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BULLETINS and NOTICES

DIPLOMA PROGRAM IN ENVIRONMENTAL HEALTH

McMaster Institute of Environment and Health
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The Diploma Program in Environmental Health is a distance education program designed to provide new and/or upgraded skills and knowledge in the principles and practice of environmental health. Students come from a variety of disciplinary backgrounds. A relevant university degree or equivalent will normally be required. The Diploma Program is suitable for public health unit professionals, physicians, community health nurses, environmental industrial professionals and those in labour and non-governmental organizations dealing with environmental health issues.

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BENNETT S. 2000 - 2001 DENTAL PREVENTIVE SERVICES ANNUAL REPORT, PHERO 2000; 12(10):325.

Please note, that the information contained in the second column of Table 3, entitled "Education Resources Provided (9a)", is not a mandatory reporting requirement under the Dental Indices Survey (DIS) Protocol, August 29, 1997. The mandatory reporting for this component of the Child Health Program is included in the Mandatory Program Indicators Questionnaire (MPIQ). Because the majority of health units provided this material when submitting their education services report, the information was included in Table 3. Public Health Branch apologizes for any confusion that may have arisen from the inclusion of this material.

PSEUDO-OUTBREAK OF INFECTIOUS MONONUCLEOSIS: BALANCING PUBLIC PERCEPTION AND RISK

Background

In the spring of 1999, a high school student died as the result of splenic rupture related to infectious mononucleosis (IM). The occurrence of this rare fatality resulted in increased community awareness and concern related to this disease. From January 1 through December 31, 2000, 1751 persons were tested for infectious mononucleosis using a standard heterophile agglutination test. Of those tested, 526 (30%) tested positive. Local physicians determined the increase indicated an outbreak of infectious mononucleosis.

The Health Unit was contacted about the "outbreak" and information sheets were provided to local schools with reported cases. It was decided that an investigation was not necessary at that time since mononucleosis is not a reportable disease and follow-up is not part of our Mandatory Core Programs. Subsequently, in order to resolve the issue, the Health Unit investigated the suspected outbreak retrospectively at the insistence of local physicians.

Investigation Findings

Our investigation revealed that an outbreak was unlikely for the following reasons:

- Outbreaks of IM are considered extremely rare.[1]
- IM is not considered to be highly infectious and requires direct oropharyngeal transmission through saliva.[2] Considering the mode of transmission, it seems improbable that a community outbreak would occur.
- Diagnostic testing in a population with a low prevalence of the disease results in the test having a lower positive predictive value.[1]
- Many reported cases did not have symptoms clinically compatible with IM despite positive test results.

Conclusions

The heterophile agglutination test is a non-specific test, which demonstrates the presence of heterophile antibodies. False positive tests have been reported in persons with leukemia, rheumatoid arthritis and viral infections other than IM. False positives can also occur when blood samples are haemolyzed or contaminated. The test is also prone to interpretation bias.[3] Although heterophile agglutination tests are considered to be reliable, they should only be ordered when the clinical presentation is consistent with IM. The classic symptoms are fever, pharyngitis and cervical lymphadenopathy, accompanied by an enlarged liver or spleen.

Although sporadic cases of IM were identified with clinically compatible symptoms, diagnoses in many instances were made based on positive test results alone. As more tests were reported as positive it appears that more tests were performed. Previous documented pseudo-outbreaks have shown similar patterns.[1,4,5]

Lessons Learned

The results of this investigation provided local physicians and health unit staff with the opportunity to enhance our skills at investigating suspected community outbreaks and develop lessons learned. Before embarking on this investigation it was felt that the outbreak was not a significant concern however, we pursued the investigation due to the anxiety felt within the community and the pressure from local physicians. Once it was identified that an outbreak was unlikely, the Medical Officer of Health met with the area physicians to discuss the findings. In order to preserve our relationship with local physicians, it was essential to acknowledge their role in reporting concerns regarding infectious diseases to the Health Unit. Despite the findings of this investigation, physicians are typically the first to alert public health officials to the presence of community outbreaks. Identifying the cluster of cases as a "pseudo-

outbreak" did not seem to be an issue for the local physicians. The only criticism was the time taken for the health unit to become involved. In retrospect, it was recognized that another viral outbreak could have been causing the false positive results with the heterophile agglutination test.

Based on this experience, it appears that in instances of elevated anxiety related to infectious diseases, timely recognition of concerns and clear communication are important in order to improve understanding, allay concerns and preserve relationships with physicians and community partners.

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Findings from a Joint Health Unit Survey on Student Lifestyle and Behaviour

Introduction

Adolescence is a time of change and sometimes, one of experimentation. Behaviours and choices of adolescents can have a significant impact on both short and long term health. However, little was known about the behaviours and choices made by students in Haldimand-Norfolk and Brant County specifically. The Student Health Survey was conducted in order to broaden our knowledge about student health and lifestyle in these communities and provide evidence on which to base program planning. Essentially, these are the highlights.

Methods

The written survey included 42 questions split into six sections: eating behaviours, alcohol use, cannabis use, gambling behaviours, smoking, and sexual health. In addition, we collected information on grade, age, sex and Health Unit area. Due to varying levels of understanding and the maturity required to answer the sexual health questions, two separate surveys were used: one for students in grades 7, 9, and 11, and a more simplified version, which excluded the sexual health questions, in grade 5. Many of the questions were originally derived from other surveys.

Most of the survey sections need little justification for their inclusion. That may not be true for the gambling section. We decided to include questions about gambling because of the recent introduction of the Brantford Charity Casino into our community. The primary concern was not with underage students entering the casino, although that is possible in the higher grades. Rather, the main concern was with an increase in any kind of gambling and betting that students may engage in, as a result of attitudes potentially shifting in our community over time. Essentially, the gambling section provided a pre-casino baseline.

The survey ran from September 1999 until April 2000 in the Grand Erie District School Board (GEDSB). The Roman Catholic School Board, Christian and Mennonite schools, students in home schooling and students attending private schools are not part of the GEDSB and did not participate in the survey. Signed parental and personal consent forms were needed in order for students to

participate. The sample was stratified by grade and Health Unit area (Brant, Haldimand-Norfolk) in the entire GEDSB. All schools that taught the grades targeted in this survey had an equal chance of being selected. Only special education classes were excluded. The survey was administered by Health Unit staff with the teacher present most of the time.

The primary sampling unit was the school class (or school for grades 5 and 7, if only one class in that grade). Every student in a selected class who was present at the time of the survey and who provided informed consent was included in the sample. Using an informed consent process, we achieved an overall response rate of approximately 60%.

In total, 1,785 elementary and secondary students were sampled out of 10,429 students in the GEDSB. In Brant County, 789 students were sampled out of 5,297, and in Haldimand-Norfolk, 996 students were sampled out of 5,132. In total there were 863 males and 897 females in the analyses. Sex was not specified for twenty-five students. There were 467 students sampled in grade five, 524 in grade seven, 493 in grade 9, and 301 in grade 11. Prior to analysis, each record included in the data file was weighted, based on grade, sex, and Health Unit area.

Response frequencies were calculated for all variables using the analytical weighted data, and 95% confidence intervals were used for assessing variability and statistical significance between groups as well as between the GEDSB and results across Ontario and/or from other studies. The Ontario Student Drug Use Survey (OSDUS, 1999), conducted by the Centre for Addiction and Mental Health (the former Addiction Research Foundation) provided most of the Ontario-wide comparative data, particularly for sections on alcohol, cannabis, smoking, and gambling. Interrelationships between responses to questions in the six sections were also analysed.

Results

Nutrition

Poor eating habits rose as students aged. By grade 11, 28% of the students indicated that their eating habits were less than good,compared to 6% in grade 5, 11% in grade 7, and 17% in grade 9. However, compared to one year earlier, many students thought that they were eating more of grains, vegetables, and dairy products. By grade 11, half of the students were not eating breakfast regularly on school days (Figure 1).

Even those students who had breakfast may not be having an adequate one. A measure of breakfast adequacy, based on consuming food from at least three food groups, revealed that only about 15% of all students in each grade ate an adequate breakfast on the day of the survey. In grades 9 & 11, a significantly larger proportion of students in Brant County (19%) than in Haldimand-Norfolk (10%) ate an adequate breakfast that day.

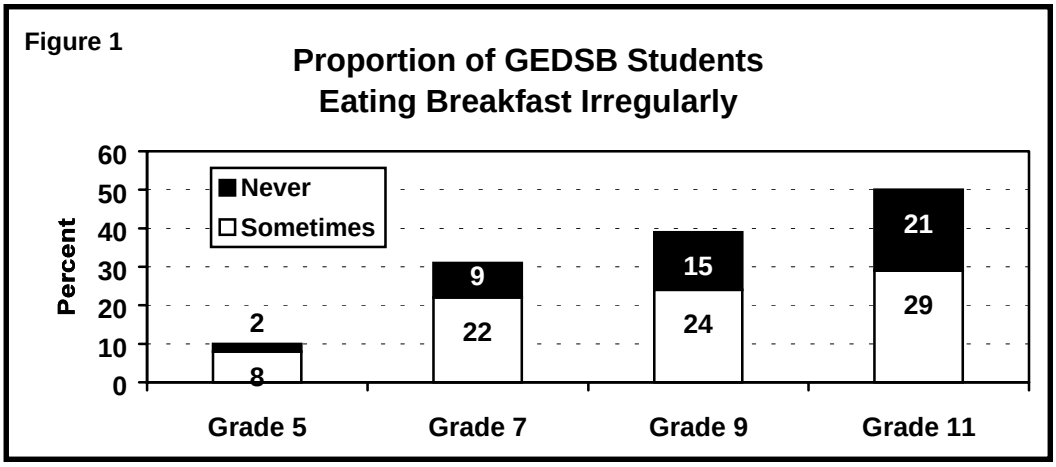
Students who never had breakfast or who only had breakfast sometimes were asked why and why not more often. Common responses, in no particular order, included: “not hungry”, “don’t want to”, “no time”, “too busy”, and “it makes me feel ill.”

The proportion of students feeling that they needed to lose weight nearly doubled between grade 5 (27%) and grade 11 (50%), and differences between most grades were significant. Approximately one third (36%) of the students in all grades surveyed were concerned about the amount of fat in the foods they were eating. One quarter (25%) of all students (69% of those concerned) were taking steps to reduce the amount of fat in their diet, such as eating less snack foods, using less butter, oil, or salad dressing, and eating less fried foods.

Alcohol

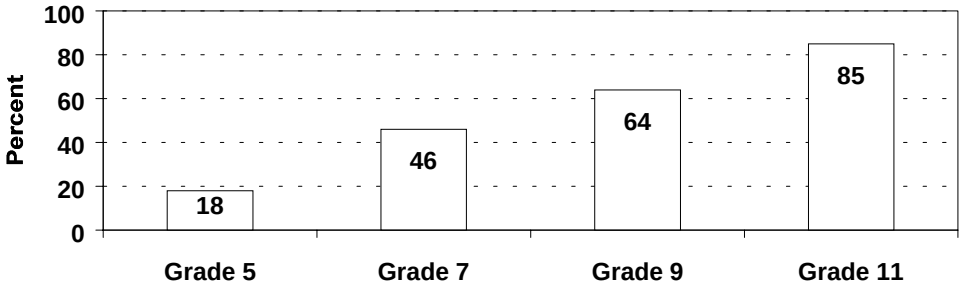
In all grades, a large proportion of GEDSB students had tried alcohol during their lifetime: approximately half (47%) in grade 5, 75% in grade 7, 82% in grade 9, and 93% in grade 11. Drinking at least once in the past year increasedsignificantly with age (Figure 2).

Figure 1



The proportion of students drinking at least once per month also increased dramatically between each grade, from 3% in grade 5, to 13% in grade 7, to 38% in grade 9, and to 68% in grade 11. By grade 11, 18% of all students were drinking weekly and 7% of all students were drinking more than 1-2 times per week during the past month.

Figure 2
Proportion of GEDSB Students who Drank Alcohol at least Once in the past 12 Months



Excludes students who had a sip of alcohol to see what it was like.

A significantly larger proportion of Haldimand-Norfolk students in grades 7, 9, and 11 (53%) than Brant County students (41%) reported that they drank alcohol in the previous month, which was also true in each of these grades individually, although not statistically significant at the individual grade level. However, neither of these Health Unit areas differed significantly from the province (48%).

Alcohol accessibility increased with grade. It shifted from 'impossible' or 'very difficult' (68% in grade 5; 40% in grade 7) to 'easy' or 'very easy' (63% in grade 9; 76% in grade 11). Also, by grade 11, 70% of the students thought that most or all of their friends drank alcohol. (This proportion increased with every grade from less than 3% in grade 5, to 13% in grade 7, and to approximately 40% in grade 9.)

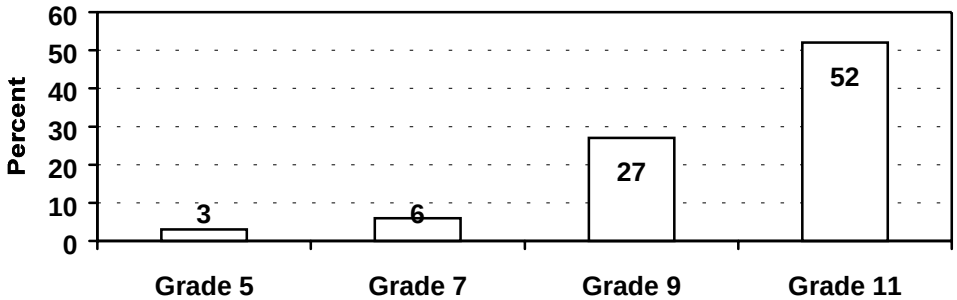
Cannabis

Overall, cannabis use increased with grade. Approximately5% of students in grade 5, 9% in grade 7, 30% in grade 9, and over half in grade 11 (56%) had triedcannabis at least once. By grade 11, 52% of students had used cannabis at least once in the past year, which increased significantly in each grade surveyed from grades 5 and 7 onward (Figure 3).

Prior to grade 9, students who used cannabis had primarily done so 1-2 times. By grade 11, 31% of users indicated that they had used cannabis 40 or more times in the past year. Daily use in the past month among grade 7, 9, and 11 students in Haldimand-Norfolk (7% overall; 20% among users) was significantly higher than in Brant County (1% overall; 5% among users) and Ontario (3% overall; 8% among users). Close to 10% of all students in grade 9 and close to 25% of all students in grade 11 used cannabis at least once per week during the previous month. Among cannabis 'ever users' in grade 11 (i.e., all students who responded other than 'never' or 'don't know what cannabis is' to frequency of cannabis use, in the past 12 months and in the past four weeks, including those students who responded 'none' to each of these two questions), 43% indicated weekly use during the previous month (24% overall among all grade 11 students).

A larger proportion of female grade 7, 9, and 11 users in the GEDSB than across Ontario indicated that they had used cannabis 40 or more times in their lifetime (25% vs. 13%). Similar to GEDSB female users, approximately 25% of male users in both the GEDSB and Ontario used cannabis 40 or more times in their lifetime.

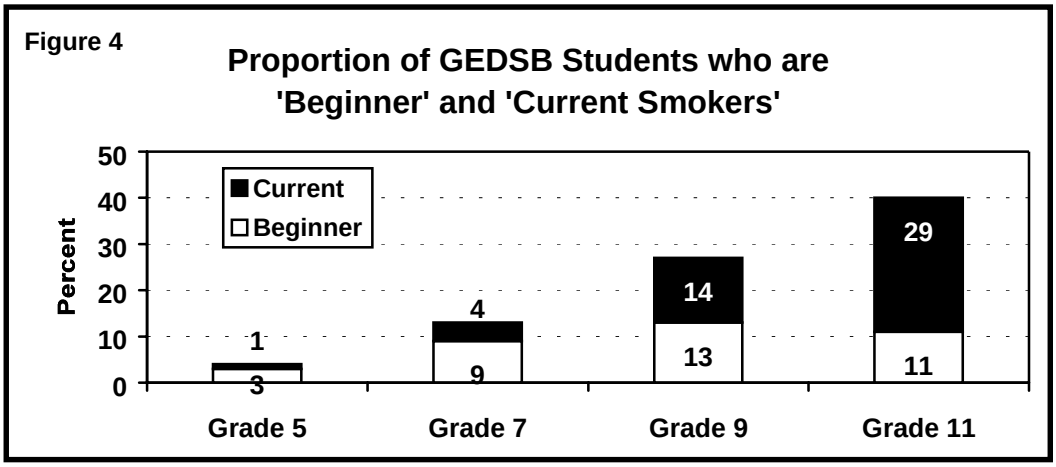
Figure 3
Proportion of GEDSB Students who Used Cannabis at least Once in the past 12 Months



Cannabis accessibility increased with grade. It

shifted from 'impossible' or 'very difficult' (80% grade 5; 67% grade 7) to 'easy' or 'very easy' (44% grade 9; 74% grade 11). The proportion of grade 11 students indicating 'all' of their friends used cannabis was significantly higher in our sample (the GEDSB) (21% overall; 37% among users) than in Ontario (10% overall; 19% among users).

Figure 4



Smoking

In the smoking section of the survey, there were no apparent statistically significant differences found between students in the GEDSB and the province of Ontario, based on the questions that we had asked and the comparators that we were able to use. The proportion of students who ever smoked a cigarette, even just a few puffs, increased with grade (11% in grade 5, 38% in grade 7, 56% in grade 9, 74% in grade 11). By grade 11, 45% of students had smoked more than once during the past year, which also increased significantly from 12% in grade 7 to 29% in grade 9.

In total, 40% of students had smoked during the past month in grade 11 (Figure 4). 'Current smokers' (i.e., students who had smoked 100 or more cigarettes in their lifetime and who had smoked at least once within the past 30 days) reached a high in grade 11 at 29%. 'Beginner smokers' (i.e., students who had smoked within the past 30 days, but had not yet smoked 100 cigarettes) peaked in grade 9 at 13%, falling back to 11% in grade 11.

Quantity smoked also increased with grade in the GEDSB. In grade 11, approximately half of the 40% of students who smoked at least once during the past month were smoking more than 5 cigarettes on days when they smoked (i.e., 20% overall), half of which again even smoked more than 10 per day (i.e., 10% overall).

In comparison, 18% of grade 9 students who smoked at least once in the past month (i.e., 5% overall) and 9% of grade 7s who smoked at least once in the past month (i.e., 1% overall) smoked more than 5 per day.

Gambling

Gambling increased with age. The proportion of students who gambled in the previous year increased from 36% in grade five to 69% in grade 11. Among students who gambled within the past year, the largest amount of money they used was usually less than $11 (approximately 80% in grades 5, 7, and 9, and 60% in grade 11). There were no significant differences between the GEDSB and Ontario in the proportion of students having one or more gambling problems, such as stealing, lying, or hiding signs from family or friends. Less than 20% of students in grades 7, 9, and 11 overall had any one of six gambling problems, and less than 5% had three or more.

Sexual Health

Our survey did not explicitly ask students if they had sex. Rather, students were asked to indicate the top two reasons why they thought people their age first chose to have sex. The same top three reasons fell within the top four of each grade, although their rank varied among the grades, but by grade 9 'under the influence of alcohol and other drugs' was the number one reason (Table 1). A significantly larger proportion of grade 11 students in Haldimand Norfolk (46%) than in Brant County (29%) selected this reason. Grade 11 students in Haldimand-Norfolk ranked this reason highest, whereas it was the fifth most likely reason in Brant County, ranked behind "for fun", "curiosity", "love for the person" and "to maintain a relationship."

In grades 7, 9, and 11 students thought that people their age chose not to have sex because they were not ready yet (69% in grade 7, 61% in grades 9 and 11), feared pregnancy (47% in grade 7, 60% in grade 9, and 63% in grade 11), and feared AIDS (45% in grade 7, 48% in grade 9, and 39% in grade 11). Parental disapproval did not rank high, and decreased with increasing grade. It dropped in the ranking from 4th in grade 7 to 8th in grade 11.

Table 1: Abridged Table of Top Reasons (Rank and Proportion Selecting) Why Students Thought People their Age First Have Sex, by grade

Reasons	Grade 7 Rank – %	Grade 9 Rank – %	Grade 11 Rank – %
Curiosity	1 – 34%	2 – 37%	3 – 32%
Some of their friends have had sex	2 – 32%	4 – 30%	7 – 21%
For Fun	3 – 27%	3 – 35%	2 – 36%
Under the influence of alcohol and other drugs	4 – 27%	1 – 40%	1 – 38%

In grade 11, 15% of students indicated that there were times when he/she had sexual intercourse even though he/she really did not want to (12% of males and 18% of females). Among these students, 56% selected 'you're not sure why, it just happened,' 46% selected 'you had been drinking or doing drugs,' and 34% selected 'your partner pressured you into it' as reasons why. These were ranked the top three reasons out of a list of eight, which included being physically forced by a partner. In grades 7 and 9, 4% indicated there were times when he/she had sexual intercourse even though he/she really did not want to.

In all grades the majority of students indicated that it was 'very likely' they would use a condom if and when they have sex (72% in grade 7, 85% in grade 9, and 80% in grade 11). Over half of the students in grades 9 and 11 (55% overall) thought there was some chance that they would get an STD when they have sexual intercourse. This proportion was significantly lower in grade 7 (43%). Across all grades, the top three places where students indicated they would feel most comfortable getting condoms included the health unit, a friend, and the drug store.

Multiple Risk Factors

Risky behaviours and lifestyle choices are seldom independent of each other. That is, if a person engages in one form of risky behaviour, they often engage in others. Recognizing that associations cannot be assessed for directionality because of the cross-sectional nature of this survey, the following interpretations are provided from a number of logistic regressions that we ran:

- Students were twice as likely to seldom have break fast on school days if they felt that they needed to lose weight or if they were a smoker.
- Students were five times more likely to drink two or more times per month in the past year if most or all of their close friends drank alcohol or they themselves used cannabis more than once or twice in the past year.The likelihood that students used cannabis was significantly greater if their close friends used cannabis in the past year, if they had smoked more than 100 cigarettes in their lifetime, and if they drank more than once per month in the past year.
- Students were up to ten times more likely to have smoked at all in the previous year or to have smoked 100 cigarettes if they used cannabis more than once or twice in the past year.
- Students were twice as likely to indicate that it was not 'very likely' that they would use a condom during sex if they had smoked more than 100 cigarettes in their lifetime.

Conclusions

Overall, the findings from this research provide some of the evidence on which to base future program planning. We achieved our objective with this study by gaining a better understanding of local student lifestyle choices and behaviour, in Brant County and Haldimand-Norfolk. This survey delved into six areas of health and lifestyle and revealed numerous statistics that either confirm or challenge earlier beliefs held by the Health Units.

We recognize that all research has bias, and this study is not exempt. Precautions are necessary before embracing any results. Regarding the response rate, though high for public health research, it was still only 60%. We do not have any data collected on non-responders, and therefore we are unable to qualify how responders and non-responders differed from each other, and the extent to which our results may be biased. We do know, however, that the sample was large and well spread throughout the areas of concern. Furthermore, our approach was similar to that used by the Ontario Student Drug Use Survey, a much larger and widely distributed survey, which is well respected. Our response rate is in line with the student completion rate in the Ontario Student Drug Use Survey

of 71% (16% did not provide consent and 13% were absent on the day of the survey).

This study was based on self-reports, and therefore may underestimate the extent to which students engage in some of these behaviours. The research evidence suggests that self-reported drug use estimates are generally understated (i.e., under-reported), and consequently should be viewed as conservative. However, assuming that this bias remains more or less constant across years, estimates of change or trends remain unbiased (OSDUS, 2001, 10). Moreover, the 2001 report on Ontario Student Drug Use clearly states that this survey does not tell us anything about the totality of substance abuse, it only tells us about adolescents in school (p.3).

Another potential bias in this study is our use of a liberal cut-off for statistical significance (i.e., 95% confidence). We made numerous comparisons, and as the number of comparisons increase so does the likelihood of finding "statistically significant" results that are actually due to chance. Nevertheless, we have tried to focus on differences that are both statistically significant and inherently meaningful.

As a whole, the findings from this research provide many insights for future program planning. The next step is to incorporate our understanding from this research into the planning of effective public health and school programs.

These Highlights and the complete 230-page report are available on the Brant County Health Unit web page at www.bchu.org and on the Haldimand-Norfolk Health Unit web page at www.haldimand-norfolk.org. If you require more information on this project please contact one of the following individuals at either the Brant County Health Unit or the Haldimand-Norfolk Health Unit.

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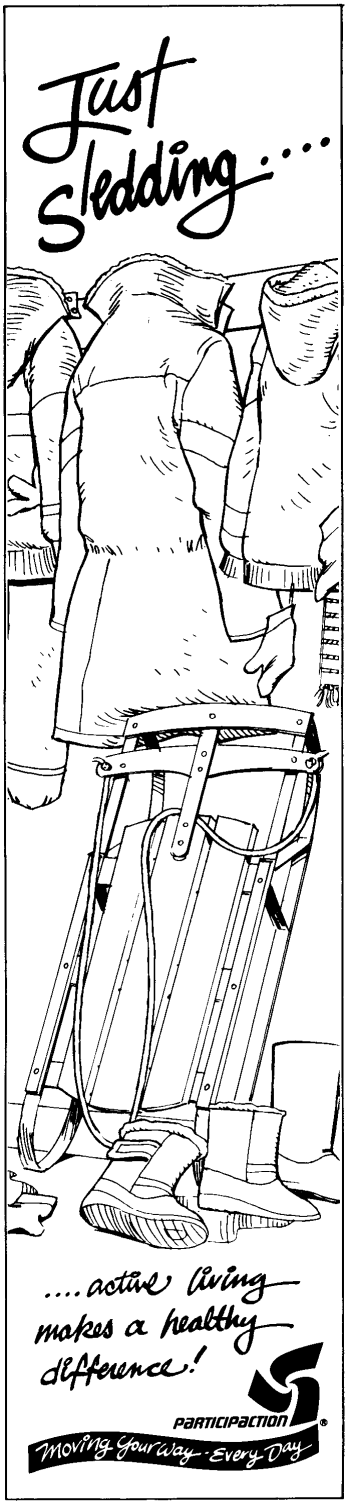

Communiqué

Public Health Research, Education and Development Program

The Learning Organization: Current Application in Public Health

Introduction

The purpose of this article is twofold. First is the sharing of information and the promotion of dialogue on the present status of the Learning Organization initiative in an Ontario Public Health Unit. This may be useful to other agencies and organizations interested in seeking ways to positively impact on population health through initiatives, which aim to improve the health of the organization itself. Secondly, this article was produced in a user-friendly "primer" style hoping to serve as a useful "refresher" for health profession students and personnel with an interest in the Learning Organization movement.

Ontario health units, housing a Public Health Research, Education and Development (PHRED) Program, have an active history in the Learning Organization movement. From the original exploratory project initiated in 1994 by a subcommittee of the Provincial Teaching Health Unit Program Steering Committee, a report and recommendations resulted in a series of workshops and regional learning events.[1] This article reflects present day application of fundamental tenets presented in these workshops at the Sudbury and District Health Unit (SDHU).

The Learning Organization Concept: Alive and Well

An Experiential Learning Moment

Imagine yourself as a Dental Hygiene student walking into a health unit seeking information for a project. On the wall in the foyer you see a framed sign which reads: *"Sudbury & District Health Unit (SDHU) Mission Statement*: *Working with our communities to promote and protect health and to prevent disease[2]"*. Your friend, an Information Technology student on placement there has told you this health unit is a Learning Organization. You ask yourself: "What links are there between what the sign says and this 'Learning Organization' thing?" Now, imagine yourself in the Resource Centre, deep into a computer database, when you overhear a Public Health Nurse and Public Health Inspector begin a conversation which starts with the following question: "What knowledge could help us succeed in our mission, and how can we make sure we actually apply it?" Questions of this nature are commonplace in Learning Organizations. Acquiring key knowledge, disseminating it throughout the organization, and fostering its application, with the objective of positively impacting the health of Sudbury and Manitoulin District residents, are the cornerstones of one of the SDHU's top strategic priorities for the century.

From Theory to Practice

The SDHU is only one of countless agencies, commercial enterprises and educational organizations that have adopted the Learning Organization concept as a core value. Well known since the success of Peter M. Senge's flagship first tome and national best seller, *The Fifth Discipline: The Art & Practice of The Learning Organization*[3], the Learning Organization is alive and well, having gone beyond a simple management fad, as was initially feared by some.

MacLean's, Canada's Weekly News magazine recently ran an issue featuring *Canada's 100 Top Employers*[4]. Mediacorp researches and catalogues companies' best practices, resulting in a 346-page guide which job-seekers use to find the best fit for their skills and work styles, *Canada's Top 100 Employers 2002*.[5] Data pertaining to recruitment activities were studied with 42,000 Canadian employers. From this group, 5,000 organizations and companies were selected and asked to provide feedback on benefits, working conditions and human resources programs. Companies undergoing downsizing were eliminated from the database. The following six criteria were used to evaluate employers:

1. Is the employer's business expanding and likely to grow?
2. Is the physical environment of their workplace stimulating?

3. Do they let employees know if they are performing well in their jobs?
4. Do they keep employees informed about company news and developments affecting their jobs?
5. Are their employment benefits and vacation allowances exceptional for the industry?
6. Overall, do they "go the extra distance" to attract and retain outstanding employees?

Community involvement was also studied, showing a strong correlation between charitable work and treatment of employees[5].

In this era of changing demographics and competition to attract and maintain a quality workforce, employers in northern regions and elsewhere are wise to study the workplace characteristics attracting the best employees, especially in the dynamic field of health care, be it preventive or acute[6].

Syncrude Canada Ltd., a major oil sands operation north of Fort McMurray, Alberta, ranked in Mediacorp's top 10 of the 100 best places to work, was featured as the first company discussed by MacLean's. Why? One reason is its commitment to being a Learning Organization. At Syncrude, learning, in many forms, is valued and practices are in place to foster it. Employees are encouraged to change jobs, with the company paying for retraining. Apprenticing with co-workers for periods as long as three years gives employees the opportunity to gain knowledge and expertise well beyond the academic. Five percent of the company's salary budget is spent on training, as well as $30 million to $40 million on research and development.

As is true with other companies and organizations seeking to apply best practice in management, growth and development, the SDHU values learning and its most effective application as critical to accomplishing its mission. Choosing methods of evaluation for organizational change initiatives is a challenge. With respect to the Learning Organization priority, obtaining feedback from personnel through tools such as internal culture scans and statistical measurements of community health, are evaluation possibilities being considered by the personnel at the SDHU. Before proceeding, it is important to clarify certain basic concepts integral to the Learning Organization concept.

Definitions

Words used to describe the meaning of Learning Organization vary with the author, research group, or management guru. The two following examples are well known and useful in beginning to see the applicability of the Learning Organization concept in the health workplace:

- *Peter M. Senge*: "The learning organizations: where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together[3]."
- *David Garvin*: "A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights[7]."

It is very "*learning org.*" (a colloquialism in use in certain circles) to see such definitions only as platforms or launching pads for one's own definitions and applications. New perspectives on what learning organizations really are develop as successes are achieved and new initiatives bear fruit. Companies seek out the practical, applicable aspects of learning organization theory and ideas, tending to avoid the academic, and the theoretical, since employees will naturally be more able to create change and real improvement from the practical.

No *learning org.* primer would omit the mention of Senge's five disciplines. Sometimes criticized for being too academic for application in the workplace, Senge's five disciplines are at the very core of good organizational development practice. Personal mastery, mental models, shared vision, team learning, and systems thinking are no longer in dispute as building blocks to a solid, effective organizational structure and functioning.

One element is key: Learning Organizations operate on the premise that acquiring, disseminating and applying the optimal knowledge available, for the individual employee and the organization as a whole, is a critical component of being *the best that one can be*, therefore, achieving success which would otherwise be beyond reach.

Current Thinking

Prevailing thought and research on leading change increasingly reflects the importance of acting consciously on new knowledge, as well as truths gleaned from many cultures and doctrines. Here are a few examples, which may be of interest and with particular application in the health field. In "Leading Consciously", Debashis Chatterjee builds on

some of these concepts to discuss *Leadership in a Learning Organization* and links it to capacity building, a theme frequently found in community health efforts[8].

Frequently quoted for his controversial "hit home" perspectives, in particular those around learning behavior of management personnel, Chris Agyris' work is of interest when researching motivational elements affecting the workplace. For example, as health professionals, the body of knowledge we possess may actually constrain learning. We rarely fail, and consequently do not have the skills to learn from failure. Other concepts Agyris explores include *defensive reasoning* and the *doom loop*[9].

The references at the end of this article include a few of many web based Learning Organization resources useful as springboard to further inquiry.

Moving Forward

How is the SDHU, a publicly funded health agency, serving a northern area of 49,561 sq. km with a population of 200,919 urban and rural people, applying the principles of the Learning Organization to its mission? Several steps have been and are being taken to make this objective a reality.

Becoming a Learning Organization was a component of the Strategic Plan for 1999-2001 at the SDHU, though common challenges encountered by several agencies aspiring to adopt and apply Learning Organization principles were present. Progress toward full application of the inherent principles was limited. Challenges may have included staff perception that another change initiative, in a time of technological revolution, upheaval in the health sector, and capacity level workloads, would increase their level of workplace stress.

As with other organizational change, interest in the perception of the Learning Organization initiative, as a potential source of stress, exists and is being researched. A pilot study done in the UK by Corporate Solutions Consulting Limited focused on employee stress as it may relate to implementation of new ways of working, including the Learning Organization concept. Included in the main findings was the fact that the learning organization group responded significantly more positively than the control group to work environment questions. As this was a small pilot study, further research is needed in this area, perhaps seeking out correlations with specific Learning Organization initiatives and workplace stress[10].

Valuing the "le*arning org*." priority as key to achieving the objectives of its mission in 2001, a decision was made by the agency's Executive Committee to revive the initiative. The PHRED program, in its mandate to promote innovative models, took on a leadership role in moving the SDHU forward as a Learning Organization by dedicating to the initiative. A review of the literature with the objective of seeking out best practice data from functional Learning Organizations was undertaken, as well as consultation with like-minded individuals and organizations. Two important initiatives were among the results.

A pilot group initiative, driven by learning, was chosen as a model for the first initiative. For it to succeed, the following criteria were incorporated:

- Repeated opportunities for small actions that members could design and initiate;
- Actions, strategies and larger goals articulated by members;
- Potential for experimentation on a small scale, then with larger numbers of participants;
- Opportunity for experimentation with actions, projects and initiative followed by an open forum for candid discussion and learning from successes and mistakes.

The premise is that participation and action would build commitment and draw in other like-minded individuals[11].

Respecting these criteria, a leadership group was formed and is presently active, with the aim of supporting and enhancing the SDHU's development as a Learning Organization[12]. The *Learning Organization Leadership Animators*, known internally by the acronym "LOLA" emerged. This group, a volunteer mix of staff and management meet for a monthly 30 minute "Lab" in which ideas are discussed, and a strategy is chosen with which to experiment for the following month. Ideas must be simple to implement and potentially useful in everyone's work. Evaluation of effectiveness is done at the following lab by group discussion, sharing of feedback, and consensus. Successful strategies, which have a positive impact on any of the agency's strategic priorities, are put forth for a decision on implementation by the appropriate committee.

Challenges occurring throughout the change and improvement process are openly discussed in various forums at the SDHU. For example, a major workplace issue in the information age is lack of time. In Senge's *The*

Dance of Change[13], Rick Ross discusses strategies to create time, one of which is termed "Pruning Your Change Initiatives". Since the initial refocusing on becoming a Learning Organization, the SDHU has folded some change initiatives into others, consolidating efforts and maximizing use of time, much in the style discussed in Ross' writing.

Another initiative, which has met with some success, was the role taken on by education personnel from the PHRED program in strategic planning. The "Education people", responsible for moving the Learning Organization initiative forward, took on a facilitator role in the SDHU strategic planning for 2002-2004. A blended model of strategic planning including "from the ground up", as well as "from the top down" components, with all staff and management coming together to hammer out a functional strategic plan was used. The Learning Organization initiative emerged as one of the top 5 of 10 strategic priorities. By including front line staff and managers in all aspects of the strategic planning process, it became clear that all stakeholders have a keen interest in learning how to better access and implement knowledge potentially useful in achieving the agency's mission.

The SDHU will launch an innovative Strategic Plan in early 2002, with every member of the agency's workforce having ongoing opportunity to impact positively on the top 10 priorities.

At the core of the SDHU's fundamental value system is the belief that functioning as a Learning Organization is the method of choice, if the health unit is to make a difference with respect to the determinants of health in the Sudbury and Manitoulin district. Ideally, if the community was a *learning community*, individuals, families and population groups would integrate the best knowledge available, and achieve better health.

Recognizing the link between individual strategic priorities and the organization's mission, is key for staff and management at the SDHU. Dr. Penny Sutcliffe, Medical Officer of Health for the Sudbury and Manitoulin Districts sees the link between integrating learning organization concepts and focusing on the agency's health and ultimate effectiveness as: "Insofar as 'knowledge is power', the learning organization concept is a way of addressing a key determinant of health for organizations. By 'flattening the slope', and ensuring that everyone has opportunities for ongoing learning (and associated 'power'), we create a more equitable and ultimately more healthy organization."

The work of truly functioning as a Learning Organization is an ongoing process, which the SDHU recognizes will require focus and resource allocation. Many initiatives are in the works to continue the process of learning and improvement, including the development of intranet-accessible resources so that all staff and students can learn some basics about Learning Organization, as well as other strategic priorities. Staff are beginning to see how the ideas can be used in their own day-to-day work, as well as professional growth. Evaluation strategies for assessment of the effectiveness of the Learning Organization priority are being explored, with PHRED staff taking the lead. The Society for Organizational Learning, or *SoL*, originating at Massachusetts Institute of Technology (MIT), and spearheaded by Peter Senge, is exploring *new traditions in assessment*, applicable to evaluating effectiveness in a Learning Organization[14]. Being an associate member of SoL, the SDHU is seeking to acquire knowledge from the MIT group, as well as others, to learn the best way to evaluate its progress as a Learning Organization, apply it, and positively impact on the health of the population of the districts of Sudbury and Manitoulin.

❑

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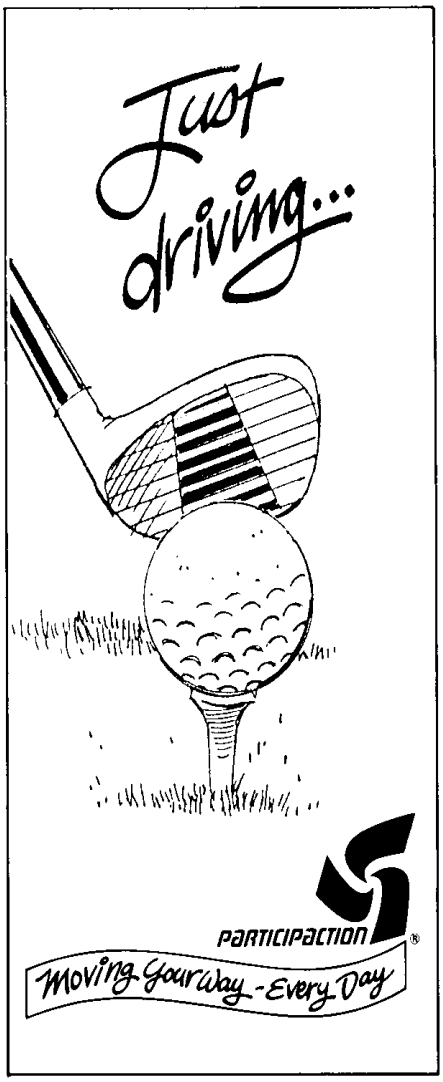


Summary of Reportable Diseases in December, 2001

Health Units by Region	Population 2000	AIDS	Campylo.	Chicken-pox	Chlamydia	Enceph./ Meningitis	GAS	Gonorrhea
Algoma	125,109		2	19	22			
North Bay	93,505			88	14			1
Northwestern	91,920		2	14	18			1
Porcupine	93,680			15	14			
Sudbury	199,619		1		22		2	
Thunder Bay	158,698		2		23	1		5
Timiskaming	37,721							
Total - Northern	**800,252**		**7**	**136**	**113**	**1**	**2**	**7**
Eastern Ontario	194,945		1		9			
Hastings & Prince Edward	159,088		4	7	3			
Kingston, Frontenac & Lennox	180,225			6	24		1	
Leeds, Grenville & Lanark	163,143			1				
Ottawa	779,274		14	129	86	2	1	6
Renfrew	101,131		1		4			
Total- Eastern	**1,577,806**		**20**	**143**	**126**	**2**	**2**	**6**
Durham	512,271		6		47	1		4
Haliburton-Kawartha	168,120		4		2		1	
Muskoka-Parry Sound	86,218			22	1			
Peel	1,008,163		23	119	60	3	2	9
Peterborough	128,881		1		16			1
Simcoe	377,405		4	86	16	1	2	
Toronto - total	2,542,844		90	130	383	1	7	119
North	*627,021*		*19*	*34*	*75*		*2*	*17*
South	*688,584*		*40*	*29*	*142*	*1*	*3*	*55*
West	*509,302*		*18*	*17*	*102*		*2*	*30*
East	*717,937*		*13*	*50*	*64*			*17*
York	724,969		4	33	18	4	1	
Total - Central East	**5,548,871**		**132**	**339**	**543**	**10**	**13**	**133**
Grey Bruce	157,664			5	9			
Elgin-St. Thomas	84,182			4	2			
Huron	61,097		3	21	1			1
Chatham-Kent	112,897	1	1	1	6			
Lambton	131,643							
Middlesex-London	412,976		3		17	4	2	1
Oxford	102,561		1			2		
Perth	75,238		7	10	2	1		1
Windsor-Essex	381,672		2		5			
Total - Southwest	**1,519,930**	**1**	**17**	**41**	**42**	**7**	**2**	**3**
Brant	126,481		1	8	18		1	
Haldimand-Norfolk	109,536			47	5			1
Halton	375,705		14	6	1	1	3	1
Hamilton	498,553		7	78	42	7	5	8
Niagara	423,600		7	62	20		1	3
Waterloo	446,833		9		50	2	3	10
Wellington-Dufferin-Guelph	241,777		5	16	9			
Total - Central West	**2,222,485**		**43**	**217**	**145**	**10**	**13**	**23**
December 2001	**11,669,344**	**1**	**219**	**927**	**969**	**30**	**32**	**172**
*** Total YTD 2001**	**-**	**83**	**4,710**	**11,306**	**15,777**	**524**	**322**	**2,825**
*** Total YTD 2000**	**-**	**106**	**4,823**	**26,802**	**13,789**	**385**	**399**	**2,262**

The Toronto City regions above are now defined as: North - former North York; South - former City of Toronto; West - former Etobicoke and City of York; East - former Scarborough and East York

* Adjusted for deletions and late reports.

Summary of Reportable Diseases in December, 2001

Health Units by Region	Population 2000	PPNG	Hepatitis A	Hepatitis B	Hepatitis C	Hib	Influenza	Measles	Meningo-coccal
Algoma	125,109				5				
North Bay	93,505				4				
Northwestern	91,920				1				
Porcupine	93,680				1				
Sudbury	199,619				1				1
Thunder Bay	158,698	2			10				
Timiskaming	37,721				1				
Total - Northern	**800,252**	**2**			**23**				**1**
Eastern Ontario	194,945				5				1
Hastings & Prince Edward	159,088								
Kingston, Frontenac & Lennox	180,225				1		1		
Leeds, Grenville & Lanark	163,143				3				
Ottawa	779,274				31		3		
Renfrew	101,131								
Total- Eastern	**1,577,806**				**40**		**4**		**1**
Durham	512,271								
Haliburton-Kawartha	168,120				4				
Muskoka-Parry Sound	86,218				1				
Peel	1,008,163		1		23		2		2
Peterborough	128,881				8				
Simcoe	377,405		1		8		1		
Toronto - total	2,542,844	3		1	82		8		
North	*627,021*	*1*			*16*		*3*		
South	*688,584*	*1*		*1*	*32*		*1*		
West	*509,302*	*1*			*18*		*4*		
East	*717,937*				*16*				
York	724,969						1		
Total - Central East	**5,548,871**	**3**	**2**	**1**	**126**		**12**		**2**
Grey Bruce	157,664				1				
Elgin-St. Thomas	84,182				3				
Huron	61,097								
Chatham-Kent	112,897								
Lambton	131,643								
Middlesex-London	412,976				9				
Oxford	102,561								
Perth	75,238				1				
Windsor-Essex	381,672								
Total - Southwest	**1,519,930**				**14**				
Brant	126,481								
Haldimand-Norfolk	109,536								
Halton	375,705				4				
Hamilton	498,553	1	2		15				
Niagara	423,600		6	2	11		1		
Waterloo	446,833				5				
Wellington-Dufferin-Guelph	241,777				1				
Total - Central West	**2,222,485**	**1**	**8**	**2**	**36**		**1**		
December 2001	**11,669,344**	**6**	**10**	**3**	**239**		**17**		**4**
*** Total YTD 2001**	**-**	**191**	**169**	**171**	**5,111**	**6**	**777**	**6**	**107**
*** Total YTD 2000**	**-**	**160**	**150**	**146**	**5,756**	**11**	**1,543**	**9**	**80**

The Toronto City regions above are now defined as: North - former North York; South - former City of Toronto; West - former Etobicoke and City of York; East - former Scarborough and East York

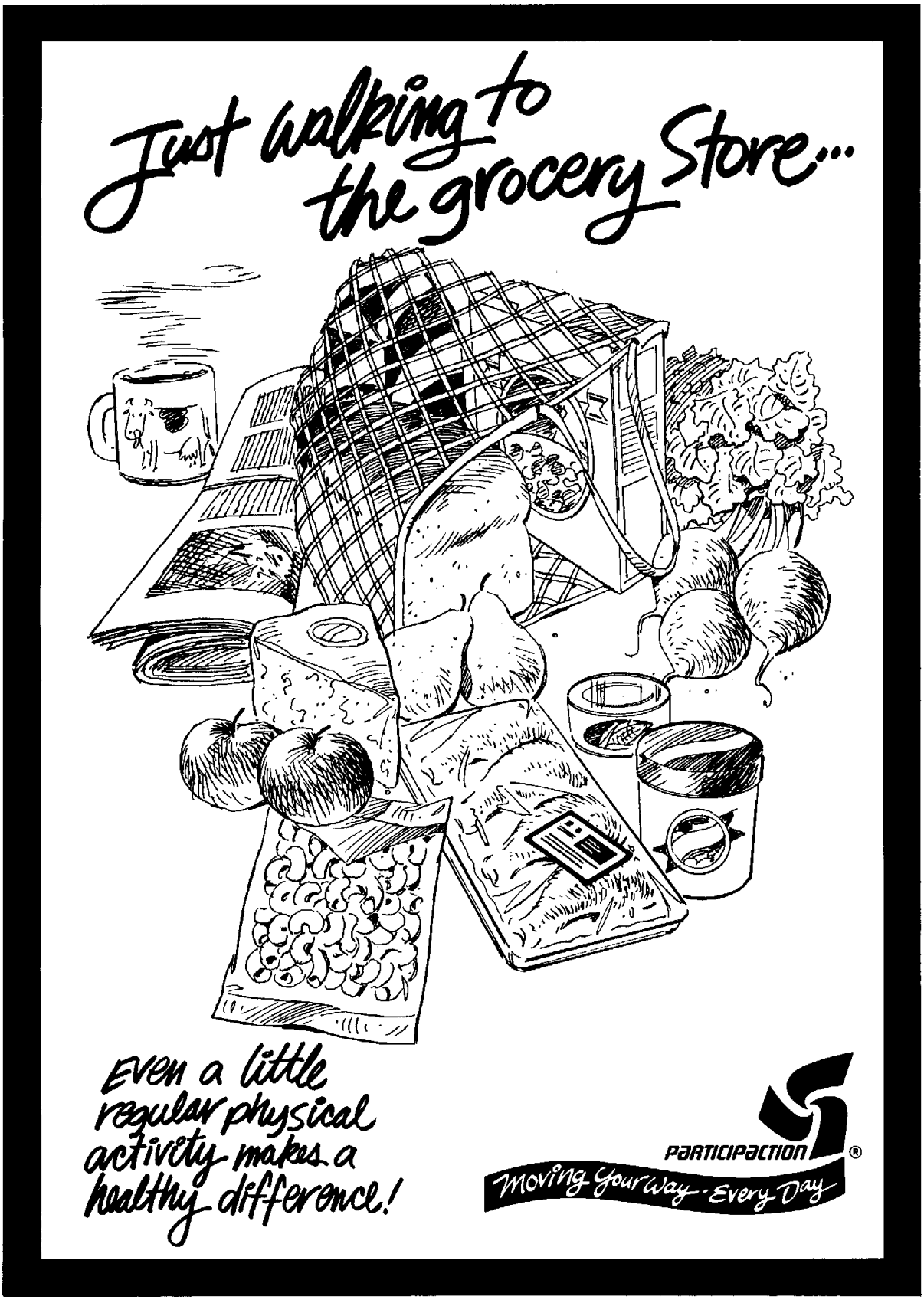
* Adjusted for deletions and late reports.

Summary of Reportable Diseases in December, 2001

Health Units by Region	Population 2000	Mumps	Pertussis	Rubella	Salmon.	Shigellosis	Syphilis (Prim/Sec)	VTEC
Algoma	125,109		1					
North Bay	93,505				5			
Northwestern	91,920		3					1
Porcupine	93,680				1			
Sudbury	199,619				1			
Thunder Bay	158,698							
Timiskaming	37,721							
Total - Northern	**800,252**		**4**		**7**			**1**
Eastern Ontario	194,945		1					
Hastings & Prince Edward	159,088				2			
Kingston, Frontenac & Lennox	180,225		2					
Leeds, Grenville & Lanark	163,143							
Ottawa	779,274		1		6	1		
Renfrew	101,131							
Total- Eastern	**1,577,806**		**4**		**8**	**1**		
Durham	512,271	2	2		3			
Haliburton-Kawartha	168,120		1		2			
Muskoka-Parry Sound	86,218							
Peel	1,008,163	1	1		11	1		1
Peterborough	128,881							
Simcoe	377,405				1			
Toronto - total	2,542,844	1	4		38	10	3	9
North	*627,021*		*3*		*7*	*4*		*8*
South	*688,584*	*1*			*6*	*4*	*2*	
West	*509,302*		*1*		*15*	*1*	*1*	*1*
East	*717,937*				*10*	*1*		
York	724,969		2		8	1		1
Total - Central East	**5,548,871**	**4**	**10**		**63**	**12**	**3**	**11**
Grey Bruce	157,664							1
Elgin-St. Thomas	84,182		1					
Huron	61,097		1		1			2
Chatham-Kent	112,897				1			1
Lambton	131,643							
Middlesex-London	412,976				4			1
Oxford	102,561							
Perth	75,238							1
Windsor-Essex	381,672							
Total - Southwest	**1,519,930**		**2**		**6**			**6**
Brant	126,481							
Haldimand-Norfolk	109,536				2			
Halton	375,705		1		2			
Hamilton	498,553		2		5	2		
Niagara	423,600				5	1		2
Waterloo	446,833					2		1
Wellington-Dufferin-Guelph	241,777		1					
Total - Central West	**2,222,485**		**4**		**14**	**5**		**3**
December 2001	**11,669,344**	**4**	**24**		**98**	**18**	**3**	**21**
*** Total YTD 2001**	**-**	**17**	**445**	**15**	**2,408**	**218**	**21**	**325**
*** Total YTD 2000**	**-**	**33**	**712**	**9**	**2,281**	**266**	**283**	**632**

The Toronto City regions above are now defined as: North - former North York; South - former City of Toronto; West - former Etobicoke and City of York; East - former Scarborough and East York

* Adjusted for deletions and late reports.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