ABSTRACT

In 1994 the City of Toronto Public Health Department conducted a needs assessment in the 235 child care centres (CCCs) in the former Toronto area. The purposes of the study were to construct a profile of Toronto's CCCs, to acquire a better understanding of these centres' operations and administration, and to assess their levels of compliance with current public health standards and regulatory requirements. During the study period, five certified environmental health officers audited the 235 centres and interviewed their supervisors using a standardized questionnaire to record self-reported and observational data. The study identified five priorities for public health intervention: written policy regarding monitoring and management of ill children, handling body substances, environmental sanitization procedures and frequencies, water-play table, and injury prevention. The results clearly call for expanding the conventional inspection focus (i.e., primarily food safety) to include other aspects of disease and injury prevention, and for strengthening the on-the-job training programs for CCC caregivers.

ABRÉGÉ

En 1994, le service de santé publique de la ville de Toronto procédait à l'évaluation des besoins des 235 garderies de l'ancienne région de Toronto. L'étude visait à élaborer un profil des garderies torontoises, pour mieux en comprendre le fonctionnement et l'administration, et à évaluer la mesure dans laquelle elles respectaient les normes et les exigences réglementaires de santé publique en vigueur. Au cours de l'étude, cinq agents diplômés en hygiène du milieu ont mené des vérifications dans les 235 garderies et en ont interrogé les surveillants au moyen d'un questionnaire type que ces derniers ont rempli eux-mêmes en y inscrivant leurs observations. L'étude a cerné cinq priorités d'intervention en santé publique : l'adoption de politiques écrites sur le contrôle et la gestion des enfants malades, les précautions à prendre avec le matériel biologique humain, les mesures d'assainissement du milieu et leur fréquence, l'usage des tables de jeu que l'on remplit d'eau, ainsi que la prévention des blessures. Les résultats obtenus montrent clairement qu'il faut élargir la portée conventionnelle des inspections (surtout axées sur la salubrité des aliments) pour inclure d'autres aspects de la prévention des maladies et des blessures et pour renforcer les programmes de formation en milieu de travail à l'intention des intervenants des services de garde.

Needs Assessment of Child Care Centres in the Former City of Toronto

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Whether due to economic necessity or cultural shifts, a growing number of mothers with young children have been joining the labour force in the past two decades. In Canada, 68% of mothers with young children were employed in 1991, up sharply from 52% in 1981.¹ The number of licensed child care spaces in Canada has also increased from 17,000 in 1971 to 321,000 in 1990.² As more families need to seek non-parental child care services, the demand for licensed child care spaces in Canada is likely to continue to rise.

Compared to those cared for at home, children attending child care centres (CCCs) experience a higher incidence of infectious diseases, in particular respiratory and gastrointestinal infections.^{3,4} Young children's poor personal hygiene and immature immunity to diseases, as well as their close proximity to other children of the same age group, are thought to be the contributing factors.^{3,4} Other public health issues such as safety, allergy awareness, nutrition, and prevention of long-term diseases also affect the quality of care provided in CCCs.

Child care centres in Ontario are licensed under the provincial *Day Nurseries Act (1990)* and *Regulation 262*, which require any premises that provide temporary care to more than five children under ten years of age to be licensed. Routine

inspection of CCCs for control of communicable diseases is usually the responsibility of municipal public health units/departments, and the conventional focus of the inspection is on food safety, due to the health units' responsibility to enforce the *Food Premises Regulation*. In 1992 the Canadian Paediatric Society released the resource manual *Well Beings: A Guide to Promote the Physical Health, Safety and Emotional Well-Being of Children in Child Care Centres and Family Day Care Homes*,⁵ and its ten-part strategy for infection control was subsequently recommended by the Ontario Ministry of Health for health units to adopt as minimum standards.

Prompted by the release of *Well Beings*, and the Ministry's recommendation, the former City of Toronto Department of Public Health planned to expand its CCC inspection program to address a wider range of public health issues. A needs assessment of CCCs was undertaken by the Department in 1994 to aid in the design of the revised inspection program. The purposes of the needs assessment were to construct a profile of Toronto's child care centres, to acquire a better understanding of their operations and administration, and to assess how well the *Well Beings*' recommendations and the legislative requirements were being met in the CCCs. This article reports the findings from the needs assessment and identifies priorities in need of public health interventions.

METHOD

The needs assessment was conducted between May and September 1994 and it included all licensed child care centres in the former City of Toronto area. Using a standardized questionnaire, five certified

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environmental health officers (EHOs) audited the CCCs and interviewed the supervisors* or directors during the five-month study period. Training was provided to the EHOs prior to the commencement of the assessment.

The needs assessment questionnaire was developed based on the *Ontario Day Nurseries Act* and *Well Beings*, and it includes both self-reported and observational data. A total of 82 questions are contained in the questionnaire addressing: type of centre, age groups of children, management of ill children, sun safety measures, animal keeping, diaper changing, water-play table, food preparation, toy cleaning, injury prevention and security, and staff training and experience. The questionnaire was reviewed by three CCC supervisors and several infection control experts within the Department for content validity and comprehensiveness.

Due to the length of the questionnaire, each needs assessment was pre-arranged with the centre's supervisor. After a brief introduction about the purpose of the assessment, the EHO started by interviewing the supervisor about the centre's administration and health-related policies, followed by a "walk through" of the centre, usually accompanied by the supervisor. At each operational site specified in the questionnaire (e.g., diaper change table, water-play table, kitchen), the EHO would observe the ongoing practices and ask questions about the operation. Any departure from the legislative requirements or *Well Beings*' recommendations was discussed with the supervisor, and when necessary, subsequent visits were made to follow up on the issues identified.

RESULTS

General profile

All 235 CCCs in the City were assessed between May and September 1994. An average of two hours was needed in each centre for the EHO to complete the questionnaire

and to discuss with supervisors any issues needing attention. In five centres the supervisors were not available and a child care staff member was interviewed instead.

The 235 centres provide a wide variety of programs including "full-day", "half-day", "before/after school", "fewer than five days a week", and "any of the five 2-hour periods within a day". The full-day program is however the most common arrangement (76%). Thirty-two (14%) of the 235 CCCs are operated for profit, and the remaining are run by non-profit organizations. Nine CCCs (4%) provide services to children with special needs, and 19 (8%) centres are parent co-operatives where the parents participate in the daily child care operations.

Of the 10,849 children (including full-time and part-time) attending CCCs in the City, the majority (85%) were pre-schoolers or of school age, and only 15% were infants or toddlers. In fact, 134 (57%) CCCs did not have any infants or toddlers attending their centres during the study period.

A total of 1,666 caregivers were employed in the 235 CCCs in the City during the study period. The turnover rates of caregivers are shown in Table I. In approximately 15% of the 227 centres, more than one third of their current staff had been working in the centres for less than a year.

In terms of caregivers' professional training, Regulation 262 requires that all CCC supervisors must hold a diploma in early childhood education or have equivalent academic qualification, and have a minimum of two years experience in the profession. The Regulation also specifies that at least one caregiver for each age-group of children† shall hold a diploma in early childhood education or have equivalent academic qualification. However, there is no requirement for a minimum level of education or professional training for *all* caregivers.

Under these stipulations, a mean of 14 years of experience, ranging from 2 to 36 (normal distribution), in the child care profession was found among the 230 supervisors/directors interviewed (five centres with missing data). Seventeen centres (7%) in the City were found to have at least one caregiver who did not complete secondary school.

TABLE I
Turnover Rates* of Child Care Centre Caregivers, Former City of Toronto Department of Public Health, 1994

Turnover Rate (%)	Number of CCC (%)
0	95 (42)
1-15	32 (14)
16-33	65 (29)
>33	35 (15)
Total†	227 (100)

* Turnover rate = number of new employees hired within the past 12 months/number of current employees (including full-time and part-time)

† Total is 227 because of 3 new centres and 5 centres with missing data

Policies and operations

Table II summarizes the needs assessment findings pertaining to 13 administrative and operational aspects in CCCs, and outlines the relevant requirements and recommendations from *Regulation 262* and *Well Beings* respectively for comparison.

DISCUSSION

While this was an assessment of CCCs within the former City of Toronto area, the administration and operation of CCCs elsewhere in the province or in the country are probably vulnerable to similar flaws and failures. The responsibility to enforce the *Provincial Food Premises Regulation*, and the lack of health-specific requirements in the *Day Nurseries Act* and *Regulation 262*, have until recently made food safety almost the sole focus of CCC inspection programs in Ontario. The findings of this needs assessment clearly call for an expansion of the inspection focus to include other aspects of disease and injury prevention.

The study identified five administrative and operational priorities for public health intervention:

1) Written policy regarding monitoring and management of illness

Caregivers of CCCs are faced with the issue of managing ill children on a daily basis, and most CCCs (91%) in the City have a written exclusion/re-admittance policy even though this is not required by any legislation. But a high percentage (24%) of them do not record the health reason when a child is too ill to attend or needs to be sent

* Throughout the rest of the text "supervisors" refers to both CCC supervisors and directors

† Age-group classifications according to Regulation 262 Schedule 3: <18 months, 18 to 30 months, >30 months to 5 years, >5 years to under 6 years, 6 to 12 years.

TABLE II
Summary of Child Care Centre Needs Assessment Findings re: Health-related Policies and Operations,
Former City of Toronto Department of Public Health, 1994

	Well Beings Recommendations	Ontario Regulation 262 Requirements	Needs Assessment Findings
Written policies	Each centre should have written policies to address issues such as maintenance of health records, exclusion criteria, and need for parents to have alternative care arrangement when a child is ill	Record symptoms of illness on the child's health records No requirement for policy about exclusion or re-admittance of an ill child Operator shall ensure that the parents will take the child home when he/she appears to be ill	57 (24%) centres did not have a policy to record the health-related reason when a child is too ill to come in or needs to be sent home 20 (9%) centres did not have a written policy to determine under what conditions a child should be excluded (i.e., sent home) or re-admitted 11 (5%) centres did not specifically inform parents (verbally or in writing) of the need for alternative care arrangement in case of exclusion; these supervisors gave reasons such as "they are half-day program", "their children are older", or "most parents have nanny arrangement".
Daily health observation	Daily observation of children upon arrival (formal) and during the day (informal) for signs of illness or changes in behaviour or appearance	Daily observation of children upon arrival	8 (3%) did not have a policy to carry out a formal daily health observation; 6 of them gave specific reasons such as: 3 said they relied on casual observation during the day; 2 said their children are older and therefore will let the staff know if they are ill; 1 supervisor claimed that parents won't bring their children to the centre if they are ill
Child immunization	Immunization records should meet the recommendations by the local Medical Officer of Health and the provincial immunization schedules	Operator shall ensure that children are immunized as recommended by the local Medical Officer of Health, or exempted based upon a parent's or physician's written objection	34 (15%) centres' child immunization rates were below 100% 31 (13%) centres had experienced difficulty in collecting, keeping, or reporting the child immunization information
Managing body substances	Caregivers should follow the recommended routine to clean up any large spills of body substances, and the steps include wearing disposable gloves to handle blood and cleaning and sanitizing the area with bleach solution.	No specific requirement	143 (62%) of the 230* supervisors interviewed were either not aware of the terms "body substance precautions" or "universal precautions", or their understanding of the terms was inaccurate 92 (40%) centres' procedures in handling spill of body substances were inadequate based on criteria outlined in <i>Well Beings</i> 82 (36%) centres had no disposable plastic or latex gloves in their first aid kit 59 (26%) supervisors said their staff were not trained to handle spill of body substances * five centres with missing information
Handwashing	Children and staff should be trained to follow the recommended handwashing routine (as provided in <i>Well Beings</i>), and know when to wash their hands. Each centre should provide adequate equipment such as handwash basins, soap and towels to facilitate handwashing.	No specific requirement	34 (15%) centres' handwashing policy/routine did not meet the <i>Well Beings</i> standards 5 (2%) did not have sufficient number of handbasins; 11 (5%) centres had no hot water at the hand basin 11 (5%) had no soap or towels, or both, at the hand basin
Diaper change	Staff should follow a specific diaper change routine which requires washing the child's hands after each diaper change The diaper change area should be separate and used solely for this purpose	A diaper change table adjacent to a sink for every 10 infants, and for every 15 toddlers	While only 101 CCCs had infants or toddlers attending their centres, a small number of centres with pre-schoolers also needed to provide diaper change service and thus the total number of CCCs with diapered children was 122.

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TABLE II – continued
Summary of Child Care Centre Needs Assessment Findings re: Health-related Policies and Operations,
Former City of Toronto Department of Public Health, 1994

	Well Beings Recommendations	Ontario Regulation 262 Requirements	Needs Assessment Findings
(Diaper change)	<p>Changing the diaper when the child is standing is not recommended</p> <p>The diaper area should be adjacent to a hand basin and properly sanitized after each use</p>		<p>Of these 122 centres: 2 (2%) had no specific diaper change policy or routine for staff to follow</p> <p>10 (8%) had inadequate routines; most were missing the step of washing the child's hands after the change</p> <p>5 (4%) did not have a diaper change area, and children were standing up to have their diaper changed</p> <p>4 (3%) did not have a hand wash basin near-by the diaper change area</p> <p>27 (22%) used a cleaner or sanitizer other than chlorine. Most of these centres used Dettol, Lysol, or a detergent to "sanitize" the diaper change area</p> <p>77 (65%) used disposable diapers, 31 (26%) used both disposable and cloth, and only 10 (9%) used cloth diapers (4 missing data).</p>
Toy cleaning	All "mouthed" toys should be cleaned and sanitized between children, and other toys a minimum of once to twice a week	No specific requirement	78 (33%) centres' toy cleaning practices did not meet the <i>Well Beings</i> standards: frequencies of toy cleaning among these 78 centres ranged from once every two weeks to once a year, and some did not use any sanitizer in their toy cleaning routines
Water-play table	<p>Water should be changed at least daily and be followed by sanitizing of the table (Note: the Department recommends changing water once every half day to minimize chance of different groups of children sharing the same water)</p> <p>Children and staff should wash their hands before playing in the water-play table (Note: the Department requires handwashing both before and after water play even though <i>Well Beings</i> only recommends handwashing before the activity)</p> <p>Adding bleach or vinegar to water table is not recommended</p>	No specific requirement	<p>217 centres (92%) used water-play table at least once a month, and 85 of them used it on a daily basis</p> <p>Of these 217 centres: 19 (9%) did not have any specific policy for the cleaning or sanitizing of water-play table</p> <p>64 (29%) changed water less frequently than once every half day of use</p> <p>49 (23%) did not properly clean or sanitize the table after each use</p> <p>145 (67%) did not wash their children's hands before and after the water play</p> <p>68 (31%) added chemical disinfectant to the water</p>
Food quality	<p>Different staff for cooking and for diaper changing</p> <p>Follow strict temperature and time control to prevent food-borne illness</p>	<p>All food or drink stored, prepared and served so as to retain maximum nutrition value and prevent contamination</p> <p>Containers of parent-supplied food or drinks should be labelled with the child's name</p> <p>Post menus for 2 weeks</p> <p>Post names of children with food allergies and their respective allergies in each cooking and serving area</p>	<p>While almost all CCCs provide snacks to their children, 129 (55%) also prepare meals/lunches on the premises.</p> <p>Of these 129 centres: 3 (2%) were found to have risk of temperature abuse</p> <p>8 (6%) had risk of cross contamination</p> <p>4 (3%) did not post menus for 2 weeks' meals</p> <p>86 centres prepared their own meals on site and had diapered children. 4 (5%) of these 86 centres did not have separate staff for diaper changing and meal preparation.</p> <p>103 (44%) of the 235 centres had never had a food handler training program for their staff.</p>

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TABLE II – continued
Summary of Child Care Centre Needs Assessment Findings re: Health-related Policies and Operations,
Former City of Toronto Department of Public Health, 1994

	Well Beings Recommendations	Ontario Regulation 262 Requirements	Needs Assessment Findings
(Food quality)			5 (2%) centres did not post names of children with food allergy 79 centres allowed parent-supplied foods, and 7 (9%) of them did not have the containers labelled with the child's name
Animal control	Keeping of animals in CCCs is not recommended If animals are kept, children should not handle the pet without adult supervision	Every dog and cat kept in the centre is vaccinated against rabies	100 (43%) of the 235 centres kept pets on their premises, and the types included goldfish, gerbils, mice, turtles, etc. 7 (7%) of these 100 centres were keeping the animals in a manner that would allow direct contact with the animal without supervision (e.g., no lock on cages) 1 centre placed the fish bowl in a position that could allow it to be easily knocked off the table
Pest control	Use better sanitation, housekeeping, and building maintenance to prevent or reduce pest infestation Pesticides should only be used when children are not present in the centre	No specific requirement	55 (24%) of the 235 centres were found to be infested with either cockroaches or mice
Sun safety	Sun safety measures should include: limiting exposure time, providing shade area, using sunblock lotion with SPF of 15 or higher, wearing hats or visors, and providing access to drinks before and after outdoor activities	No specific requirement	Most centres' policies on protecting children from excessive sun exposure were consistent with <i>Well Beings</i> recommendations. Only 5 (2%) of the 235 centres were found to have no shade area in their playgrounds, and 1 centre used sun block with SPF of 8 instead of 15
Injury prevention and security	Prevention strategies include regular safety checks, constant supervision of children, and equipment and furniture safety Conduct regular safety checks using the weekly, monthly, and annual check lists provided in <i>Well Beings</i> Hot water temperature should not exceed 43°C to prevent scalding of hands	Equipment and furnishings maintained in a safe and clean condition and kept in a good state of repair Playground is so designed that the staff can maintain constant supervision of the children	Based on <i>Well Beings</i> safety check lists, 20 items for indoor and outdoor safety were specifically examined during the needs assessment (Table III). 115 (49%) centres' hot water temperature was higher than 43°C 54 (23%) centres had safety problems such as unused electrical plugs not covered, radiators not covered, window opening wider than 10 cm, insufficient cushioning material beneath playground equipment, possible head/body entrapment or slippage hazards 5 (2%) centres' playgrounds were not designed so as to facilitate constant supervision Only 5 (2%) centres regularly used the safety check lists in <i>Well Beings</i> .

home. This again is not legally required, but it is important for early detection of outbreaks and control of disease transmission. A three-year longitudinal study conducted by Bartlett et al. found that continuous surveillance can effectively decrease the risk of diarrheal infections in CCCs.⁶ Daily surveillance can be easily incorporated into the children's daily attendance form using a "D" to denote absence due to diarrheal illnesses, "R" for respiratory illnesses, and "A"

for other health reasons. A number of centres in the City adopted this practice after the needs assessment.

2) Handling body substance

Less than two thirds of CCCs have adequate procedures and equipment to handle spills of body substances. This is alarming, considering the widespread public health concerns with HIV and hepatitis infections. The low percentage (62%) of

supervisors with an accurate understanding of body substance or universal precautions further attests to the need for education and training in this area.

3) Environmental sanitization procedures and frequencies

It is evident from examining the cleaning and sanitizing routines for diaper change areas, toys, and water-play tables, that many centres' current practices were

inadequate. The wide range of sanitizers available in the market can be confusing to some CCC supervisors, and many of them were found to be using a costly but ineffective product for equipment sanitizing. While a number of sanitizers (e.g., quaternary ammonium products) are acceptable for use in CCCs, the Department recommends a chlorine-based sanitizer such as bleach for use at the diaper change area. Chlorine is inexpensive and effective in controlling both bacterial and viral agents. The latter is important for CCCs as viral infections such as rotavirus infection are particularly prevalent among young children attending CCCs.

Although many centres were able to meet *Well Beings'* recommended frequencies for equipment cleaning and sanitizing (i.e., weekly cleaning and sanitizing of toys and daily sanitizing of water tables), some centres found them unattainable. Staff shortage was often the reason cited, and this difficulty is fully acknowledged by the Department. Alternative means such as limiting the number of toys for each day, or integrating certain sanitizing procedures into the daily cleaning routine may help alleviate the workload.

4) Water-play table

In Ontario, "water-play table" is one of the required play activities for toddlers and older children in CCCs, and over 90% of the centres in the City use water-play tables at least on a monthly basis. Environmental surveys have identified both bacterial and viral contaminations in water-play tables, and one study even found up to 8,000 faecal coliform in some play-tables.^{7,8} Steps such as increasing supervision, thoroughly washing children's hands before and after the activity, frequent changing of the water, and when possible providing individual play basins and separate toys for each child, are measures that can help reduce the risk of disease transmission.

5) Injury prevention

Since injury prevention is a very broad subject, 20 specific indoor and outdoor safety checkpoints in *Well Beings* were selected for the needs assessment as a

TABLE III
List of Safety Items Included in the Child Care Centre Needs Assessment,
Former City of Toronto Department of Public Health, 1994

Indoors	Outdoors
<ol style="list-style-type: none"> 1. Electrical cords not within children's reach 2. Cover unused electrical outlets with plastic plug 3. Cleaning agents stored in the original containers and kept out of reach of children 4. Cover all pipes and radiators hotter than 43°C (110°F) to prevent direct contact 5. Light bulbs not within children's reach and protected from easy breakage 6. Window openings restricted to 10 cm (4 in), or have secure screens 7. No known poisonous plants kept in the centre 8. Water for handwashing not hotter than 43°C (110°F) 9. Matches, lighters, medicines, cleaning agents and tools inaccessible to children 10. All toys purchased from known quality manufacturers and containing no lead paint 	<ol style="list-style-type: none"> 1. Staff trained in what to do in an emergency 2. Playground free of litter, sharp objects, stagnant water and poisonous plants 3. Shaded areas available in the playground 4. Playground equipment with more than 30 cm (10 to 12 in) of cushioning material beneath the structure extending 1.8 m (6 ft) beyond the equipment 5. Equipment in good repair (i.e., no cracks or breaks) 6. Fences or barriers prohibit access to hazardous areas and keep animals out 7. Play areas for active play (i.e., bike riding, running games) separate from areas for other activities (i.e., outdoor sandbox) 8. Playground signs prominently posted to warn drivers they are approaching a playground 9. Portable First-Aid Kits available at all times 10. Apparatus free of head entrapment risk

means of maintaining consistency and minimizing differences between the five assessors (Table III). It is very likely that a more extensive safety audit would have identified more potential safety hazards.

Well Beings provides three sample safety checklists for use on a weekly, monthly, and yearly basis. Only five centres at the time of the needs assessment used these safety audit forms regularly. While most centres do have some form of daily informal safety checks (e.g., check for foreign objects in sandbox), CCC supervisors should be encouraged to conduct a systematic safety check on a regular basis.

The overall study findings also indicate the need for improving CCC caregivers' awareness and understanding of infection control and injury prevention. Despite most CCC supervisors having many years of professional experience, the high staff turnover rate and the lack of any legislative requirement for *all* caregivers to possess a minimum level of child care training, suggest that on-the-job training for CCC caregivers should be a priority for both public health workers and the CCC supervisors. Krilov et al. showed that a comprehensive educational and infection control program could effectively reduce the rates of infections among children attending a specialized child care facility.⁹ Equally important is the incorporation of infection control principles and training into the

early childhood education curriculum, and this requires a joint effort from provincial and municipal governments, and the educational institutions.

Although whenever possible, precise assessment criteria were incorporated into the questionnaire to reduce variation between assessors, a certain degree of professional judgement and personal interpretation was inevitable. During the study period, the team of EHOs met with the study organizers regularly to discuss concerns and to clarify the assessment criteria. Another limitation of the study is the lack of observational data regarding actual practices in CCCs (such as how caregivers washed their hands and how they changed the diapers). EHOs were unable to observe these practices in many centres during the short time of the visits. It should therefore be pointed out that many of the study findings refer to the centre's policies or are based on information *reported* by the supervisors as opposed to practices actually observed by the assessors.

CONCLUSION

The role of public health workers in CCCs should go beyond ensuring compliance with legislation. Through routine monitoring, education, and consultation, public health workers can help ensure the quality of care provided to children attending child care centres. By presenting objec-

tive details of administrative and operational problems in CCCs within a large urban area, this needs assessment may assist health professionals in Canada to design and provide a more effective inspection and education program for CCCs.

ACKNOWLEDGEMENTS

This study is a result of the commitment to more effective services by the former City of Toronto Department of Public Health. The authors wish to thank the infection control team members for their dedication to this project, the staff of the Metro Community Services Department and the Ministry of Community and Social Services for their support and assistance, and Dr. Tim Sly of Ryerson Polytechnic University for reviewing the manuscript.

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Received: September 15, 1997

Accepted: February 13, 1998

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tifs. Le travail en partenariat exigera que l'on compose avec les changements en cours et avec les différentes formes d'organisation. Il faut que les chefs de file gardent clairement en vue le système idéal pour pouvoir influencer la réforme dans ce sens. L'objectif final visé doit être celui de préserver et d'améliorer la santé de tous les Canadiens – à savoir de la population

desservie. Ne vous laissez donc pas distraire ni leurrer par les politiques. Avant de permettre aux autres de s'accaparer le contrôle ou d'écarter ce sujet, informez-vous pour pouvoir participer efficacement et proactivement au dialogue. Plus nous comprendrons toutes les possibilités, mieux nous participerons à l'élaboration d'un meilleur système.

L E T T E R S

Malaria vs. AIDS: Time to re-evaluate priorities

While the World Conference on AIDS cites the devastating toll of this disease last year at 2.3 million deaths, another lesser known but deadly threat to public health simultaneously marches across the globe. One of the world's most common and easily preventable diseases kills 2.7 million people a year. One child dies every 30 seconds from this familiar but forgotten malady: malaria.

With global warming, international travel and drug resistance, malaria is returning with a vengeance. During the 1960s, malaria was almost eradicated. Malarial deaths in India dipped to zero. Last year 2.85 million Indians contracted the disease. If this doesn't scare you, consider that imported cases in Canada have gone up 70% over the last three years.

Although the World Health Organization (WHO) is spearheading an assault against malaria, without support from donor countries little progress can be expected. Malaria treatment programs can in fact consume up to 40% of public health expenditures in some very poor countries. But malaria prevention is actually cheap and easy. Insecticide-treated bednets—that according to WHO can reduce child mortality by 15-35%—cost about \$1.00. A year's supply of zinc and vitamin A to boost a child's resistance to malaria costs \$1.10. Education programs, elimination of stagnant water and development of good antimalarial drugs are proven strategies. But funding for antimalarial drug development is currently a paltry \$42.00 per malarial death compared to \$3,274.00 per AIDS death.

While AIDS has certainly become the noxious scourge of the 90s, we cannot afford to forgo the fight against some of our planet's oldest plagues. Canada needs to show leadership in the world health community by join-

ing the WHO in stopping the comeback of this stealthy disease.

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The World AIDS conference in Geneva ended on July 3 with cautious indications of increasingly successful treatment. And yet malaria, a far more deadly disease on the rise, kills about 2.7 million people a year with very little fanfare. The direct cost of malaria to African economies approaches \$3 billion a year and, world-wide, about 500 million people are infected.

The World Health Organization recognizes the danger, but has not yet found a world leader to champion a global campaign against this killer. Perhaps surprisingly, the Canadian government is an excellent candidate to lead the fight. Canada has taken a lead role in international immunization, scored a triumphant success in banning land mines and is actively promoting a world court. Furthermore, there are more cases of malaria in Canada than in the U.S. (1100 vs. 900 cases reported in 1997), despite differences in climate. We have the international credibility and we have a valid reason for a leadership role.

We have also set aside the money. \$90 million more in foreign aid is promised in next year's budget, with health care the No. 1 priority. A \$10 million annual expenditure on malaria will match the commitment made by the UK's Tony Blair at the G8 summit in May.

In the time you have taken to read this letter, about five people have died from malaria. How much longer should we wait to act?

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