



## **Developing a Research Agenda in School Health Promotion**

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## Introduction

### Why Investigate the Impact, Role and Effectiveness of the School in Health Promotion?

#### 1. Health and learning are connected:

- Health status affects the capacity to learn
- Educational attainment affects health status
- The physical and social environment of the school, which is linked to those of the home and the community have an impact on health, learning and social development
- Comprehensive school-based & school-linked interventions can influence health status and improve educational achievement

#### 2. School health programs can save money

- Anti-smoking education can save \$619 million per year, \$17,400 per smoker, \$15 saved for every dollar invested (Canadian study cited in Romanow)
- Sexual health education can save \$2.65 for every dollar invested (CDC study)
- Obesity can be reduced for 1.9% of females @ \$4,305 by not being overweight
- a recent Quebec study showed immunization savings (\$63 vs \$40 per student and 75% vs 90% reach)

#### 3. Multiple coordinated (school, home and agency) interventions are more effective.

- Lots of evidence documenting this in obesity, alcohol/drugs, heart health, tobacco, sexual health etc.

#### 4. Ecological understanding of social and physical environments leading to insights

- shows the interactions between individual, environment and interventions/programs.
- more recent evidence that we need to integrate our approaches to individual health and social problems to address **clusters** (eg chronic diseases and risk/protective factors, eg clusters of negative and positive social behaviours).
- Some evidence is emerging that the influences of home, school and community are inseparable.

## The Need for More and Better Policy, Intervention and Cost-Benefit Research

### 1. The challenges for policy-makers are:

- how to pick the better interventions based on effectiveness and cost,
- how negotiate the roles of several agencies/systems in order to deliver the interventions,
- how align/coordinate the systems at all levels
- and sustain them through ongoing knowledge, skills development and other resources.

### 2. Evidence now emerging and being examined that describes how to use systems theory to explain how coordinate and sustain interventions.

The characteristics of open, loosely-coupled, professional bureaucracies where sharing vision, transferring knowledge, addressing concerns, recognizing system values/differences and persuading middle managers are all important. And, the challenge is to do this long-term work while responding to urgent issues in a visible way. Systems theory tells us that:

- Recognize the **layers** (24 steps from national to school)
- Note the **openness** to other competing influences
- Recognize that **loosely coupled systems** are not managed well by directives, they require persuasion
- **Professional bureaucracies** have middle managers protecting system boundaries
- Such bureaucracies also have professionals who will not adopt the change or innovation until it addresses their practical and personal **concerns** and until they **truly share the vision** gained that specific **knowledge and skills**

### 3. Research can help to Avoid or Continue Making Mistakes

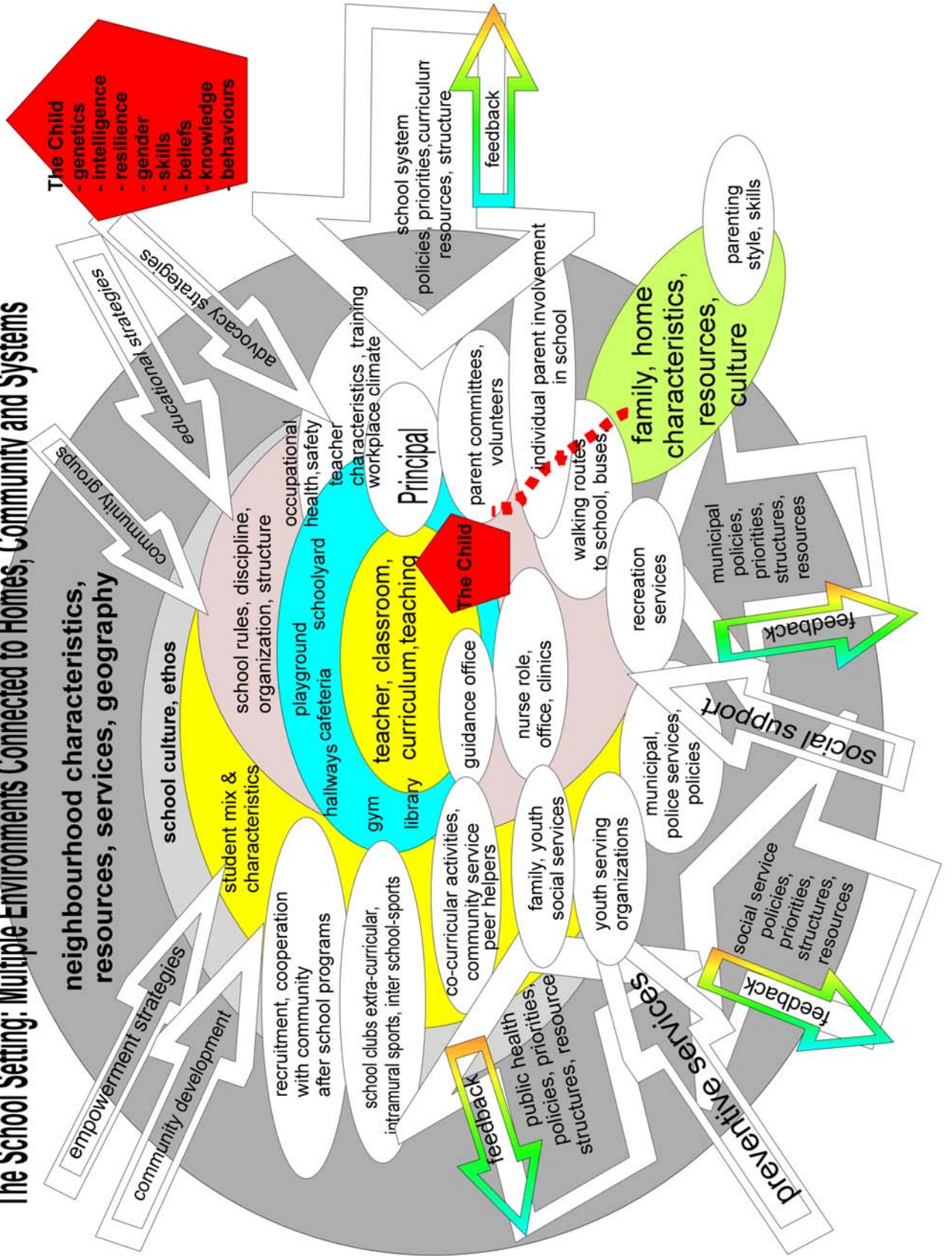
The research can also tell us about other lessons learned and when programs and approaches are not effective. For example, in substance abuse, in the late eighties, the value of providing 'the facts and the risks' about drugs was largely and rightfully questioned. Young people looked around and found that despite the dire warnings about alcohol and marijuana, their parents, friends and the media seemed to be unconcerned and largely unaffected by occasional use of these substances. **While at the same time, we are realizing that functional knowledge (ie basic health literacy) may be a basic prerequisite for health behaviour change.**

### Building a School Health Research Agenda

A diagram depicting the various elements in the school has been developed and presented in a survey and interviews for validation. Although the consultation called this a "conceptual framework" it is really only a diagram showing the elements in the "ecology and open systems that influence schools. There is no "logic model" or research paradigm presented in this diagram that begins to show the more important factors or causal relationships within the elements depicted. That diagram is reproduced on the next page.

The respondents felt that the diagram was useful in showing the complexity and messiness of the situation but rightfully noted that it did not really explain what was happening and why. .

# The School Setting: Multiple Environments Connected to Homes, Community and Systems



## List of Potential Themes and Topics

The following list of themes and topics was developed through interviews with key informants, an email survey of about 100 school board and public health officials and a workshop with researchers, ministry officials and non-governmental organizations. The initial list of themes and topics was drawn up from a review of several landmark reports and studies from several countries and then further developed by the members of the School Health Research network.

It should be noted that this list of themes and topics is related to overall health and school health promotion. It is possible, indeed desirable, to develop more specific research agendas on single or combined health topics or on aspects of school health such as health literacy, youth involvement, preventive school health services etc.

Indeed, there is work underway on these types of specific research programs/approaches in Canada, including work on mental health, nutrition, healthy body weights (activity and eating), school social climates, youth engagement, special needs, health literacy and more. (See the summaries of research initiatives being presented at this symposium.)

There will have to be a process or processes to determine the priorities or first steps related to this school health research agenda. For the School Health Research Network, it will be the members who will select and then seek funding or expertise to examine those specific themes or topics. For the Joint Consortium on School Health, this agenda is likely to be reviewed first by the provincial/territorial coordinators and then funding or expertise will be sought to initiate the research. For other organizations, they can simply select or adapt the themes and topics out of this list and make them part of their work. Further, this list will be used to develop an international dialogue on a similar research agenda. In other words, this list of themes and topics is not meant to be a defining one for all organizations.

The following examples of potential themes and topics for investigation are drawn from research reviews and expert panels commissioned by the World Health Organization and national school health authorities in Australia, the United States, and Canada. Please add additional topics or areas of issues that should be investigated as part of a program of research into school health. We have also included themes that relate to research methods and capacity. The themes are:

- A) The Relationship between Health and Learning**
- B) The Nature and Influence of the Social and Physical Environment of the School**
- C) The Effect, Cost-Effect and Cost Benefit of Linked Strategies and Interventions**
- D) Sustained, Multiple, Coordinated Interventions and the Process of Coordination**
- E) Policies, Program Implementation and Monitoring**
- F) Development of New Research Methods and Practices**

### Survey Results and Background Information

*The highest interest among the themes was A, (the relationship between health and learning), followed by B (coordination) and C (the physical and social nature of the school environment).*

## **Theme A – The Relationship between Health and Learning**

Generally speaking, much of the research has centered on level of education as a health determinant (which is equivalent to socio-economic status) and falsely equating health knowledge as a proxy for health behaviour.

### **Suggested Topics:**

- Clarify the relationship between school affiliation (the child's feeling of being connected to and welcome in the school) and health status. We know that school affiliation is correlated to health, but what are the determinants that can be influenced by school-based or school-linked interventions?
- Better understand the connection between basic literacy/basic school achievement and health status. Is there a minimum literacy and social competency level that is critical to health?
- Clarify what learning about health (knowledge, skills, attitudes, beliefs, values, personal goal-setting, problem-solving/decision-making, media literacy, awareness of health services, career and life aspirations, etc.) is essential and exactly how curricula and teaching practice can be organized and delivered to achieve those essential outputs. Describe a minimum and optimum set of health-related learning outcomes that can be achieved by schools.
- Develop a clearer understanding of the potential and the realistic sustainable limits of school-based and school-linked interventions to prevent specific health problems. In other words, knowing what is achievable for the school in relation to several health issues including which issues, if any, are more easily influenced by school health programs, and which issues are essential for the school to address for which age groups of youth, and at what stages of their development. These issues can include injury prevention, sexual health, safety/violence, physical activity, healthy eating, mental health, alcohol/drugs/addiction, tobacco use, environmental health, health maintenance and sanitary precautions, home economics and family studies, as well as the general development of skills such as life skills, social skills, social responsibility, media literacy, human growth and development, decision-making, goal setting, personal planning, and awareness of careers in health.

*Over 75% of respondents were interested in this connection between health status and basic literacy.*

*Allensworth (1993) has described the state of the art of health education and teaching. What questions have been answered since her review?*

*Over 75% of respondents were interested in knowing a sustainable, achievable set of outcomes.*

*Workshop participants wanted to explicitly recognize the limits of the school's potential in affecting health outcomes and their limits to their capacity to be involved, as their primary mission is to educate children.*

## **Theme B – The Nature and Influence of the Social and Physical Environment of the School**

Generally speaking there is a need for a better understanding of the interactions between the ecology of different community and in-school environments and how these interact with public policy, programs, and practice.

### **Suggested Topics:**

- Develop a more sophisticated and meaningful understanding of the school environment by examining the social and physical dynamics of different micro-environments within the school including recess and lunch hours, clubs and extra-curricular activities, sports and intramurals, the cafeteria, the school grounds, behaviours in the hallways, school rituals, etc.
- Understand the interaction between selected micro-environments within the school environment and student variables such as gender, culture, language, socio-economic status, school variables such as school rules, teacher practices, physical plant and facilities, and mediating variables such as parental attitudes/practices, and resources or community variables such as transportation, community services, social norms, community customs and resources, and how all of these factors create an overall school culture or ethos
- Understand the relationship between the culture/ethos of the school and local community norms and wider societal influences that restrict the potential of the school to influence health behaviours
- Examine the non-school factors (personal, home, community) that influence or determine the experience the child has in schools

## **Theme C – The Effect, Cost Effect and Cost Benefit of Various School-based or School-Linked Strategies and Interventions**

Generally speaking, there has been considerable study of instructional strategies to prevent specific diseases and health problems. There is a need for more study of non-instructional school-based strategies such as peer helper programs, healthy cafeterias, school-based or school-linked health services, after- school programs,

*There is an absence of RCT's on the impact of school climate/culture/ethos (Nutbeam & St. Leger, 1997) What are the best ways to influence the psychosocial climate of the school? (Allensworth et al, 1997)*

*Workshop participants noted that policy-makers need to know what does not work as well as what works.*

community service learning programs, etc., as well as the study of how one intervention can influence several health problems or overall health status.

Suggested Topics:

- Evaluate new school health strategies such as ecological and systems-based approaches. Also return to “old” strategies (eg Community Schools) to learn what happened in their experience Seek greater clarity on the concepts of school health promotion and develop more evidence-based logic models and explanations of different aspects of the diagram used to depict the reality of the school environment.
- Evaluate ways in which schools can engage youth in preventing health problems and modifying their school and neighbourhood environments, advocating for youth-friendly policies and practices (community service learning, student leadership programs, peer helper programs, etc.), etc.
- Evaluate ways in which schools can involve, inform, and support parents in health-promoting interactions with their children
- Evaluate ways in which schools that are working with other agencies can reach and support families who are at risk
- Evaluate ways to maximize the benefits and extend the involvement of youth in supervised after-school programs
- Examine new questions relating to individual interventions within a comprehensive approach.
- List, describe and validate the things that schools cannot successfully accomplish or sustain in promoting health and social development. Describe the limits in evidence-based terms. .

*Over 75% of respondents were interested in how to engage youth*

Instructional strategies:

- Under what circumstances are teachers, schools and education systems prepared and able to make sustained investments?
- To what extent can formal instruction influence coping skills, attitudes/beliefs, self-esteem, and behavioural interactions (rather than simply knowledge)?

*There is consensus in the research that knowledge alone is not always sufficient to change behaviour (although 50 hours of instruction has an*

- Are there efficiencies possible in curriculum design so that all relevant health topics are covered with a coherent scope and sequence to affect skills, beliefs, key knowledge, behavioural intentions, etc.?
- To what extent can health be integrated into other subjects?
- What is the status of current health teaching practice, competence, coverage, and comfort?
- What is the most effective and efficient scope and sequence for health curricula based on research evidence? What are the minimal learning outcomes that absolutely must be taught?
- What are the minimum intensity, duration, and learning outcomes required for each health issue? For example, 11 sessions for tobacco on selected skills, attitudes, and beliefs – but what about other issues?
- What is the most effective way of teaching generic health skills and attitudes such as decision-making, problem-solving, resistance skills, risk avoidance, health beliefs, self-esteem, and resilience?
- To what extent are Canadian-based publishers able to supply our schools with appropriate, up-to-date materials?
- To what extent can the Internet and other technology-based tools be used in health education?

*effect and good instruction on specific issues such as tobacco have a lasting, but limited effect). There is also a consensus that teaching life/social skills and social influences can be more effective. And, new evidence is emerging that basic health literacy (functional knowledge & skills) is a prerequisite for behaviour change.*

*But schools are now teaching things such as awareness of health services, specific coping and resistance skills, media literacy etc. Are these approaches more effective in changing behaviour?*

#### School Policies and Procedures:

- What is the impact of gender equity policies and programs? Have they been implemented?
- What are the impact and potential unintended consequences of zero tolerance policies in schools related to drugs, weapons, and other anti-social behaviours?
- To what extent are all school health policies implemented (not just whether the school has a policy)?

*Are there emerging needs in health education (e.g. character education to offset decline of other influences such as churches, is oral sex a new behaviour for teens? should we upgrade family studies to replace absent parents? Etc)*

#### Physical Environment:

- What are the effects of aesthetics and artificial design?

*International reviews have identified the need for identifying*

- To what extent can changes to the school's physical environment and resources (cafeteria food, gymnasium, school grounds, etc.) affect behaviour?

*the minimum and optimal coverage of topics in health curricula, similar to the way that tobacco research has described the specific outcomes and coverage required.*

#### School Health Services:

- To what extent is there systemic collaboration across sectors to deliver primary care to children and adolescents?
- To what extent are services truly accessible and actually used by youth?
- What is the potential impact, suitability, and effect of innovative delivery methods of adolescent and children health services via the school as a hub or place for delivery (i.e. school-based clinics, parent resource centres, community resource centres, placement of nurses, police officers and social workers in schools, etc.)?
- What is the current status of children and adolescent preventive health services in Canada? How many youth use them? For which services? Can schools increase the use of such preventive services by young people?

*What is the most effective way of teaching generic health skills and attitudes such as decision-making, problem-solving, resistance skills, risk avoidance, health beliefs, self-esteem, resilience while continuing to provide the functional, minimal knowledge that youth need to prevent specific health issues? (Allensworth et al, p. 283)*

#### Parental Involvement:

- To what extent are individual parents informed about school health programs? What are their perceptions and perspectives on school health programs? Are there unintended consequences of students bringing home health messages and materials from programs?
- To what extent can schools be used to involve and support parents in health issues (take home student assignments, parent education nights, parent outreach, parent resource centres, referral and crisis intervention procedures, training and procedures for early identification of potential problems, etc.)?
- How can schools involve their obligatory parent advisory committees in improving the quality of health programs and services in their school and community?
- To what extent can school-based or school-links efforts encourage parents to take more interest or be more effective with their child's health?

*Although this need has not yet been identified in research studies, our recent experience with SDARS, influenza, and other infectious disease may prompt us to ask: Are schools equipped to handle situations like SARS? Are the emergency measures and procedures adequate? Are schools once again going to be called upon to vaccinate all students*

*like they used to?*

- Examine effective school-parent partnerships in other non-health areas to learn more about doing it for health

Community Involvement:

- Why do teachers and schools have such difficulty in working with community agencies?
- How can obligatory community service learning be used to engage students in health issues and learning?
- Examine how schools can be involved and supportive of community development strategies as well as how community action and advocacy can support the school's role in health promotion and social development.
- Examine the role that schools can play as community and parent resource centres.
- Examine how the school can reach out to disenfranchised groups such as non-parents, disadvantaged families etc,

Youth Engagement, Peer Helper, Community Service Learning, Extracurricular, Co-curricular:

- To what extent does engaging youth in school-related health promoting activities affect their behaviour and their environments?
- How many young people participate regularly in after-school programs that are supervised by adults? Those delivered in schools? Those delivered by other agencies?
- How can we overcome transportation, safety, and other barriers to ensure that all youth have a safe, healthy, supervised place to go after school?
- To what extent do we take knowledge about adolescent development and youth sub-cultures into account when we plan programs and develop policies?
- What are the perceptions held by students about school and health agency programs for youth? Conduct appropriate surveys and use other methods to enable broader more diverse samples of youth than those traditionally involved in health promoting and school activities.

## Staff Involvement/Wellness

- Examine perceptions of educators, public health staff of their school's health promotion efforts
- Examine correlations between staff health/wellness and status of school and student health

## School Ethos, Social Climate:

- Are children and staff in healthy schools more likely to intervene to help others?
- What is the role of the school principal? How is it changing and how will this shift away from education leadership affect the ethos of the school?
- What are the interventions that schools can use to create social support? (policies, programs, friendship clubs, extracurricular, student buddy systems, etc.)
- How can we measure and monitor school culture, climate and ethos in a meaningful, reliable, and regular way?

## **Theme D – Sustained, Multiple, Coordinated Interventions and the Process of School-Agency, School-Home, School-Community Cooperation and Coordination**

Generally speaking, the process of inter-agency coordination and the impact of coordinated interventions delivered through the school setting have not been well researched.

### Suggested Topics:

- Develop, validate, test and determine ways to measure the ket system capacities being used for basis of school health plan for Canada (coordinated policy, staffing infrastructure, coordination mechanisms, knowledge transfer, work force development, issue management and child/youth health/local programs surveys)
- Develop a better understanding of the linkages between the school systems and other youth and family-serving agencies and systems
- Understand the limits and contradictory pressures on school systems to promote health (i.e. the recognition of competing demands, reality of the school's mission to sort and select

*(Nutbeam and St. Leger, 1997, McCall, 1997) (Examine sociology of teaching profession (e.g. Dan Lortie) and the isolating nature of their workplace and professional training) Are the social and professional norms of public health nurses also preventing them from being active, effective community developers and advocates?*

students, etc.)

- Develop a better understanding of the roles that public health, recreation, sports, social services, employment, justice, and law enforcement systems play in school-based and school-linked programs and services
- Use systems and organizational change theory and knowledge to understand implementation and sustainability issues
- For single health issues, a multi-faceted approach is superior to a single strategy but there have been relatively few intervention studies on comprehensive school health (health promoting schools) as an intervention itself. (Is it feasible to study something that covers all issues at all levels or does it need to be delineated – i.e. coordinated vs. uncoordinated interventions? Is there a diminishing return to trying to cover too many issues or too many interventions?)
- How can school and local agencies be encouraged to work together? What is the best locus of control? How can such coordination be sustained? What are the incentives, directives, structural changes, training, assignments, and other steps needed to overcome the tendency to create vertical “silos” for program delivery?
- What is the role of public health agencies and professionals in school-community coordination? Are public health systems adequately trained and resourced to play this role?
- There are several examples of Comprehensive School Health but we have not studied them. How did they start? How do they work? How did they fail? How can they be sustained?
- How can school health coordinating committees be sustained over time?
- Seek to determine the “critical mass” of policies, programs, activities and issues as well as the reach, duration, intensity of interventions being developed by schools to become “healthy enough” to make a difference

*Develop a better understanding of how to initiate, promote and sustain school-agency- community cooperation. What are the policy levers, financial incentives and training required (not structure) (WHO Working Group, 1996, p. 16) The existing, small-scale labour intensive school health “projects” (rarely are they a program” tell us little about the applicability of such interventions across a population or system (Nutbeam and St. Leger, 1997)*

*Over 75% of respondents were interested in these linkages.*

*Over 75% of respondents were interested in these roles.*

*There are very few studies of multiple, coordinated interventions. Those that have been done have shown greater impact, but they are focused on one or two health issues such as sexuality, heart health, tobacco etc. (WHO Working Group, 1996,*

p. 30)

## **Theme E – Policies, Program Implementation and Monitoring**

Generally speaking, the research to date has focused on testing specific interventions in a time-limited manner. There is a need for better knowledge on how to implement and sustain policies and programs.

There is also a need for better and more frequent monitoring of the status of policies, programs, and services available in the school and the community through the development of a set of Indicators to monitor the "health" of schools, school systems, and related systems such as public health, social services, recreation, police, and youth employment services.

### **Suggested Topics**

- Develop more meaningful indicators to measure factors such as the resiliency within children and the capacity of systems to respond to rather than simply list deficits and negative incidents or treatment statistics. The tendency in health promotion and education is to focus on the concepts that are most easily operationalized and measured. There is an urgent need for more meaningful indicators that report on a comprehensive set of indicators that cover context, inputs, and processes at all levels as well as immediate outputs and long-term outcomes.
- Develop a better understanding of how to initiate, promote, and sustain school-agency-community cooperation. What are the policy levers, financial incentives, and training required (not structure)?
- How can innovations in health education (more than materials and programs) be implemented and diffused effectively?
- Specifically ask school and public health administrators (middle managers in professional bureaucracies) about their research needs.
- Identify and describe ways where the “prevention” side of health can overcome the imbalance created in the “treatment” side of health. Also examine the role of school health services more than currently is done in research

*As well, there are some studies where they tried to influence too many variables and the effect was null. Is there an optimal mix of interventions and combinations of targets for coordinated sets of interventions?  
(Whitman et al, 2000, p.15)*

*Over 75% of respondents were interested in how to encourage and sustain cooperation.*

*Researchers are now calling for monitoring of more than just health status but also educational achievement and social/behavioural outcomes.*

*Canada is rapidly developing a variety of regular surveys on the health status and behaviours (and sometimes even determinants) to monitor child and youth health. What we don't know is how and if these data and trends will be translated into policy,*

*programs and professional practice. Reviews done by other countries have emphasized the need for regular monitoring of child/youth health status and behaviours as well policy/program delivery.*

*Nutbeam & St. Leger, 1997; Allensworth et al, 1997, p. 276) have both noted the need for new types of research methods and approaches.*

## **Theme F – Development of New Research Methods and Practices**

In this section, ideas and suggestions about how research should be conducted in school health are presented. New methods that we should are listed

### **Suggested Approaches:**

- Randomized, controlled trials can measure the impact of a particular intervention under particular circumstances. However, this method is too blunt to help us understand the complexities of individual schools and students. Case studies are a detailed examination of a single case but cannot be generalized for other situations. Consequently, experimental or qualitative designed studies are not adequate to describe the meaning and complexity of school health situations and programs. Thus, school health research should seek to measure and monitor a “hierarchical set of causal relationships in which school factors interact with home and personal characteristics to determine school or health outcomes.
- We need more cost-benefit and cost effectiveness studies to demonstrate the value of school health programs and services. Currently, we have only a few studies on economic and cost-benefits of school-based interventions on topics such as immunization, tobacco education, and comprehensive approaches to single issues such as pregnancy prevention.
- Develop criteria for evaluating the effect and success of school health research programs and agendas in areas such as

knowledge transfer, uptake in the systems as well as in the published works and funded studies.

- Be realistic about and measure how research evidence is used by decision-makers. Research does not necessarily guide decisions. Develop and apply theories and knowledge about system and professional decision-making practices to improve the use of research evidence. How can we use research to create change, rather than just describe change?
- Identify ways that research and survey results can be returned, understood and used by respondents and schools.
- Develop and test school-related channels and formats to translate and disseminate knowledge and promising practices. Develop and test user-friendly formats and describe what different categories of personnel in the systems are looking for and how they currently receive or seek such information
- Set a general criteria that research about school-based and school-linked interventions should be looking at least three years after the intervention for continuing effect.
- Develop logic models that explain cause and effect rather than simply describe correlations. Note that researchers have already identified “clusters’ of negative and positive actors and behaviours. use multi-level models but also recognize that schools and agencies have little means and blunt policy and program instruments to identify kids, or to develop specific programs adapted to combinations of factors, characteristics and individual experiences.