Early Childhood Development

Royal College Position Statement

Executive Summary

Early childhood or 'the early years' is the most important developmental phase of life in which crucial advancements in physical, social, cognitive, emotional and language domains take place. Experiences during this time - and even before birth - influence health, education and economic prospects throughout life. Experiences in the first six years can become biologically embedded and influence outcomes throughout the life course in a positive way but also in a negative way. Disruptions during this period can significantly impact behavior and learning as well as adult health outcomes. Fortunately, intervening early and often can have a tremendous influence to promote positive outcomes and minimize or mitigate the impact of adverse childhood experiences and events. Research clearly shows that health promotion and disease prevention programs targeted at adults would be more effective if investments were also made early in life on the origins of those diseases and behaviours. Early childhood development interventions (such as education and care, parenting support, and poverty reduction) yield benefits throughout life that are worth many times the original investment. Furthermore, there is a need for a greater understanding by all physicians of the biological underpinnings of adult diseases and for a greater focus on promotion and preventive health efforts to disrupt or minimize these early links to later poor health outcomes.

Summary of Recommendations:

1. The federal government, in collaboration with the provinces and territories, implement an early child development system with supports for families including but not limited to supports during pregnancy; early childhood learning opportunities; and high quality, universal, accessible and developmentally appropriate child care, including for Indigenous children living both on and off reserve.

2. The federal government commit to increasing funding for early childhood development to 1% of GDP to bring Canada in line with other OECD countries.

3. Evidence based home visiting programs such as the Nurse Family Partnership be made available to all vulnerable families in Canada.

4. Governments support the expansion of community resources for parents and caregivers which provide parenting programs and family supports, creating a system where all families have access.

5. Governments increase public awareness and support to optimize health and reduce potential remediable risk factors for pregnancy and before conception.

6. Governments increase accessible prenatal care, educational programs and parental supports.

7. The federal government work with provinces and territories to implement a pan-Canadian poverty reduction strategy, including the eradication of child poverty, with clear accountability and measurable targets.

8. The federal government work with the provinces and territories to create a robust collection, monitoring and reporting system on early childhood to ensure proper monitoring of development and effectiveness of interventions including:
   - the identification of data gaps related to disadvantaged populations and Indigenous children including Metis
   - ongoing implementation of the Early Development Instrument (EDI) in all jurisdictions
   - a similar tool for 18 months and middle childhood

9. Curriculum on early brain, biological development and early learning be incorporated, including education on:
   - the developmental origins of adult health and disease and
   - the impact of the determinants of health specific to Indigenous children such as colonization and racism,

   into all Canadian medical schools and residency programs.

10. Continuing medical education on early brain, biological development and early learning be available to all care providers, particularly but not limited to those in primary care.

11. All provinces and territories implement an enhanced 18-month well-baby visit strategy with appropriate compensation, access to tools, adequate electronic medical records and resource pathways to community supports.

12. Physicians and other primary care providers integrate the enhanced 18-month visit into their regular clinical practice.

13. Comprehensive resources be developed for primary-care providers to identify community supports and services to facilitate referral for expecting parents, parents, and children.

14. Physicians be educated about the evidence base for the impact of early family literacy and the importance of discussing and recommending literacy promotion in routine clinical encounters with children of all ages.

15. National and Provincial/Territorial Medical Associations work with governments and the non-profit sector to explore the development of a clinically based child literacy program for Canada working in collaboration with community literacy efforts

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Background

Adult health is more influenced by events and conditions in early childhood and even before birth than was ever imagined in the not too distant past. The years between conception and age 6, termed "the early years" or "early childhood" are a time when crucial developments in physical, social, cognitive, emotional and language domains take place. The early childhood period sees the greatest change in the developing brain than at any other time in life, 700 new neural connections /second are created.[1] The quality of the interactions with their environment, in the first few years of life – and even before birth – play a vital role in shaping children's brains, their stress system and consequently their behaviours, their capacity to learn and later health and social outcomes[.2,3,4,5,6] Disruptions during this period, the presence of unremitting stress without buffering relationships, can lead to weakened physiological responses, influence brain architecture, and influence how the neuroendocrine, cardiovascular and other systems are developed.[7,8] Experiences in early life become biologically embedded, 'get under the skin", changing the ways that certain genes are expressed.[9,10]

It is recognized that pregnancy and the period beyond the age of 6 also impact adult health and would benefit from programs designed to promote positive experiences (such as healthy nutrition and stress reduction). However early childhood from birth to age 6 is a particularly vulnerable period and thus is the focus of this document..

According to research done by the Centers for Disease Control and Prevention in the adverse childhood event (ACE)[1] study, child maltreatment, neglect, parental mental health and exposure to violence can significantly impact later adult health outcomes. The study involved a retrospective look at the recalled childhood experiences of 17,000 US adults and the impact of these events on later life and health and mental health issues.[11] An increased number of ACEs was linked to increases in risky behaviour in childhood and adolescence[12] and to a number of adult health conditions including alcoholism, drug abuse, depression, diabetes, hypertension, stroke, obesity, heart disease, and some forms of cancer.[13,14] The greater the number of adverse experiences in childhood the greater the likelihood of health problems in adulthood.[15] A high level of ACEs was linked to language, cognitive and emotional impairment; factors which impact on school success and adult functioning.[16] Finally, the study found a correlation between experiencing ACEs, suicide, and being the victim of or perpetrating intimate partner violence.[17]

Evidence suggests that adult diseases should be viewed as developmental disorders that begin in early life.[18] By 2030, 90% of morbidity in high-income countries will be related to chronic diseases.[19] These diseases were simplistically attributed in large part to unhealthy behaviours such as smoking, poor nutrition, and a lack of physical activity.[20] However evidence from longitudinal studies indicates that events and conditions in early childhood exert latent and cumulative effects that contribute

[1] The adverse childhood events are: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, mother treated violently, household substance abuse, household mental illness, parental separation or divorce, incarcerated household member. http://www.cdc.gov/ace/prevalence.htm#ACED

significantly to adult disease.[21] Behaviours which the evidence shows can be associated with early childhood experiences.[22,23] Health promotion and disease prevention programs targeted at adults would be more effective if investments were also made early in life on the origins of those diseases and behaviours.[24,25]

Research using the Early Development Instrument (EDI), a valid and reliable population-based tool used to measure the state of children's development, suggests that more than one-quarter of Canadian children arrive at school without the skills required to be successful in that setting. Over 27% of Canadian senior kindergarten children show vulnerability on at least one measure of physical, social, emotional or cognitive development, that is considerably below their Canadian peers..[26] At birth only about 2-4% of children are identified as vulnerable due to physical issues. Vulnerability rates greater than 10% can be considered 'excessive' suggesting that approximately two-thirds of the developmental vulnerabilities (language/cognitive, physical or social-emotional) that children present with in school are preventable.[27] Unfortunately when children fall behind, they tend to stay behind. Being a vulnerable child on the EDI, without intervention negatively affects children's school performance, reduces their well-being and decreases their chances of getting a satisfying job later in life. [28]

Areas for Action

Children are especially vulnerable to the influence of the environment in these years, which creates huge opportunity to maximize potential and rewire through "brain plasticity". Just as children are susceptible to negative influences in early life, the period of rapid development also means that promoting positive influences as well as effective interventions can have a tremendous influence to minimize or mitigate these outcomes. Intervening in the early years has the potential to impact developmental trajectories and protect children from risk factors that are present in their daily environments.[29]

Early Childhood Education and Care

Research suggests that 90% of a child's brain is developed by age five, before many children have any access to formal education.[30] More than one quarter of Canadian children start kindergarten vulnerable in at least one area of development.[31] Approximately two thirds of these vulnerabilities can be considered preventable.[32] Evidence suggests that each 1% of excess vulnerability in school readiness leads to a reduction in GDP of 1% over the course of that child's life. [33]Children who aren't ready for kindergarten are half as likely to read by the third grade, a factor that increases the risk of high school drop-out significantly. [34] While it is possible to intervene later to address these learning deficiencies, these interventions are less effective and much more costly.[35] The seminal report *A Comprehensive Policy Framework for Early Human Capital Investment in BC* released in 2009 outlined the business case for investing in early childhood education and care. Reducing the provincial rate of child vulnerability from 27% to 15% by 2015/16 would lead to societal benefits that outweigh the costs by more than 6 to 1.[36]

High quality early childhood programs including programs to nurture and stimulate children and educate parents are highly correlated with the amelioration of the effects of disadvantage on cognitive, emotional and physical development among children.[37,38,39] A recent analysis of 84 preschool programs in the United States concluded that children participating in effective pre-school programs can acquire about a third of a year of additional learning in math, language and reading skills.[40] Since the implementation of the universal child care program in Quebec, students in that province have moved from below the national average on standardized tests to above the average.[41]

In addition, effective early childhood education programs offer a significant return on investment. Research done on targeted US preschool programs found a return on investment of between four and seventeen dollars for every dollar spent on the program.[42] Evidence from the Quebec universal child care program indicates that the program costs are more than covered by the increased tax revenues generated as a result of increased employment among Quebec mothers. For every dollar spent on the Quebec program, $1.05 is received by the provincial government with the federal government receiving $0.44.[43]

In terms of early childhood education and care, Canada is lagging far behind – tied for last place among 25 countries in Organization for Economic Cooperation and Development (OECD) early childhood development indicators.[2,44] Since the OECD's embarrassing expose, the provinces have upped their contribution from 0.25 percent of Gross Domestic Product (GDP)[45] to 0.6 percent[46]. Much of which is attributable to Quebec's universal daycare program.[47] Canadian families face great pressures in finding affordable and accessible quality early childhood education and care spots across the country. In Quebec 69% of children 2-4 regularly attend early childhood education programs; outside of Quebec the number falls to 38.6%. [48] The challenges for low-income families are even more pronounced with almost 65% of poor children 0-5 receiving no out-of home care.[49] The federal government and the provinces and territories must work to bring Canada in line with other OECD countries on early childhood learning and care.

Currently, First Nations and Inuit health and health related programs for children and youth are administered by 3 different federal departments - Health Canada, the Department of Indian and Northern Affairs and Human Resources and Social Development Canada, and one federal agency- the Public Health Agency of Canada. First Nations and Inuit Health delivers programming on reserves while the Public Health Agency provides services for this population off reserve. Some, but

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[2] The indicators used for the comparison include: Parental leave of one year with 50% of salary; a national plan with priority for disadvantaged children; subsidized and regulated child care services for 25% of children under 3; subsidized and accredited early education services for 80% of 4 year-olds; 80% of all child care staff trained; 50% of staff in accredited early education services tertiary educated with relevant qualification (this is the only indicator that Canada met); minimum staff-to-children ratio of 1:15 in pre-school education; 1.0% of GDP spent on early childhood services; child poverty rate less than 10%; near-universal outreach of essential child health services. UNICEF (2008) *The child care transition: A league table of early childhood education and care in economically advanced countries.* Available at: http://www.unicef-irc.org/publications/pdf/rc8_eng.pdf

not all programs and services, are available both on and off reserve - creating duplication and scarcity of services. Lines of responsibility and accountability are difficult to ascertain.[50]

The Royal College Recommends that:

1. The federal government, in collaboration with the provinces and territories, implement an early child development system with supports for families including but not limited to supports during pregnancy; early childhood learning opportunities; and high quality, universal, accessible and developmentally appropriate child care, including for Indigenous children living both on and off reserve.
2. The federal government commit to increasing funding for early childhood development to 1% of GDP to bring Canada in line with other OECD countries.

Support for Parents

In general, a supportive predictable nurturing caregiver is associated with better physical and mental health, fewer behavioural problems, higher educational achievement, more productive employment, and less involvement with the justice system and social services.[51] Studies have demonstrated that the effects of poverty can be significantly impacted with appropriate nurturing and supportive parenting,[52] and that supportive parental-child relationships can buffer the effects of toxic stress.[53,54] Parental support programs can act as a buffer for children at the same time as strengthening the ability of parents to meet their children's developmental needs.[55] Caregivers who struggle with their own significant stresses such as chronic illness, depression, trauma, abuse, poverty or addiction may find the daily tasks of living overwhelming and be unable to focus adequate attention on their children potentially undermining the attachment relationships that develop in early life.[56] The relatively limited attention that is focused on addressing the deficiencies in time and resources of parents across all socio-economic groups can undermine healthy childhood development.[57] All physicians interacting with families with children have a role to play in supporting parents to improve their children's health outcomes. While the early years are particularly important, this is still relevant for parents with older children as the brain continues to develop into adulthood.

One evidence based program that has been shown to improve parental functioning and decrease neglect and child abuse is an intensive home visiting programs, the Nurse Family Partnerships (NFP). This program provides nursing visits to vulnerable young mothers from mid pregnancy until the children are two or six, depending on the program. The home visits provide prenatal support, educate parents about early childhood development, promote positive parenting, connect parents with resources, and monitor for signs of child-abuse and neglect.[58] Results from several randomized controlled trials of the NFP in the United States have shown that the program reduces abuse and injury, and improves cognitive and social and emotional outcomes in children. A 15-year follow-up study found lower levels of crime and antisocial behaviour in both the mothers and the children that participated in these programs.[59] Home visiting is offered in most Canadian provinces but the

evidence based NFP is offered in very few places: Hamilton, Ontario and currently a randomized control study is underway in BC.

Many Canadian provinces have established community resources for parents. Alberta has recently announced plans to expand parent link centres across the province. These will deliver parenting programs, and be home and community resources and programs.[60] Ontario has a network of Early Years Centres, and parent and family literacy centres which offer support to parents, through educational programs, prenatal classes, developmental screening clinics, early literacy programs, toy-lending libraries and other resources for parents. Manitoba has a system of and family resource centres. Early Childhood Development Centres in Atlantic Canada are combining child care, kindergarten and family supports into early childhood centres that are aligned with schools in some communities[61] The federal government has the Aboriginal Head Start programs in First Nations communities on reserve.

The Royal College Recommends that:

3. Evidence based home visiting programs such as the Nurse Family Partnership be made available to all vulnerable families in Canada.
4. Governments support the expansion of community resources for parents and caregivers which provide parenting programs and family supports, creating a system where all families have access.
5. Governments increase public awareness and support to optimize health and reduce potential remediable risk factors for pregnancy and before conception.
6. Governments increase accessible prenatal care, educational programs and parental supports.

Poverty Reduction

In 1989 the Canadian government made a commitment to end child poverty by 2000. As of 2011, more Canadian children and their families lived in poverty than when the original declaration was made.[62] Canada ranks 15th out of 17 peer countries with more than one in seven children living in poverty (15.1%).[63] Canada is one of the only wealthy nations with a child poverty rate that is actually higher than the overall poverty rate.[64] Child poverty is a provincial and territorial responsibility as well. As of 2012, only four provinces had child poverty strategies that met the guidelines put forward by the Canadian Paediatric Society (CPS).[65]

Poverty creates a significant challenge to healthy child development. Many Children who grow up in poor families or disadvantaged communities are especially susceptible to the biological embedding of disease risk.[66] Poverty is strongly associated with a number of risk factors for healthy development including: overly stressed and unsupportive parenting, inadequate nutrition and education, high levels of traumatic and stressful events,[67] poorer housing, services, and limited access

to physical activity.[68] Children from low-income families score lower than children from high-income families on various measures of school readiness, cognitive development and school achievement[69,70], and this gap increases over time with children of low-income families being less likely to attend post-secondary education and gain meaningful employment.[71] Children living in poverty have more later problem behaviours such as drug abuse, early pregnancy, and increased criminal behaviour.[72] Finally, economic hardship in childhood has been linked to premature mortality and chronic disease in adulthood.[73]

Poor children grow up in the context of poor families, which means that any solution for child poverty must necessarily minimize the poverty of their parents.[74] Efforts to increase the income as well as employment opportunities for parents, in particular single parents, must be part of any poverty reduction strategy.[75] Programs, such as affordable child care, that allows parents to be active participants in the work force represent one approach[76,77,78] Quebec's program of early childhood care has increased female workforce participation by 70,000 and reduced the child poverty rate by 50%.[79]

Addressing poverty could significantly minimize problem areas in child development. According to a 2009 report by the Chief Public Health Officer of Canada, of 27 factors seen as having an impact on child development, 80% of these showed improvement as family income increased.[80] Increasing income has the greatest impact on cognitive outcomes for children the earlier in life the reduction in poverty takes place.[81]

The Royal College Recommends that:

7. The federal government work with provinces and territories to implement a pan-Canadian poverty reduction strategy, including the eradication of child poverty, with clear accountability and measurable targets.

Data Collection for Early Childhood Development

The evidence shows the importance of early childhood development for later success and health. To ensure that all children thrive a population health approach is necessary where this is promotion of healthy development for all children, prevention of problems in children and risk and providing effective treatments for children with developmental or mental health issues.[82] Intervening in childhood can reduce the economic costs of adult physical and mental health illnesses.

In order to know if the programs and strategies for early child development are effective there needs to be ongoing monitoring of children's development, at multiple times to track our collective progress in improving young children's lives. Thus there is a need for appropriate data on early childhood health indicators and interventions. Given the variation in outcomes of children among different communities, and demographic groups, there is a need for individual level data which can be aggregated at the community level, so communities can "own" their data and is linked to other

community level data. This will allow providers and governments to measure effectiveness of interventions.[83] Such an approach is being used by the Manitoba Centre for Health Policy, the Human Early Learning Partnership in British Columbia, and the Population Health Research Unit in Nova Scotia. Researchers at these centres are creating a longitudinal data set by linking administrative data from a range of sources.[84]

Currently the only tool available to monitor the development of Canadian children at the population level is the Early Development Instrument (EDI). This tool is a 105 item checklist completed by teachers for every child around the middle of the first year of schooling looking at the child's physical, social and emotional cognitive communication and language development[85] This tool has been used at least once in most of the provinces and territories with a commitment from most jurisdictions to continue this monitoring.[86] While this is a good start, it gives only a snapshot of development, a single point "temperature' of children's development. Ideally a monitoring system plots several points of time in development to identify trajectories of children. Ontario has introduced an enhanced well baby visit at 18 months to begin the process of enhancing dialogue around development with parents, identifying earlier and connecting families to community resources. It also holds the possibility of capturing development data earlier. There is a need for more comprehensive information at the 18-month and middle childhood phases.[87]

The Royal College Recommends that:

8. The federal government work with the provinces and territories to create a robust collection, monitoring, and reporting system on early childhood to ensure proper monitoring of development and effectiveness of interventions including:
    - the identification of data gaps related to disadvantaged populations and Indigenous children including Metis [88,89]
    - ongoing implementation of the Early Development Instrument (EDI) in all jurisdictions
    - a similar tool for 18 months and middle childhood

Medical Education

Given the importance of early childhood experiences, including determinants of health, on adult health, there is a need for a greater understanding of the biological underpinnings of adult diseases. The medical community needs to focus more attention on the roots of adult diseases and focus promotion and preventive health efforts on disrupting or minimizing these early links to later poor health outcomes.[90] The science of early brain development and biology is rapidly and continuously evolving. There is a need to ensure that future and current physicians are highly knowledgeable and up to date on this information and recognize its implications for clinical practice.[91]

The Royal College Recommends that:

9. Curriculum on early brain, biological development and early learning be incorporated, including education on:
    - the developmental origins of adult health and disease and
    - the impact of the determinants of health specific to Indigenous children such as colonization and racism,[92]

    into all Canadian medical schools and residency programs.
10. Continuing medical education on early brain, biological development and early learning be available to all care providers, particularly but not limited to those in primary care.

Clinical Practice

While many of the threats to early childhood development may lie outside of the hospital or physician's clinic, there are a number of ways that physicians can help to address this important determinant of health within their practices. Primary care practitioners are uniquely qualified to address this fundamental population health issue,[93] and can provide one important component in a multi-sectoral approach to healthy early childhood development.[94] Physicians in all specialty areas have the opportunity to educate their patients and their communities about the importance of risk factor modification for heart disease, obesity, diabetes and mental illness by intervention in the childhood years.

Screening and support for parents

The health care system is the primary medical contact for many mothers, and for many families, health-care providers are the only professionals with whom they have regular contact during the early years.[95,96] According to data from the Institute for Clinical Evaluative Sciences, 97% of Ontario children aged zero to two are routinely seen in family practice.[97] Within a patient-centred medical home, health-care providers can give support and information to parents about issues such as parenting, safety, and nutrition, and can link them to early childhood resources and other supports such as housing and food security programs.[98,99,100,101] Primary-care providers can refer and help patients connect with public health departments who have many healthy baby and healthy child programs.[102]

Primary-care providers can provide developmental surveillance, monitoring children development over time as well as ensure that screening takes place to identify risk factors that may affect appropriate development, as well as make early referrals to intervention.[103] This screening should take place as early as the prenatal stage, asking about parental stress, anxiety and depression and continue throughout well baby care and maternal care visits. Childhood screening should include not only the regular assessments of physical milestones such as height, weight and vision and hearing etc. but must also include screening for attachment, social and emotional development. In addition, providers can identify risk factors that interfere with a parent's ability to provide nurturing,

predictable responsive care such as maternal depression, substance abuse, and potential neglect or abuse.[104] Given the negative consequences of child maltreatment, exposure to violence and neglect on childhood development[105], identification, addressing and referral for these issues is a key role for primary-care providers. Screening for social issues such as poverty, poor housing and food insecurity should be completed.[106] These are part of prenatal care in many provinces, as well as part of the screening tools used by public health in Ontario, Manitoba and other provinces. Pregnancy may be the first opportunity for comprehensive screening for risks. Collaboration with public health is an essential movement forward to optimize the development of all children.

A significant opportunity for enhanced childhood developmental assessment occurs at the 18-month well baby visit. This is the time for the last set of immunizations before those at school entry, and in many cases the last time a child will have a regularly scheduled "well baby" visit before the start of school.[107] The 18-month well baby visit provides an opportunity to assess developmental progress and issues as well as medical concerns. The enhanced 18-month well baby visit program developed in Ontario combines parental information, observations and concerns, and clinical assessment to both support and encourage healthy development but also identify any risks a child might have.[108] Parents are asked to fill out a standardized checklist tool and discuss the results with their physicians or other primary-care providers.[109] Primary-care providers use the results to dialogue with the parent/caregiver about the importance of parenting and development and link them to community resources as well as specialized services, as necessary,[110] As was already noted, almost two thirds of vulnerabilities in readiness for school can be prevented.[111] Appropriate identification through screening is a first step in correcting these issues. When combined with a standard well baby record this visit provides a complete picture of the physical as well as developmental health of the child each visit, not only the 18-month.

The Royal College Recommends that:

11. All provinces and territories implement an enhanced 18-month well-baby visit strategy with appropriate compensation, access to tools, adequate electronic medical records and resource pathways to community supports.
12. Physicians and other primary care providers integrate the enhanced 18-month visit into their regular clinical practice.
13. Comprehensive resources be developed for primary-care providers to identify community supports and services to facilitate referral for expecting parents, parents, and children.

Literacy

By 18 months disparities in language acquisition begin to become evident.[112] According to US research, by age four, children of families on welfare will hear 30 million fewer words than children from families with professional parents.[113] The number of words heard in early childhood is significantly correlated with the number of words children acquire and use. This can begin the spiraling downward trajectory of difficulties in school as skill begets skill and children who start

behind their peers tend to remain behind. Evidence suggests that exposure to reading and language from parents is fundamental for success in reading by children.[114]

Physicians and other primary-care providers can play a key role in helping to reduce these disparities. Evidence suggests that when physicians give a "prescription" for reading, families heed this advice.[115] They can encourage reading, speaking, singing and telling stories as part of a daily routine. Studies have demonstrated that when physicians discuss literacy with parents and provide them with appropriate resources, such as developmentally appropriate children's books, increases in reading frequency and preschool language scores have been found.[116]

One program which has integrated reading and literacy into clinical practice is the 'Reach out and Read' program in the United States. This program partners with physicians, pediatricians, and nurse practitioners to provide new developmentally appropriate books to children ages 6 months through 5 years, as well as guidance for parents about the importance of reading.[117,118] The success of this program has been significant with parents in the program being four to ten times more likely to read frequently with their children, and children scoring much higher on receptive and expressive language scores on standardized tests.[119] CPS has developed a program based on this evidence "read ,speak, sing" with excellent resources for physician offices , however the scope is limited and costs of supplying books is prohibitive for CPS. However some communities are partnering with community groups such as Rotary, to supply books to doctors' offices. Nova Scotia has developed a non profit organization and an exemplary program with research evidence of effectiveness called "Read to me".

Health literacy is an important component of literacy. Early health literacy could be the foundation upon which adults make sounder lifestyle decisions throughout their lives. One successful model is a program called ScienceKids, developed by AOK Baden-Wurttemberg, a branch of the German public health insurance company, in cooperation with the Department of Culture and Education. Its goal is to create interest in health-related topics among children during primary school education.

Given the success of these programs, similar programs should be explored for the whole Canadian context.

The Royal College Recommends that:

14. Physicians be educated about the evidence base for the impact of early family literacy and the importance of discussing and recommending literacy promotion in routine clinical encounters with children of all ages.
15. National and Provincial/Territorial Medical Associations work with governments and the non-profit sector to explore the development of a clinically based child literacy program for Canada working in collaboration with community literacy efforts

Conclusion

The early years represent a critical time in development. Experiences in the first six years can become biologically embedded and influence outcomes throughout the life course in a positive way but also in a negative way. Negative experiences such as exposure to violence and maltreatment, poor nutrition, hostile parenting, parental mental health and poverty can significantly impact behavior and learning as well as adult health outcomes. Intervening early and often can help to minimize or decrease the impact of adverse childhood experiences and events. Interventions to reduce maternal and child abuse and violence, poverty, and improve parental mental health and enable parents to care for their children are necessary. Appropriate high quality early childhood learning and care programs are required for all Canadians regardless of socio-economic status. Finally, health care providers in all specialties can play a role in promoting healthy development of all children, identifying mothers and children at risk, providing support and direction for families to access intervention and treatment and supporting parents to be the parents they strive to be.

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