

SENATE



SÉNAT

**MATERNAL HEALTH AND EARLY
CHILDHOOD DEVELOPMENT IN CUBA**

**Second Report of the
Subcommittee on Population Health of the
Standing Senate Committee on Social Affairs, Science and Technology**

Chair
The Honourable Wilbert J. Keon

Deputy Chair
The Honourable Lucie Pépin

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ORDER OF REFERENCE

Extract from the *Journals of the Senate* of Tuesday, November 20, 2007:

The Honourable Senator Keon moved, seconded by the Honourable Senator Watt:

That the Standing Senate Committee on Social Affairs, Science and Technology be authorized to examine and report on the impact of the multiple factors and conditions that contribute to the health of Canada's population — known collectively as the social determinants of health — including the effects of these determinants on the disparities and inequities in health outcomes that continue to be experienced by identifiable groups or categories of people within the Canadian population;

That the Committee examine government policies, programs and practices that regulate or influence the impact of the social determinants of health on health outcomes across the different segments of the Canadian population, and that the Committee investigate ways in which governments could better coordinate their activities in order to improve these health outcomes, whether these activities involve the different levels of government or various departments and agencies within a single level of government;

That the Committee be authorized to study international examples of population health initiatives undertaken either by individual countries, or by multilateral international bodies such as (but not limited to) the World Health Organization;

That the papers and evidence received and taken and work accomplished by the Committee on this subject since the beginning of the First Session of the Thirty-Ninth Parliament be referred to the Committee; and

That the Committee submit its final report no later than June 30, 2009, and that the Committee retain all powers necessary to publicize its findings until 180 days after the tabling of the final report.

After debate,

The question being put on the motion, it was adopted.

MEMBERSHIP

The following Senators have participated in the study on the inquiry on the issue of *Maternal Health and Early Childhood Development in Cuba* of the Subcommittee on Population Health:

The Honourable, Wilbert Joseph Keon, Chair of the Committee
The Honourable Lucie Pépin, Deputy Chair of the Committee

The Honourable Senators:

Bert Brown
Catherine S. Callbeck
Ethel M. Cochrane
Joan Cook
Joyce Fairbairn, P.C.

Ex-officio members of the Committee:

The Honourable Senators: Céline Hervieux-Payette, P.C. or (Claudette Tardif) and Marjory LeBreton, P.C. or (Gérald J. Comeau)

Other Senators who have participated from time to time on this study:

The Honourable Senator Jim Munson

EXECUTIVE SUMMARY

MATERNAL HEALTH AND EARLY CHILDHOOD DEVELOPMENT IN CUBA

BACKGROUND

- The Public Health Agency of Canada has identified 12 factors influencing health, called determinants of health. Of these, early childhood development is probably one of the most important. The first years of life are decisive for a child's further development since it is at this early stage that the foundation for future physical, mental and social development is laid. Cuba provides an excellent example of a population-wide program that takes a preventive approach to foster the health, education and development of children from the earliest stages.
- The Subcommittee accepted the invitation of the Cuban Ambassador to Canada, His Excellency Ernesto A. Sentí, to conduct a fact-finding mission on Cuba's early childhood development programs with the view of obtaining information first-hand on their content, structure, cost, *modus operandi*, management and impact.
- The mission took place between January 12 and 19, 2008. Subcommittee members met with representatives of numerous government departments, health and education institutions, research institutes, and international organizations as well as with members of the People's Power National Assembly (the Cuban Parliament).

FINDINGS

A. Polyclinics

- A key player in the country's successful approach to maternal health and early childhood development is what Cubans call "Polyclinics." The role of the polyclinics is far more extensive than that of a health clinic as Canadians would understand that term. These local establishments ensure integration of science, knowledge transfer, parent education and community mobilization, in addition to providing primary health care.
- The polyclinics are multidisciplinary. They focus on prevention, regularly undertake universal screening initiatives and strongly encourage immunization. They also serve as a site for both medical training and education. In addition, polyclinics work closely with

teachers in early child development, preschool and elementary schools. Regular meetings (every six months) are held to discuss the overall mental and physical health of the children in the community. Moreover, they serve as a resource for data collection, scientific research and a conduit for scientific advances (knowledge transfer). For example, staff regularly participate in population-wide prevalence studies designed by scientists working in different ministries.

- The intimate connection between the staff at the polyclinics and the population they serve creates a health system where, at the street level, every aspect of the human condition is addressed – from maternal health care to teaching seniors to act as counsellors for grandchildren.

B. Maternal Health

- Once a Cuban woman becomes pregnant, a number of specialized services are drawn upon, such as medical genetic services, the ‘partogram,’ and maternal homes, as needed.
- Medical genetics has been integrated into all levels of the Cuban health care system and the genetic risk assessment service is available in every polyclinic. All pregnant women and newborns must be evaluated by this service.
- When a pregnant woman is identified as at-risk, a ‘partogram’ (a plan for required care) is developed to facilitate navigation of the system. She is referred to the hospital best suited for her particular risk factor, and from then on a whole team begins working on her care, which continues until birth.
- Pregnant women who are considered to be at-risk for complications due to problems such as hypertension, anaemia, poor nutrition, underweight or overweight may also be referred to a maternal home, where they are either followed as outpatients or admitted to centre depending on the severity of their condition.
- The indicators presented to the Subcommittee by the Cuban Ministry of Public Health showed steadily improvement in child and maternal health from 1970 to 2006.

C. Early Child Development and Education

- Cuba provides three non-compulsory pre-school education programs. The *Círculos infantiles* are child care centres for children between 6 months and 5 years whose mothers are working. The *Educa a Tu Hijo* [Educate Your Child] Program provides non-institutional preschool education for children who do not attend child care centres; it is based on household education (from 0 to 2 years of age) or is delivered through informal groups in parks or other nearby sites for children aged 2 to 4. A preschool preparatory grade for 5 year olds is open to all children whether their mothers work or not.
- The *Círculos infantiles* serve 17% of children, while 12% attend the preschool grade and 71% of children participate in *Educa a Tu Hijo*. Together, these programs reach almost all children under six.
- Children with special educational needs receive individualized attention through the local polyclinic and, with support from the Ministry of Education, are seen by *Educa a Tu Hijo* program specialists. A diagnosis unit for potential developmental disabilities exists in each municipality, with a multidisciplinary team that assesses the child and advises the family.
- International data by the UNESCO in 1998 comparing 11 Latin American countries showed that Cuban third and fourth graders attained the highest level of achievement in mathematics and language skills. An update of that study in 2007 (soon to be published) again ranked Cuban children well ahead of their Latin American counterparts.

COMMITTEE COMMENTARY

- The Subcommittee was struck by the comment of one presenter who said that Cubans “live like the poor but die like the rich.” This is truly the Cuban paradox – a developing country with developed country health indicators. Cuba is world-renowned for its consistently strong indices of good health despite its poor economic status. These achievements are particularly remarkable in light of the stringent trade and service embargoes that apply to Cuba.
- The pragmatism of the Cuban approach to health and education, with its emphasis on making the best use of limited resources to achieve a clearly identified goal, is admirable.

- Particularly noteworthy was the enormous personal commitment, dedication and pride in their work demonstrated by health care providers and educators in Cuba. They project a sense of job satisfaction and of themselves as part of a team contributing to an overall goal.
- The Subcommittee believes that the close relationship between the service provider (teacher/doctor/nurse/etc.), the child and the family enables those providers to understand the child's background and thereby provide the support that is needed.
- Early diagnosis, research, assessment, and ongoing monitoring are key elements of Cuban programs. Early detection of high risk pregnancies, bi-annual medical check-ups, early recognition of childhood developmental problems – all these effective screening procedures enable intervention at an early stage and avoid more costly remedies later in life.
- The Subcommittee concurs with Cuban representatives who maintain that non-institutional education, in which the family and community are fundamental contributors, is a valuable alternative in the education and integrated development of children. We acknowledge the importance of the Cuban programs to increasing the family's competence level and strengthening its participation in the high quality education of the children.
- Cuba places great importance on science as evidenced by their development of comprehensive databases and insistence on systematic program evaluation. Wherever possible, government policy is informed by rigorous scientific data. Moreover, the quality of much of the scientific research done there is world class.
- The Subcommittee stresses, however, that a number of serious challenges remain in Cuba, including food insecurity, severe shortage of housing, lack of freedom of expression, restriction of individual rights, and generalized economic stagnation – challenges which include important determinants of health.
- Nevertheless, Cuba outperforms just about all countries of similar national income on measures of education and health outcomes. It is our view that, as part of a continuum of services supporting maternal and child health, the Cuban model of mixed institutional and family-centred early childhood development programs offers a promising example of flexible, highly effective, and relatively low-cost interventions.

MATERNAL HEALTH AND EARLY CHILDHOOD DEVELOPMENT IN CUBA

The basic foundation of healthy brain development is caregiver-infant interactions. This is what drives the development of the brain. It is as simple as that. (...) If you think this through, you will see that I am telling you that (...) parents [and caregivers] have to be the primary focus of all this health prevention.

[Stuart Shanker, Proceedings (4:44)]⁽¹⁾

INTRODUCTION

The Subcommittee on Population Health of the Senate Standing Committee on Social Affairs, Science and Technology is examining public policies that can improve overall health status and reduce health disparities. During a preliminary set of hearings held in Ottawa between February and June 2007, a number of witnesses told the Subcommittee that, of the 11 or so factors that influence health, early childhood development is probably one of the most important of all health determinants. They explained that the first years of life are decisive for a child's further development since it is at this early stage that the foundation for future physical, mental and social development is laid. Cuba was identified as providing an excellent example of a population-wide program that fosters from the earliest stages the education and development of children. In particular, Stuart Shanker, Distinguished Research Professor of Philosophy and Psychology at York University (Ontario) and President of the Council of Early Child Development, testified that notwithstanding Cuba is a developing country, it has implemented at very low cost a highly effective, publicly-funded, universal, multi-faceted interventional program to support early child development.⁽²⁾

The preventative approach to population health in Cuba has been adopted for pragmatic reasons, as the country could not have attained anywhere near the same results had they chosen to focus on the treatment of mental and physical illness. Forced to choose the most cost-effective approach, they have developed a number of programs to enhance long-term physical and mental health, together with a sophisticated system for early identification and intervention in order to mitigate the consequences of biological and/or social problems.

In Cuba, the healthy development of all children claims such high priority that actions are taken from the moment of conception through to the child's entering primary school. According to Professor Shanker, this *preventative* approach to population health has been adopted for pragmatic reasons: the country could not have attained anything like the same results with a focus on the *treatment* of mental and physical illness. Forced to choose primarily on the basis of cost-effectiveness, they have developed a number of programs to enhance their population's

(1) In this report, the testimony received by witnesses printed in the *Minutes of Proceedings and Evidence of the Senate Subcommittee on Population Health* is referred to only by issue number and page number.

(2) The WHO Commission on Social Determinants of Health has also identified post-revolutionary Cuba as an important example of a population health approach developed and implemented at a relatively low cost. See the following document: Commission on Social Determinants of Health, *Action on the Social Determinants of Health: Learning from Previous Experiences*, Background Paper, World Health Organization, March 2005, http://www.who.int/social_determinants/resources/action_sd.pdf.

long-term physical and mental health, together with a sophisticated system for early identification and intervention in order to mitigate the consequences of biological and/or social problems.

The Subcommittee accepted the invitation of the Cuban Ambassador to Canada, His Excellency Ernesto A. Sentí, to conduct a fact-finding mission of Cuba's early childhood development programs with the view of obtaining information first-hand on their content, structure, cost, *modus operandi*, management and impact. During the mission, which took place between January 12 and 19, 2008, the Subcommittee met with representatives of numerous government departments, health and education institutions, research institutes, and international organizations as well as with members of the People's Power National Assembly (the Cuban Parliament). Appendix A contains the complete list of meetings. This report summarizes the Subcommittee's findings and observations on the Cuban programs.

GEOGRAPHY AND HISTORICAL BACKGROUND

The Republic of Cuba is located on an island in the northern Caribbean at the confluence of the Caribbean Sea, the Gulf of Mexico and the Atlantic Ocean, 150 km south of Key West, Florida. It comprises 14 provinces and one special municipality. Covering a total land area of 110,860 km², Cuba's population was estimated to be 11.4 million people in 2007, an average population density of 102.7 persons per km². The population is of mixed ethnic background, with mestizo and mulatto constituting a majority.⁽³⁾

Cuba remained a Spanish colony from the arrival of Columbus in 1492 until it gained its independence in 1902. For much of the first half of the 20th century, the island fluctuated between democratic elections and military coups, the last of which occurred in 1959 when Fidel Castro led the rebel army that established a socialist republic. In 1962, the United States imposed a trade embargo with Cuba. In response, Castro signed a trade agreement with the Soviet Union.

Since 1990, however, Cuba has faced a profound economic crisis as a result of disruption of trade relations with its former trading partners in Eastern Europe and the withdrawal of subsidies from the former Soviet Union (worth \$4 billion to \$6 billion annually). In 2006, the GDP per capita in Cuba was estimated to be \$4,100 PPP (compared to \$35,700 PPP in Canada).⁽⁴⁾⁽⁵⁾

Canada has long maintained trade relations with Cuba. As early as the 18th century, vessels from the Atlantic provinces of Canada traded codfish and beer for rum and sugar. Today,

(3) Central Intelligence Agency, *The World Factbook*, 2007, <https://www.cia.gov/library/publications/the-world-factbook/>.

(4) *Ibid.*

(5) PPP or "Purchasing Power Parity" is an international price index calculated by comparing the prices of identical goods in various countries. It indicates the rate at which one currency must be converted into another currency to be able to purchase an equivalent basket of goods and services in other countries. Dollars adjusted by the PPP make it possible to compare the prices of identical products in various countries. PPP is not, therefore, simply a monetary conversion but an equivalence which takes into consideration a real value assigned to a basket of goods and services.

Cuba represents Canada's largest export market in the Caribbean and Central America, with over \$1 billion in bilateral trade. In 2006 Canadian exports totalled \$513 million. The Canadian Ambassador to Cuba, Jean-Pierre Juneau, told the Subcommittee that Canada is a leading source of foreign direct investment in Cuba, mainly in nickel mining, oil and gas, and is Cuba's largest source of tourists (more than 600,000 a year). He also explained that Canada's assistance program, which provides over \$10 million annually, aims to help Cubans achieve long-term sustainable development, equity and good governance by exposing them to Canadian values and approaches which will help build democratic institutions and succeed in a globalized world economy.

Fidel Castro led the country from 1959 until July 2006 when, for health reasons, he delegated the responsibility to his brother, First Vice President Raúl Castro. Representatives from the Cuban Parliament explained to the Subcommittee that their system of government differs considerably from that in most other countries. There is only one political party. Their parliament is the key element in the Cuban political system, but this system also encompasses 15 provincial assemblies, 169 municipal assemblies and hundreds of popular councils and constituencies at the local level.⁽⁶⁾

MATERNAL HEALTH AND HEALTHY CHILDHOOD DEVELOPMENT

The unitary structure of the Cuban government, combined with a high degree of decentralization, intersectoral action and community participation, has facilitated the development of national policies and programs for maternal health and early childhood education. Health and education are both considered national priorities; related programs are based on principles of universality, free and equitable access and government control. A key player in their successful approach to maternal health and early childhood development is what Cubans call "Polyclinics", local establishments that ensure integration of science, knowledge transfer, parent education and community mobilization.

A key player in Cuba's successful approach to maternal health and early childhood development is what Cubans call the "Polyclinic", a local establishment that ensures integration, science, knowledge transfer, parent education and community mobilization.

1. Polyclinics

There are 498 polyclinics in Cuba with the primary role of serving as a health clinic in local communities.⁽⁷⁾ They are spread throughout the country and are designed to ensure that the doctors and nurses working there (or as primary care doctors working under its auspices), are familiar with – and responsible for – every individual in the community the polyclinic serves. They provide house calls, home visits, and regular checkups (twice yearly). The role of the polyclinic is far more extensive than that of a health clinic as Canadians would understand that term:

(6) Jorge Lezcano Pérez, *How Does the Cuban Parliament Work?*, People's Power Editions, Havana, 10 July 2004.

(7) In addition to polyclinics, Cuba has 14,078 family doctors' offices. Overall, this provides for one physician per 159 inhabitants and one nurse per 79.5 inhabitants. According to information provided by the Cuban Ministry of Public Health, *Health in Cuba 2007*, Presentation to the Senate Subcommittee on Population Health, 14 January, 2008.

- First, the polyclinic’s staff is multi-disciplinary: in addition to doctors and nursing staff, they might have a psychologist, psychiatrist, sociologist, social worker, dentist, speech and language therapist, physiotherapist, educator, and other specialists.
- Second, the polyclinic focuses on prevention, attempting to identify a problem before it becomes acute; it also regularly undertakes universal screening initiatives and strongly encourages immunization. During the Subcommittee visit, members were told that the polyclinic often learns that a patient has diabetes long before the individual is aware of any symptoms. The polyclinics have extended this approach to early child development in an attempt to identify challenges in infants or toddlers before the most sensitive periods of brain development begin to close and biological problems have their cascading effect on the child’s development subsequently.
- Third, the polyclinic serves as a site for both medical training and education. Students in medicine and nursing receive a great part of their training in polyclinics, often the one to which they will become professionally attached after graduation.
- Fourth, the staff at the polyclinic works closely with teachers in early child development, preschool and elementary schools. Regular meetings (every six months) are held to discuss the overall mental and physical health of the children in the community. These meetings are meant to serve a bi-directional purpose, in which preschool and educational staff receive ongoing training (in, for example, developmental paediatrics, developmental psychology, nutrition, hygiene, sex education, etc.), while the staff at the polyclinic learns first-hand from the teachers about the children in the community, and benefits from the educational staff’s practical wisdom. The moment a problem is spotted in a child, s/he is referred to the multidisciplinary team at the polyclinic.
- Fifth, the polyclinic serves as a resource for data collection, scientific research and a conduit for scientific advances (knowledge transfer). For example, the staff participates in population-wide prevalence studies designed by scientists working in the different ministries. Given their close relationship with the members of their community, and the close feelings of trust that this engenders, there are remarkably robust compliance rates in these studies in Cuba. Moreover, scientists are frequently appointed to polyclinics where they undertake academic research and facilitate the transfer of knowledge with community workers.

2. Maternal and Child Health

Cuba’s focus on maternal and child health has its roots deep in the culture and values of its society. Cuba’s Maternal and Child Health Program also rests on strong participation by families and their communities and involves in its very first steps a well developed and integrated primary health care sector, which includes both the offices of local family doctors and community polyclinics. A large part of this program’s success is due to the personal knowledge and close relationships that medical

The intimate connection between the neighbourhood doctor and families creates a health system where, at the street level, every aspect of the human condition is addressed – from maternal health care to teaching seniors to act as counsellors for grandchildren.

personnel develop with the population for which they are responsible; these support a significant degree of health promotion and preventive medicine, in addition to the provision of primary health care services. The intimate connection between a neighbourhood doctor and families creates a health system where, at the street level, every aspect of the human condition is addressed – from maternal health care to teaching seniors to act as counsellors for grandchildren. The system involves everyone in the neighbourhood, creating optimal conditions for health in what is, by Canadian standards, a society economically very poor. All Cubans are ‘strongly encouraged’ to avail themselves of their two regular medical checkups per year, one conducted in the doctor’s office and the other during a house call. Roger Downer, President, University of Limerick (Ireland), who accompanied the Subcommittee as an observer, recounted an anecdote about an American journalist living in Havana. One evening she answered the door to her apartment and was confronted by a nurse from her local family doctor’s office who said: “You caused me to have to climb up three flights of stairs and come get you because you did not come to the clinic for your regular PAP smear; please come with me now.”⁽⁸⁾

The Subcommittee was told that the Cuban Ministry of Public Health’s Maternal and Child Health Program has as goals to: improve the quality of reproductive health; reduce illnesses associated with pregnancy and low birth weights; decrease the frequency of perinatal complications, severe respiratory infections and accidents; promote breastfeeding; and facilitate early diagnosis of cervical cancer. As part of the Program, pregnant women have a minimum of 12 medical visits over the course of a pregnancy, with ultrasound diagnosis, measurement of Alpha-Feto Protein, frequent monitoring of haemoglobin and urine, serology and HIV, cytogenetic studies of elderly primigravida, hypothyroidism research on phenylketonuria in newborns and puericulture.⁽⁹⁾ Many Cuban representatives who met with the Subcommittee expressed the view that a robust primary care network is essential to maintaining a degree of regular maternal monitoring that begins even before pregnancy.

But even with the strong primary care presence that is delivering the program, gaps in care remain. An overhaul of treatment protocols and best practice guidelines for specialists at the primary and secondary care levels was initiated in November 2005 to reduce or eliminate those gaps. The overhaul prompted tighter organization of services, more individualized, patient-centered focus on high-risk mothers-to-be, and the introduction of improved technology. The starting point for reform was to determine how to care better for high-risk women before they became pregnant, in order to achieve better control of

Well before pregnancy, the primary care staff carry out a classification of the female population according to potential risk factors that could complicate a pregnancy, such as diabetes or high blood pressure. They work with women who are identified as having one or more risk factors and who wish to become pregnant in order to mitigate those risk factors and improve her biological parameters, before planning the conception when her physical condition is optimal.

conditions, such as hypertension, that can present risks during pregnancy. When a woman with risk factors becomes pregnant, ways are sought to maximize her individualized care. This

(8) Roger Downer, “Should Irish Healthcare Take Cuban Lessons?” *The Irish Times*, Tuesday, February 13, 2007.

(9) Cuban Ministry of Public Health, *Health in Cuba 2007*, Presentation to the Senate Subcommittee on Population Health, 14 January, 2008.

involves close monitoring through the system, from family physician to polyclinic to hospital, through a team of physicians with responsibility for her care from the beginning.

One of the Subcommittee's visits was to the "5 de Septiembre" polyclinic in the Santa Fé district of Havana. This clinic is responsible for an 8.2 km² region of the city with a population of approximately 25,000 that proudly registered infant and maternal mortality rates of zero in 2007. The Director explained how, through their primary care services, they take a preventive approach to maternal and child health. Well before pregnancy, they carry out a classification of the female population according to potential risk factors that could complicate a pregnancy, such as diabetes or high blood pressure. The primary care staff identify and work with women who wish to become pregnant and who have one or more risk factors in order to mitigate those risk factors and improve her biological parameters, planning the conception to occur when her physical condition is optimal.

Once a Cuban woman becomes pregnant, a number of specialized services are drawn upon, such as medical genetic services, the 'partogram,' and maternal homes. These are addressed individually below.

2.1 Medical Genetic Services

The Subcommittee heard that one of the most important recent medical developments in Cuba has been its advances in medical genetics, especially at the community level. About 1.3 out of its infant mortality rate of 5.3 per 1,000 live births is estimated to be due to congenital defects, which Cuba hopes to reduce even further through this medical genetics program.

Medical genetics has been integrated into all levels of the Cuban health care system and the genetic risk assessment service is available in every polyclinic. As a matter of fact, all pregnant women and newborns must be evaluated by this service. In 2006, 97% of all newborns in the country were screened. These genetic services are supported by 169 Municipal Centers of Medical Genetics, 14 Provincial Centres of Medical Genetics, and the National Centre of Medical Genetics, all of which are staffed by geneticists, genetic counsellors, nurses and technicians (the total accounts for about 1 genetic counsellor for 17,536 inhabitants).⁽¹⁰⁾ Together, these professionals and technicians implement the National Program for Diagnosis, Management and Prevention of Genetic Diseases and Congenital Defects, which delivers the following community-level services:

(10) Centro Nacional de Genética Médica de Cuba, *Medical Genetic Services in The National Health System in Cuba*, Presentation made to the Senate Subcommittee on Population Health, 16 January 2007.

FIGURE 1 – Medical Genetic Services

| STAGE | SERVICES |
|--|---|
| <i>Premarital, preconceptional, prenatal and postnatal</i> | <ul style="list-style-type: none">• Genetic counselling service |
| <i>Prenatal care</i> | <ul style="list-style-type: none">• Haemoglobin electrophoresis to detect increased risk for sickle cell anemia• Alpha fetoprotein in maternal serum• Genetic ultrasounds at the first and second trimester of pregnancy• Prenatal cytogenetic diagnosis for high risk pregnancies |
| <i>Neonatal care</i> | <ul style="list-style-type: none">• Neonatal screening for five diseases: Phenylketonuria, Galactosemia, Biotinidase Deficiency, Congenital Adrenal Hyperplasia, and Congenital Hypothyroidism. |

Currently, education in medical genetics for health workers and the broader population is a priority, coupled with the following research priorities of the Cuban National Centre of Medical Genetics:

- Genetic Epidemiology: prevalence of genetic and complex diseases in the Cuban population.
- Mapping new mutations in known genes or new unknown genes associated with genetic and complex disorders in Cuban families.
- Evaluation of the impact of genetic counselling services as well as the knowledge and attitudes toward genetic services among the Cuban population.
- Transgenic models to study protein functions and immunological mechanisms for genetic susceptibility to infectious diseases.
- Genetic susceptibility to common disorders: Alzheimer's disease, asthma, diabetes, hypertension, depression, bipolar disorder, familial cancer, coronary disease, schizophrenia, Parkinson's disease and others.
- Causes of major disabilities in the Cuban population.
- Aging.

Cuba is compiling a number of national registries to facilitate this ongoing research. It maintains a register of birth defects (with 97% coverage), a register of people with disabilities (366,000 individuals), a twin register (with 55,000 twin pairs), and a familial register for common disorders (composed of 34,128 families). The Centre for Medical Genetics emphasized to the Subcommittee that legal instruments have been developed to: protect the privacy and confidentiality of individual genetic data; regulate the creation of DNA banks; regulate the transfer of DNA to other countries for diagnosis and research; and, guarantee that ethical standards are followed in genetic diagnosis and research.

2.2 Partogram

The “partogram” or “delivery-gram” is an innovation incorporated into Cuba’s health care system to facilitate navigation of the system; it provides an outline of the critical route for every pregnant woman at-risk. When a patient is first identified as at-risk by her primary care doctor and her polyclinic’s obstetrician-gynaecologist, she is referred to the hospital best suited for her particular risk factor, and from then on a whole team begins working on her care. As a result, each month in a given geographic area, the hospital and surrounding primary care providers meet to discuss patients nearing their due dates, to review whether the actions foreseen were appropriate for the level and nature of each individual case.⁽¹¹⁾

2.3 Maternal Home

Another measure designed to support at-risk mothers is the ‘Maternal Home’. Maternal homes are centres for pregnant women who are considered to be at-risk for complications due to problems such as hypertension, anaemia, poor nutrition, underweight or overweight. Women referred to a maternal home by the family doctor or polyclinic are either followed as outpatients or admitted to a centre depending on the severity of their condition. The Maternal Home ensures that the expectant mother has the proper medical attention, necessary rest and adequate nutrition in a location relatively close to her home where family members can visit easily. There are currently 289 Maternal Homes in Cuba, located in every municipality across the country.

During its fact-finding mission, the Subcommittee visited the *Leonar Perez Cabrera* Maternal Home situated in Old Havana. Described as a typical centre, it is staffed by 20 nurses and 5 doctors: 2 general comprehensive doctors, 2 obstetric/gynaecological specialists, and 1 doctor with a specialization in nutrition. It has on-site dentistry, ultrasound and laboratory services, with 50 beds for in-patients. Poor nutrition was identified as the leading problem. For her part, the Director of the “*5 de Septiembre*” polyclinic suggested that their success in reducing the rates of low birthweight babies was thanks to the local Maternal Home.

2.4 Child and Maternal Health Outcomes

The many efforts under the Maternal and Child Health Program seem to be bearing fruit. The indicators below, presented to the Subcommittee by the Cuban Ministry of Public Health, show steadily improvement in child and maternal health.

(11) Gail Reed, “The Story Behind Cuba’s Decline in Infant Mortality,” *MEDICC Review*, 21 January 2007, http://www.medicc.org/publications/cuba_health_reports/008.php.

FIGURE 2 – Maternal and Child Health Program Indicators, 1970-2006

| | 1970 | 1980 | 1990 | 1995 | 2000 | 2002 | 2003 | 2004 | 2006 |
|--|------|------|------|------|------|------|------|------|------|
| Infant Mortality (per 1000 live births) | 38.7 | 19.6 | 10.7 | 9.4 | 7.2 | 6.5 | 6.3 | 5.8 | 5.3 |
| Under-5 Mortality (per 1000) | 43.7 | 24.2 | 13.2 | 12.5 | 9.1 | 8.1 | 8.0 | 7.7 | 7.1 |
| Low birthweight (%) | 10.3 | 9.7 | 7.6 | 7.9 | 6.1 | 5.9 | 5.5 | 5.5 | 5.4 |
| Maternal mortality (per 10,000 live births) | -- | -- | -- | 4.8 | 4.0 | 4.1 | 4.0 | 3.9 | 4.9 |

Source: Cuban Ministry of Public Health, *Health in Cuba 2007*, Presentation to the Senate Subcommittee on Population Health, 14 January, 2008.

Recent data indicate that Cuba’s infant mortality rate has remained steady at 5.3 per 1,000 live births in 2007, equaling its score from 2006, the lowest ever.⁽¹²⁾ This rate is second only to Canada in all of the Americas.⁽¹³⁾

3. Early Child Development and Education

A component of Cuba’s commitment to basic education involves comprehensive early childhood education the objective of which is “to achieve the greatest development for a child”. Representatives from the Ministry of Education told the Subcommittee that non-compulsory preschool education is directed to children aged 6 months to 5 years and is delivered in three ways:

Part of Cuba’s commitment to basic education involves comprehensive early childhood education whose objective is “to achieve the greatest development for a child”.

- Child care centres known as *Círculos infantiles* for children between 6 months and 5 years whose mothers are working. Some child care centres also offer preschool education.
- The *Educa a Tu Hijo* [Educate Your Child] Program provides non-institutional preschool education for children who do not attend child care centres. Non-institutional preschool is based on household education (from 0 to 2 years of age) and is delivered through informal groups in parks or other nearby sites for children aged 2 to 4.
- A preschool preparatory grade for 5 year olds is open to all children whether their mothers work or not.

(12) “Cuba Child Death Lowest in LatAm,” Prensa Latina, 4 January 2008, http://news.caribseek.com/Cuba/Prensa_Latina/printer_60500.shtml

(13) Orfilio Pelaez, “Cuba detient le taux le plus bas de mortalité infantile en Amérique latine », *Granma International*, 3 January, 2007, <http://www.granma.cu/frances/2007/enero07/mier3/mortali.html>.

The *Círculos infantiles* serve 17% of children, while 12% attend the preschool grade and 71% of children participate in *Educa a Tu Hijo*. Together, these programs reach almost all children under six.⁽¹⁴⁾ Primary school education, which begins at age 6, is compulsory for children up to age 14.⁽¹⁵⁾

FIGURE 3 – Cuban Enrolment Ratio by Age Group, 2003-2004

| | Age 0-2 | Age 3 | Age 4 | Age 5 | Age 6 |
|------------------------------------|---------|-------|-------|-------|-------|
| Preschool enrolment | 11.0% | 99.1% | 99.7% | 100% | 0% |
| Primary education enrolment | | | | 1.0% | 99.2% |

Source: UNESCO, *Cuba: Early Childhood Care and Education (ECCE) Programmes*, Country Profile prepared for the Education for All 2007 Global Monitoring Report, 2006.

3.1 *Círculos Infantiles*

First established in 1961, there are now over 1,100 free, all-day, centre-based child care programs in Cuba,⁽¹⁶⁾ that provide care for about 110,000 children.⁽¹⁷⁾ All centres follow guidelines established by the Cuban government. They are organized by age in groups of up to 30 children, except at the preschool grade, in which up to 20 children may be enrolled. The centres are open from 6 a.m. to 7 p.m. with a staggered timetable for teachers and other workers. The children generally arrive at 8 a.m. and stay as late as 7 p.m., depending on their parents' working hours.

The Subcommittee visited the *círculo infantil Rayitos de sol* in the village of Jaruco, situated in a rural area outside of Havana. For the 110 children enrolled, there are 33 staff, including 15 teachers (made up of both educators and educational assistants), a full time nurse, and a doctor on-site 3 days per week. Subcommittee members observed younger children (2-3 years) practising exercises to improve their motor skills and cognitive development and older children (3-4 years) at a variety of activities that simulated daily life: in the kitchen, at school, talking on the phone and driving a bus! The centre also has a garden on-site that produces food for the centre, which the children help tend.

The preschool education program for children aged 0-6 is intended to optimize each child's integrated development so that s/he is best prepared for school. Its contents include: socio-moral development, motor development, world knowledge, mother tongue, artistic expression, music and corporal expression, and play. The educational process is organized

⁽¹⁴⁾ UNESCO, *Cuba: Early Childhood Care and Education (ECCE) Programmes*, Country Profile prepared for the Education for All 2007 Global Monitoring Report, 2006.

⁽¹⁵⁾ *Ibid.*

⁽¹⁶⁾ Graciella Cruz-Taura, "Rehabilitating Education in Cuba: Assessment of Conditions and Policy Recommendations," Institute for Cuban and Cuban-American Studies, University of Miami, 2003, p. 72, http://ctp.iccas.miami.edu/Research_Studies/GCruzTaura.pdf.

⁽¹⁷⁾ Cuban Ministry of Education, Presentation to the Senate Subcommittee on Population Health, 15 January 2008. <http://www.one.cu/aec2006/anuariopdf2006/capitulo16/XVI.2.pdf>

into four types of activities: programmed activities, independent activities, complementary activities and processes (such as meals, sleep, hygiene and bathing).

There are three types of child care centres: standard day programs that run five days a week for children with working parents; centres for children with disabilities that cater to children with special needs; and children with social problems who may stay at a boarding school.

In 2001, approximately 70% of the 880,000 preschool-aged children in Cuba whose mothers were not working did not attend any *círculos infantiles*.⁽¹⁸⁾ However, as more parents joined the workforce through the late 1990s, a shortage of spaces developed; no new centres were being constructed due to a scarcity of building materials. In order to address this problem, a national maternity leave policy was introduced in 1992 that provides paid maternity leave 3 months prior to and 3 months after the birth of a child. An additional 6 months of unpaid leave may be taken; mothers are guaranteed the right to return to their jobs. Working mothers have the option of sending their children to free day care from the age of 6 months.⁽¹⁹⁾

3.2 *Educa a Tu Hijo*

In 1992, following ten years of research, testing and development, and with support from UNICEF, Cuba started a national program of community-based services for young children and their families called *Educa a Tu Hijo* [Educate Your Child]. It was designed as a non-institutional alternative for children who do not attend a child care centre, intended to coach and empower families to stimulate their child's integrated development, based on their own experience, interests and needs. As part of the program:

The Cubans have learned that simply teaching the proper activities to caregivers and having those activities be repeated is not sufficient. The family has to acquire an understanding of child development in which they have a primary responsibility for their child's development not only through stimulating activities, but also direct participation, affection and the classic conditions of security and others which are determinants of physical and mental health.

- Future mothers and fathers receive information and counselling about healthy pregnancies and early child development during health visits to doctors and nurses.
- Families with children under two years of age receive individual home visits once or twice a week and are guided through games, conversations and other activities to enhance their babies' development.
- Children between the age of two and four and their families go on weekly or semi-weekly group outings to parks, cultural facilities and sports centres with counsellors trained in child development and family participation.

⁽¹⁸⁾ Susan A. Miller, "Early Childhood Education in Cuba," *Childhood Education*, 15 September 2002.

⁽¹⁹⁾ *Ibid.*

- The program also provides educational coverage for approximately 7,000 five and six year-old children from mountainous, rural and remote areas where there are no *círculos infantiles* and primary schools are too far away. The program arranges for the children to travel to primary schools with their families for classes and family discussions once or twice a week.

Families receive guidance from counsellors selected by the agencies and organizations participating in the program and include members of the families themselves. The counsellors, in turn, are trained by supervisors known as promoters. In June 2005, the program had approximately 116,000 counsellors and 53,000 promoters,⁽²⁰⁾ reaching over 600,000 children between 0-6 years of age and their families.⁽²¹⁾ In the village of Jaruco, for example, there are 158 promoters and 123 counsellors for 1,332 children. All the promoters or counsellors are either volunteers or help out with the program as part of their regular employment.

Even in Cuba, where numerous social, political and structural factors facilitate cross-sectoral collaboration, Ministry of Education representatives acknowledged that achieving this degree of intersectoral collaboration has taken some time to achieve.

The program offers a series of activities that guide families on stimulation of the social-affective, cognitive, and motor development of the child, as well as health care and nutrition. As one Subcommittee member noted during the fact-finding mission, it could easily be called, “Educate the Parent” since the role of the caregiver in learning how to best stimulate the child’s comprehensive development is central. But the Cubans have learned that simply teaching the proper activities to caregivers and having those activities repeated is not sufficient. The family is expected to acquire an understanding of child development in which its members have primary responsibility for their child’s development not only through stimulating activities, but also through direct participation, affection, and the classic conditions of security and others which are major determinants of physical and mental health. Ultimately, it is the creation of families that promotes healthy development.

The *Educa a Tu Hijo* Program recruits both parents and grandparents as agents of diagnosis and intervention. In one of the polyclinics visited by the Subcommittee, we came across a classroom filled with grandparents aged between 65 and 85. We learned that they were studying for their BA in psychology and were being taught by a psychology professor from the University of Havana. Such a program, we were told, has a threefold benefit: first, it provides stimulation for the brain in an aging population; second, it promotes the nation’s ongoing efforts to raise the education levels of the population; and third, it equips grandparents with developmental tools to be used with their grandchildren and transmitted to their working parents.

Officials from the Ministry of Education emphasized to the Subcommittee that the program’s community character and intersectoral approach are key aspects of its success. In

⁽²⁰⁾ UNESCO, *Cuba: Early Childhood Care and Education (ECCE) Programmes*, Country Profile prepared for the Education for All 2007 Global Monitoring Report, 2006.

⁽²¹⁾ Anso Thom, “Child Development a Priority in Cuba,” *Health-e News Service*, 13 December 2000, http://health-e.org.za/news/easy_print.php?uid=20001209.

Cuba, key partner organizations are the government ministries of Public Health, Culture, and Sports, the Federation of Cuban Women, the National Association of Small Farmers, student organizations, trade unions, Committees for the Defence of the Revolution (neighbourhood associations) and the media. At the local level, these groups cooperate to identify potential counsellors and promoters, provide locations for activities and in-kind material donations, participate in program promotion and encourage family participation in it. Even in Cuba, where many social, political and structural factors facilitate cross-sectoral collaboration, Ministry of Education representatives acknowledged that achieving this degree of intersectoral collaboration has taken some time to achieve.

Outreach and training are necessarily at the heart of the program. To facilitate both, the Cuban Ministry of Education has developed a variety of program materials to involve partners from across sectors, as well as pedagogical guides for caregivers on how to carry out activities that will strengthen child development.

3.3 Teaching Staff

The Cubans have adopted a number of practices all designed to enhance the teacher's capacity to know and nurture a child. For example, building on great success with cohort-teaching in the early years, they are now experimenting with cohort-teaching in high school, although at this level much more is involved than a simple administrative change.

At the primary level, there is a national curriculum; all Cuban children of the same grade complete the same readings and activities on the same day. Each child's progress in each subject area is evaluated quarterly and again at the end of the semester when both children and the teachers are evaluated through state-set final exams.⁽²²⁾ The teacher's salary is based on student promotion rates,⁽²³⁾ and his/her performance assessment rests on a strong system of teacher supervision and evaluation; principals evaluate every teacher annually. Teachers whose performance is poor can be assigned to work with other teachers, sent for professional development or, eventually, fired.⁽²⁴⁾ The principal is also evaluated annually, both by a committee of curriculum specialists and by his or her direct supervisor.

Child care and primary school teachers all receive the same level of education at the university level and earn the same pay. Teachers are licensed for either preschool (aged birth to 5) or primary (ages 6 to 12). The training process takes five years, the last of which is devoted to the conduct of practical research and supervised teaching in an educational setting. UNESCO reports that of the 27,239 Cuban teachers in 2003-2004, 100% were female.⁽²⁵⁾ The Subcommittee was not able to determine teachers' salary levels. Miller

(22) Gwendolyn Coe and Judith Lynne McConnell, "The Children of Cuba," *Beyond the Journal*, National Association for the Education of Young Children, September 2004, <http://www.journal.naeyc.org/btj/200409/coe.asp>.

(23) Christopher Worthman and Lourdes Kaplan, "Literacy Education and Dialogical Exchange: Impressions of Cuban Education in One Classroom," *The Reading Teacher*, Vol. 54, No. 7, April 2001.

(24) Barbara C. Hunt, "A Look at Cuban Schools: What is Cuba Doing Right?" *Phi Delta Capan*, Vol. 85, No. 3, November 2003.

(25) UNESCO, "Cuba: Early Childhood Care and Education (ECCE) Programmes," Country Profile prepared for the Education for All 2007 Global Monitoring Report, 2006.

suggests that their pay was approximately \$18/month in 2001, while Coe and McConnell have it at \$10-\$14/month, compared to \$20/month for university professors and \$40/month for police officers.⁽²⁶⁾ Hunt suggests the average salary for a teacher in Cuba is on a par with that of doctors.⁽²⁷⁾

3.4 Children with Disabilities

Between 2001 and 2003, Cuban researchers made home visits to each of the 366,864 people with disabilities in the country in the course of a national psycho-social study of people with physical disabilities, and a related psycho-pedagogic, sociological and clinical-genetic study of people with intellectual disabilities. The results gave a much better understanding of the kinds of services needed across the island, as well as what preventive interventions could be made to reduce the incidence of disability: the investment in community medical genetics described above is one of those interventions.

During its visit to *La Castellana* Medical Psycho-Pedagogic Centre for people with intellectual disabilities, the Subcommittee was told that the national study identified approximately 15,000 children with such severe mobility restrictions that they rarely left their beds. Having an attentive parent was shown to be so important to the well-being of the disabled child that a program was implemented to provide paid leave to their mothers. In other cases, a teacher is sent to their homes.

Children with special educational needs receive individualized attention through the local polyclinic and, with support from the Ministry of Education, are seen by *Educa a Tu Hijo* program specialists. A diagnosis unit for potential developmental disabilities exists in each municipality, with a multidisciplinary team that assesses the child and advises the family. Cuba has opened two schools that specialize in autism, one of which was visited by one member of the Subcommittee. They are 100% publicly funded, serve children aged 2 to 18, and provide autism therapy on a one-to-one basis. Its Director explained that the school serves as a therapy centre, provides support to families and is also an important scientific resource with scientists who conduct research on which types of therapy work best for different categories of autistic children.

3.5 Arts in Early Education

The arts and literature have also been a focus of Cuba's government since 1959. Art schools have been established within cultural centres; school-aged children are required to attend classes in music, dance, drama, and art instruction a minimum of six hours per week after the regular school day,⁽²⁸⁾ with the goal of instilling in them their society's moral, social, and political values. For two days per week kindergarten children who normally go home for lunch join those who stay for arts activities. From 2:30 to 4:30 pm, children are involved in activities such as music, rhythms, papier-mâché, and painting.

⁽²⁶⁾ Susan A. Miller, "Early Childhood Education in Cuba," *Childhood Education*, 15 September 2002.

⁽²⁷⁾ Barbara C. Hunt, "A Look at Cuban Schools: What is Cuba Doing Right?," *Phi Delta Kappan*, Vol. 85, No. 3, November 2003, p. 246.

⁽²⁸⁾ Coe and McConnell, *op. cit.*

3.6 Sports, Education and Health

Especially clear is how sports have been integrated into Cuban education and health policies and programs. That this orientation comes from the highest level was made clear by members of the Parliament's Health and Sports Commission at the Subcommittee's very first meeting. The Ministry of Education maintained that Cubans' high level of participation in sports takes root in school sports, which culminate each year in municipal, provincial and national 'School Games' that feature competitions in about 20 different sports. The most outstanding athletes from these games are often recruited to the Cuban national sports teams.

At *La Castellana* Medical Psycho-Pedagogic Centre, the Subcommittee had the pleasure of meeting medal-winning athletes from international competitions around the world, including the Special Olympics in China.

MONITORING AND EVALUATION

The Cuban government has made monitoring, evaluation and research key components of its health and education policies. It has created databases including various indicators covering the whole population and is following these to assess the impact of its policies. These databases contain broad health status indicators, including data on disabilities. Representatives from the World Health Organization confirmed to the Subcommittee that the data are reliable and of high quality.

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The preschool education system is of particular interest because it has been monitored, evaluated and adapted subsequently in response to those evaluations. The preschool education evaluation system includes:

- Systematic evaluation by teachers in child care centres and by counsellors in the non-institutional program.
- A round of assessments every two months based on developmental achievements and the objectives established for each year of life or cycle.
- Final evaluation or developmental assessment conducted at the end of each school level.
- A schedule of diagnostic tasks is given to all children ending the preschool stage the results of which are used to prepare individual profiles for each child and for the group, in order to custom-design the early part of first grade.

- Monitoring every five years of the results of the Educate Your Child Program.
- International comparisons highlight the success of Cuba's educational efforts:
- A comparative study of third and fourth grade students in 11 Latin American countries by UNESCO in 1998 showed that Cuban third and fourth graders attained the highest level of achievement in mathematics and language skills.⁽²⁹⁾ During the Subcommittee's meeting with UNESCO in Havana, the organization revealed that an update of that study in 2007 (soon to be published) again ranked Cuban children well ahead of their Latin American counterparts.
- UNESCO's *Education For All Global Monitoring Report 2007* classified Cuba as among the 47 countries in the world it considers to have achieved its six Education For All goals, which include, for example, universal primary education, adult literacy, gender parity, and quality of education.⁽³⁰⁾
- *Educa a Tu Hijo* has been copied, adapted and applied in a number of countries, including Brazil, Mexico, Venezuela, Colombia, Guatemala and Ecuador.

INTERNATIONAL ASSISTANCE

The Subcommittee had the opportunity to visit the *Tarará* Pediatric Hospital. Located some twenty kilometres east of downtown Havana, since 1990 this hospital has been providing medical assistance to young victims of the nuclear accident at Chernobyl in a playful, relaxing environment that encourages their rehabilitation. In addition to Spanish lessons and salsa dancing, the Chernobyl Children Program at *Tarará* provides instruction in both Russian and Ukrainian languages so that there is no (or little) interruption in the children's studies. The Subcommittee felt that, seeing first hand the terrible consequences of this disaster more than 20 years later, served as a wake-up call about the tremendous long term implications of a nuclear accident.

The Subcommittee also learned that in addition to providing medical assistance in situations of natural disasters in other countries, as a gesture of solidarity, Cuba supports the education and training of foreign doctors and nurses; training in medicine and nursing is provided either in Cuba or under the direct tutorship of Cuban professors located in other countries. Over the last two years, more than 13,000 students from 17 countries have been enrolled in the Community Medicine Program in Cuba, while another 28,000 from East

(29) UNESCO, 1998, Laboratorio latinoamericano de evaluación de la calidad de la educación, Primer estudio internacional comparativo sobre lenguaje, matemáticas, y factores asociados en tercero y cuarto grado (Santiago de Chile: UNESCO) as cited in Graciella Cruz-Taura, "Rehabilitating Education in Cuba: Assessment of Conditions and Policy Recommendations," Institute for Cuban and Cuban-American Studies, University of Miami, 2003, http://ctp.iccas.miami.edu/Research_Studies/GCruzTaura.pdf.

(30) UNESCO, *Strong Foundations: Education For All Global Monitoring Report 2007*, Paris, 2006, <http://unesdoc.unesco.org/images/0014/001477/147794E.pdf>.

Timor, Guinea Bissau and Venezuela are participating in the Overseas Program. Cuba also provides currently its Nursing Training Program to 356 students from 6 Caribbean countries. Emergency assistance is delivered through 32 emergency medical brigades made up of over 10,000 Cuban health care professionals which have provided services in 19 countries since 1960 and have assisted more than 2 million disaster victims in Chile, Guatemala, Pakistan, Bolivia and Indonesia.⁽³¹⁾

SUMMARY OF SUBCOMMITTEE'S FINDINGS AND OBSERVATIONS

- The Subcommittee was struck by the comment of one presenter who said that Cubans “live like the poor but die like the rich.” This is truly the Cuban paradox – a developing country with developed country health indicators. Cuba is world renowned for its consistently strong indices of good health despite its poor economic status. These achievements are particularly remarkable in light of the stringent trade and service embargoes that apply to Cuba.
- The pragmatism of the Cuban approach to health and education, with its emphasis on making the best use of limited resources to achieve a clearly identified goal, is admirable.
- Particularly noteworthy was the enormous personal commitment, dedication and pride in their work demonstrated by health care providers and educators in Cuba. They project a sense of job satisfaction and of themselves as part of a team contributing to an overall goal.
- Investment in health and education is a high priority for the country. Policies have been established with the goal of helping children develop to their full potential.
- Children are treated as individuals rather than as part of a cohort: individual problems are identified and tackled at an early stage.
- The Subcommittee believes that the close relationship between the service provider (teacher/doctor/nurse/etc.), the child and the family enables those providers to understand the child’s background and provide the support that is needed.
- Three basic principles have guided Cuban health and education policies and programs since the 1959 revolution: universality, equitable access and government control. The programs are free, universal and available in all regions, both urban and rural. They involve the family and the community, both of which are considered the leading protagonists in the care and development of children.
- Early diagnosis, research, assessment, and ongoing monitoring are key elements of Cuban programs. Early detection of high risk pregnancies, bi-annual medical check-ups, early recognition of childhood developmental problems – all these effective screening procedures enable intervention at an early stage and avoid more costly remedies later in life.

(31) Cuban Ministry of Foreign Affairs, *Cuban Cooperation For A Better World*, Havana, 2007.

- The Subcommittee is aware of Canadian and international research which demonstrates the great importance of the first years of life from the affective, cognitive and motor points of view. Given that neuronal connections in the brain are formed during the early years, of life, the timeliness and quality of early stimulation received by children in that period is fundamentally important.
- The Subcommittee believes that Cuba is a leading country in early childhood development and education programs for children from conception and birth through age 6.
- The UNESCO study provides compelling support for the assertion that recognition of the importance of early childhood development clearly provides Cuban children with considerable advantage when they enter primary school..
-
- The Subcommittee concurs with Cuban representatives who maintain that non-institutional education, in which the family and community are fundamental contributors, is a valuable alternative in the education and integrated development of children. We acknowledge the importance of the Cuban programs to increasing the family's competence level and strengthening its participation in the high quality education of the children.
- The Cuban approach seeks to break down jurisdictional “silos” through considerable integration of resources and sharing of responsibility. The overall philosophy appears to be to identify a goal or a problem and bring together all the agencies and ministries that might be able to contribute to its achievement or resolution. For example, early childhood development and education in Cuba rest on a set of integrated actions involving strong intersectorality. The programs are a shared responsibility of many national government departments and agencies in the fields of health, education, recreation and fitness, social services, culture, as well as a number of non-governmental organizations. Teamwork facilitates further the joint participation and cohesion of different sectors locally, provincially and nationally.

The Subcommittee wishes to stress that a number of serious challenges remain, including food insecurity, severe housing shortages, a lack of freedom of expression, restriction of individual rights, and generalized economic stagnation. These are also important determinants of health.
- Cuba places great importance on science as evidenced by their development of comprehensive databases and insistence on systematic program evaluation. Wherever possible, government policy is informed by rigorous scientific data. Moreover, the quality of much of the scientific research done there is world class.
- Maternal health programs and early childhood development initiatives have been implemented through different stages and have been adapted according to the evidence gathered through successive evaluations.

- We agree with Professors Shanker and Downer who accompanied the Subcommittee on its visit to Cuba that the combined expertise of Canadian and Cuban scientists offers opportunities to contribute to a global effort to enable every child to realize his/her full potential. A major global program with such an objective, based in Canada, would provide the opportunity for Canadians to assume a leadership role in what those two Professors consider to be one of the most important scientific projects ever undertaken.

Recognition of the importance of early childhood development is clearly providing Cuban children with considerable advantage when they enter primary school – the UNESCO study provides compelling support for this assertion.
- The Subcommittee stresses, however, that a number of serious challenges remain in Cuba, including food insecurity, severe shortage of housing, lack of freedom of expression, restriction of individual rights, and generalized economic stagnation, all of which are also important determinants of health.
- Nevertheless, Cuba outperforms just about all countries of similar national income on measures of education and health outcomes. It is our view that, as part of a continuum of services supporting maternal and child health, the Cuban model of mixed institutional and family-centred early childhood development programs offers a promising example of flexible, highly effective, and relatively low-cost interventions.

APPENDIX 1 – AGENDA -- FACT FINDING VISIT TO CUBA

Senate Committee on Social Affairs, Science and Technology
Subcommittee on Population Health
Fact-finding Visit to Cuba
January 2008

Monday, January 14, 2008

National Assembly of People's Power, Health and Sports Commission

- Dr. Jorge Gonzalez, Chair
- Dr. Diana Martinez, Deputy Chair
- Dr. Pura Aviles, Deputy Chair

Ministry of Public Health

- Mrs. Marcia Covas, Deputy Minister
- Dr. Antonio Gomez
- Dr. Ariel Delgado
- Dr. José Portillo
- Dr. Mitchell Valdes

“5 de Septiembre” Polyclinic

- Dr. Rebeca Mendoza, Director
- Dr. Alén Rojas, Provincial Director

Tour of the Polyclinic

Centre for Genetic Engineering and Biotechnology

- Dr. Pedro López Saura, Director of Clinical Trials and Regulations

Dinner hosted by Sherritt

- Mr. Ian W. Delaney, Chairman, Sherritt
- Mr. Robert Reid, Vice President and Country Manager, Sherritt
- Ms Juanita Montalvo, Vice President, Sherritt International Investments Ltd. and Director, Cuban Operations
- Mr. Carlos Fernandez de Cossio, former Cuban Ambassador to Canada
- Ms Liza Alfonso, Ballet Liza Alfonso
- Mr. Juan Carlos Coello, Director, Escuela de Ballet Liza Alfonso
- Dr. Nicolass Hernandez Guillen, Director Guillen Foundation
- Minister Jose Luis Rodriguez, Ministry of Economy and Planning
- First Deputy Minister Tomás Benitez, Ministry of Basic Industry
- Ms Vivian García Fonseca, Director North American Trade Division, Ministry of Foreign Trade

Tuesday, January 15, 2008

“La Castellana” Medical Psycho-Pedagogic Centre

- Mrs. Marisleidis Perdomo, Director
- Dr. Alén Rojas, Provincial Director
- Mr. Roberto Novoa, Supervisor, Sheltered Workshop
- Mrs. Carmen Viera, Recreational Supervisor

Tour of the centre, visit with students, music and sports presentation by students

Angel Arturo Aballi Pediatric Hospital

- Dr. Rogelio Gonzalez Sánchez, Director
- Dr. Laura Margarita Sánchez, Director, Children’s Ward
- Dr. Arnaldo Izquisdo, Director, Emergency Room
- Dr. Jesús Rabusa, Director, CAT Scan

Tour of the hospital

Ministry of Education

- Dr. Ana Maria Siverio, Director of the Reference Centre, Pre-School Education
- Mrs. Irene Rivera Ferreiro, Director of Pre-School Education

United Nations Development Programme

- Mrs. Susan McDade, resident Coordinator and Representative

World Food Programme

- Mrs. Myrta Kaulard, Country Director

Wednesday, January 16, 2008

Ministry of Education

- Mr. Rolando Ferreiro, Vice Minister
- Dr. Maria Antonia Torres, Director of Health

Nicolas Estebanez Primary School

- Mr. Wilbert Ladson de Guerara, Principal
- Mr. Mario Mesa, Director, Methodology
- Mrs. Estevina Cuervo, Head of First Circle
- Miss Carolina Maniello, Head of Students Organization

Tour of school and presentation by the students

Edora Alonso School for Autistic Children

- Mrs. Imilla Cecilia Campo Valdés, Director

Cuban Health Society

- Dr. Myra Ojeda del Valle, Deputy Director, Documents and Investigations

Centre for Medical Genetics

- Dr. Beatriz Marcheco, Director
- Dr. Maria Cecilia Pérez

Ministry of Foreign Affairs

- Mrs. Yiliam Jimenez Expósito, Deputy Minister
- Mrs. Josefina Vidal, Director, North American Division

Thursday, January 17, 2008

Chernobyl Children's Medical Care Centre

- Mr. Esteban Rosales, Administrator
- Dr. Esther Arostequi, Deputy Director
- Dr. Maité Olivra

Tour of centre and presentation by the students

Centre for Neuroscience

- Dr. Mitchell Valdes, Director
- Dr. Pedro Valdes, Deputy Director

National Assembly of People's Power, Health and Sports Commission

- Dr. Pura Aviles, Deputy Chair
- Dr. Danai Saavedra, Member
- Dr. Tania Gonzalez, Member

Leonar Perez Cabera Maternity Home

- Dra. Evangelina Romero Fernández, Director
- Lic. Ejezahel Rojas, Deputy Director

Tour of the maternity home

Dinner hosted by Ambassador Jean-Pierre Juneau

- Minister Luis Ignacio Gómez, Minister of Education
- Dr. Felipe Cárdenas (pediatric cardiologist)
- Mrs. Susan McDade, Resident Coordinator, United Nations Development Program
- Mr. Fernando Remírez de Estenoz, Chief of International Relations, Central Committee, Communist Party of Cuba
- Dr. Jorge Gonzalez Pérez, Chair, Health and Sports Commission, National Assembly of People's Power
- Ms Ettianet Díaz Estrabao, Canada Desk Officer of International Relations, Young Communists League
- Mr. Jorge Mario Sánchez, Centre for the Study of the United States, University of Havana

- Mrs. José María Rubiera, Vice President, Cuba-Canada Parliamentary Friendship Group
- Mrs. Georgina Chabu, North American Division, Communist Party of Cuba
- Mrs. Josefina Vidal, Director, North American Division, Ministry of Foreign Affairs
- Mrs. María de la Luz B'Hamel, Director, Commercial Policy, Ministry of International Commerce
- Mr. Carlos Alzugaray, Centre for the Study of the United States, University of Havana and former Consul-General in Montreal
- Mr. Carlos Fernández de Cossío, Specialist, Latin American and Caribbean Division, Ministry of Foreign Affairs, former Cuban Ambassador to Canada
- Dr. Myra Ojeda del Valle, Deputy Director, Documents and Investigations, Cuban Health Society
- Mr. Raul Rodríguez, Centre for the Study of the United States, University of Havana
- Mrs. Beatriz Díaz, Centre for Canadian Studies, University of Havana
- Mrs. Mairas Concepción Godoy, Specialist in early Childhood Education, Cuba-Canada Friendship Group

Friday, January 18, 2008

Circulo Infantil Rayito de Sol

- Mrs. Juana de los Ríos, Director

Tour of the day care facility and visit with children

Educa a tu Hijo Rayito de Sol

- Mrs. María Julia García, Program Promoter

Tour of the centre and presentation by the children

Noelio Capote Polyclinic

- Dr. Tania Padra, Principal
- Mr. Cesar Rubio, Mayor

Tour of the polyclinic

UNESCO

- Mr. Herman van Hooff, Director of the UNESCO Regional Office for Culture in Latin America and the Caribbean
- Mr. Miguel Llivina Lavigne, National Program Officer and Head of the Education Sector

Pan-American Health Organization, Regional Office of the World Health Organization

- Dr. Lea Guido López, Permanent Representative
- Mr. José Gomez Lorenzo, Consultant

Dinner hosted by the President of the National Assembly of People's Power

- Mr. Ricardo Alarcón de Quesada, President, National Assembly of People's Power
- Mr. Miguel Alvarez, Assistant to the President

- Dr. Jorge Gonzalez Pérez, Chair, Health and Sports Commission, National Assembly of People's Power
- Dr. Diana Martinez, Deputy Chair, Health and Sports Commission, National Assembly of People's Power
- Minister Luis Ignacio Gómez, Minister of Education
- Mrs. Josefina Vidal, Director, North American Division, Ministry of Foreign Affairs
- Dr. Myra Ojeda del Valle, Deputy Director, Documents and Investigations, Cuban Health Society

APPENDIX 2 - WITNESS LIST

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|--|---|--------------------|-----------|
| 39th Parliament 1st Session | | | |
| World Health Organization Commission on the Social Determinants of Health | The Honourable Monique Bégin, P.C., Commissioner | 22-02-2007 | 1 |
| Institute of Population Health | Ronald Labonté, Canada Research Chair in Globalization and Health Equity | 28-02-2007 | 1 |
| Provincial Health Services Authority, B.C. | Dr. John Millar, Executive Director, Population Health Surveillance and Disease Control | 28-02-2007 | 1 |
| School of Health Policy and Management - York University | Dennis Raphael, Professor | 28-02-2007 | 1 |
| Public Health Agency of Canada | Jim Ball, Director, Development and Partnerships Division, Strategic Policy Directorate, Strategic Policy, Communications and Corporate Services Branch | 21-03-2007 | 2 |
| Kunin-Lunenfield Applied Research Centre | Sholom Glouberman, Associate Scientist | 21-03-2007 | 2 |
| Public Health Agency of Canada | Maura Ricketts, Acting Director General, Office of Public Health Practice, Public Health Practice and Regional Operations Branch | 21-03-2007 | 2 |
| Public Health Agency of Canada | Dr. Sylvie Stachenko, Deputy Chief Public Officer, Health Promotion and Chronic Disease Prevention | 21-03-2007 | 2 |

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|--|---|---------------------------|------------------|
| | | | |
| Statistics Canada | Michael Wolfson, Assistant Chief Statistician, Analysis and Development | 21-03-2007 | 2 |
| Institute of Population and Public Health | Dr. John Frank, Scientific Director of the Canadian Institutes of Health Research | 28-03-2007 | 2 |
| Global Health and Social Policy | Dr. Jody Heymann, Canada Research Chair in Global Health and Social Policy | 28-03-2007 | 2 |
| McGill University | Dr. John Lynch, Canada Research Chair in Population Health | 28-03-2007 | 2 |
| Public Health Agency of Canada | Jim Ball, Director, Development and Partnership Division, Strategic Policy Directorate | 25-04-2007 | 3 |
| Indian and Northern Affairs Canada | Marc Brooks, Director General, Community Development Branch, Socio-economic Policy and Regional Operations sector | 25-04-2007 | 3 |
| Centre for Aboriginal Health Research, University of Manitoba | John O'Neil, Professor and Director | 25-04-2007 | 3 |
| Health Canada | Ian Potter, Assistant Deputy Minister, First Nations and Inuit Health Branch | 25-04-2007 | 3 |
| Institute of Aboriginal People's Health (IAPH) for the Canadian Institutes of Health Research (CIHR) | Dr Jeff Reading, Scientific Director | 25-04-2007 | 3 |
| Research Faculty/Saskatchewan Population Health and Evaluation Research Unit | Sylvia Abonyi, Canada Research Chair in Aboriginal Health | 02-05-2007 | 3 |
| National Aboriginal Health Organization (NAHO) | Mark Buell, Manager, Policy and Communication Unit | 02-05-2007 | 3 |

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|--|--|---------------------------|------------------|
| | | | |
| University of British Columbia - Department of Psychology | Dr. Michael J. Chandler, University of British Columbia Professor and Distinguished Canadian Institutes for Health Research (CIHR) and Michael Smith Foundation for Health Research (MSFHR) Investigator | 02-05-2007 | 3 |
| National Aboriginal Health Organization (NAHO) | Carole L. Lafontaine, Acting Chief Executive Officer | 02-05-2007 | 3 |
| Toronto University | Dr. Kue Young, Professor, Department of Public Health Services | 02-05-2007 | 3 |
| Observatory on Ageing and Society (OAS) | Dr. André Davignon, Founder | 16-05-2007 | 4 |
| Nova Scotia Department of Health | Valerie J. White, Executive Director, Seniors Secretariat | 16-05-2007 | 4 |
| Public Health Agency of Canada - Division of Aging and Seniors | Margaret Gillis, Director | 16-05-2007 | 4 |
| Canadian Association on Gerontology | Mark Rosenberg, Professor Queen's University | 16-05-2007 | 4 |
| The CHILD Project | Dr. Hillel Goelman, Director, Senior Scholar, Human Early Learning Partnership (HELP) | 30-05-2007 | 4 |
| Canadian Institutes of Health Research | Dr. Michael Kramer, Scientific Director, Institute of Human Development, Child and Youth Health | 30-05-2007 | 4 |
| Council of Early Child Development | Stuart Shankar, Professor, President | 30-05-2007 | 4 |

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|--|--|---------------------------|------------------|
| | | | |
| Manitoba Métis Foundation | Dr. Judy Bartlett, Director of Health and Wellness Department and Associate Professor, Department of Community Health Science, Faculty of Medicine, University of Manitoba | 31-05-2007 | 4 |
| Métis National Council | David Chartrand, Minister of Health | 31-05-2007 | 4 |
| Métis National Council | Marc LeClair, National Advisor to the Minister of Health | 31-05-2007 | 4 |
| Métis National Council | Rosemarie McPherson, National Spokesperson for Women of the Métis Nation | 31-05-2007 | 4 |
| BC Ministry of Health | Dr. Evan Adams Aboriginal Health Physician Advisor, Office of the Provincial Health Officer | 01-06-2007 | 5 |
| Manitoba Métis Foundation | Dr. Judy Bartlett, Director of Health and Wellness Department and Associate Professor, Department of Community Health Science, Faculty of Medicine, University of Manitoba | 01-06-2007 | 5 |
| Institute of Aboriginal Peoples' Health | Laura Commanda, Assistant Director, Partnerships, Knowledge Translation and International Relations | 01-06-2007 | 5 |
| Pauktutit Inuit Women of Canada | Jennifer Dickson, Executive Director | 01-06-2007 | 5 |
| Native Women's Association of Canada | Claudette Dumont-Smith, Senior Health Advisor | 01-06-2007 | 5 |
| Indigenous People's Health Research Centre | Willie Ermine, Professor, Writer - Ethicist | 01-06-2007 | 5 |

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|--|---|---------------------------|------------------|
| Inuit Tapiriit Kanatami | Anna Fowler, Project Coordinator, Department of Health | 01-06-2007 | 5 |
| National Association of Friendship Centres | Alfred J. Guay, Policy Analyst | 01-06-2007 | 5 |
| Assembly of First Nations | Valerie Gideon, Director of Health and Social Development | 01-06-2007 | 5 |
| University of Alberta | Malcom King, Professor, Department of Medicine | 01-06-2007 | 5 |
| Aboriginal Nurses Association of Canada | Julie Lys, Director, North West Territories Region | 01-06-2007 | 5 |
| Toronto University | Chandrakant P. Shah, Professor emeritus | 01-06-2007 | 5 |
| Congress of Aboriginal Peoples | Erin WolskiHealth Policy Program | 01-06-2007 | 5 |
| 39th Parliament 2nd Session | | | |
| Ministry of Health and Social Affairs | Irene Nilsson-Carlsson, Deputy Director General, Public Health Division | 22-11-2007 | 1 |
| Swedish National Institute of Public Health | Dr. Gunnar Agren, Director General | 22-11-2007 | 1 |
| Karolinska Institute: | Dr. Pirooska Ostlin, Dept. of Public Health Sciences | 22-11-2007 | 1 |
| Swedish National Institute of Public Health | Bernt Lundgren, Public Health Policy Expert | 22-11-2007 | 1 |
| The Quaich Inc. | Patsy Beattie-Huggan, President | 28-11-2007 | 1 |
| McMaster University | John Eyles, Professor, School of Geography and Earth Sciences | 28-11-2007 | 1 |

| ORGANIZATION | NAME, TITLE | DATE OF APPEARANCE | ISSUE NO. |
|---|---|---------------------------|------------------|
| PEI Department of Health | Teresa Hennebery, Assistant Deputy Minister, Health Operations | 28-11-2007 | 1 |
| Group d'étude sur les politiques et la santé | France Gagnon, Professor and co-chair | 05-12-2007 | 2 |
| University of Montreal | Nicole Bernier, PhD, Assistant Professor | 05-12-2007 | 2 |
| U.K. Department of Health | Dr. Fiona Adshead, Director General of Health Improvement | 11-12-2007 | 2 |
| B.C. Interior Health Authority | Lex Baas, Director of Population Health | 12-12-2007 | 2 |
| University of British Columbia | James Frankish, Professor and Director | 12-12-2007 | 2 |
| Ontario Ministry of Health Promotion | Pegeen Walsh, Director, Chronic Disease Prevention | 06-02-2008 | 3 |
| Toronto Cental Local Health Integration Network | Laura Pisko-Bezruchko, Senior Director, Planning | 06-02-2008 | 3 |
| University of Ottawa Heart Institute | Dr. Andrew Pipe, Medical Director, Prevention and Rehabilitation Centre | 06-02-2008 | 3 |
| Canadian Institute for Health Information | Glenda Yeates, President and Chief Executive Officer | 13-02-2008 | 3 |
| Canadian Institute for Health Information | Keith Denny, Acting Manager | 13-02-2008 | 3 |
| University of Manitoba | Noralou Roos, Professor, Faculty of Medicine | 13-02-2008 | 3 |