INTRODUCTION

The last 20 years have seen major changes in the development of approaches to school health promotion and health education. During the 1980s a comprehensive school health approach with eight components was developed in the USA (Kolbe, 1986; Allensworth and Kolbe, 1987). One of the ‘new’ components that received special attention was linking schools with communities (Allensworth, 1987). In the early 1990s, this was followed by the introduction of the health promoting schools concept in Europe, marked by the installation of the European...
Network of Health Promoting Schools in 1992 (Stewart Burgher et al., 1999; St Leger, 1999). After working with a health education curriculum focus for many decades, these developments led to a more organizational and structural approach to school health, including attention for collaborations with external agencies. Today, this holistic approach has been adopted in many countries, on most continents (Rowling, 1996; Rogers et al., 1998).

Currently, an increasing appreciation of the core-business of schools is evident in the area of school health promotion [e.g. (Jones et al., 2002; Lee et al., 2003; Stewart-Brown, 2001)]. St Leger and Nutbeam (St Leger and Nutbeam, 2000) introduced five essential priorities in school health promotion and education to be pursued in the next decade. They highlighted the number one priority as ‘finding effective ways to link the health curriculum with other school-based interventions’, since the effectiveness and sustainability of school health intervention depends on this link (St Leger and Nutbeam, 1999). Hence, as a school’s core business involves the education and social development of students, health agencies can assist schools by supporting a more holistic and integrated approach to school health that seeks to improve educational outcomes for students.

Internationally, a growing—but still limited—number of studies have demonstrated that school health promotion can lead to positive, cost-effective change, improving the potential of students to benefit fully from schooling as a result of having a positive health status at the same time (Durlak and Wells, 1997; Lister-Sharp et al., 1999; Nadar et al., 1999; St Leger, 1999; Stewart-Brown, 2001; Gosin et al., 2003). Studies have indicated that an integrated school approach, especially with long-term implementation of prevention programs, is likely to be more effective than short-term classroom-based prevention programs (St Leger, 1999; St Leger and Nutbeam, 1999; Wells et al., 2003). However, the application of whole-school approaches to health promotion is still limited (Paulussen, 2002; Young, 2002; Vandenbroucke and Stevens, 2003).

This article focuses on the development of a collaborative model for needs-based whole-school health in the Netherlands. The model is developed as part of the schoolBeat-approach to coordinated intersectoral needs-based school health promotion in the Maastricht-region (in the South of the Netherlands). The limitations and challenges in coordinated school health promotion in the Netherlands will be described first.

Education and school health in the Netherlands

The Netherlands has a system of compulsory education for children and youth between 5 and 16 years of age, and partial compulsory education up to the age of 18, making schools an ideal setting for establishing health promotion activities targeting young people.

However, schools in the Netherlands are limited in their ability to implement such programs due to a lack of finances and shortages in human resources. Expenditure per student relative to GDP per capita is among the lowest in the OECD (Schleicher et al., 2003). This is compounded by shortages in teaching staff, particularly in schools with a high percentage of immigrant students, schools for children with special needs, and lower general education (Kervezee, 2003). These shortages are likely to occur in many OECD countries in the years to come when older teachers retire and not enough younger people join the profession (Schleicher et al., 2003). At the same time, schools and health promotion agencies in the Netherlands, like their counterparts abroad, have to deal with increasing levels of health-risk behaviors, including the growing incidence of obesity among young people, mental health issues and the ever present issue of drug management (Dietz, 2001; Hirasing et al., 2001; van Oers, 2002).

School health promotion and preventive youth care in the Netherlands are fragmented and rarely do they directly address the specific needs of a school and its population (Pijpers, 1999; Paulussen, 2002). The ‘National Action Program on School Health Policy’, that was launched in the Netherlands in 2002, still focuses on the three ‘historical’ domains: classroom health instruction, school health services, and a healthy school environment (Buijs et al., 2002). School health in the Netherlands is very much supply driven with a strong focus on the child-centered nature of much service delivery (Veen and Day, 1998). To date, a limited number of school health promotion interventions in the Netherlands have been evaluated. Of those evaluated, only few have proven to be effective in reducing risk behavior among young people (Schaalma et al., 1996; Cuijpers et al., 2002; Lier et al., 2002).

Policy issues regarding whole-school health

In the Netherlands responsibilities in education and health promotion have been increasingly decentralized from the national government to the
provinces, and, in particular, to local municipalities. Schools, or rather school boards, have been given more autonomy in the allocation of human and other resources to achieve their aims (Geelen et al., 1998). The underlying principle is that local/regional coordination of schools, local institutions and municipalities is a key factor in achieving national objectives with regard to comprehensive youth policy (Veen and Day, 1998; Gilsing, 1999; Doorduijn et al., 2002). This, however, is difficult to achieve because of consistencies in policies and practices of service providers, the child-centered nature of many services, and the non-utilization of school-based stakeholders, including students (Veen and Day, 1998; Gilsing, 1999). Accordingly, collaboration between health promotion and individual student-care support organizations is limited (Doorduijn et al., 2002).

By 2004, all municipalities in the Netherlands were expected to have a regional care structure focusing on integrated care for individual students with health and social problems. This student care support structure usually consists of a school-based care team with the school physician/nurse, school social worker, and the school care coordinator as its core members. The physician, nurse and social worker are mainly employed by external support agencies. As care is closely linked to health promotion, this mandatory care structure is likely to benefit integrated school health promotion as well. The importance of this intersectoral approach to health problems has been underlined many times (de Leeuw, 1989; Bartholomew et al., 2001; Merzel and D’Afflitti, 2003), and continues to be a major aim of youth policy in the Netherlands (Gilsing, 1999; Spek, 2003).

Relevant to an intersectoral approach are the following groups:

- regional public health institutes providing preventive youth health care (including screening, vaccination, and health promotion);
- welfare organizations providing youth welfare services to schools and communities;
- safety providers, such as the local police, offering classroom-based programs on safety and risk behavior;
- school counselors assisting schools in identifying students with learning problems, and providing appropriate in-service training to school staff;
- local youth care bureaus responsible for diagnosing students’ problems related to social and mental well-being, and organizing follow-up;
- health promotion organizations directly providing interventions to schools free of charge or at reduced prices, sometimes with a direct link with a mass media campaign;
- workplace health promotion agencies focusing on reintegration of sick employees, and on the compliance of employers to national workplace health laws.

All these organizations deal with several policy areas, the most important being education, welfare, health and youth. In terms of school health promotion, they address schools directly with their prevention support on offer. Not all service providers play a role in the mandatory care structure mentioned above, as not all deal directly with the problems of individual youth. These all seem to be limiting factors of tailored school health promotion in the Netherlands. Figure 1 is a diagrammatic representation of the current health promotion and youth care situation in Dutch schools.

Additional limiting factors to a needs-based whole-school approach to health promotion in the Netherlands are the absence of a nationally accepted comprehensive youth health survey, and a quality standard specifically for school health promotion interventions, such as the school health quality label used in Belgium (Maes et al., 2001). Knowledge of school health promotion policies and programs within schools in the Netherlands is also still limited (Paulussen, 2002). Furthermore, it seems that schools adopt those interventions with the best PR-campaign rather than programs that best meet their needs. Schools and health promotion organizations in other regions have confirmed these observations. For example, presentation of the aggregated results at school level from a youth risk behavior survey (de Munter, 1997) yielded no noticeable effect on the choices of schools regarding health promotion. The previously mentioned practices are at odds with a coordinated and needs-based approach to whole-school health.

A NEEDS-BASED SCHOOL HEALTH PROMOTION MODEL

The development of a coordinated and needs-based model of school health promotion is now explored. This approach is named schoolBeat.

Based on the described situation, in 2001 five regional health promoting agencies in the Maastricht-region decided to focus jointly their...
efforts on improving the support structure and capacity needed to enhance needs-based school health promotion. These five agencies came from the areas of addiction, mental health, public health, youth care and social welfare. They wanted to collaboratively address risk and health behavior among children aged 4–19 more effectively. This willingness to collaborate was partly due to previous successful experiences with a collaborative approach to community health promotion: Hartslag Limburg (Ronda, 2003).

The criteria for formative evaluation for problem identification, as formulated by Green and Lewis (Green and Lewis, 1986), were applied during the development process (broad gathering of data, literature review, stakeholder interviews and consultation with experts). A national organization for health promotion and disease prevention (NIGZ) provided information on opportunities and experiences with coordinated school health promotion, from the Netherlands and abroad. Maastricht University agreed to provide scientific guidance in developing the schoolBeat evaluation design. Marx and Wooley’s (Marx and Wooley, 1998) guide to coordinated school health programs was used as a starting point for developing a tailored whole-school approach. Several meetings were held with school principals in primary education and care coordinators in secondary education. This yielded valuable information on the dilemmas schools face in deciding how to implement school health promotion. Moreover, this process shaped a model of the desired organizational school health support structure, which is illustrated in Figure 2.

The core of any approach, including schoolBeat, should be a health promotion team (HP-team) of school-based stakeholders in order to improve ownership and to enable effective tailoring to the needs of the school [see also (Marx and Wooley, 1998; McLeroy et al., 2003)]. This team should include representatives of school staff, parents, and students, and be assisted by a prevention worker from the collaborating health promoting agencies. The HP-team should be linked to the school care team as the care professionals may signal problem areas and prevention opportunities in these areas. This element of needs assessment is in addition to epidemiological school health data, and data on school policies and regulations influencing school health. Another reason for linking the care team and the HP-team were the remarks of the school principals highlighting the need for more support in the area of individual student care rather than the area of collective health promotion. It became apparent that if commitment of school management is wanted, there is a need to clearly establish such a link with individual student care, and indicate the preventive aspects of school health promotion towards individual students.

To enhance school commitment, the leader of the HP-team should be someone from the school, preferably a school administrator. Additionally,
to strengthen the link with the school care team, it is advisable to have the school care coordinator be a member of the HP-team and the care team. Other more supportive agencies are also represented in the school care team because of the specific expertise needed to discuss individual student problems. This results in additional links between the school care team and the school health promotion team at the services level within the limits of existing privacy laws.

Workload-sharing among support organizations

The number of primary (90) and secondary (18) schools in the Maastricht-region, with their 35,000 students, was regarded as too large for any single health promotion organization to provide tailored support in the area of school health promotion. This limitation led to the decision to share tailoring tasks, and to include them in the regular health promotion advisory work of the partners. This meant working with one advisor per school. The advisory tasks are thus spread among the health promotion agencies and do not require additional funding. At the same time, the prevention workers fulfilling these tasks have to improve their overall knowledge of integrated school health promotion in order to be able to represent the expertise areas of the other key groups in the school-based health promotion teams. Hence, this professional—the advisor—need not be employed by the regional public institute, as is the case in many approaches to coordinated school health promotion in other countries (Somers and Vandenbroucke, 2001; McDonald, 2002). In schoolBeat, advisors are employed by a drug prevention agency, a mental health organization and a welfare organization adjacent to the public health institute. The task of the advisor is to guide the school health promotion teams through a sequence of coordinated steps from needs assessment, planning and implementation to evaluation and reassessing priorities.

In order to further decrease the pressure on schools from various health promotion agencies seeking to have their projects adopted, it was decided to develop a comprehensive overview of possible activities and projects to be included in comprehensive school health promotion plans. School services should be coordinated and presented as one integrated service to schools. Based on literature (e.g. Allensworth, 1987; St Leger and Nutbeam, 1999; Andis et al., 2002), and the needs of school staff expressed during our consultation rounds, the link with the neighborhood and family was included in the design of a model for whole-school health promotion.

Consultation with stakeholders in the policy domain revealed a perceived inability to make full use of existing opportunities. This was claimed to be primarily due to fragmented policy development as opposed to integral policy development. The stakeholders indicated that the development of integral youth policy at the governmental level would be a desirable prerequisite to enhance comprehensive school health promotion.
promotion. It was necessary to include this in the model of the desired organizational school health structure to encourage policy makers to take up this challenge favoring the youth within their region. The same is true for the joint coordination at the decision makers level, favored by most experts that we consulted.

The schoolBeat approach

The model developed for a tailored whole-school health approach forms the basis of the schoolBeat project. This project aims to reduce health risk behaviors in young people (4–19 years) in the Maastricht region over a period of 10 years. The project’s mid-term objectives (2005) focus on establishing long-term sustainable collaboration among schools, parents, students, communities, health promoting agencies, and local authorities and increasing the number and quality of tailored school health-promotion activities. This means:

- empowering schools through the development of systematic needs-based and comprehensive school health promotion;
- incorporating relevant existing activities and collaborations wherever possible;
- matching demand and supply in the area of school health promotion according to a Dutch adaptation of the American Healthy School Model (Kolbe, 1986), including workplace health promotion and family/environment participation, these being new components of integrated school health promotion in the Netherlands—this may be referred to as tailoring at the school health policy level;
- tailoring specific activities to the needs of teachers, parents and students if no direct match between demand and supply exists;
- combining general school health promotion with health screening and care for students with health problems;
- reducing the burden on schools of being independently approached by various health promoting agencies to adopt specific projects or for research purposes.

The schoolBeat approach can best be described as a complex community intervention as it includes different types of collaborating partners and consists of several interventions targeting different groups at different times in the school setting. A 4-year project-grant of 0.6 million Euros (approximately US$ 1.0 million) includes financing for project development, coordination, evaluation, and limited implementation funds for participating schools. Implementation of the services provided is covered within the regular budget and staffing of the collaborating regional health promotion and welfare organizations.

EVALUATION

Evaluation of multifaceted and broad health promotion interventions like the schoolBeat approach by focusing on behavioral and subjective health outcomes alone does not do justice to the health promotion principles of empowerment and partnerships (WHO, 1986). Therefore data from different sources—including a control region—will be compiled and combined to examine:

- the schoolBeat collaboration;
- quality improvement in school health-promotion design and implementation practices;
- empowerment of staff (health promotion and education);
- whole-school health as measured in health risk behaviors and health perceptions among students.

In order to monitor and evaluate the schoolBeat-partnerships, and to be able to adjust collaboration procedures where required, a model for ‘DIagnosis of Sustainable Collaboration’ (DISC) was developed (Leurs et al., 2003). This was based on earlier models used for coordination and integration of health services (Mur-Veeman and van Raak, 1994; van Raak et al., 2003). The DISC-model focuses on (i) the interaction between the project management and the collaboration; (ii) the perceptions, intentions and actions of the collaborating partners; (iii) the project organization; and (iv) factors in the wider context, such as national legislation. Applying this model is expected to yield insight into the development of the collaboration among school support agencies, schools, and local governments in relation to coordinated, needs-based school health promotion. The DISC-model links the collaborative approach directly to the real-life context in which the approach develops, making it appropriate for case study designs (Yin, 1994).

To evaluate quality improvement and effects on school-based health promotion, the school Beat study focuses on the number and quality of school health interventions using a specifically developed schoolBeat quality checklist (Peters...
et al., 2004), and data on implemented prevention programs in schools. Additionally, the effects on the school health promotion organizational structure will be examined by tracking effect indicators of successful coordinated school health promotion schemes, such as the existence of a HP-team, the use of school health data, active links to the community, the inclusion of all eight components of the school health model in school health policies and the level of satisfaction of school staff with the organization and support of school health promotion within their school.

Impact evaluation on health risk behavior and subjective health outcomes among adolescents is included in the study. However, a long-term perspective is needed to enable results in this area to become visible, especially since a single behavioral target for all schools is absent. Baseline data on health risk behavior is collected in 2001 and used in discussions with schools for planning SHP. Follow-up measurements are scheduled for 2005, 2009 and 2013.

The schoolBeat research design includes qualitative and quantitative evidence and draws on the work of Campbell et al. (Campbell et al., 2000) regarding complex interventions.

Emerging evaluation issues

To date, the following issues in evaluating a collaborative needs-based whole-school approach to health promotion have been identified:

- As schoolBeat is being developed using action research, the evaluation measurements are part of the developmental process, and in most cases also part of the schoolBeat working procedure. This double focus limits the research burden on both support organizations and schools.
- With a national schoolBeat-masterclass and other schoolBeat-presentations and publications, some diffusion of schoolBeat-elements into other regions, including the control region, is likely to occur.
- Measurements may be part of the intervention, and therefore not always suitable for baseline measurements in the control region. To overcome this dilemma, a second control region is considered where no baseline measurements have been made.
- As Nutbeam (Nutbeam, 2003) stated earlier, research is more likely to inform policy and thereby promote sustainability when it takes into account the experiences of practitioners in delivering programs, and of the public—the schools, their staff, students and parents—who are being targeted.
- In the health, welfare and educational domain different terminology regarding health promotion is being used. For example, the word ‘prevention’ is interpreted by many schools as a service provided by school welfare workers to individual students with problems, whereas public health agencies define ‘prevention’ as the prevention of diseases at a later age. This calls for a shared frame of reference for school health or—staying closer to the perspective of schools—a shared frame of reference for levels of student care that is also reflected in evaluation research.
- Governmental policies and laws may undermine or increase specific effects of a whole-school approach to health promotion and its needs-based support. Governmental policy developments should therefore be well monitored and described regarding changes in the education or health sector.
- The schoolBeat project entails an iterative cycle of research and action involving considerable interaction between participating support organizations, schools and research staff. The researcher draws conclusions from the data collected, as do the partner organizations that may use the data to enhance further development of the approach. The way data is reported to the collaborating partners may influence the interpretation and direction of decision-making. For this reason, it is advisable to facilitate a close link between the researcher and project team (Campbell, 1969, 1984; Ellenbroek and Reijmerink, 2003). Due to financial constraints, however, the schoolBeat partners had to make one person responsible for both project management and evaluation, possibly reducing the objectivity of the researcher. To limit negative effects, a scientific advisory board was installed to complement a national advisory board and a local project group.

FUTURE PERSPECTIVES

In its first 18 months, the introduction of schoolBeat in secondary schools has been successful in establishing comprehensive collaboration in tailored school health promotion,
thereby spreading the workload among partners. Education and health professionals together created a mutually acceptable frame of reference when combining school health promotion with individual student care. The main challenge now is to keep the momentum going in secondary schools and to find a suitable way to start in primary schools, which have fewer staff with special tasks in the area of health promotion and individual student care.

From an international perspective, it is the collaboration, the task sharing between public health, welfare, mental health, addiction and youth care organizations (as outlined in Figure 2), and the mutually accepted frame of reference which make the schoolBeat approach unique. With the first results regarding the diagnosis of the development of sustainable collaboration using the DISC-model (Leurs et al., 2003) on their way, we intend to delineate our diagnoses model in the near future. Additionally, the development and application of a school health promotion quality instrument—the schoolBeat-checklist—could be beneficial to others who wish to improve the quality of school health promotion in their countries.

To support implementation of the schoolBeat approach in the Netherlands, two national master classes were held in 2004 in addition to publications in national journals and presentations at national meetings. To date, there has been considerable interest in, and appreciation for, the schoolBeat development from both education and public health professionals, including the ministries of health and education, in the Netherlands.

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REFERENCES

Southwestern US. Health Education Research, 18, 363–379.


Stewart Burgher, M., Barnekow Rasmussen, V. and Rivett, D. (1999) The European network of health promoting...
schools—the alliance of education and health. WHO Regional Office for Europe, Denmark.


