable and ‘their’ drinking is problematic. Furthermore, it is only when we address alcohol consumption across the age and life-stage spectrum that we will be able to

provide an environment for our children and adolescents which does not model (excessive) drinking as a normative social behavior.

Importantly, however, we need to recognise that each of these target audiences (adolescents, pre-adolescents, parents, peers, families, community members, and other stakeholders) will require the development of strategies and messages that are appropriate to that audience (segmentation and development of an appropriate marketing mix for each segment). This is reflected in the fact that those programs which have been effective have had clearly defined messages and interventions for each target group; for example, the implementation of SPF in Eau Claire County (Eddy *et al.*, 2012); and in the call by those who have evaluated enforcement approaches to underage supply that there is a need to concurrently address formal and informal supply (Schelleman-Offermans *et al.*, 2012, Flewelling *et al.*, 2013).

We also need to recognise that interventions need to be focused in their goals and not aim to address such broad problems that resources are diluted and lose their impact; a problem that has been recognised by authors of studies evaluating programs targeting ‘substance use’ as a generic issue (Hallfors *et al.*, 2002).

5. Conclusions

It is evident from this review that, while there is widespread recognition that children’s and adolescents’ drinking is strongly influenced by social norms, there are surprisingly few published studies evaluating interventions that sought to comprehensively address these norms at a community level. The majority of the education programs included in this review failed to show an effect, which is consistent with reviews of the effectiveness of school-based

drug education (Anderson et al., 2009). Similarly, ‘enforcement’ interventions generally had an impact on retailers but limited impact on youth drinking or drunkenness. Clearly, if we are to tackle the problem of underage drinking we need to change the attitudes and values that underlie our ‘drinking culture’. Education and enforcement have an important, but limited, role in bringing about this seismic shift; social marketing can take us beyond behavior change and begin to create communities that support our children and adolescents to choose not to drink. The role of social marketing is to work consistently and cohesively to bring about the necessary changes in our communities using a combination of customer-focused (downstream) social marketing, critical marketing and strategies to bring about environmental and policy change.

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Table 1: Excluded papers

Excluded papers were focused on....	Number of papers
quantification of drinking behaviors and/or outcomes	2
causes/risk factors for underage or excessive drinking	3
adult drinking behaviors	1
family or parent-targeted interventions	2
programs targeting young people in treatment or therapy	7
programs targeting incarcerated populations	1
fetal alcohol syndrome prevention	5
illicit drug use	2
depression or mental health	7
suicide or suicidal ideation	4
sexual health	8
violence (including domestic violence)	4
prevention or treatment of behavioral problems	3
other public health issues (such as dental health)	4
design or statistical issues, cost (effectiveness, or comparisons of programs targeting multiple behaviors or risk factors)	9

Table 2: Papers reporting on interventions targeting specific segments within the community and/or focusing solely on provision of alcohol

Ref	Country	Target				Focus			Evaluation (data sources)					Outcome (change)			
		Youth	Parents	Commerce	Community	Supply	Skills/alt	Social norms	Youth	Parents	commerce	Community	Health/law	Youth drinking	Youth drunk	Law	Comm.
Schelleman-Offermans et al 2012	The Netherlands			✓		✓			✓				✓	N	✓	✓	
Montgomery et al 2006	US			✓		✓							✓				
Moore et al 2012	US			✓		✓							✓			✓	
Huckle et al 2005; 2007	New Zealand			✓		✓							✓			✓	
Spera et al 2012	US			✓		✓							✓			✓	
Wolff et al 2011	US			✓		✓				✓							
Schelleman-Offermans et al (2014)	The Netherlands		✓	✓		✓			✓					N	✓	✓	
Diamond et al 2009	US	✓						✓									
Dedobbeleer et al 2001	Canada	✓	✓				✓		✓					N	N		
Ramstedt et al 2013	Sweden	✓							✓				✓			✓	
Kypri et al 2005	New Zealand		✓		✓	✓			✓	✓				N	N		
Wagenaar et al 2000a; 2000b	US	✓	✓	✓	✓ (young)	✓			✓		✓		✓	Y (18+ N (<18))		✓	
Flewelling et al 2013	US	✓	✓	✓	✓	✓			✓				✓	N	N	✓	

Table 3: Whole-of-community interventions

Ref	Country	Target ¹				Focus ¹			Evaluation (data sources) ¹					Outcome (change) ²				
		Youth	Parents	Commerce	Community	Supply	Skills/alt	Social norms	Adolescents	Parents	Stakeholders	Community	Health/law	Youth drinking	Youth drunk	Health/law	Comm.	
Communities that care [Oesterle et al 2010; Rhew et al 2013; Brown et al 2007; Hawkins et al 2012; Fagan et al 2009]	US	✓	✓		?		✓	✓	✓		✓				Y	Y	-	-
The Trelleborg Project [Stafström et al 2006; Stafström & Östergren 2008]	Sweden	✓	✓	✓	?	✓	✓		✓				✓	Y	Y	Y	-	
SAMHSA's Strategic Prevention Framework (SPF) [Nargisso et al 2013]	US	✓		✓	✓	✓	?	?			✓			-		-	-	
SPF [Eddy et al 2012]	US	✓	✓	✓	✓	✓	✓	✓	✓					Y	Y	-	-	
Fighting Back [Hallfors et al 2002]	US	✓	✓	✓	✓	✓	✓	✓	✓ ³	✓	✓	✓		N	N	N	N	
Kentucky Incentives for Prevention (KIP) [Collins et al 2007]	US	✓	~	~	~	~	~	~	✓					Y	Y	-	--	
Bryant et al 2007	US	✓	✓	✓	✓	✓	✓	✓						-	-	-	-	
Project Northland [Perry et al 2000; Perry et al 2002]	US	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y	Y	Y	Y	
Project Northland Chicago [Komro et al 2004; 2008]	US	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	N	N	N	
Project Northland Croatia [Abatemarco et al 2004; West et al 2008]	Croatia	✓	✓	✓	✓	✓	✓	✓		✓	✓			-	-	-	-	

¹ ✓ = included, ~ = included in some (but not all) communities that were reported on in the study

² Y= evaluation showed positive effect, N = evaluation showed no effect; - = data not collected or not reported

³ age 16 and over

