An empirical model for school health promotion:
the Western Australian school health project model

NYANDA McBRIEDE, RICHARD MIDFORD1 and IAIN CAMERON2
National Centre for Research into the Prevention of Drug Abuse, Curtin University of Technology, Perth, Western Australia, 1National Centre for Research into the Prevention of Drug Abuse, Curtin University of Technology, Perth, Western Australia and 2Past WASH Project Co-ordinator, WA Drug Abuse Strategy Office, Western Australia

SUMMARY
Models of school health promotion simplify and support the complex process of encouraging schools to adopt health promotion as part of their organizational practice by outlining phases and areas that bear on adoption and scope of activity. Models provide a value conceptual framework on which to base action and a standard against which to measure success. The Western Australian School Health (WASH) model is an empirically designed model that can assist both internal and external agents seeking to interest schools in developing comprehensive school health promotion programs. The WASH Model schematically represents the main elements of the WASH Project's process of initiating and developing health promotion with Western Australian schools. The model is based on the project's practical implementation experience (1992–1995) as an external intervention with its own specific health promotion agenda, operating in a setting that requires a participative approach to maximize outcomes. The model draws on system theory related to organizational change processes and on previous models of school health promotion. The WASH Project, which used this model in its interaction with schools, was able to demonstrate change in the level of health promotion activity and structural support in participating schools. Accordingly, the model provides a tested framework on which to base approaches and activity for school health promotion initiation, development and continuity.

Key words: school; health promotion; framework

WHY SCHOOL HEALTH PROMOTION?
The health choices and behaviour patterns adopted during childhood are often maintained into and throughout adulthood (United States Public Health Service, 1990; World Health Organization et al., 1991b; McGinnis, 1992; Nutbeam et al., 1993). The health choices and behaviours children adopt therefore have implications not only for individuals’ adult health and personal quality of life, but also for community health trends and associated health costs. Identifying and understanding the determinants of children’s health-related behaviours is of primary importance to a well considered approach to reduce the prevalence and costs associated with preventable morbidity and mortality. It is also important to understand that influences on the development of children’s health behaviours are multifactorial and complex (Praeger and Liebenberg, 1991; World Health Organization, 1991; National Health Strategy Unit, 1992). Fundamentally, children’s health behaviours are influenced by a complex integration of the behaviour patterns they witness and experience from a variety of people, in a variety of settings, over time.

As part of a comprehensive community response, schools have an important contribution to make in influencing the development of
children’s health behaviours (United States Public Health Service, 1990; World Health Organization, 1991; World Health Organization et al., 1991; Green and Kreuter, 1991; Lavin et al., 1992; Australian Department of Health Housing and Community Services, 1993). There are several factors unique to schools that make them an appropriate setting for health promotion. First, schools have an existing infrastructure incorporating educational opportunities, staff trained in the provision of education, environmental services, various structures and supports that can reinforce health messages, and existing links to community-based agencies and support services (World Health Organization, 1991; Green and Kreuter, 1991; Nutbeam et al., 1993). Health promotion can be cost-effectively incorporated into this pre-existing structure. Secondly, and perhaps most importantly, schools have links to several influences on children’s health, including family, peers, and the local community (Green and Kreuter, 1991; Nutbeam et al., 1993). This access puts schools in an ideal position from which to initiate interaction between key influences on children’s health behaviours, to create supportive environments and reinforce messages from outside the school setting (Kolbe, 1986; Nutbeam et al., 1993; National Health and Medical Research Council, 1995). Thirdly, schools have access to large numbers of children for extended periods. Children spend many of their developmental years in school, at a time when their growth and learning is exponential (Green and Kreuter, 1991; McGinnis, 1992). This access provides schools with continuous interaction with a large number of children at a critical time in their development. Finally, schools are often directed by a state or national mandate to educate children in health. Consequently, there is policy support for schools to incorporate health into their core function (Coonan et al., 1990; National Health and Medical Research Council, 1995).

A school approach which comprehensively targets many influences of behavioural development over several years is likely to be more effective in initiating and reinforcing positive health behaviour among students. Such a comprehensive approach has been acknowledged widely by school health professionals as an important method of implementing school health (Kolbe, 1986; Pigg, 1989; Seffrin, 1992; Nutbeam, 1992). Since the early 1980s, various models of comprehensive school health have been developed which incorporate three fundamental and mutually supportive factors that influence children’s health behaviours including: school health curriculum, school environment, and school health services (Anderson and Creswell, 1976; Rustia, 1982). During this early period of whole-of-school approaches to health, several terms were used to denote health-related activity that went beyond the classroom. In particular, comprehensive health/education, school health promotion and health promoting schools were regularly used terms. Models and activity from the United States and early activity in Australia focused on school health promotion, that is, health promotion activity that occurred from within a school for the local school community (Kolbe, 1986; St Leger, 1993; McBride and James, 1993). Later models from Australia and the World Health Organization focused on the development of health promoting schools, that is, the methods adopted by schools to conduct their core business that directly or indirectly impacts on student health (World Health Organization, 1991; Australian Health Promoting Schools Association, 1997).

Research literature suggests that schools which provide well developed school health promotion programs are more effective in encouraging children to adopt health enhancing behaviours and in reducing health compromising behaviours, than schools which provide curriculum-based health education alone (Connell et al., 1985; Parcel et al., 1987; Ellison et al., 1989; Glynn, 1989; Hawkins and Catalano, 1990; McKane et al., 1990; Green and Kreuter, 1991; Resnicow et al., 1991; Nutbeam, 1992). However, the conditions that enable effective school health promotion programs to be initiated and maintained are dependent on several school organizational and program implementation factors (Perry et al., 1989; Smith et al., 1992; McBride et al., 1995). Fundamentally, commitment of money, time and personnel by the school and its local community, coupled with good utility knowledge about school health promotion and community health resources are essential elements in successful school-based health promotion.

Encouraging schools to adopt comprehensive health promotion programs is often difficult given the current education climate of devolved decision making, crowded curriculum, an increasing number of curriculum areas vying for status and time on the school’s agenda, and industrial disturbances. Seffrin (1992, p. 394)
comments that ‘... the gap between common practice and “what ought to be” is greater for health education than for most other areas in the school curriculum.’

**THE WESTERN AUSTRALIAN SCHOOL HEALTH PROJECT**

The Western Australian School Health (WASH) Project was a school-based intervention that encouraged schools to undertake health promotion activity and incorporate ongoing support for health promotion within individual schools’ organizational structure (McBride *et al*., 1996). The 4-year project (1992–95) was funded by the Western Australian Health Promotion Foundation (Healthway) to a total of $AUD462 050. The project was managed by the Australian Council of Health, Physical Education and Recreation (WA Branch) and evaluated by the National Centre for Research into the Prevention of Drug Abuse (NCRPDA). During the operational period, formative, process and impact evaluation was conducted. This evaluation provided an array of information about the process of implementation and organizational change supportive of health promotion that can occur within the Western Australian school context (McBride *et al*., 1996).

Over 70 primary and secondary schools participated in the project which provided staff and parent training in school health promotion, access to a central health/education professional, and time for school-based representatives to plan and implement school health promotion activity. Since the initiation of the project, considerable insight has been gained regarding elements involved in initiating, educating and motivating schools to undertake health promotion activity tailored to their local needs. The aim of this paper is to present the WASH Project model for creating health promotion in schools. The model is based directly on the WASH Project’s experience of working with schools over a 4-year period.

**THE WASH PROJECT MODEL FOR SCHOOL HEALTH PROMOTION**

Figure 1 schematically represents the main elements of the WASH Project’s process of initiating and developing health promotion in Western Australian schools. The model is based on the project’s practical experience as an external agent operating in a setting that requires a participative approach to maximize outcomes. As such, the WASH worked with self-selected school communities and was incorporated within the participative decision-making style of schools. The project focused on working within school mandates and developmental processes to assist schools with their aims of initiating or further developing their health promotion activity tailored to their specific needs. The project therefore provided resources and expertise to the school, which were used in a manner decided by the whole school community (including teachers, parents and students) and thus tailored to the needs of individual school communities.

The model draws on system theory related to school organizational change processes (Holder and Howard, 1992). In this case, the school is the system and change supportive of health promotion is achieved by influencing that system. The WASH model also draws on early models of school health promotion as discussed previously. The WASH model incorporates both the concept of school health promotion and the concept of a health promoting schools. The distinction between these similar terms is both historical and conceptual; however, they are not mutually exclusive. The WASH Project model incorporates the health promoting schools concept within the ‘Management Factors’ and the ‘School Community’ sections in particular, but also incorporates health promotion activity (i.e. school health promotion) in the ‘Health Promotion Factors’ section. Acknowledgement of these two issues within the model provides scope for comprehensive development of health promotion by a school that chooses to base their health promotion practice on the model.

The model indicates that a developmental process occurs and there is a particular interrelationship between the components. However, this process is not necessarily sequential and there are numerous entry points and development pathways. A school could potentially become interested in developing health through any one of the critical individuals, strategies or supports mentioned in the model. For example, a school may be involved in a one-off successful school health promotion activity offered by an external health agency; may have a health concern identified through student health data; or have a parent who lobbies strongly for health development. Each of these factors, and others, could put
health on the school agenda. Ideally, once this initial interest is generated, school staff and parents will develop a sophisticated understanding of school health promotion, which will involve systematically addressing other key components of the model, to ensure a comprehensive approach.

**KEY COMPONENTS OF THE WASH PROJECT MODEL**

**Supports and strategies**

During its formative development phase, the WASH Project was loosely based on Kolbe’s (1986) model ‘School Health Promotion Components and Outcomes’. Potential areas for school health promotion activity identified within this model were:

1. **School health education.** This component includes elements such as: curriculum, health teaching, teacher training, resources.
2. **School physical education.** This component includes elements such as: curriculum, sport, daily physical activity program.
3. **School health environment.** This component includes elements such as: physical environment, policies and procedures.
4. **School nutrition and food service.** This component includes elements such as: healthy canteen or food service, healthy fundraising, lunch time policies, healthy eating incentives/competitions.
5. **School health services.** This component includes elements such as: access to nurse, dental services, vaccinations, screenings.
6. **School counselling services.** This component includes elements such as: pastoral care, counselling support.
7. **School staff health promotion activities.** This component includes elements such as: healthy food options, personal health information, regular physical activity opportunities at the worksite.

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**Fig. 1: The WASH Project model of school health promotion.**
(8) **Integrated school and community health promotion activities.** This component includes elements such as: school links with health agencies and professionals, involvement with the local and extended community and parental involvement.

One of the strengths of Kolbe’s model, was that it identified potential areas within the school and school community that could be targeted for health promotion activity. Other models tended to focus on the three traditional areas of curriculum, environment and services (Anderson and Creswell, 1976; Rustia, 1982), and while these components encompass the eight areas itemized in Kolbe’s model, they provided fewer guidelines for an action-oriented approach. The WASH Project focused on Kolbe’s potential areas for school health promotion activity in its formal and informal training and interactions with school community members. This focus helped to provide broad guidelines about the type and extent of activity that could be undertaken by schools interested in promoting health, while also being broad enough to provide scope for schools to tailor specific activities to their local needs.

Over the 4-year implementation period of the WASH Project, it became evident that other areas of activity were best represented as separate components rather than being subsumed within Kolbe’s original eight components. The extraction and additional focus on these two components helped WASH schools to emphasize planning and activity in two areas that provide the means to extend the school health promotion focus over a longer period of time. The two additional elements are: (1) parental involvement and (2) school health management and support. Additional components that extend the schools ability to focus on school health promotion:

(9) **Parental involvement.** The WASH Project identifies parental involvement as an additional component rather than including it within component (8) to acknowledge the vital part that parents play as primary influences on children’s health choices, and as potential school health promoters. Parents can extend the time and effort dedicated to school health promotion by alleviating some tasks from school staff and by providing alternative areas of health related expertise.

This component includes elements such as: parents as organizers and helpers; training parents in school health promotion; parents as school health promotion planners; parent group funding health promotion activity.

(10) **School health management and support.** The WASH Project also identifies school health management and support as an additional component rather than including it within component (3), to acknowledge the vital role that organizational support can have on extending the time and scope of school health promotion activity. Organizational support of school health promotion ensures that implementation occurs and that quality programs are maintained. This component includes elements such as: providing an adequate budget, personnel and resources to school health promotion, training staff and the schools planning, review and evaluation processes of health promotion activity.

Components 1–9 represent the focus of WASH Project’s health promotion planning and activity in participating schools. The WASH Project School Health Promotion Model (Figure 1) identifies these elements as supports and strategies. They provide specific planning guidelines for long-term health promotion support and action. These elements are the fundamental aspects of the WASH Project Model as they represent the main areas of activity that schools can address once interest in health promotion is initiated.

Ideally, each health promotion component should be targeted and activated to ensure a comprehensive and synergistic program is developed. However, in the WASH Project experience, it is unusual for a school to have the personnel or financial capacity to undertake a comprehensive program without prior attention to management and support elements. The commitment of adequate school-based resources, time and personnel can have a strong influence on the success of a program as it indicates the school’s commitment to health promotion as part of its organizational practice. The impact evaluation of the WASH Project indicates that schools which address management and organizational issues are more likely to maintain a school health promotion focus for up to 18 months after initiation of school health promotion activity (McBride et al., 1996).
Critical individuals

The inclusion of ‘gateway personnel’ and ‘key decision maker’ components in the model acknowledges the WASH Project’s need to approach and negotiate involvement with schools. These components are therefore particularly applicable to ‘outsiders’ interested in marketing and activating health promotion in schools. However, given the varying interest in school health promotion among members of a local school community, these components can also be important to ‘insiders’ wanting to influence other school-community members to support the development of school health promotion in the school.

In the WASH Project experience, the school principal, deputy principal and health coordinator were identified as critical gateway personnel. These people were seen as agents who could present proposals to other staff and parents by incorporating the topic on formal school agendas and at formal school development and decision-making meetings. Gateway personnel are critical people to interact with, as they play an important part in initiating discussion and demonstrating support for the concept to others in the school community. However, because school gateway personnel are often inundated with requests and proposals, it can be useful to provide incentives as catalysts for involvement, particularly in those schools that have limited prior interest in health development. The WASH Project experience suggests that incentives which are particularly useful in marketing health to schools include: linking activity to school decision making and planning processes; providing staff training; providing planning time; supplementing program budgets (McBride et al., 1996).

The key decision maker component to the WASH Project model indicates the part played by the principal and school decision-making group in determining the allocation of management and organizational resources to the development and maintenance of a school health promotion focus, once school health promotion has been identified as a key area of activity by the school community. During the WASH Project, it became clear that key decision makers played a fundamental role in determining the level of commitment and comprehensiveness of approach adopted by individual schools. The WASH Project experience suggests that it is particularly important for project staff to identify methods for engaging key decision makers interest in school health promotion in order to optimize the school’s health promotion program through the allocation of management and structural supports. In the case of the WASH Project, management commitment was fostered by incorporating ‘management and ongoing support’ as a key heading in all planning tasks. This ensured identification and incorporation of strategies into the school’s action plan that guaranteed the continuity of health promotion activity in the school.

Other critical individuals to school health promotion activity are key workers. This group of people are primarily responsible for planning, implementing and evaluating the school health promotion program. The motivation and commitment of key workers was essential in producing health promotion activity in WASH Project schools. Key workers were largely school staff and parents interested in taking part as school health promoters. However, at different times during each school’s program other key workers from within the school and from within the extended community were recruited. In particular, food service managers, pastoral care personnel, and experts from relevant community health organizations were involved in a variety of tasks to assist schools in broadening and actualizing their school health program. The WASH Project undertook to skill school-based key workers in the tasks of school health promotion by providing training, planning time and access to a skilled project officer. This proved to be important in ensuring that a core of key workers had a shared understanding of school health promotion so that a sophisticated school health promotion program could be developed and implemented. The WASH experience suggests that incentives, such as the provision of time, regular training opportunities, budget responsibility, and personal health information, are useful to develop and maintain motivation and commitment among the key school-based workers (McBride et al., 1996).

Process considerations

The process considerations identified in the model links key supports and strategies with the corresponding critical individuals, while outlining the need for a well structured and comprehensive planning approach that incorporates current school practice and developmental needs. Attention to elements in the planning process will assist
in the development of a comprehensive health promotion program that is uniquely suited to the needs and capabilities of an individual school. The key process considerations that contributed to optimal implementation of school health promotion in WASH Project schools included: ownership of the school health promotion program by school community members; incorporating school health promotion activity into school decision making and planning processes; commitment of school resources to the health promotion program; an up-to-date understanding of school health promotion theory and practice among school community members; and use of community resources, programs and expertise to expand the school program. Attention to these process considerations helped to ensure that each school interested in developing a health promotion program, had access to: current conceptual and practical information about school health promotion, ideas for an inclusive planning process involving the whole school community; adequate resources to undertake school health promotion; and the skills and information to assess and utilize resources and expertise from within and external to the school. The WASH Project experience suggests that most of these process considerations need to be considered prior to health promotion implementation to ensure that a comprehensive, widely accepted and effective plan results (McBride et al., 1996). Thus planning is the critical element. The planning approach used by schools should be well structured and be provided with adequate time to draw on a wide range of expertise and resources from within and outside the school, while also providing all school community members with the opportunity to review and comment (McBride et al., 1996).

**Evaluation**

This component of the model identifies the part played by individual school community members’ assessment of the program’s worth in terms of their own health, their students health, and their school’s health promotion program, as well as the formal evaluation of the program. For example, several participants for the WASH Project commented that the training provided by the project changed their personal health habits and this in turn influenced aspects of their home life as well as increasing their interest in school health promotion. Other participants commented that they felt rewarded and motivated by the students’ enjoyment when participating in school health promotion activities. These types of informal, positive individual evaluations reinforce the benefits of the schools involvement in health promotion and assists in maintaining health as a priority. Individual WASH Project schools also undertook evaluation of their school health promotion program as part of their ongoing mandatory monitoring of school activities. Often these monitoring activities resulted in schools reinforcing their commitment to health promotion or in changing the focus or direction of their health promotion activity. The WASH Project experience indicates that these types of individual and school level evaluation processes play a large part in contributing to the continuity of health promotion activity in individual schools. The WASH Project experience suggests that formal ‘reflection’ opportunities may assist in reinforcing the school and community members’ commitment to school health promotion.

The evaluation component of the model also includes the formal process and impact evaluation of the project. Extensive evaluation of organizational change and individual change was conducted over the period of the project and this played an important part in determining future funding to school health promotion from both within the school and external to the school. The results from this evaluation are available from the authors (McBride et al., 1996).

**Intersectoral collaboration**

The ‘key workers’ and ‘school health promotion’ components of the WASH Project model identify the importance of intersectoral collaboration to the process of developing a comprehensive approach to school health promotion. Involvement of the wider community can play an important part in optimizing each school’s health promotion program. In the WASH experience it was important for schools to complement their existing school-based resources with appropriate external resources, programs, and professional expertise from community health agencies to extend the range and scope of health promotion activities provided within the school program. Some examples of methods used by WASH Project schools to involve the local community included: inviting the local fruit and vegetable shop to provide a healthy hamper prize for a school competition in return for advertising rights in the
school newsletter; persuading national food companies to sponsor a series of healthy school/community breakfasts in return for acknowledgement at school assemblies and local community newspaper coverage; approaching a community health agency such as the National Heart Foundation to provide a guest speaker to assist in staff training. The WASH Project experience suggests that some schools have difficulty in engaging parents and other local community members in health promotion planning and activity (McBride et al., 1996). This indicates that it is important to provide some level of assistance to schools to optimize links with appropriate community organizations and health agencies, and with skills to evaluate the appropriateness of resources offered by these and other external organizations.

CONCLUSIONS

The WASH model is an empirically derived model that can assist both school-based personnel and external agents seeking to interest schools in developing school health promotion programs. The model identifies critical areas for consideration to optimize the skills and efforts of those involved in planning and implementing school health promotion activity. It identifies generic supports and strategies from which schools can tailor their health promotion activity to best suit their local needs while reinforcing the need for comprehensive program development. The model outlines processes that can contribute to wide acceptance and ownership of the health promotion program by members of the whole school community. The WASH Project, which both generated and used this model in its interaction with schools, was also able to demonstrate change in key workers knowledge, attitudes and health promoting behaviour, and in the level of health promotion activity and structural support in participating schools (McBride et al., 1996). Accordingly, the model provides a tested framework on which to base approaches and activity for school health promotion initiation, development and continuity.

Models of school health promotion simplify and support the complex process of encouraging schools to adopt health promotion as part of their organizational practice by outlining phases and areas that bear on adoption and scope of activity. Importantly, models of school health promotion provide a valuable conceptual tool for others interested in the development of school health promotion programs by supplying a framework on which to base action and a standard against which to measure success.

Address for correspondence:
Nyanda McBride
National Centre for Research into the Prevention of Drug Abuse
Unit 1, 14 Stone Street
South Perth
WA 6151
Australia

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