Kenya's 2011 Report Card

on the Physical Activity and Body Weight of Children and Youth

Prepared and produced by
HEALTHY ACTIVE KIDS KENYA
in partnership with ACTIVE HEALTHY KIDS CANADA

Kenya's Inaugural Report Card

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Foreword

Childhood obesity and physical inactivity continue to be a serious public health problem across the globe. The problem is increasingly affecting both developing and developed countries alike, albeit at different rates. In most African countries including Kenya, the problem seems to be aggravated by the rapid nutrition and physical activity transition currently taking place. This transition is the result of an increase in the use of energy-saving devices, participation in insufficient amounts of physical activity at home and in the school environment, and increased availability of cheap high-calorie, nutrient-poor foods.

The situation is exacerbated by socio-cultural beliefs held by some communities in which being overweight is an admired trait, and seen as a sign of wealth, prestige and the 'good life'. Efforts and strategies are therefore needed in order to address this emerging public health problem before it becomes a crisis, and this has been the impetus for the release of this naugural report card.

Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth

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Data Sources

Applied Physiology Nutrition and Metabolism
British Journal of Sports Medicine
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Comparative Biochemistry and Physiology (Molecular and Integrative Physiology)
Equine and Comparative Exercise Physiology
Graduate Theses
International Journal of Pediatric Obesity
International Journal of Sports Nutrition and Exercise Metabolism
Journal of Community and Health Sciences
Journal of Educational Research and Development
Journal of Health and Social Behaviour
Journal of Physical Activity and Health
Journal of Sport Science
Journal of the American Medical Association
Journal of Tropical Paediatrics
KIDS-CAN Research Alliance
Milbank Quarterly
Pediatric and Child Health
Public Health Nutrition
Research Quarterly for Exercise and Sports
The Sports Historian
World Health Organization Reports
World Review, Nutrition and Diet

Acronyms

AHKC	Active Healthy Kids Canada
BMI	Body Mass Index
CAMBIO	Canada and Mexico Battling Childhood Obesity
HAKK	Healthy Active Kids Kenya
HALO	Healthy Active Living and Obesity Research Group
KIDS-CAN	Kenyan International Development Study - Canadian Activity Needs
KNBS	Kenyan National Bureau of Statistics
KU	Kenyatta University
PA	Physical Activity
PE	Physical Education
WHO	World Health Organization

Introduction

Kenya prides itself for having dominated the middle and long distance running events globally for most of the last four and a half decades. Environmental factors such as altitude, nutrition, and distance travelled to and from occupation-related activities such as school, have been proposed to partially account for the success of Kenyan runners (1-9). The reputation associated with this exquisite running prowess may be tarnished if the impending physical inactivity and obesity crises are not averted in the country.

In light of the above, and in line with the United Nations Millennium Development Goals as well as Kenya Vision 2030, there is a need to focus on promoting healthy active lifestyles for all Kenyan children and youth since they are the country's greatest resource in meeting Kenya's long-term national planning strategy (10). Kenya Vision 2030 reflects the country's endeavours for accelerated transformation into a globally competitive and prosperous industrialized middle-income nation by the year 2030, and the realization of the Millennium Development Goals, which include eradicating extreme poverty, reducing child mortality rates, fighting disease epidemics, and developing a global partnership for development. One key focus area of Kenya Vision 2030 is the health sector, and particularly to improve the overall livelihood of Kenyans by providing an efficient, integrated, high quality, and affordable health care system with prioritization of preventive care at the community and household level. As such, addressing child physical inactivity and preventing obesity falls well within this vision.

In an effort to preserve Kenya's athletic identity and contribute to both international and domestic public health goals, this Report Card has been prepared and modelled after similar ones found in Canada, the United States of America, and South Africa. The Report Card used available evidence regarding exercise, physical activity, and lifestyle behaviours in order to situate the potential for Kenyan children and youth to develop modifiable chronic conditions such as overweight, obesity, and type 2 diabetes among others.

The steady rise in childhood overweight and obesity globally has brought about the emergence of lifestyle-related diseases in children that were previously exclusive to the adult population. Such ailments were rarely seen in children and adolescents in developing countries. Childhood obesity has the potential to cause metabolic and physiological changes that continue in adulthood, thereby increasing the long-term risk of disease, disability, and death. Obese children and adolescents often suffer stigmatisation and are labelled with negative stereotypes, and while girls may be affected more than boys, negative experiences are reported by both sexes (11,12). Despite childhood overweight and obesity being increasingly common, the negative social reactions to these children are by no means diminishing, and are expected to have adverse emotional consequences including low self esteem, negative body image, and depressive symptoms (13). Overweight and obese young people are likely to have fewer friends and suffer ongoing peer rejection, which is shown to be associated with reduced psychological functioning in adulthood. Consideration should therefore be given to any initiatives at home and school aimed at promoting an active and healthy lifestyle. Such initiatives should include the school curriculum and policy implementation among others.

Healthy Active Kids Kenya

The first of its kind, *Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth* will provide a baseline assessment of the state of affairs on the physical activity patterns and body weights of Kenyan children and youth. The goal is to highlight the areas where Kenya is succeeding as a nation and emphasise areas where more action is needed, in order to realize healthy active living goals for children and youth. Healthy Active Kids Kenya (HAKK) plans to produce the Report Card periodically as a means of monitoring healthy active living behaviours of Kenyan children and youth and as a means of holding us all accountable for the future health of our children. Indeed, as stated in the Declaration on the Rights of the Child, the child, by reason of his/her physical and mental immaturity, needs special safeguards and care including provision of suitable standards of living for adequate physical, mental, spiritual, moral and social development. Measures ought to be taken to support parents and other caregivers to implement this fundamental right. Since we are aware of the harmful effects of physical inactivity and obesity on the health of children and youth, it becomes a foremost responsibility to act to preserve healthy and active living behaviours for their well being, particularly the right to enjoy regular physical activity for the maintenance of a healthy body weight (14,15).

The Importance of Physical Activity for Children and Youth in Kenya

Children and youth need opportunities to be physically active in order to grow, learn, thrive, and be happy. Active and healthy children and youth are likely to be attentive in class and achieve continuing academic success. Unhealthy eating habits and physical inactivity contribute to the acceleration of chronic disease development, and these behaviours and consequences may persist throughout adulthood (16,17). The primary goal of encouraging appropriate physical activity in the young is to promote healthy attitudes, knowledge, and behaviours early in life that will continue into adulthood.

There is a lack of nationally representative data on physical activity among Kenyan children and youth. Data on the tracking or surveillance of coronary heart diseases risk factors from childhood to young adulthood in Kenya is also lacking. Tracking, as used here, simply means that children with high values of a particular measurement tend to remain high compared to other children when followed over time; similarly, children with low values tend to remain low over time. A pattern of inactivity and sedentary behaviour often begins early in life and has the potential to persist throughout one's life resulting in a loss of health and productivity, making the promotion of physical activity among children imperative. Kenya, like most developing countries, is currently experiencing a nutrition and physical activity transition. This transition is reflected in the increasing prevalence of both obesity and physical inactivity as major risk factors contributing to the burden of non-communicable diseases (18,19,20). Such a transition has serious implications with respect to public health outcomes, risk factors, and economic growth, and hence needs to be addressed if we are to adequately manage the double burden of infectious and non-infectious diseases, particularly in developing countries. It is with this reality in mind that *Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth* has been prepared.

Did you know that participating in physical activity can improve the quality of life of individuals and communities, promote social inclusion, help combat crime and anti-social behaviour, and raise individual self-esteem and confidence?

The Target Audience for the Kenya Report Card

This publication is for people with an interest in child and youth health and wellness as a foundation for a prosperous nation, particularly for:

I. Those who are interested in childhood physical activity, overweight/obesity, and nutrition research;
II. Those who develop policies and implement the actions that flow from public health policies such as politicians, governmental departments, non-governmental organizations, regional education authorities, school boards, school directors, principals, head teachers, advisors, nurses, social workers, school health coordinators, public health officials, and sporting organisations;
III. Those who are charged with the responsibility of ensuring that the built environment is supportive of healthy active living, such as city planners, designers, and contractors;
IV. Teachers, parents, and children and youth, since effective promotion of health is an inclusive and participatory process;
V. Those who may be in a position to support or collaborate on future initiatives of HAKK; and,
VI. International colleagues who are in a position to learn from and work with HAKK and the KIDS-CAN Research Alliance.

The Grading System

The assigning of grades was based on comprehensive analyses of available data sources on Kenyan children since 1986 (25 years). The sources included peer-reviewed journal publications, presentations at peer-attended forums, unpublished graduate student theses, and data from other organizations and agencies such as the Kenya National Bureau of Statistics and the KIDS-CAN Research Alliance. A panel of experts discussed and assigned grades based on a set of specific criteria and existing grading schemes from similar report cards in Canada, South Africa, and the United States of America. For instance, “Attain” refers to the extent to which the practice is accessible to all or most Kenyan children and youth, “Impact” describes the effectiveness of the practice, intervention or legislation, and “Adoption” refers to the extent to which the practice or intervention is implemented. These are further explained below.

Grade	Description
A	Indicates that a **majority** of Kenyan children and youth engage in best-practice activities.
B	Indicates that **over 50%** of Kenyan children and youth engage in sufficient best-practice activities.
C	Indicates that **about 50%** of Kenyan children and youth engage in healthy active practices.
D	Indicates that action or practice is **insufficient to adequately promote health** and prevent chronic disease due to unequal reach, adoption, or impact. It also reflects a higher potential risk for future disease.
F	Indicates that there were **no existing interventions, infrastructure or practices**, or that they have been shown to be **ineffective**. It also reflects the greatest potential risk for future disease.
INS	Denotes there is **insufficient data for grading**.

B Physical Activity
Active Play
Active Transportation

Summary

- About 72% of Kenyan children and youth were classified as physically active as per the global WHO guidelines for physical activity.
- There is emerging evidence of disparities across age, sex, and socioeconomic status.
- Studies show that children from rural Kenya are more physically active than their urban counterparts with a mean average steps per day (± SE) of 14,700 ± 521 verses 11,717 ± 561 ($p<0.0001$) for rural and urban Kenyan children respectively.
- 70 % of urban Kenyan and 34% of rural Kenyan parents reported being more active during childhood than their children.
- There are limited data or published papers on the mode of transportation used by Kenyan children and youth. The same applies to active play.
- Over 50% of Kenyan athletes ran to school each day and covered over 5 km.

Studies show that children from rural Kenya are more physically active than their urban counterparts with a mean average steps per day (± SE) of 14,700 ± 521 compared to 11,717 ± 561 ($p<0.0001$) for their urban counterparts (21,22). About 72% were classified as physically active as per the global guidelines for physical activity, which recommend that children and youth aged 5–17 accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily. Amounts of physical activity greater than 60 minutes provide additional health benefits. Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week (23). It is noteworthy that very limited information or data are available on the proportion of Kenyan children and youth that are physically active, and that national-level surveillance on physical activity is needed to determine the overall activity patterns among Kenyan children and youth. Key sources of physical activity include active play, active transportation to and from school, household chores, sport participation, and physical education. Physical activity is important for health and obesity prevention.

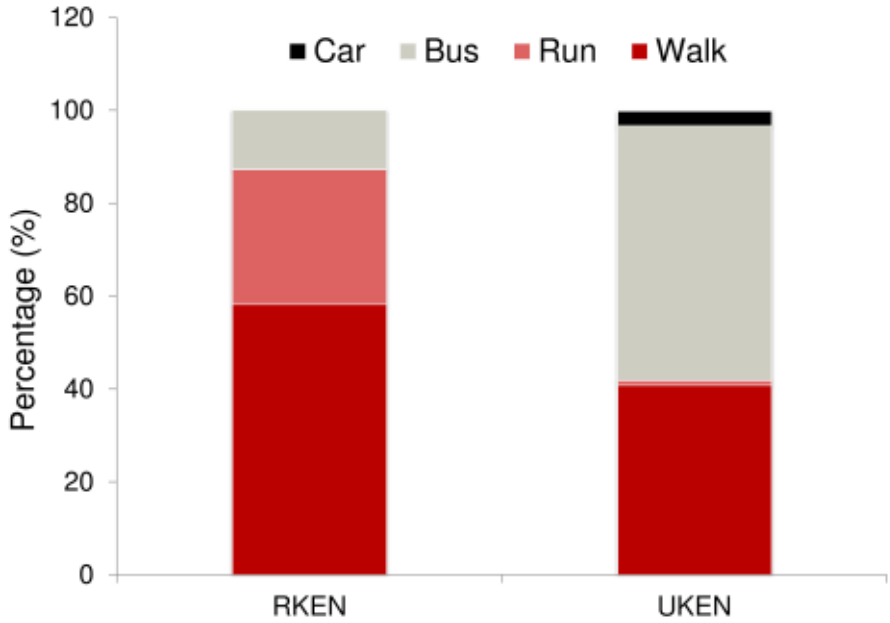

Figure 1: Children's mode of transportation to and from school in rural Kenya (RKEN) and urban Kenya (UKEN).

A Screen Time
TV Viewing
Computer/Internet Use
Video Game Playing

Summary

- Studies show that a large proportion (50%) of children in urban Kenya spend over 2 hours per week on screen time activities compared to 30% of children in rural Kenya.

Studies show that rural Kenyan children are less overweight or obese, and accumulate less time in sedentary behaviours (555 ±67 minutes per day) than their urban counterparts (678 ±95 minutes per day) (21,22). The amount of time children spend on screen-related activities such as playing video games, online chating, watching television, or texting, is directly related to their body weight. Children who spend more time on screen-related activities are likely to be overweight and/or obese regardless of their age, race/ethnicity, or family income (23). A large proportion (50%) of children in urban Kenya spend over 2 hours per week on screen time activities compared to 30% of children in rural Kenya (21). Compared to other countries, Kenya is doing well, but with the emerging physical activity transition, this indicator must be watched closely. There is also a need for national guidelines on sedentary behaviours.

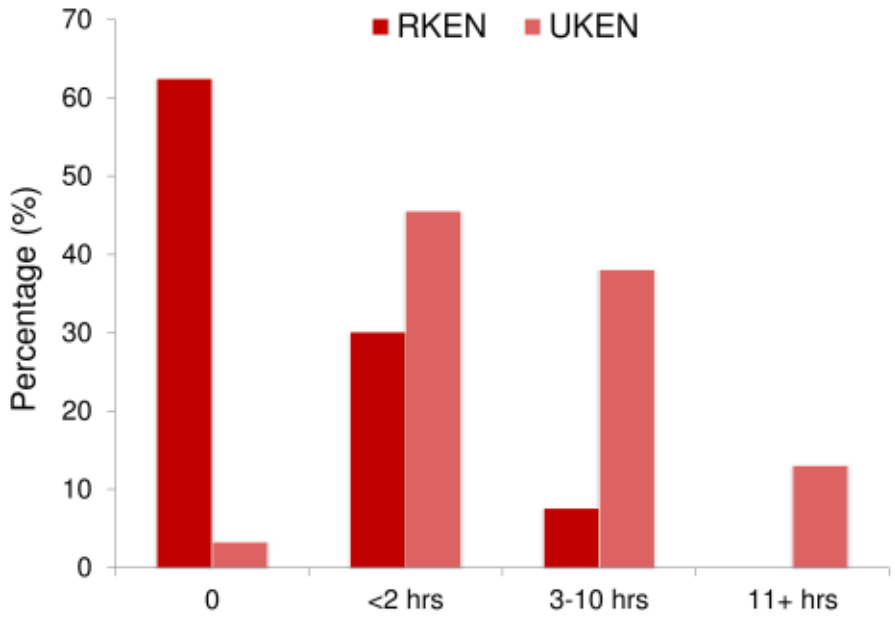

Figure 2: Children's screen time (hours/week) in rural Kenya (RKEN) and urban Kenya (UKEN).

Did you know that participating in physical activity can improve physical and mental health and well-being, enhance academic excellence and life-long learning, promote active citizenship, and help enhance economic development?

B Sports Participation

Summary

- It has been reported that 87% of Kenyan athletes attending University did not participate in sports while in primary school, but that their participation began while in secondary school.
- Studies show that Kenyan children and youth have a high interest in sports and that they need more training to improve their talents.
- The main hindrances to participation were physiological factors and time or opportunity restrictions.
- Talent identification and development structures are needed.

It has been reported that 87% of Kenyan athletes attending University did not participate in sports while in primary school, but that their participation began while in secondary school (25). The key perceived barriers to participation in sports included disabilities, fear avoidance, overprotection by parents/guardians, and lack of opportunities and/or time (26). Further, athletes from upper-class backgrounds were found to predominantly participate in sports perceived as more “prestigious” and associated with higher costs such as rugby, while those from the middle and lower classes dominated in sports such as soccer, netball, or hockey, thought to be “culturally-neutral" (25). Sports serve as an excellent opportunity for physical activity. It is therefore essential to provide an all-inclusive sports culture and infrastructure to primary schools such that parents are able to encourage their children to participate in sports on the basis of talent rather than status in society. Children and youth who play sports have more positive body image than those who do not. Participation in sports also improves academic performance in children, develops leadership qualities, and fosters team spirit. Participation in competitive sports exposes the players to the aspects of success and failure, thereby contributing to their social development for a positive competitive spirit.

Did you know that children and youth should accumulate at least 60 minutes of moderate-to-vigorous intensity physical activity daily, including muscle and bone strengthening activities at least 3 times a week?

C Overweight, Obesity, and Stunting

Summary

- Kenyan children in urban settings appear to be showing signs of the nutrition and physical activity transition while others are showing signs of stunting and wasting.
- 7% of boys and 17% girls in urban Kenya are overweight or obese.
- Urban Kenyan children are more sedentary, rely less on active transportation, and accrue fewer daily step counts than their rural counterparts.
- Overall, studies suggest that children in urban Kenya are being exposed to a more “obesogenic” lifestyle.
- There is however no nationally-representative data on childhood obesity and overweight in Kenya.

Kenya is a faced with a double-edged sword, whereby overweight and obesity among children and youth co-exists with stunting and underweight. A study of 1495 pre-school children aged 3 to 5 years from rural and urban areas of Kenya revealed that over 30% were stunted, approximately 16% were underweight, 4% were wasted (emaciated), approximately 18% were overweight and 4% were obese; statistics which reveal the presence of both under- and over-nutrition among Kenyan pre-school children (27). These findings emphasise a need for the generation of nationally-representative estimates for the body weights of school aged children and youth.

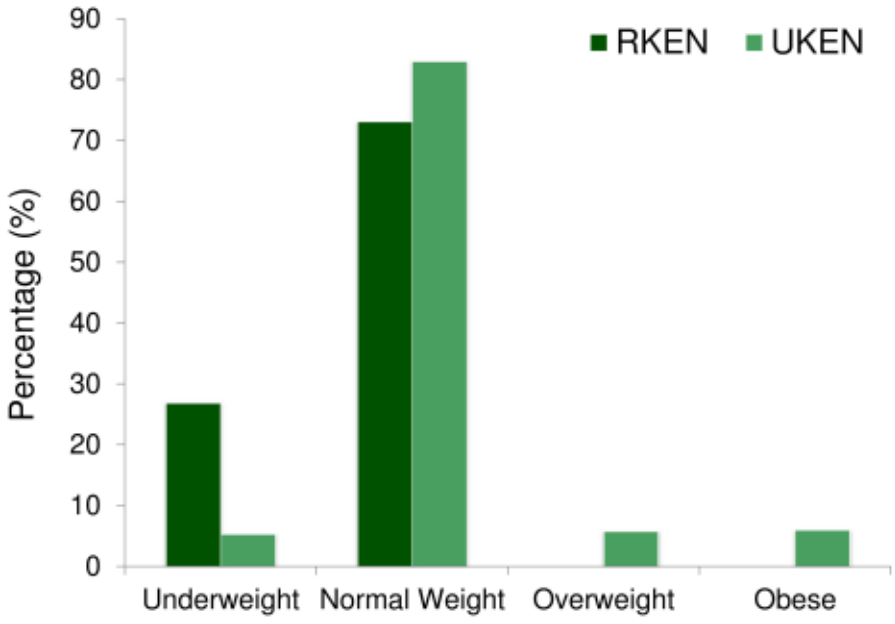

Figure 3: Body weight status of children in rural Kenya (RKEN) and urban Kenya (UKEN) based on Cole BMI cut-offs.

INS Physical Activity in Schools
Physical Education
Sports

Summary

- There is insufficient evidence on physical activity trends and practices in the school environment; however, anecdotal accounts reveal that physical education is scheduled within the school program as required by government policy, but that physical education sessions may in some cases be used to teach other examinable subjects.

Since children and youth spend a significant proportion of their waking hours in the school environment, schools provide an important opportunity to positively influence their healthy active living behaviours. School environments that encourage physical activity and healthy eating are strongly associated with improved health, physical activity, and fitness outcomes in students (28,29). There is a need to encourage children and youth to actively participate in physical activities at school as well as ensure that the environment is supportive of a healthy active lifestyle. Schools should have ample space and time allocation that allow participation in various physical activities.

INS Family

Summary

- There is insufficient evidence on familial influence and household related physical activity.

Parental or caregiver perceptions of the physical environment have an immense influence on children's physical activity behaviours. Positive parental perceptions of the neighbourhood environment are associated with less screen time, more physical activity, and increased active transportation such as walking or cycling to and from school or during leisure time (30). Unfortunately, while parents have a significant role in promoting healthy active lifestyles for their children, they often are not aware of the requirements for physical activity and health eating, and tend to conceptually minimise their children's body weight and accentuate the activity levels of their children (31). Parents in Kenya need to be educated about the positive effects of participation in physical activity and maintaining a healthy body weight, such that they are able to encourage and support their children to live healthy active lifestyles.

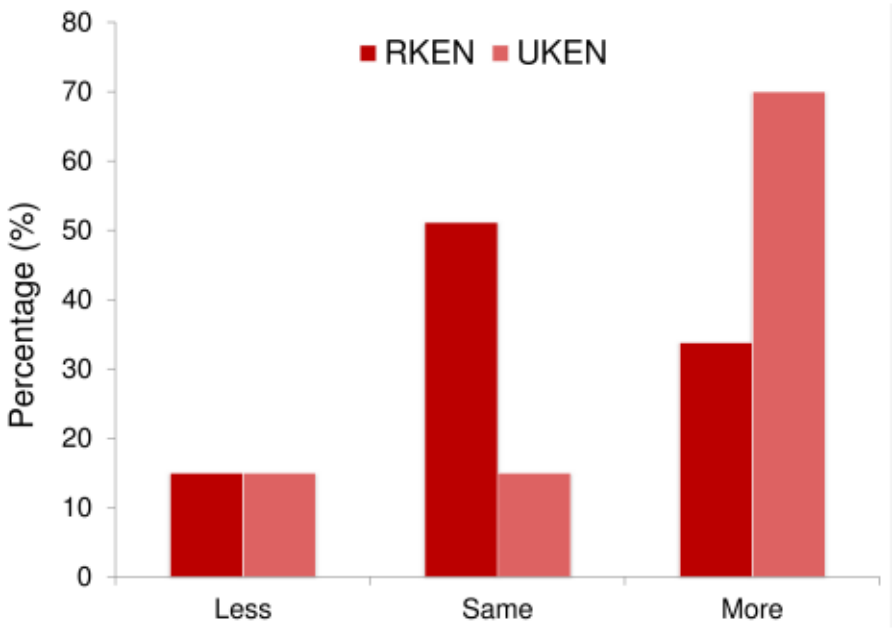

Figure 4: Parental perceptions in rural Kenya (RKEN) and urban Kenya (UKEN) of the activity level of their children.

C Policy

Summary

- There are existing government policies on participation in physical education by Kenyan school children, however, compliance is variable.
- All graduates of teachers training colleges are required to take physical education as a compulsory subject.
- There are no national physical activity and sedentary behaviour guidelines for Kenyan children and youth.

Kenya has a robust policy for sport and physical education in the school environment. The Kenya Ministry of Education states that children and youth are required to engage in 40 minutes of physical education 3 times per week. In addition, all teachers that graduate from teachers training colleges are required to take physical education as a compulsory subject. Unfortunately, physical education sessions are often used to teach other examinable subjects. In addition, there are no national physical activity or sedentary guidelines for Kenyan children and youth. Owing to an absence of funded governmental or non-governmental organizations dedicated to the promotion of healthy active living in children in Kenya, HAKK was created in an effort to fill this void.

Recommendations for Action

I. Nationally representative data on the physical activity patterns of Kenyan children and youth is needed to inform policy and practice. There is a need for continuous monitoring and surveillance of physical activity patterns among Kenyan children and youth from different geographic areas within Kenya. Monitoring physical activity knowledge, attitudes and behaviours of Kenyans as well as factors which facilitate or impede access to physical activity opportunities is required.

II. There is a need to develop physical activity and sedentary behaviour guidelines for Kenyan children and youth.

III. There is a need to establish a national report card scientific advisory panel, composed of researchers, exercise and sports specialists, nutritionists, media personalities, policy makers, medical doctors, and other key stakeholders.

IV. Collaborative efforts with relevant Kenyan Government Ministries as well as non-governmental organizations are necessary.

V. Kenyan children and youth need to be supported in making physical activity choices that are convenient, attractive, and compatible with their needs and interests.

VI. There is a need to enhance the development of social and physical environments that support the integration of physical activity into daily life.

VII. Increasing knowledge and understanding of interventions, which are effective in changing physical activity knowledge, attitudes and behaviours is required.

VIII. Increasing knowledge and understanding of the relationships between physical activity, healthy eating and a range of other health determinants that contribute to or inhibit optimal health is recommended.

IX. There is a need for networking with African and other international experts to implement promising practices for research, surveillance and public health interventions.

X. Preserving the health of children and youth through healthy active living needs to be as high a priority as treating sick children.

Opportunities for Sponsorship and Collaboration

KIDS-CAN is looking for collaborators and partners to invest in our efforts to address the emerging threat of childhood physical inactivity, overweight and obesity. There are many possibilities for partnership investments in the KIDS-CAN Research Alliance. Support may include:

- Sponsoring scholarly exchanges between Kenya and Canada
- Creation of graduate student scholarships for study in this area
- Research donations
- Donations for equipment acquisition
- Support for staff and infrastructure for the creation of "Healthy Active Kids Kenya", an organization committed to the promotion of healthy active living for children and youth in Kenya
- Support for the development and dissemination of an annual Report Card on the Physical Activity and Body Weight of Kenyan Children and Youth
- Support for the customization and implementation of "Physical Activity Guidelines for Kenyan Children and Youth", building on the global physical activity guidelines by the World Health Organization

Potential partners may contribute via cash donations, contract research, product contributions, in-kind contributions such as working space and expertise, corporate donations and support, and philanthropic support through corporate foundations. We are interested in any assistance, particularly support from corporations who are interested in making significant and sustained contributions, as part of a purposeful corporate marketing strategy with the potential to have an impact throughout Kenya.

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The Importance of Physical Activity for Children and Youth in Kenya

Children and youth need opportunities to be physically active in order to grow, learn, thrive, and be happy. Active and healthy children and youth are likely to be attentive in class and, in the long term, achieve academic success. Unhealthy eating habits and physical inactivity contribute to the acceleration of chronic disease development, and these behaviours and consequences may follow throughout adulthood. The primary goal of encouraging appropriate physical activity in the young is to promote good health attitudes, knowledge, and behaviours early in life that will continue into adulthood.

There is a lack of nationally representative data on physical activity among Kenyan children and youth. Data on the tracking or surveillance of coronary heart disease risk factors from childhood to young adulthood in Kenya is also lacking. A pattern of inactivity and sedentary behaviour often begins early in life and has the potential to persist throughout one's life resulting in a loss of health and productivity, making the promotion of physical activity among children imperative. Kenya, like most developing countries, is currently experiencing a nutrition and physical activity transition. This transition is reflected in the increasing prevalence of both obesity and physical inactivity as major risk factors contributing to the burden of non-communicable diseases. Such a transition has serious implications with respect to public health outcomes, risk factors, and economic growth, and hence needs to be addressed if we are to adequately manage the double burden of infectious and non-infectious diseases, particularly in developing countries. It is with this reality in mind that Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth has been prepared.

Healthy Active Kids Kenya

The first of its kind, Kenya's 2011 Report Card on the Physical Activity and Body Weight of Children and Youth provides a baseline assessment of the state of affairs on the physical activity patterns and body weights of Kenyan children and youth. The goal is to highlight the areas where Kenya is succeeding as a nation and emphasise areas where more action is needed, in order to realise healthy active living goals for children and youth. Healthy Active Kids Kenya (HAKK) plans to produce the Report Card periodically as a means of monitoring healthy active living behaviours of Kenyan children and youth and as a means of holding us all accountable for the future health of our children. The Declaration on the Rights of the Child states that the child, by reason of his/her physical and mental immaturity, needs special safeguards and care including provision of adequate standards of living for physical, mental, spiritual, moral, and social development. Measures ought to be taken to support parents and other caregivers to implement this fundamental right. Since we are aware of the harmful effects of physical inactivity and obesity on the health of children and youth, it becomes a foremost responsibility to act to preserve healthy and active living behaviours for their well-being.

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