

Health education for young people *Approaches and methods*

SYNTHESIS AND RECOMMENDATIONS

**Expertise collective Inserm
June 2001**

This document presents the synthesis and recommendations of the expert advisory group brought together by Inserm (*Institut national de la santé et de la recherche médicale*), in the framework of the procedure for expert advisory opinions to respond to the questions asked by CANAM (*Caisse nationale d'assurance maladie des professions indépendantes* – National health insurance fund for independent workers) about the developments and appropriateness of methods of health education for young people.

The *Centre d'expertise collective* * (Center for expert advisory opinions) of Inserm coordinated this expert advisory group, in collaboration with the *Département du partenariat économique et social* (Department for economic and social partnership) for the preparation of the file and the documentation department for the research bibliography (*Département de l'information scientifique et de la communication* – Department of scientific information and communication).

* Centre d'expertise collective (Inserm SC14), Faculté de Médecine Xavier Bichat, 16 rue Henri Huchard, 75018 PARIS, tel 01 44 85 61 65

Expert advisory group and authors

Pierre ARWIDSON, assessment and studies department, French committee for health education (CFES), Vanves

Jacques A. BURY, public health, Institute of social and preventive medicine, University of Geneva

Marie CHOQUET, adolescent health, psychology and epidemiology, Inserm Unit 472, Villejuif

Christine DE PERETTI, department of education policy, practice, and participants, School and health unit, INRP, Paris

Alain DECCACHE, director of the RESO-education for health unit, Catholic University of Louvain (UCL), Brussels

Marie-Laure MOQUET-ANGER, director of the public law study laboratory, School of law, Rennes 1

Geneviève PAICHELER, sociology, Public policy and health, CNRS-CERMES UMR 8559, Inserm Unit 502, Paris

Scientific and editorial coordinators

Jeanne ETIEMBLE, director of the Center for expert advisory opinions of Inserm

Martine MUFFAT-JOLY, scientific attaché, Center for expert advisory opinions

Marie-Josée PRIGENT, chargé d'expertise, Center for expert advisory opinions

Bibliographic and technical assistance

Chantal GRELLIER et Florence LESECQ, Center for expert advisory opinions

English translation

Jo Ann CAHN, independent scientific editor and translator

Foreword

Recent decades have seen major changes in health issues. This development has been marked by the relative increase in diseases associated with lifestyles or with behaviors considered to be "at risk" for negative health consequences and by skyrocketing health costs that exhaust the funds available.

Prevention, health education, health promotion -- these are some of the diverse labels of the numerous activities involved in reducing risks and modifying behaviors with the aim of improving the quality of life and prolonging it. In 1986, in the Ottawa Charter, the World Health Organization (WHO) defined health promotion as "the process of enabling people to increase control over, and to improve their health." In France, the National conference on health for the year 2000, stressing the importance of developing prevention and education as an approach to health promotion, emphasized the need to work more deeply on the behavioral and environmental determinants of health. It observed that France lacked a legislatively-imposed legal basis for setting the boundaries for health education activities and for establishing a minimum of quantitative or qualitative requirements.

In French, two expressions -- literally translated as "education for health" and "education to health" are used interchangeably in official texts and publications. In fact, however, they cover two different practices. Health professionals, who consider health to be a process of permanent adaptation, prefer education "for" health in order to stress the maintenance of this process. On the other hand, education professionals, use the preposition "to", by analogy with education "to" citizenship and the environment, to underline the educational dimension of this mission. The 1998 establishment of committees of health and civic education inside schools and the introduction of health education into school curricula marked an important step forward. Nonetheless, both the means and the skills available are frequently inadequate.

The multiplicity of bodies involved in these programs and interventions does not facilitate the system's consistency or its ability to capitalize on its experience. The lack of coordination between various public agencies and the lack of relationships between researchers and field workers is reflected by the difficulty in developing evaluation methods and in the minimal visibility of most activities in this domain. For example, there is no specialist journal publishing research and innovative actions implemented in health education in the countries of the European Community, although it would enrich the literature in this field -- a literature that today is essentially North American.

CANAM sought information and advice from Inserm, through the expert advisory group procedure, on the recent scientific data about the quality, consistency and effectiveness of health education methods for young people, both nationally and internationally, with particular attention to the methods intended to prevent risk behaviors in the areas of sex and psychoactive substance use.

To respond to CANAM, Inserm established a multidisciplinary group of experts that brought together scholars with expertise in the domains of health education, public health, public law, epidemiology, psychosociology, and pedagogy. The group's analysis was structured around the following questions:

- What are currently the principal concepts in health education? What observations have structured their development?

- How is health education implemented within the educational system? How do the institutional solutions in France compare to those in other countries?
- What legislative and regulatory framework circumscribes health education for youth in France?
- How do different methods take into account the background items -- objective or subjective -- that justify particular activities in health education?
- What elements are recognized to determine the quality and effectiveness of interventions in health education? Are there any forms of health education intervention that have been reported to have attained all or part of their objectives? Under what conditions can these activities be perpetuated? Under what conditions are various activities transferrable?
- What are the specific factors involved in the effectiveness of educational activities in preventing "at-risk" behaviors that endanger health, in the domains of sex and psychoactive substance use?

Querying databases and searching for unpublished documents allowed us to construct a corpus of approximately 1 400 documents, including articles published in scientific journals, reference works, reports of interventions, the gray literature, and official texts. Approximately 900 documents more specifically focused on activities in school settings were analyzed by the expert advisory group.

During six working sessions organized between November 1999 and September 2000, the panel members presented a critical analysis and synthesis of the works published in their fields of expertise. The last two sessions were devoted to the collective validation of the synthesis and to drafting the recommendations.

Synthesis

According to the French Treatise on Public Health, there are three categories of health education: primary, secondary, and tertiary. Primary education is that aimed at reinforcing the students' good health. Secondary education involves measures intended to avoid accidents to health or, if such an accident has already occurred, to restore good health as rapidly as possible. Tertiary education is any educational intervention aimed at rehabilitation and adaptation to the sequelae of an accident. Health education thus intervenes both before and after any disease or injury.

Its justification is found today in public health data stressing the importance of behavior as an explanatory factor in most deaths that are considered premature and avoidable, particularly among the young. The cost of health education is generally agreed to be quite low in relation to the potential savings, and is trivial compared with the costs of other sectors of the health care system. In France each year we spend, on average, per inhabitant: 10 F for health information and education, 250 F for preventive medicine and 11 000 F for treatment of diseases.

Moreover, the value of health education is not only collective and economic; it also serves definite individual and personal interests. It allows each individual to develop his or her capacity to improve both longevity and quality of life, in the holistic vision of health as defined by WHO: "Health is a state of complete physical, mental and social well-being and does not consist only in an absence of disease or infirmity."

Health education is not the monopoly of government: it concerns all the players in the health care system, and, when young people are involved, all those in the educational system. Because it is everyone's business and involves a mission of general interest, it is performed by a multitude of participants often ignorant of one another, and it raises legal, ethical and economic questions. We note, however, that in France the few scattered dispositions mentioning health education in the overall legislative and regulatory scheme provide a badly structured and poorly defined framework -- helpful neither to its credibility nor its relevance.

A curative or treatment approach and a preventive approach, although different, are naturally complementary. The ethical code of the medical and paramedical professions make health education a professional obligation, as do the regulatory texts. Moreover, the Public Health Code contains very explicit provisions endowing all health facilities, public and private, whether or not they participate in the public service of hospitals, with a mission of health education in addition to their primary treatment mission. In the last decade, some health insurance funds have created departments of health education and promotion, in accordance with the priorities defined by their Boards of Directors.

The role of schools was redefined in the 1989 framework law on education that first introduced health education into the school setting. A set of provisions in 1998 inserted health education into the nationally-mandated curricula of primary and middle schools. Within schools, Committees for health and civics education were charged with the mission of health education and with organizing the prevention of substance abuse, other risk behaviors, and violence within the framework of the school's project or plan.

Traditional health education is the set of educational interventions intended to provide individuals with information about health and to induce them to adopt attitudes and

behaviors that are good for their health. More recently, health education has broadened to include social and environmental aspects. The concept of "health promotion" was formalized in 1986 in the Ottawa Charter, still the international reference; it enlarged the educational approach by focusing on collective responsibility. It involves not only educating individuals but promoting collective mobilization and changes, while bearing in mind the psychosocial and societal determinants at the origin of behaviors and attitudes unfavorable to health. Health promotion includes health education, which is one of its essential components.

The ethical question of whether changes -- of attitude or behavior -- should be promoted is central to the debate about health education. In principle, the desire to change others can be considered ethical if the individual or group is conscious of this influence and if the change benefits the individual or group. Most health educators are averse to normalizing behavior, inducing guilt about health-related subjects, and relying on individual responsibility as the sole motor of change. A conference on health education and ethics held in January 2000 reviewed the four general principles used to guide health education interventions in North America: respect for social justice, respect for individual autonomy, the requirement that the program or intervention be beneficial, and the requirement that it not do harm. The debate on the construction of an appropriate ethic here has begun.

From prevention to health education and promotion: a conceptual and methodological development

There is no single unequivocal definition of the concept of health, which has several senses: absence of disease, desirable biological state, biological, psychological and social well-being, individual capacity to manage one's own life and environment, and more.

Health can be defined by physiological criteria and thus assessed by objective (or objectivated) indicators of this type. These are expressed essentially in terms of normal or at risk, as are the objectives of acts involving treatment and care. From this viewpoint, health is especially the concern of health care professionals.

Perceived simultaneously as a state and as a capacity, health is assessed in terms of power to mobilize and of social interactions. Health education therefore is not limited to learning which behaviors are risky and which protective, but integrates other items, including an understanding of the place health has in life and the power one has over one's own health. Health care professionals and educators thus have a joint role.

Prevention has specific objects -- disease and risk; it is thus related to a particular concept of health -- the absence of disease. As such, it has two important advantages: it focuses attention on the problem that must be solved and it has a prospective viewpoint (foresee and prevent). The disadvantage of this concept is that the subject matter is restricted to risks, that is, to behaviors judged to be negative and to their dangers. What health education requires, however, is as much the promotion and maintenance of health as the prevention of disease (and risk). Positive or protective health behaviors, such as physical exercise and good nutrition, are adopted more often for reasons of pleasure or health than to prevent risks.

During the last quarter century, the concept of prevention has slowly been enriched by the concept of "health promotion". Accordingly, prevention has grown progressively, from the avoidance of harmful agents in the biophysical environment to that of associated individual behaviors. This trend, which has shown that, beyond individual behaviors, social conditions play an important role, has been accompanied by a reduction in the incidence of infectious diseases, due to vaccination and improved hygiene. A "positive" vision of health has arisen,

in particular, as a resource for life. The aim of health promotion is to increase this "health potential" or "health capital," individually and collectively.

Generically, health education can be defined as a set of intentional activities designed to transfer or construct knowledge about health to or for a person, a social group or a community. Two concepts of health education prevail today. The first perceives health as involving the successful operation of the human organism, in all its aspects -- biological, mental and social. This position is held by the health sciences, whose legitimacy in education rests on this definition. In the second concept, health education is considered one aspect of general education -- education in or training for life. This concept is held by those in the field of educational science (or pedagogy): for them health is one of the components and themes of education. It is important to stress that these two approaches are complementary. The first is more biological but also more immediate: it corresponds to concerns about existing risks. The second involves long-term education: alone, it cannot respond to immediate risk situations.

All those who play a role in the lives of children and adolescents are concerned about health education: parents, teachers, youth workers, members of youth movements, family physicians, pediatricians, paramedical staff, and school doctors and nurses. At the intersection of these two fields (education and health) we find the professionals of health education. "Health educators" are defined by their training, their experience and especially by their ability to go beyond professional divides -- both occupational and disciplinary--because of their skills in the domains of education, health, communication, psychology and sociology. They are the principal "interface" between the other participants. In addition to these direct participants, others have indirect contact with the young: health and prevention agencies, patient and consumer associations, and others who transmit messages about and influence health behaviors. These different groups of players represent different stakes and the possibilities of various kinds of interventions. Their respective responsibilities, roles, and boundary lines must therefore be defined.

The role of parents and other family members is highlighted today. They must be perceived not only as a possible - secondary since children are the principal - target audience for health education but also as co-participants, players in their own right and even, in some cases, as the principal players in their children's health education. Several experiences have shown that children's health problems can be prevented or solved through interventions conducted only with the parents.

The approach known as "health promotion," defined in the Ottawa Charter, offers a theoretical framework and interventions intended to be comprehensive and consistent; it designs strategies (that is, convergent and concerted interventions) synergistically with an interdisciplinary approach that takes into consideration the multicausality of health determinants. The reality of interventions, however, is often more fragmented and accordingly less conclusive. It takes a long time to modify professional practices. Nonetheless, support for the validity of the Charter principles comes from the changes in individual and collective practices that can be seen nearly everywhere.

The principles invoked for health promotion involve the concept of "environments" or life "settings" (cities, communities, schools, workplaces, health care facilities, prisons...). Intervention in such settings is facilitated, not only by the existence of a "captive" population, but also because the community is structured by a strong shared identity, vigorous interactions and communications between members; it also has networks to finance it. For interventions planned in these settings and in particular in schools, the process developed to reach the objective is also important. Because the aim is to increase individuals' capacity for self-direction, the approach must not be directive: it must accompany the individual's

development. Therefore, the subjects participate in the very planning of the project, which aims to create conditions favorable to the emergence of changes in their skills and eventually, their behavior. This approach, summarized by many authors by the terms enabling and empowerment, is appropriate for the educational enterprise in general and for health education in particular.

Health education contains an individual and a collective component, which ought not be separated: the learning of health and lifestyle behaviors must be approached from both angles at the same time. To develop interventions relevant to health education, it is first necessary to understand the factors that cause and those that influence health behaviors, as well as the processes of health learning. We must therefore analyze the educational needs and reach an "educational and/or behavioral diagnosis".

Any method for analyzing these needs must be based on a model or theory that explains health behaviors. More than twenty models have been developed or used in the field of health education. They can be sorted into eight major categories according to their principal characteristics, as summarized in the following table.

Principal categories of psychosocial theories and models explaining health and lifestyle behaviors.

Biomedical model	<p>It explains individuals' health behavior by</p> <ul style="list-style-type: none"> • their psychological predispositions (personality, motivation, comprehension skills), • social and demographic profile (age, sex, education...); <p>and by some characteristics</p> <ul style="list-style-type: none"> • of expected behavior (complexity, duration...), • of the risk to be avoided (prevalence, seriousness...).
Theories of information and communication	<p>The factors considered are characteristics of the sender, the receiver, the message, the channel and the code: who said what to whom by what means and with what effect?</p>
Personality theories	<p>The principal factors considered are:</p> <ul style="list-style-type: none"> • health locus control perceived individually in terms of power and duty and which can be internal (individuals themselves), external (others) or luck (random, God...), or a combination of all three; • the health logics of individuals leading to behavior by which they manage or ignore their health.
Value-expectation theories	<p>The principal application of this is the Health Belief Model, which considers</p> <ul style="list-style-type: none"> • threat perception (vulnerability and seriousness of consequences), • belief in the efficacy of preventive behavior to reduce the threat (advantage-disadvantage ratio between preventive behavior and risk).
PRECEDE model	<p>Predisposing, Reinforcing, Enabling Causes in Educational Diagnosis and Evaluation. This first multifactorial model used several successive diagnoses: social, epidemiologic, behavioral, educational and then administrative.</p>
Social learning theories	<p>These are applied from social cognitive theory (Self Efficacy Theory), which fills out the preceding theories by taking into account</p> <ul style="list-style-type: none"> • the individuals' belief in their own personal efficacy: mastery and perpetuation of the desired behavior, • belief in the efficacy of the given behavior in obtaining the hoped-for result.
Social representation theory	<p>This postulates that social representations of health and of other objects related to health are the principal factors influencing the construction, adoption and changes in health behaviors.</p>
Integration models	<p>These structure the contents of earlier models and theories into a more comprehensive whole.</p>

We can add to these models those that touch upon the processes of individual change but do not constitute explanatory or comprehensive frameworks for understanding health behaviors. These models are most often elaborated by specialists from a single discipline, based upon observations and experimentation, without any interdisciplinary connections. Although their principal use is the deterministic prediction of health behaviors, they can be used to understand influencing factors (social representations, lay skills) adaptable to each audience.

Since health education is a discipline oriented towards practice with the living human being as its subject matter, research in this field is applied: research in development (programs, interventions), evaluation research and research-action are its principal trends. While the subject of evaluation research is the processes and effects of educational activities, the other two types simultaneously touch upon the analysis of needs and the setting up of interventions and programs.

The first programs were designed from a prevention perspective, and accordingly the method of their evaluation was most commonly the quantitative experiment (randomized trial with control groups) and the quasi experiment (without randomization). Nonetheless, controlling variables reduces the complexity of the reality and, by that very fact, modifies the object of study. Later, sociology, pedagogy and psychology contributed their methods and tools (qualitative approaches with semi-structured interviews and discussion groups). The current trend is to combine these approaches, thereby introducing the difficulties inherent in any truly interdisciplinary study.

Moreover, evaluation and evaluation research have long focused on changes in knowledge, health and epidemiologic results, and economic aspects, while ignoring the role played by the overall set of factors, processes, and organizational aspects in the quality and effectiveness of health education. The concept of health promotion with a goal of increasing "health potential" implies that indicators of individuals' "action skill levels" be defined and used in evaluation research.

Youth and their health: perceptions and representations

While our knowledge of the epidemiology of young people continues to increase, we are far from understanding the psychosocial aspects without which no effective health education is possible. This "psychosocial-epidemiology" is the simultaneous study of the health of the young (and not only of their health problems), of its political, environmental, and organizational (how does school contribute to children's health?) determinants, of their representations, concerns, knowledge, attitudes, priorities, and their own resources in health matters.

In France, information about the health and health behaviors of the young comes from various types of surveys. The methods used to collect these data vary substantially, which may be responsible for differences between the various results.

Examples of sources of information about the young and their health behavior in France.

Adolescents - 1993 national investigation - Inserm U169

ACSJ Survey (attitude and sexual behavior of youth aged 15-18 years) 1994 - ANRS/CNRS/EHESS/Inserm

Deviant behavior by high school students 1997 - CADIS/OFDI

Youth health barometer 1997/98 - CFES

Parisian high school students and psychoactive substances: trends. Synthesis of studies in 1983, 1991, 1998 - INRP/Paris X/OFDI

ESPAD survey (European school survey on alcohol and other drugs) 1999 - Inserm/OFDI/MENRT

Implementation of health education: the institutional framework of the educational system

Our analysis of the literature relative to health education for the young reveals some consensus about key elements (place, means, contents) that should be taken into account in designing and implementing programs.

School is recognized as the preferred (but not sole) place for health education and promotion because of the important interactions between health, academic success and education, and also because it is where a vast majority of an age group can be reached.

We note that the planning and organization of programs require a substantial investment of time and resources. The training of adults, and particularly of teachers and multiprofessional teams, is determinative and often considered to have the highest priority. The collection of resources (sources of reference material, documentation, methodological guides) and pedagogical tools and their availability to teachers is also fundamental. Adequate time must be allocated to the program. Moreover, the general observation that the effects of programs diminish with time suggests that progressive programs ought to be implemented to extend from kindergarten through high school, in coordination with academic curricula.

Overall, the authors agree that information is necessary, but not sufficient. It is easier and faster to improve knowledge than behaviors, but improved knowledge does not necessarily lead to changes in behavior. The methods used must be diverse; they must solicit the active participation and interaction of students to involve them in their learning -- as well as in the choices of the health themes and subjects that they want to study. The clarification of values and attitudes and the development of self-esteem are not only ethical factors but also factors critical to effectiveness.

The enrichment of students' psychosocial skills, such as negotiation, problem resolution, creative thinking, decision-making, coping, interpersonal relationships and communication is an important element in the success of health education programs.

Health education as a subject matter for instruction is not enough. The school's "hidden curriculum" -- that is, values, interpersonal climate and daily educational practices -- influences learning as well as the construction of identity. Health education cannot be dissociated from health promotion, of which it is one aspect. National policies defining orientations in this domain now link health education closely with health promotion. For schools, this approach is based on a combination of various components and responsibilities in different registers: curriculum (the content of instruction); environment (physical, organizational and psychosocial, integrating values and interpersonal aspects); health services; partnerships (with parents and local communities -- including local health professionals and volunteer groups); school operations.

The health education/promotion policies, programs and projects in a school system, like the conditions of their implementation, depend on the organization of the educational system and of the health care system, as well as on the culture of interinstitutional partnerships.

Four examples of context: implementing health education in school settings

In the United States, the Comprehensive School Health Education model was introduced at the end of the 1980s by the Centers for Disease Control and Prevention (CDC), a federal health agency; its goal was to unify and connect federal objectives with those of the different states, in a country with substantial local diversity. Its objective was to improve health as well as attitudes, practices and skills that affect health. The general principles of this approach stress its behavioral dimension and the coordination between school and community. Such a comprehensive program includes eight complementary components.

Components of the comprehensive school health education model, developed in the United States.

Health education is a continuing aspect throughout each student's school career.

School health facilities manage screening activities and emergencies and facilitate access to care.

The promotion of healthy environments includes physical and psychosocial factors.

School food services must play a role in ensuring the health and education of students.

The health needs of school personnel must be taken into account.

The school must offer psychological assistance and counseling.

Parental and community involvement is sought.

Physical education proposes a variety of activities that combine to optimize the physical, mental, emotional and social development of each student and to promote activities they can practice throughout life.

A national study by the CDC in 1994 measured the extent to which this policy was applied and, more particularly, the development of health education teaching. Within schools, the director of health policy is often the school head, sometimes helped by an assistant or a nurse. In elementary schools, health education mainly occurs as lessons integrated into the standard curriculum, while in secondary schools, school districts require that health education be part of a specific course devoted almost entirely to health. In practice, secondary schools teach health education either in specific courses or within the framework of subjects such as biology or home economics. The themes covered most frequently are the prevention of AIDS and of alcohol and drug use; accidents, violence and contraception are covered less often. When health education is proposed as part of a specific course, more time is devoted to it and more aspects are developed. Teacher training for physical education focuses mainly on sports and competition, although, according to the authors, physical education ought better to consist of increasing physical activity during the course and adapting methods to help each student reach his or her personal best physical condition. Health education is taught not only by physical education teachers but by those from various disciplines: religion, home economics, social studies, life sciences and languages. The authors underline the importance of training teachers in health education and the states' responsibility in this area. They point out that this policy must be accompanied at different levels (federal, state, and local) by incentives and by funding for the financial and personnel requirements (training, coordination, evaluation).

The European Network of Health-Promoting Schools, created in 1991, is a project financed jointly by the Council of Europe, the European regional office of WHO and the European Commission. This network places its stress on the psychological and social dimensions of health, improvement in self-esteem, skills, student and staff wellness, and on links between the school and the community. Holistic by nature, the objective of this model is to improve the social and physical environment of the school community at the same time as it develops health education for these different target populations. The teaching is directed towards active learning and involves the teachers in innovative approaches. The Ministries of Health and of Education of the member nations were prompt to collaborate in promoting the development of this model.

Criteria initially proposed to schools in the European Network of Health-Promoting Schools as a frame of reference.

Student self-esteem

Relationships between students and between adults and students

The school's social objective

The educational team's role as models

The relations between the school, families and community

Liaison between primary and secondary schools

Stimulating activities
A healthy environment
Nutrition and the school food service
School health facilities
Promotion of staff health
Liaison with health promotion agencies

A recent evaluation of Network development in member countries showed contrasts from one nation to another: in some countries, the network has tended to generalize while in others, including France, it is small, little known and isolated.

The network schools most often work on the following aspects: relationships between students and between students and adults, educational activities and the question of nutrition in relation to the school cafeteria. Associations with elementary schools, staff health promotion and school health facilities were considered more irregularly. The aspect that most often posed a problem was the question of adults' roles as models. In secondary schools, the themes treated most often in specific lessons were drugs, AIDS and reproduction, while in the primary schools, it was more often nutrition and accident prevention.

This evaluation identified effects in terms of improvement in the quality of relationships, of nutrition, instructional content, and reduced absenteeism (a good indicator of the quality of life in a school). It observed that the point of view of the players from the educational and health care systems on the evaluation diverges on many points; accordingly, it recommended a reinforcement of the relations between the educational and health sectors to promote the emergence of a common culture.

The United Kingdom has a tradition of collaboration between the health and educational sectors. The program-framework Healthy Schools Award began at the beginning of the 1990s and was intended to stimulate the approach to health promotion in UK schools. A 1998 evaluation of this program-framework found increasing consensus about the value of the approach. The program's implementation has tended to promote health education. The authors argue that other aspects of health promotion should also be developed, in particular, staff health and the involvement of non-teaching staff, parents and the larger community. They then raised the question of evaluation and stressed the need for tools able to apprehend the program's processes and structural changes as well as its effects on knowledge, attitudes, and behaviors.

In October 1999, government health and educational officials together launched a national school health program (National Healthy Schools Scheme); its objectives were to involve all local educational agencies in a partnership with the National Health Service to establish local programs and eventually to involve all schools in this approach. The program defines a variety of key themes in the area of community involvement and in specific educational domains.

Principal key themes of the national healthy schools scheme applied in the United Kingdom.

Partnership
Involvement of the entire school community
Civics
Personal, social, and health education
Emotional health

Drugs, alcohol, and tobacco

Sex and relationships

Healthy eating

Physical activity

Safety

In Switzerland, in a federal setting where diverse initiatives for health education and promotion abound, the federal Office of Public Health and the Swiss Conference of Cantonal Public Instruction directors jointly decided in 1995 to launch a program-framework named "School and Health". This program is causing health education and promotion to be recognized throughout the entire country as an integral part of the school's mission of education and training and is intended to extend this impetus. It finances research projects on health promotion in the school system by call-for-proposal procedures that favor interdisciplinary projects based upon the establishment of networks and likely to be extended permanently to a cantonal, even regional, level. This program-framework is intended to promote exchanges of information and to guarantee the follow-up and evaluation of the projects selected, by generating a process of development over the long-term and involving various administrative levels.

Institutional measures in France for establishing health education in schools

In France, the 1989 Education Law, which placed the student at the center of the educational system, inscribed health education as a priority of the school community. In November 1998, the Ministry of National Education (MEN) defined new national orientations in health education with the goal of reinforcing the school's role in this domain and making these practices more widespread. This document redefined the framework at the same time as it placed it into "a perspective of comprehensive education and civics instruction".

The directive focuses on the objectives, defined as skills of *savoir-faire* (know-how) and *savoir-être* (personal and interpersonal skills). For each course and each discipline, the directive describes the skills that are its health educational objectives: knowledge and control of the body, sexuality and reproduction, environment and social life. At the same time, it specifies the transversal personal and interpersonal skills -- *savoir-être* -- that must be developed throughout each student's school career: self-image, autonomy, and personal initiative, relationships with others and solidarity, critical thinking, and responsibility.

Health education in the primary and middle school curriculum in France.

Objectives

Development of skills related to:
knowledge and control of the body
sexuality and reproduction
environment and health

Development of personal and interpersonal skills, such as:
self-image
autonomy and personal initiative
relationships with other and solidarity
critical thinking
responsibility

Themes and disciplines involved

- Primary school
 - "Discover the world "
 - "Act in the world "
 - "Process information"
 - Science and technology
 - Physical education and sports
 - Civics
- Middle school
 - Life sciences and earth sciences
 - Physics and chemistry
 - Physical education and sports
 - Sequences of sexuality education
 - Civics
 - Art
 - Literature

The novelty of these directives is that they anchor health education within several disciplines (in particular, civics, life sciences, earth sciences, physical education and sports) and no longer only biology. Moreover, these directives require middle schools to program "educational encounters about health" on a multi-year basis.

The ministry stresses that this educational approach must begin early and be progressive. It also requires that the health education be consistent with the school's educational plan, in liaison with the Committee on health and civics education (CESC).

The CESC is the body that replaced the Committee for the social environment (CES) in 1998. The latter, created in 1990, had begun a partnership policy intended to prevent risk behaviors and violence and to ensure necessary follow-up.

A 1997 evaluation of these earlier committees found they had operational value by their consistency in the organization of prevention activities that had previously been scattered, their mobilization of all the players - adults and students, improvement of relations and reinforcement of partnerships. This committee, based in each school, is adaptable and flexible, but also fragile if those involved are not trained, recognized, and supported. Examination of the operation of these CES showed a great diversity in their modes and levels of action, as well as several weak points: students were not sufficiently involved, and internal communication and visibility were often absent. In addition, the participants would have liked a larger investment by government agencies and a clear definition of the priorities and criteria for evaluating the relevance of its activities.

The CESC's missions have been enlarged, and the importance of two items has been underscored: the organization of the school's educational plan in the areas of health, civics, and the fight against social exclusion, and the need for a positive approach that values students' abilities.

Mission of the Committee for health and civics education .

Contribute to the establishment of civics education in the school by helping students to become responsible, autonomous and participants in prevention.

Organize the prevention of dependency, risk behaviors, and violence within the framework of the school plan.

Ensure the follow-up of youth inside and outside school (internal and external relays).

Provide help to students who show disquieting signs.

Reinforce relations with the family.

Provide support to those fighting against social exclusion by reinforcing relations between the school, the poorest parents and the other partners.

These committees involve mainly secondary (middle and high) schools, but coverage is still imperfect, including in sensitive areas. Different levels of guidance and support are now necessary for the development and activation of this framework. The schools need diverse types of assistance to accomplish this new mission (consistency in the various directives, incentives and encouragement, information, idea and practice exchanges, methodological help for activities and evaluation, tools...)

The French educational system has thus chosen to promote synergy between the school's educational mission and its health promotion mission, while taking into account the important interactions between health, school attendance, education and social integration. This choice is similar to those directing the strategies of health promotion in school settings in countries comparable to France from the point of view of health, economics and culture.

Peer approaches: students as players in health education and promotion

Among the methods used to try to reinforce the position of students as participants in health education and promotion, peer approaches have been very much in vogue for the past two decades. Initially used for primary prevention, these methods have also developed in particular groups for secondary prevention and for risk reduction.

The diverse peer approaches represent complementary methods for health education and promotion that are likely to reinforce students' involvement in the educational process that targets them. Of the various functions assigned to peers, we can distinguish peer "prevention players" participating in the development and implementation of projects, peer "educators" responsible for transmitting information, recommendations, and even skills, and peer "counselors", whose role is to identify, counsel, or support other youth who need help.

It is important to underline from the start that, regardless of the functions performed by the peers, this demanding approach requires the mobilization of a team to train and supervise the youth involved throughout the process. The position of the adults must also be considered, especially in school settings where they are asked to adjust to changes in the students' status, to their empowerment. Nonetheless, the analysis of peer approaches has shown that they increase exchanges between adults and youth, and that the latter's contribution in adapting projects, programs, procedures, tools, etc. is generally recognized and appreciated.

The experiences with "peer educators" do not show that this peer intervention is superior in an absolute sense in terms of success in reducing risk behaviors (reduction in substance use, protection against AIDS). Nonetheless, these interventions can prove to be as "effective" as those by adults, especially when the peers succeed in sparking interaction among the young people. Moreover, peers seem more likely to provide information on existing resources (professional services) and to help increase their use by the young. Exploiting this effect can be important, especially among populations that are difficult to reach directly, such as drop-outs.

It is essential to note that the principal beneficiaries of these approaches are the involved peers themselves. Their achievements are substantial and go far beyond the issue of risk behaviors. Their investment in the process and training has repercussions on their personal development, self-esteem, and empowerment. This experience very often gives them the occasion to acquire interpersonal skills, especially in terms of communication, listening, and openness to others.

These results lead us to wonder about the possible value of these procedures for the highest-risk youth, especially in terms of reducing health-related inequalities. Until now, these approaches have been developed primarily to induce changes within the broader youth community, and peers have been chosen most often for their interpersonal skills, good from the beginning. To the extent that the principal beneficiaries of this approach are the selected peers themselves, we wonder whether it might not be appropriate to reconsider the objectives, and to redirect them towards the more fragile youths, to train them in a framework that often operates like a support group.

Principal characteristics of intervention programs

Looking at the different approaches, we note that the health sciences are more rooted in the experimental sciences, while education follows instead the tradition of observational sciences. This double origin maintains a constant tension between the different centers of attraction within the field of health education.

Education and health are permanently at the heart of social and political debate today, but education has been the object of such reflection since ancient times, while the social dimension of health is only beginning to be understood.

Characteristics of the health sciences and the educational sciences.

Health and health sciences	Education and educational sciences
Close to the natural sciences	Close to the social sciences
Strong experimental tradition	Weaker experimental tradition
Social dimension just beginning to emerge	Very ancient entanglement with social and political thought
Permanent ethical debate (bioethics, patients' rights...)	Ancient ethical debate

An abundant scientific literature reports evaluations of health education programs. What is striking is the extreme diversity of the objectives, educational approaches and methods for measuring results. We do nonetheless observe a convergence, both in educational approaches and evaluation methods.

The convergences in educational approaches involve both theory and practice.

- A consensus asserts that any intervention must be based upon a theory. The most open and oft-cited theory is social cognitive theory (Self-Efficacy). It has two simple postulates: we learn through imitation; consequently, young people must see action models that they can imitate (role playing, videos); the more we believe ourselves capable of adopting a behavior, the more likely it is that we will try it and persevere if we fail initially.
- It is essential to take into account the social influences that affect the adoption of behaviors: approaches that help communication within a group must replace the simplistic "Just say no". Personal problems must be taken into account in psychosocial learning (decision-making, stress management, relaxation techniques, etc.). Success appears to require that the educator or leader affirm values congruent with those upon which the program is based. Greater involvement of the social environment is also helpful.
- The type of knowledge that a program should provide is becoming more precise, in particular about the short-term effects of psychoactive substances. Programs are lasting longer: one-time interventions are disappearing, replaced by interventions of at least ten

hours per year repeated over several years. The need to repeat and rehearse is often analogized to the need to train for a sport or practice and rehearse for musical performances.

Overly comprehensive approaches have failed, probably because there are specificities inherent in each theme and because the comprehensive approach often involves the dilution of objectives.

Evaluating the effectiveness of health education

The methods for evaluating the effectiveness of health education have been the object of intense debate. One school, which uses an "epidemiological" approach, measures the degree to which objectives, determined in advance, have been reached for a given population (for example, increase the non-smoker rate in a given student population). A second school, using a "community-based" approach, argues that the objectives and the means used to reach them, and even the evaluation methods, should be determined by the population itself. It is inherent in this approach that no intervention or assessment protocol can be defined in advance. Accordingly, the evaluation process is indissociable from the program's approach.

Principal characteristics of evaluations as a function of the type of program.

	Dominant approach	
	Traditional positivist: health education	Postmodern: health promotion
Activities/interventions		
Definition of objectives	by the experimenters	by the population concerned
Types of objectives	induce and help in the adoption of positive health behaviors	induce organizational (social or citizen movements) and environmental changes favorable to health
Design	by experts/experimenters, based upon explanatory theories	by the population concerned
Evaluations		
Objectives	measure the program's effects: improvement of knowledge, skills, attitudes and health behaviors	examine the process by which the program unfolded: follow-up and experience of its stages
Dominant approach	quantitative: measurement of indicators	qualitative: analysis of phenomena and feelings experienced by the population
Methodology	Experimental protocol: comparison group(s) and random assignment (ideal situation)	individual interviews and group meetings with the program staff and the population
Epistemologic point of view	experimental approach: scientifically determined effectiveness	developmental approach: democratically determined effectiveness

The first school uses the experimental method, comparing the development of a population that underwent an educational program with that of a population that either had no or a different program. The second school stresses the evaluation of the process, that is, the detailed management of activities, in particular by qualitative evaluations that do not measure changes but instead help to understand how the program was applied, understood, experienced, and accepted. One way to express the difference might be to say that the first

school demands that effectiveness be scientifically determined, and the second, democratically.

The first school considers the comparison of experimental and control groups as the ideal model; its gold standard remains a pure experimental protocol with random assignment of subjects into the different programs. In many studies, however, it is the site that is randomly selected, while the analysis concerns individuals. Analyses of results grouped by (a small number of) sites would have little statistical power. Various solutions can compensate for these disadvantages (increasing the number of sites by diminishing their size, controlling for the sources of variation between sites, taking a group effect into account).

As in every form of education, the effects of interventions, unless they are regularly reinforced, tend to fade in the long run. The observation of this phenomenon has led: for evaluations, to considering a result invalid if its only evaluation occurred immediately after the intervention, and to favoring long-term follow-ups; for processes, to promoting programs spaced out over time with "review" sessions. In this situation, however, the higher number of cases "lost to follow-up" offsets the increased duration of the follow-up, and those "lost" are often the youth at the highest risk of social or school problems. Several strategies are possible for dealing with the "lost to follow-up" problem: eliminate them from the cohort if they are not different from the active cohort, or attribute a replacement value for them in the post-test.

The adaptation of the intervention protocol to the particular target population and the consistency of its application are now studied in advance. A program may fail simply because it was inappropriate or not applied. Discussion groups (in particular, focus groups) are organized simultaneously to understand the position of the target youth and also to test the proposed educational material.

The effect measures are most often assessed from a self-administered questionnaire. The change indicators are objective but somewhat less than totally reliable because they are based on self-report. Nonetheless, specific studies on the validity of responses, including every study that could confirm responses with laboratory tests, have shown that responses to these questionnaires are on the whole reliable.

The literature produced by the second school is often framed as argument or general recommendations about interventions and evaluation. Detailed reports of interventions are extremely rare, in part because the workers involved in the very numerous micro-interventions carried out according to this philosophy are neither trained nor motivated to publish such reports.

These two schools are nonetheless beginning to converge. Some teams that advocate the community-based approach nonetheless try whenever possible to use epidemiologic evaluation tools. Moreover, those using the "epidemiologic" approach are adapting their approaches according to their target populations.

Prevention of risks related to sexual behavior

The literature about the prevention of sexual risk-taking behaviors in adolescents is particularly abundant and clearly dominated by North American researchers. The most widespread concern is primary prevention of AIDS, which is the major objective of educational programs about sex-related risks aimed at the young.

The answer to the question "Why teach adolescents about sex-related risks?" seems to be considered self-evident in many publications that present "young people" as a population at

risk. Adolescence, the life stage when sexuality is discovered, is traditionally described as an unstable period, psychologically, socially, and even sexually; for this reason it is a preferential target for prevention. Moreover, the young, as a captive population in school, are easy to reach by educational programs.

In the United States, the risks associated with sexually transmitted diseases (STDs) and unwanted pregnancies in young girls are indeed very high: one adolescent in four contracts an STD during secondary school; 10 % of the girls aged 15-19 years become pregnant, for a total of 1 million pregnancies a year in this age group. In France, on the other hand, persons younger than 18 years do not appear to be a particularly exposed group. According to the ACSJ (Analysis of sexual behavior in youth aged 15 to 18 years) survey, carried out in 1994 and published in 1997: 1.1 % of the young people in this age bracket had an STD other than a yeast infection; 3.3 % of the girls in this age group became pregnant. Currently, the number of annual pregnancies among those younger than 18 years is estimated at approximately 10 000, of which 6 500 are terminated by an elective abortion.

In Western nations, no notable increase has been observed in the risk factors that may be associated with earlier sexual activity: the mean age of first intercourse is around 17 years (in France, 17 years 3 months for boys and 17 years 6 months for girls). Sexual risk, however, differs according to social class. Like the risk of sexual violence, it is clearly greater in situations of vulnerability due to social problems. The use of drugs, including excessive alcohol intake, appears to multiply sexual risk.

Data on the risk behaviors of sexually active youth aged 15-18 years - According to the ACSJ survey (Analysis of sexual behavior in youth).

	Age			All*
	15-16 years	17 years	18 years	
Frequency (%) of unprotected intercourse (last penetration, regardless of partner)				
Boys	25.0	31.8	41.1	32.5
Girls	33.2	52.7	67.4	49.8
Frequency (%) of STD other than yeast infections				
Boys	0.0	2.4	0.5	1.1
Girls	0.3	1.5	1.5	1.1
Frequency (%) of pregnancies among girls				
Followed by an elective abortion	1.8	3.2	1.8	2.3
Followed by childbirth	0.8	0.0	0.3	0.4
Total pregnancies	2.8	4.1	2.8	3.3

* 1 883 boys and 1 384 girls, who have had sexual intercourse at least once in their life

There is overwhelming recognition that school is the place for sex education and its progression to education about sexual risks (this does, however, raise questions about the young people who have been excluded from the school system). Some publications recommend that education about sex-related risks begin in primary school. Nonetheless, if it is to be understood, sex education must be appropriate to the age and interests of the children; the issue of risks should of course be covered before the adolescent begins sexual

activity. This education is included in numerous school curricula, where it is not limited to biology classes; the question, however, is: who teaches it? The teachers are not always well prepared to do so; they are often reticent, more at ease discussing the question of the risks associated with AIDS and other STDs than in dealing with sexuality.

In some countries, the school health department, school dispensaries, physicians, nurses and other members of the medical community are brought in. Other experiments and players have been tried in the area of AIDS prevention: a variety of organizations and associations, people with AIDS or HIV, peer groups, medical students. Peer education benefits from favorable preconceptions: it is presented as simultaneously allowing adaptation of risk information to meet the expectations of the peer group and direct action on the norms that influence sexual conduct. Research does not justify this prejudice, however, and the peer approach cannot replace other educational approaches. It can be considered only as a complementary strategy.

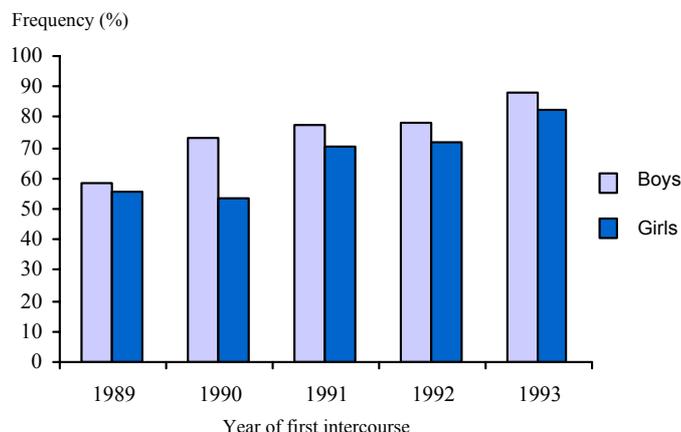
Most interventions are based upon a theoretical framework. These can be divided into two main categories: the individualistic approaches that use the Health Belief Model or the theory of reasoned action, and the interactional and comprehensive approaches. The individualistic approaches, which predominate, are based on models of learning and individual decision-making. In the interventions based on these models described in the North American literature, the different objectives all involve, depending on the program, teaching the teen abstinence, or waiting, or saying no, or, finally, discussing condom use with a sexual partner. These procedures do not really take account of the facts that a sexual situation is a social interaction and that the decision is not only individual. For this reason, they have proved inadequate in terms of concretizing behavior. They define sexuality only functionally, thereby neglecting its affective aspects, its relation to feelings. Comprehensive approaches have replaced these hortatory approaches. These involve starting from what teens say and express and thus being able to capture the social and affective experience of sexuality, understand its normative dimension, anchor it in a social context and provide responses to the questions that emerge, at the level at which they are expressed.

The existing literature pays little attention to the associations between sex education and gender identity. The very simple idea of conducting risk education separately with girls and boys, thereby taking into account the ideologies associated with male and female roles in sexuality, is recommended by the authors of a very recent North American study, performed jointly by a prevention group and a research center.

Another frequent question involves pedagogical tools, including games, marionettes, comic books, audiovisual media, and computer programs. The usefulness of these media does not mean that we can dispense with a serious reflection about the type of program or the framework in which they are used. Regardless of the tools, they should never be used outside of a comprehensive strategy with explicit objectives, nor without pre-testing.

Too many programs have been set up but not controlled, with free rein left to their staff's preconceptions, of whatever flavor. Nonetheless, the consistency of the data, over time and in different countries, shows changes towards better prevention of sexual risk-taking by teens. It is difficult, though, to attribute these behavioral changes to the effectiveness of any specific programs, to the prevention programs aimed at the general public or to the prevention messages broadcast by the media and relayed at many levels. Adolescents are the population group that has best adapted to the AIDS threat. The rate of condoms use at the first act of intercourse is climbing regularly. In France, according to the ACSJ survey, 78.9 % of the boys and 74.4 % of the girls aged 15 to 18 years who reported sexual activity had used a condom at their first act of intercourse. The corresponding data for the 97/98 Youth Health Barometer were 88.6 % and 85.4 %, respectively, in boys and girls aged 15 to 19 years. The

decline, consistently observed, of condom use at last intercourse must be related, among other things, to a stabilization of young couples.



Frequency of condom use at first intercourse in youth aged 15 to 18 years in France - Data from the ACSJ survey (Analysis of sexual behavior in youth).

It is expected that educational interventions about the risks of AIDS transmission will delay the onset of sexual activity or diminish it, induce greater selectivity of partners and induce condom use. We might also wonder about the possible perverse effects of some prevention programs. Sometimes based on the anticipation of regretting starting sexual activity too early, they end up increasing fear and even intolerance of others' nonconformist actions, without necessarily inducing a more rational attitude towards protection, contraceptive in particular.

Teen pregnancy and motherhood are generally considered to be a failure of sexual risk prevention or of contraception and are associated with immaturity and academic and social problems. Nonetheless, these precocious pregnancies are sometimes desired and can be structuring for some young women. This fact, however, must not mask the need to transmit to young women the resources that enable them to avoid unwanted pregnancies - a much more real risk than AIDS among the young. What is needed is contraceptive education that takes into account their expectations and their sexual trajectories.

One of the principal lacunae of sex education programs concerns teaching children and adolescents about the risk of sexual violence. The frequency of forcible "sexual relations", reported by 15.4 % of the girls questioned in the ACSJ survey, is worrisome. These girls, however, were more often those who were no longer in school or were in low-prestige tracks; it is therefore associated with social vulnerability.

Prevention of the risks associated with smoking

In the domain of risks associated with the consumption of psychoactive substances, most interventions aimed at young people began by focusing on a specific product (tobacco, alcohol, drugs). Slowly, experimental findings led to a comprehensive approach to prevention aimed at changing behavior. In all cases, the timing of the prevention activity, its participants, and the type of intervention are all important factors in its effectiveness.

International data indicate that smoking prevention should have higher priority than other types: smoking is the behavior that causes the most deaths in the long run; tobacco is also

considered an introduction to other products, especially cannabis and alcohol. Moreover, the percentage of girls and women smoking is increasing, for reasons not yet explained.

Smoking prevention interventions, which began in the 1950s, generally discuss smoking from the perspective of preventing cardiovascular diseases and cancer. Only recently has the prevention of drug addiction has been added.

The process of nicotine addition can be broken down into five stages: a preparatory stage, initiation, experimentation, a phase of regular use without dependence, and a phase of dependence with daily use.

The objectives of most prevention activities are to avoid or delay smoking initiation or to help in smoking cessation. In the first case, the activity may be at the individual, family or collective level. The factors influencing the beginning of the process differ according to sex, academic status, and period. For smoking cessation, the help may involve the youth or the parents; in any case, it should occur before the youth becomes addicted to nicotine. The study of the subject's motivation is an essential prerequisite. Alongside these programs, a newer emerging objective is the prevention of regular smoking, that is, reducing risks.

The objectives of the first interventions were simply to provide information on the dangers of smoking, and then, starting in the 1960s, to teach students how to resist social influences. Since the 1970s, programs have been based upon the reinforcement of "general social skills" or "life skills", including cognitive components, decision-making, coping skills, and assertiveness. All of these strategies were developed to prevent smoking initiation. Currently, two other types of activities are being developed: one to reduce the risk of progression from occasional to regular use, and one to promote teens' psychological well-being as a means of preventing any kind of substance use.

Prevention of smoking initiation is often a failure in the long- term, regardless of the technique used: after four years, no differences are observed between those who did and did not attend a prevention program. Currently being promoted are activities that take cognitive and social development into account, including the youth's experiments with the products throughout adolescence. Nonetheless the contents of the "pitch" of the intervention continue to be addressed more to boys than girls.

Programs based on ability to cope with stress can only be effective when they take place before initiation: once smoking has become a habit, the physiological process seems to gain the upper hand over the psychological process.

Of the players in prevention, teachers have an important role and their training is essential. An antismoking intervention, by class or grade level, includes at least five sessions, occurring between the end of primary school and the first two years of secondary school. The intervention of clinicians among at-risk youth and families and among school officials for maintaining antismoking programs in schools has proved to be more effective than the school programs themselves. Combined interventions by peers and adults yield better results than intervention by peers alone. Interventions involving parents appear to be the most effective.

Public policies have proved more effective in stopping smoking initiation when they raise prices for and limit access to tobacco than when they ban smoking. Interventions at the school, family and community levels have proved more effective than isolated activities in preventing initiation and in promoting cessation.

Prevention of risks associated with alcohol use

The prevention of problem drinking is more complex than the prevention of smoking because excessive alcohol consumption, even only occasional, can have harmful social, medical and personal effects and because alcohol is more widely used and more prestigious than tobacco. It is also a more feared product because of the accidents and the violence it can cause. Individual factors of sensitivity to the effects of alcohol play a role, as do sex, weight, and genetic polymorphisms.

Several theories of how problem drinking develops have been proposed: one for "normally socialized" adolescents, and another for "problem" adolescents, who progress more rapidly towards more severe alcohol abuse. Psychic factors are often underestimated in explaining the beginning of problem drinking. These factors are associated with diminished skills, especially academic skills. Accordingly, early academic problems and low academic expectations by both parents and subject are important indicators of risk.

Prevention activities more often involve the prevention of risks than of drinking itself. Their aim is to limit the risks associated with drunkenness (traffic accidents, sexual conduct), promote responsible drinking and reduce juvenile alcohol abuse. Interventions that focus on alcohol initiation have been directed towards the reinforcement of general social skills, but have rarely involved the family. Because moderate consumption is considered to be a criterion of social integration, few programs try to prevent all alcohol use.

Most school interventions involving youths 10 to 18 years are too late, according to the authors, because they take place after initiation has occurred. Interventions in primary school have not been evaluated. For high-risk groups, school does not provide adequate guarantees of confidentiality. Television and other mass media can be considered to be an effective channel of information in that they help modify social standards.

Among those involved in prevention, school nurses are recognized as positive sources of individual preventive activity against excess drinking. The family must be truly involved and informed about teaching "responsible drinking" at home. The improvement of intrafamily relations remains an important means of prevention. An essential point in program success is the understanding by adults that young people are mature and responsible and therefore can be partners in real discussions. Because girls and boys have different ways of drinking and different reasons for drinking, interventions must take these specificities into account to modify consumption. Interventions among "high-risk" groups have proven more effective than those among more mixed populations. Teens prefer brief interventions that take place in stages. Programs that include individual treatment have not been especially successful; this must be proposed later, when the adolescents have grown aware of their problem with alcohol.

Of the interventions directed towards prevention of accidents associated with excess drinking, one of the more promising is special training for various night workers to identify signs of early drunkenness. Concrete measures, such as a "zero" blood alcohol level for youth, higher drink prices in bars and the organization of rides home at the end of the evening have yielded good results.

Prevention of the risks associated with "drugs" use

The term "drugs" most often includes alcohol and illegal drugs, that is, consciousness-altering products. Several interventions target illegal drugs exclusively, and more specifically, cannabis.

For a long time, the objective of anti-drug prevention was abstinence. Because the consumption of drugs has not stopped increasing, other objectives related to risk reduction, such as preventing abuse or promoting risk management, have been advanced.

The process of drug use is rarely defined. In studies, as in prevention programs, the terms use, abuse, and dependence are often confused and used interchangeably. A new trend takes into account the experience young people have with drugs and the difficulties they have encountered.

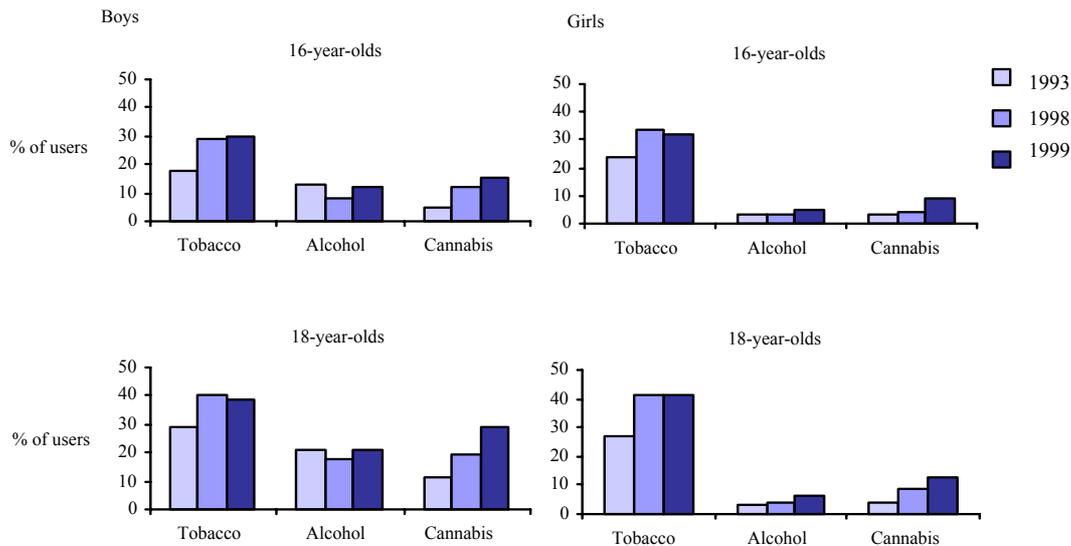
The various types of prevention activities have two objectives: diminish drug use by direct or indirect strategies, or improve the quality of life. The most widespread strategies are those based on information. The KAB (Knowledge, Attitudes, Behavior) model is used to inform young people about the negative consequences of drugs in order to induce changes in their behavior. It has often been combined with programs about life choices. Around 1970, a psychosocial model, the DARE (Drug Abuse Resistance Education) project was used by more than 50% of schools in the United States: its objective was to train young people to resist pressure to use drugs from those close to them (peers, siblings, adult family members or friends) and the media. Programs with a more comprehensive perspective, such as Life Skills Training, were established to teach the young to communicate, to resolve interpersonal conflicts, and to cope with the difficulties of daily life.

Prevention activities must be timed according to the usual age at which young people begin using each of these drugs. The optimum age is considered to be between 12 and 14 years. From 10 to 60 sessions seem necessary, distributed over several years. The Life Skills Training program is composed of 15 sessions the first year, 10 the second and 8 the third. Teachers and other school professional staff intervene in most of these programs. The better trained the teachers are, the more capable of intervening they feel. Mobilization of health care professionals at the school is important for this strategy to succeed. The participation of parents is not sought in these drug prevention strategies, even though the importance of parents in education is well known. Interventions by police officers (DARE) appear ineffective in reducing drug use. Interventions by physicians questioning young patients during medical consultations have proved effective.

Programs that use interactive methods and enable teens to acquire general skills have proved more effective than those programs offering information and values. Because all activities include some information, it is difficult to say that it is useless. It is, however, clearly insufficient by itself. Generally, the youth with the lowest use levels have a more positive opinion of the strategies than those who use more.

The prevention of risks associated with psychoactive substance use in France

Recent data on trends in the use of psychoactive substances by young students, presented in the figure below, show that repetitive use is climbing. For tobacco, this increase involves mainly girls. The prevalence of alcohol use appears to be stabilizing. Cannabis use is increasing among girls and boys of all ages. Moreover, published studies show that such use is clearly associated with subjects' social (age, sex, school status, lifestyle) and psychological (self-esteem, quality of relationships with parents and friends, depressive state) characteristics.



Tobacco: daily

Alcohol: several times a week (data from 1993 and 1998); at least 10 times a month (1999 data)

Cannabis: at least 10 times a year

Trends from 1993 to 1999 of repetitive use of substances among secondary school students. 1993 data: Choquet and Ledoux, Inserm U472; 1998 data: Youth health barometer, CFES; 1999 data: ESPAD 99, Inserm/OFDI/MENRT.

Most strategies are based on reports by field staff that are often "impressionistic" and qualitative. The diversity of these personnel orients the type of strategy: teachers provide information, health professionals "listen", and social workers pay attention to the isolated, most vulnerable youth. The "program" approach is generally resented by all of these participants, who prefer an intervention or a strategy. The contents of the documents that accompany these interventions is often very vague, unsupported, and sometimes incomprehensible for an "average" educator or counselor. Evaluation is rarely planned together with the intervention. When it is finally set up, it is often limited to irrelevant or vague indicators. It is most often qualitative, and external evaluation remains exceptional.

An evaluation of 12 interventions in school settings showed multiple contradictions between the prevention practices and the conclusions of evaluation studies published in international journals: student involvement was low, although considered essential; none dealt with the psychological, emotional, affective or behavioral aspects, although these too were considered essential; none was audited by outside experts; and only one included a bibliography to justify the intervention. Nonetheless, according to this same analysis, these prevention activities had strong community bases, good involvement of various school staff, and the desire to involve parents and improve school life.

In France, as elsewhere, we have moved from the prevention of any use of psychoactive substances to the prevention of risk behaviors; in so doing, the place accorded to the products themselves has almost disappeared. In relation to earlier policies, this turn towards the prevention of dependence on any product, regardless of which, rather than the use of a particular product raises several practical problems: young people are rarely dependent on substances in general and the use of each substance has a specific social and cultural value.

Several original interventions directed at non-student populations should be pointed out: interventions targeted at "wandering" youth; interventions carried out by local teams; "reception and listening posts" aimed at enabling the youth to put their problems into words.

Recommendations

During the past quarter century, the concept of prevention has gradually grown into the concept of health promotion, including an educational dimension. This trend, formalized by the Ottawa Charter (1986), focuses on the development of the "health capital" of individuals by integrating the role played by the relevant social conditions. This approach proposes a framework, intended to be comprehensive and consistent, for theory and interventions, as well as strategies in which the concepts of enabling and empowerment are the basis of a process for education in general and health education in particular.

The industrialized countries have established health education programs that are generally based on these new concepts. Our analysis of these programs leads us to several conclusions. School is recognized as the preferred (but not sole) place for health education and promotion for the young, because of the important interactions between health, academic success and education, and because a vast majority of this age group can be reached there. The planning and organization of programs require a substantial investment of time and resources. The training of adults, and particularly of teachers and educational teams, is determinative. The acquisition of resources (sources of reference material, documentation, methodological guides) and pedagogical tools and their availability to teachers is fundamental. Adequate time must be allocated for the program; the general observation that the effects of interventions diminish with time suggests that progressive programs ought to be implemented from kindergarten through high school, in coordination with academic curricula. Partnerships with families and local communities reinforce the effects of the programs.

In France, many institutions, agencies, and individuals participate in health education. There is nonetheless a contrast between the obvious vigor of the health education network, testimony to the mobilization of all the stakeholders and of the populations, and the failure to capitalize on the achievements of diverse experiences.

The expert advisory group, after analysis and synthesis of the international literature and examination of reports about various experiments and experiences in the domain of health education, proposes several lines of recommendations: establish the consistency and continuity of programs by instituting a permanent system from kindergarten through secondary school; develop the skills appropriate to health education by setting up training defined by a framework of skills and recognized by a degree, as in other countries; adapt the methods of intervention evaluation to the changes in educational methods; promote the results of research among those active in health education and capitalize on field experiences to feed this research.

Establish the consistency and continuity of programs, integrating screening, prevention and education

DEFINE AN OVERALL STRATEGY AND PROGRAMS

One factor in the quality and effectiveness of prevention and health education services for the young lies in the continuity of programs, simultaneously within the school and from the school towards families and community.

In France, the 1989 Education Law, which placed the student at the center of the educational system, inscribed health education as a priority of the school community. In 1998, new directives defined the basic policies for health education "in the perspective of overall education and the teaching of civics;" health education became a part of the school plan, in liaison with each school's Committee on health and civics education (CESC). Health education is now a part of several disciplines within school curricula. The curricula define not only the knowledge but also the personal and interpersonal skills to be acquired. Moreover, for middle schools, the Ministry has recommended that "educational encounters about health" be programmed. For these dispositions to take root and be consistently applied, those involved in this education must be trained, recognized, supported in this mission, and have at their disposition a partnership between the educational and health sectors.

Outside school, a number of public institutions, social agencies, interest groups and associations intervene concretely, alone or in partnership, in the area of health education for young people. These include: the French committee for health education (CFES) as principal agency, the Ministry of youth and sports (Youth councils, the National institute of youth and popular education), the Directorate of social affairs (Youth listening posts), the National school of public health (ENSP) and the various university departments of public health and preventive and social medicine, the Foundation of France ("Youth health" program), the Regional center for AIDS Information and Prevention (CRIPS), the Prevention and health promotion departments of the national health insurance funds and insurance companies, family planning centers, some non-governmental organizations, as well as a great number of community organizations and associations with very diverse objectives. The result is a multiplicity of initiatives and participants, with boundary lines not always defined by the legislative framework for health education.

The expert advisory group emphasizes the need for a real institutional strategy, in the form of a national program-framework for health education that will avoid the fragmentation of activities and ensure the consistency and continuity of the approaches. The establishment of such a program would demonstrate the will of the authorities to confer on health education the role it deserves in health policy.

DEVELOP AND REINFORCE APPROPRIATE BODIES, STAFF THEM WITH QUALIFIED PERSONNEL

School is a privileged place for health education interventions. In France, the Committee on health and civics education (CESC) is one of the bodies established to develop health promotion and education in school settings. Currently, this committee is planned only for secondary schools. Parents, who are part of the educational community, are often absent from these processes, although studies have shown that their participation is important in maximizing the effectiveness of interventions. There is a shortage of school physicians and nurses, with their crucial missions of prevention, counsel, and health education. Like other networks and organizations, the CESC require adequate materials and funding.

The expert advisory group recommends the establishment of multi-year projects at the school level to ensure the continuity of health education programs from kindergarten through high school. It proposes that each CESC be provided with a qualified coordinator. It recommends stimulating family participation by offering open and motivating programs that should, as their initial priority, collect information about parents' concerns about their

children's health, and should work in close liaison with the prevention and care services existing in the community.

The openness and professionalization of the mission of health education require qualified trained participants. The expert advisory group would prefer that those who come from outside the school be accredited at the district level by a committee representing the health and education sectors as well as the community.

Multiple educational activities are regularly conducted as one-time events, based on individual initiatives within the community. This is particularly true in primary schools where, from the point of view of institutional directives, health education is recommended but optional. These experiences, whose yield is most often nonexistent, could provide information useful to the school and other community institutions.

The expert advisory group recommends that an assessment be carried out on how teachers, health staff and schools carry out ministerial directives (especially the most recent, such as the educational encounters), by following the recommendations or by original local initiatives.

DEVELOP THE SKILLS APPROPRIATE TO HEALTH EDUCATION

The skills of participants is universally mentioned as a factor that helps determine the quality of programs of health education and promotion for young people. In many countries, including Belgium, Spain, the Netherlands, the United Kingdom, and the United States, health education is the subject of specific training, defined by a framework of abilities and recognized by a degree. In France, the professionalization of health educators has not yet occurred. The skills of the participants, who come principally from the health and education fields, are generally acquired in short-term training courses. University programs (DU, DESS) specializing in health education are rare.

The expert advisory group recommends that a consistent set of training courses adapted to different levels of involvement in health education be established.

The skills of the health educators are a priority for funding, if the new bodies are to operate effective programs on a permanent basis. They must have access to a degree program in the various relevant fields: program design, network and activity coordination, educational interventions, intervention evaluation. Another level of training can be planned for the participants who already belong to the educational community (e.g., teachers, social workers, psychologists, and parents), on a volunteer basis, for a course of 20 hours, for example. Moreover, all teachers, including school directors, must be sensitized to health education, in, for example, sessions of two hours.

Adapt educational methods to the concept of health promotion

MODERNIZE AND DEVELOP EDUCATIONAL METHODS

Despite the diversity of educational approaches used in school settings and described in the literature, convergences about some fundamental items must be taken into account to optimize the quality and effectiveness of the methods used in health education.

Information is necessary, but not sufficient, for better knowledge does not necessarily lead to changing behavior. Pedagogical tools are necessary, but must not be used outside of a comprehensive strategy. For this reason, a diversity of methods is required: these must motivate the active and interactive participation of the young people to involve them in their learning.

Because group values influence health behaviors, individuals must always be considered in their social context. The development and enrichment of psychosocial skills are important elements in the effectiveness of programs. Similarly, the leader's affirmation of values in accordance with the program is recognized as a factor in its success.

To integrate the various aspects reported to influence program effectiveness, the expert advisory group recommends the implementation of multimodal educational methods: the provision of information, active participation of the various publics, development of psychosocial skills. This approach can only work as a long-range project, and one-time interventions must cease, to be replaced by programs of at least ten hours a year that last for several years.

There is a rich and updated panoply of pedagogical tools available; they must be used after "quality control" for their appropriateness for various audiences (e.g., age, type of schooling, culture) and by the results of pilot testing. The French committee for health education (CFES) has a pedagogical library and an internal department charged with expert analysis of these tools.

The expert advisory group recommends careful monitoring of the quality, relevance and proper use of these pedagogical tools for health education. It proposes that these tools and the contexts of their use be catalogued. The analysis by a multidisciplinary team of a sample of school textbooks should make it possible to identify the strong and weak points of their health educational contents.

EVALUATE THE EDUCATIONAL METHODS

The literature on the evaluation of health education interventions is abundant and the methods of measurement and analysis of the results are diverse. For purposes of evaluation, the comparison of experimental and control groups remains the ideal model but is not always easy to set up. Tools and methods specific to disciplines such as sociology, pedagogy and psychology have introduced the evaluation of the qualitative effects of interventions.

The effect measures are most often assessed from self-administered questionnaires; the data are, therefore somewhat less than totally reliable because they are based on self-report. Nonetheless, studies, including every study that could confirm responses with laboratory tests, have shown that responses to these questionnaires are on the whole reliable.

Because the effects of interventions without reinforcement tend to fade over the long term, review sessions are generally programmed. The next question is that of the optimal moment for evaluation.

The expert advisory group recommends pilot studies to adapt the intervention protocol to the target audience and to test the proposed material. It also points out the importance of defining the type of evaluation before the program is set up and of planning appropriate tools for this evaluation. In view of the development of health education methods that integrate the concepts of enabling and empowerment, new indicators must be defined and used to assess the acquisition of personal skills and the capacity of young people to take action affecting their health.

ADAPT THE THEMES OF PREVENTION AND HEALTH EDUCATION TO DIFFERENT TARGET POPULATIONS

Studies show that many of the subjects of prevention (e.g., infectious and cardiovascular diseases, psychoactive substance use, and sexual risk-taking behaviors), or health education (e.g., oral hygiene, body hygiene, life hygiene, sleep-wake rhythms, and household safety) are approached in programs developed in school settings. Ideally, the choice is made according to the context: children's age (kindergarten, primary, middle or high school), the socioeconomic and ecological environment, specific problems at a given moment.

The option of "an early start" for education about health risks is always the subject of debate. Some feel that the appropriate age should be defined as a function of the presence of the risk. Others accept this option when the approach is progressive and is part of a continuous program throughout the children's academic careers. In all cases, the parents must be questioned and informed about the programs, and the values affirmed by the educator/leader must be consistent with the prevention message.

The expert advisory group recommends that educational interventions take into account specificities related to age, sex, academic, psychological and social status of the young people. It recommends the use of thematic preventive/educational approaches as entryways for education in the global area of health.

DEFINE CHARACTERISTICS OF THE INTERVENTIONS ACCORDING TO THE PREVENTION THEMES

The highest priorities, both perceived and in practice, are the prevention of risk behaviors, especially those related to sexuality and to use of psychoactive substances. In these areas, perceptions differ very clearly between girls and boys; taking gender identity into consideration appears to affect the efficacy of interventions.

Education to prevent sexual risk-taking behaviors must not be limited to the prevention of sexually transmitted diseases (STDs) but must be accompanied by an education about sexuality that integrates its affective dimension. The expert advisory group recommends that this begin in mixed-sex classes in kindergarten and be based upon images of and respect for the body. It also recommends that when the risks linked to sexuality emerge, in adolescence, prevention of STDs and unintended pregnancies (contraception) be discussed, with the development of specific approaches, both gender-specific and mixed, to prevent excessive submission to the standards of their own sex. These interventions should be relayed by other participants at the community level, including family planning centers and prevention and treatment services.

Education for the prevention of psychoactive substance (alcohol, tobacco, drugs) use must not be limited to information about the products and their effects but must concentrate on information about its short-term consequences, the progression from experimental to regular use and the risks of regular and abusive use. The interventions must be timed as closely as possible to the moment of experimentation and give teens information appropriate to their immediate concerns. In particular, this information must provide accurate prevalence data to correct the exaggerated perceptions young people have of their peers' use, which they consider standard. The education/prevention approach must take into account the psychological and social determinants of use. Regardless of the product, the expert advisory group recommends that the educator take into account -- and pay attention to -- the differences between boys and girls as to the context and levels of use.

The expert advisory group recommends that prevention concerning the three types of products (alcohol, tobacco, drugs) occur throughout schooling, and that the legal products be discussed earlier than the illegal drugs. The educational/prevention approach must be based on promotion of the young people's physical and psychic health, by improving their individual skills (for dealing with stress, anxiety, inhibitions, and social relationships) and their self-esteem; the development of these types of individual and social skills must be the object of specific programs in primary school. This approach must integrate thinking about the representations and perceptions of substances among adults (teachers, guest speakers, parents...) as well as among the young people themselves. Each professional must intervene within the framework of his or her own skills; for example, if police officers and representatives of the criminal justice system are invited, they should focus their talk on the law and crimes. In the continuity of prevention/education, thought is also required about the specific modes of management for youth who are regular users of these products.

Smoking-prevention programs must recall that collective strategies have been proved more effective than isolated activities. The intervention of clinicians is more effective for high-risk groups than school programs are. Public measures such as price increases and regulated sales are more effective strategies against initiation than banning smoking. For alcohol, what is most important is to prevent the risks associated with its excess use (accidents, violence by or against the drinker, sexual risk-taking ...), and therefore to develop concrete situational prevention, such as the organization of rides home after events such as parties, sports, or concerts. Effective prevention of drug use is possible only if the educators are credible, and they will be credible only if the difference between the products is clearly explained, the amalgamation of use, abuse and dependence carefully avoided, and the institutional discourse consistent.

Develop and enhance research in health education

CREATE AND COORDINATE INTERDISCIPLINARY RESEARCH

Health education as a field and a practice has its roots in several disciplines: pedagogy, medicine, epidemiology, clinical and social psychology, social communication and sociology, but it is not attached to any of them in particular. It borrows their frames of reference and their methods, all the while trying to build a specific theoretical framework for itself. Each of these disciplines brings distinct, even conflicting, perspectives. The diverse pedagogical schools each proceed from different models of education.

Unlike any other European country (Belgium, Netherlands, United Kingdom, Spain, Italy), Canada, the United States or Australia, France has no university tradition of health education, nor any special chairs.

The expert advisory group recommends the development of interdisciplinary research based upon the existing corpus of knowledge in health education.

This research, which should concern intervention methods, must take into consideration scientific knowledge about behavioral factors and the attitudes and representations of young people. To this end, the expert advisory group recommends the creation of inter-UFR (training and research units) centers, which would confer health education with university status; these centers would be able to work in partnership with department and associations active in this domain. In this perspective of interdisciplinary work and the development of

research neither exclusively experimental nor participatory, it would be desirable that the national research institutes (Inserm, CNRS, INRP...) also be associated with it, together with the organizations that develop field activities and strategies. Because of the lack of resources, the health education research activities that already exist are not adequately coordinated or exploited. The expert advisory group proposes the creation of an institutional body -- a national agency -- with the mission of bringing together the teams and skills necessary (teachers, researchers, field workers) to set up projects with the funds and staff they need.

DEVELOP NEW EVALUATION TOOLS

Evaluations of prevention programs essentially concern health and epidemiologic results, together with economic aspects. Evaluations of educational interventions have long focused on changes in knowledge, while ignoring the role of the entire set of players, processes, and organizational aspects in the quality and effectiveness of health education. Tools and methods from the social sciences have gradually modified the objectives of evaluation research and made place for "qualitative" assessments.

Evaluation in health education must have as its object educational requirements, intervention programs and their effects. The expert advisory group recommends that the quantitative and qualitative approaches to evaluation research be combined and that tools be developed that can take all of these concepts into account. In this field, it is important to promote the evaluation of measurement scales in the French context, qualitative and quantitative effect indicators (including unanticipated effects) and, most especially, the definition of new indicators such as individuals' "action capacity levels" .

PROMOTE THE TRANSFER OF EXPERIMENTAL FINDINGS AND RESEARCH

In France, despite the numerous studies published, both epidemiologic and psychosociologic, prevention strategies for young target groups are not sufficiently based on scientific data. This gap between the complexity of research and what is understood at the field level suggests the need to improve the image and appreciation of research work among workers in the field. Workers must be able to have access to the conclusions of the scientific literature in a form understandable by all. It could be useful for them to rely on questionnaire and/or pre-estimated evaluation modules. Moreover, the reading and writing work of field workers and researchers could be facilitated by the drafting of templates and models for evaluation studies.

The expert advisory group recommends that the results of programs, evaluation studies in particular, be made rapidly available and capitalized upon. It also recommends encouraging multidisciplinary meta-analysis, in particular of the evaluations of aspects transferrable between programs. Finally, it also calls to the attention of the bodies that evaluate researchers to the fact that activities involving the transfer of research achievements must be recognized and financed.