

Physical activity, health and well-being – A strategic objective of the National Sport and Recreation Plan (NSRP) of South Africa

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Abstract

In the National Sport and Recreation Plan (NSRP) of the Republic of South Africa, approved by Cabinet in 2012, the first strategic objective stated as follows: “To improve the health and well-being of the nation by providing mass participation opportunities through active recreation”. The aim of this objective is to get the South African population more physically active in order to improve their health and well-being. The purpose of this paper was to highlight the South African situation regarding physical activity, health and well-being as well as the challenge of non-communicable disease. For this purpose, scientific evidence was gathered from peer reviewed journals, books and internet sources. The health and well-being of mankind since ancient times was addressed in many documents and charters. The salutogenic association between physical activity and health was pointed out by health professionals in ancient times and later substantiated by evidence-based research by modern scientists. Notwithstanding the fact that research indicated physical inactivity as a major risk factor for non-communicable diseases (NCD), the hypokinetic lifestyle of people around the globe remains a health concern. According to the World Economic Forum, 63% of all deaths in 2008 could be attributed to NCD, with about 50% of those that had died as a result of NCD, being in the prime of their productive years. It is also proved that the low- and middle-income countries are disproportionately affected, with 80% of all deaths due to NCD. In South Africa, the condition of hypokinesia is also alarming. Results indicated that in 2006, 74.6% of individuals over all ethnic groups do not participate in physical activity, the most inactive groups being the Coloured (84.8%), followed by the Asian (75.6%), black (75.0%) and white (74.6%) groups. When the age pyramid for the South Africa population is analysed with projections to the year 2050, the large portion of elderly people becomes evident. The fastest growing segment of the population will be the age group 80 + years, which will grow at an estimated rate of 77% and 79% for the male and female groups respectively. This significant number of elderly people may lead to major escalation in health care cost, which may cripple the health care budget. In conclusion therefore it is clear that physical inactivity poses a major health risk to the South African population, and with the projected increase in the older age category, that is more prone to various health risks, this scenario asks for timely intervention at various levels, starting from childhood to the elderly.

Keywords: Physical activity, hypokinesia, non-communicable disease, ageing, health care cost, population pyramid.

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Introduction

The health and well-being of mankind since ancient times has been addressed in many documents and charters over the years. One of the earliest documentation in this respect was the Papyrus Ebers – a medical guideline published around 1552 BC in ancient Egypt (McMillen, 1968). In this publication various treatments of the illnesses of those days were discussed, often suggesting some horrible “medication” such as blood of a lizard, pig teeth, rotten meat, stinking fat etc. When a patient suffered hair loss a mixture of six fats was suggested, viz. those of a horse, hippo, crocodile, cat, snake and steenbuck, and to increase the potency of this concoction, crushed teeth of a donkey, mixed with honey was added (McMillen, 1968). Since those early years the link between physical activity and health was also propagated by many of the physicians of that time (Ryan, 1984). In the 9th century BC exercise and massage were recommended for the treatment of rheumatism (Ryan, 1984). Herophilus, Eristratus and Alexandria in the 4th century BC recommended moderate exercise as a remedy for their patients (Ryan, 1984). Hippocrates, the man presently favoured as the father of modern medicine, expressed his view as follows: “Eating alone will not keep a man well, he must also take exercise” (Pate, 2007). Maimonides, a Jewish philosopher-physician of the 12th century declared the following: “Anyone who lives a sedentary life and does not exercise ... even if he eats good food and takes care of himself according to proper medical principles – all his days will be painful ones and his strength shall wane” (Ryan, 1984).

The relevance of these views of Maimonides was endorsed by modern scientists when Booth, Gordon, Carlson and Hamilton (2000) considered possible strategies for the global epidemic of non-communicable diseases and concluded: “We know of no single intervention with greater promise than physical exercise to reduce the risk of virtually all chronic diseases simultaneously” (Booth et al., 2000). It is clear those great leaders in medicine and also later in the fields of exercise and sport science (Eckert & Montoye, 1984; US. Dept. of Health and Human Sciences, 1996; Bouchard, Blair & Haskell, 2007) were convinced of the salutogenic effect of regular physical activity on the health and well-being of the individual.

The views and strategies of many of the leaders in the field of health promotion in modern history were embodied in various charters to this effect (WHO, 2009). The most prominent and well known of them were the following: Alma-Ata declaration (1978), Ottawa charter for health promotion (1986), Adelaide recommendations on healthy public policy (1988), Sundsvall statement on supportive environments for health (1991), Jakarta declaration on leading health promotion into the 21st century (1997), Mexico ministerial statement for the promotion of health (2000) and the Bangkok charter for health promotion in a globalized world (2005) (WHO, 2009). In South Africa, a milestone event was

reached when the cabinet approved the National Sport and Recreation Plan (NSRP) in 2012 (DSR, 2012). In this approach the Department of Sport and Recreation of South Africa embraced the statement of the European Commission as captured in its 2007 White Paper on Sport, stating as follows: “As a tool for health enhancing physical activity, the sports movement has a greater influence than any other social movement”. This uplifting potential of sport participation was also expressed by former State President Nelson Mandela at the Laureus World Sports Award Ceremony in 2000, as follows: “Sport has the power to change the world. It has the power to inspire, it has the power to unite people in a way little else can. Sport can awaken hope where there was previously only despair” (DSR, 2012). The NSRP with its vision to 2020, focus on some strategic objectives for the South African situation. The first objective envisaged: “To improve the health and well-being of the nation by providing mass participation opportunities through active recreation” (DSR, 2012). The basic of this objective is to get the South African population more physically active in order to enhance their health and well-being. This paper will highlight the situation regarding physical activity, health and well-being in South Africa, and also provide some projections regarding the South African population pyramid to the year 2050.

Health and well-being

Already in 1947 the definition of health, postulated by the World Health Organization, reads as follows. “Health is a condition of optimal physical, mental and social wellness and not merely the absence of disease” (Strydom, 2005). On the other hand, wellness/well-being is defined as “an integrated and dynamic level of functioning, oriented towards maximizing potential, depending on self-responsibility” (Robbins, Powers & Burgess, 2002). Wellness is therefore about the dynamics of life, making responsible choices, a way of life and a mindset based on personal empowerment towards the various dimensions of wellness.

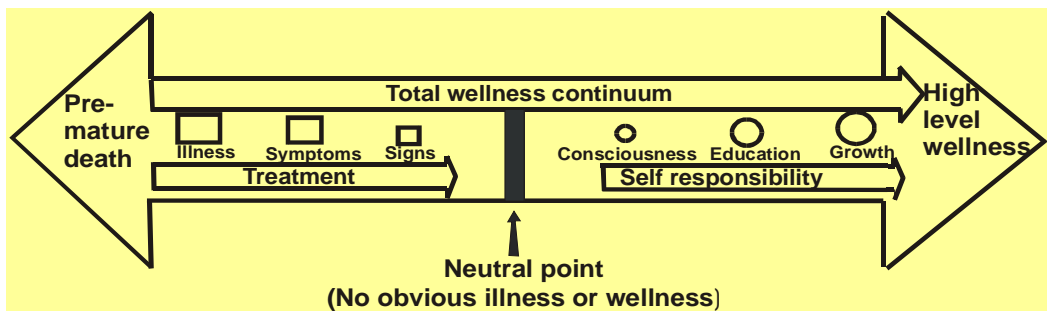


Figure 1: Illness/Wellness continuum (Travis, 1972).

On the illness/wellness continuum, first constructed by Travis in 1972 (www.wellpeople.com), most people accept the neutral point as a reference of good health, as no discernible illness is present. When moving to the left side

(treatment side) on the continuum some signs, symptoms and/or disability occur, which need medical treatment of the specific condition. After receiving the treatment and the patient returns to the neutral point, many then accept this as perfect health, not knowing or not willing to accept self-responsibility in order to gain further improvement, striving to high-level wellness. On the treatment side (left) of the continuum, no active involvement from the patient is required, while the activity on the right hand side (health promotion) requires active involvement by taking self-responsibility. This might require the patient to change his/her lifestyle, viz. stop smoking, lose weight, be more active etc. In this respect many patients may have some barriers to overcome and need some support to change their health behaviour (Rollnick, Masson & Butler, 2005).

In order to progress to optimal health and wellness (the right hand side of the continuum) patients/ individuals need to gain awareness and knowledge in order to make the changes in their attitudes and behaviours (Sharkey & Gaskill, 2007). Dickman (1988) describes this as an interaction of thoughts and behaviour with wellness, suggesting the following equation: Wellness \leftrightarrow Thoughts \leftrightarrow Behaviour. Education of the individuals is therefore of paramount importance in order to empower them to take proper action and decisions to improve own wellness (Strydom, 2012). This is one of the views of the ACSM's initiative of "Exercise is Medicine" (2007), by means of which they tried to encourage medical practitioners to prescribe exercise to a patient where needed, as they do with medicine. Despite the numerous research and other literature indicating the salutogenic contribution of physical activity to health and wellness (US Dept. of Health and Human Services, 1996; Bouchard et al., 2007; Ehrman, Gordon, Visich & Keteyian, 2009), physical inactivity remains a serious health concern to health professionals globally, leading to various hypokinetic/chronic disease (Booth et al., 2000; Strydom, 2005).

Physical activity and chronic disease

Chronic disease, also referred to as non-communicable disease (NCD), is defined as a disease that is "slow in its progress and long in continuance" (Booth et al., 2000). The individual may cross a threshold called the "clinical horizon" where a multi-factorial chronic condition may manifest years after the original causes have taken effect (Rowland, 1990; Booth et al., 2000).

Rowland (1990) points out that the clinical horizon is reached during the mid-40s of an individual's life, representing an age group in which the symptoms of NCD, resulting from risk factors earlier in life, become evident. A serious concern of this effect is that quite often these early risk factors (smoking, drinking, physical inactivity etc.) in life are associated by the youth as part of the "good life", viz. independence, maturity and "coolness" (Strydom, 2012). What worsens the scenario is that these unhealthy and detrimental lifestyles do not

cause immediate harm that may signal some red flags to the consumer (Strydom, 2012). It is also proved that death rates resulting from NCD are higher in the low and middle-income countries, than in the higher-income countries. (UN.Gen.Ass., 2011) (Figure 2).

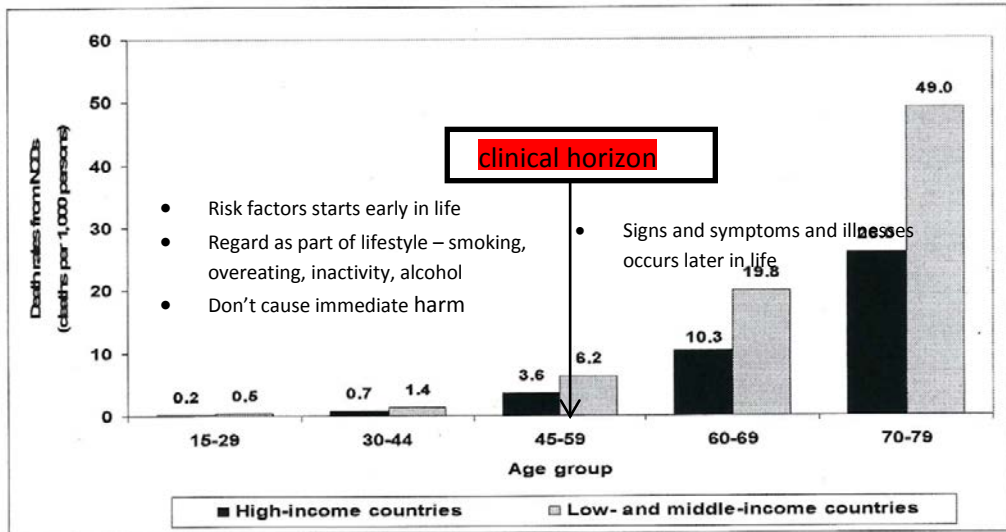


Figure 2: Death rates from non-communicable diseases in high-income and in low- and middle-income countries, 2008 (Adapted from United Nations General Assembly, 2011)

Typical examples of chronic diseases are coronary heart disease, heart failure, hypertension, stroke, obesity, type 2 diabetes, some cancers, osteoporosis and sarcopenia (Booth et al., 2000). According to the World Economic Forum, 63% of all deaths in 2008 could be attributed to NCD, with about 50% of those who died of NCD being in the prime of their productive years (WEF, 2013). The low- and middle-income countries were disproportionately affected, with 80% of the total deaths due to NCD occurring in that group (WEF, 2013). It was further estimated that NCD losses will rise over the next 20 years. Already representing 48% of the global gross domestic product (GDP) in 2010, it will dramatically impact on productivity (WEF, 2013). Therefore the challenge to combat NCD goes beyond health ministries and should include policy makers on all levels (Bloom et al., 2011).

As previously indicated, physical inactivity is one of the main risk factors for NCD, accounting for about 33% of the deaths (Powell & Blair, 1994). In South Africa, NCD account for nearly 40% of all adult deaths and the majority of South Africans suffer at least one modifiable risk factor for chronic disease (Lambert & Kolbe-Alexander, 2006). In this respect, Mayosi, Flisher, Lalloo, Sitas, Tollman and Bradshaw (2009) indicate that many NCD share common risk factors, viz. smoking, physical inactivity and unhealthy diet (obesity). This translates into cardiovascular diseases, diabetes and cancer. They also indicate that distinct differences exist between sexes, with smoking and alcohol abuse

being more common in men and obesity more common in women (Mayosi et al., 2009). Some ethnic groupings in South Africa are also more susceptible to NCD because of ethnic and other factors, viz. familial hypercholesterolemia occurs in a ratio of 1:200 in Caucasians resulting in premature cardiovascular deaths, while the Indian population is more insulin resistant than other groups, causing a higher risk of type 2 diabetes and ischaemic heart disease (Mayosi et al., 2009). Black women in South Africa were reported to have the highest prevalence of obesity (58.5%) followed by the coloureds (52%), whites (49.2%) and Indian ladies (48.9%) (Puoane et al., 2002). One reason for the black women to be in the top position may be the positive association of their culture with obesity, suggesting health, wellness (including negative HIV- status) financial wellness, respect and happiness (Puoane, Fourie & Rosling, 2005).

Despite the overwhelming evidence of physical activity as a treatment and preventative modality in NCD (Booth et al., 2000; Lambert & Kolbe-Alexander, 2006; WEF, 2013) the majority of adults in South Africa remains sedentary (DSR, 2005). In this respect the Department of Sport and Recreation in South Africa indicated that 74.6% individuals in all ethnic groups in South Africa do not participate in any physical activity (DSR, 2005). The most inactive group being the Coloureds (84.8%) followed by the Asian (75.6%) Black (75.0%) and White (74.6%) groups. In the total SA population, 57% of the men and 88.8% of the women reported to be physically inactive (DSR, 2005). This hypokinetic condition tends to increase with age, as in the age group 60+ years, 94.3% South Africans reported to be physically inactive (DSR, 2005). According to the WHO study on Ageing and Adult Health (WHO, 2012), South Africans also suffer the highest prevalence of 3 of the main risk factors for NCD, of the 6 countries studied (WHO, 2012). This afore-mentioned study compared South Africa with China, Ghana, India, Mexico and the Russian Federation and found the prevalence of low physical activity (95.9%), hypertension (68%) and obesity (44.4%) the highest in the South African population (male & female) aged 50 years and older (WHO,2012). The salutogenic changes physical activity may trigger in many risk factors for NCD makes this modality a very realistic starting point for intervention, as Booth et al. (2000) stated that they know of no single intervention with greater promise than physical exercise to reduce the risk of virtually all chronic diseases simultaneously. Another important impact of physical activity on NCD is that it also acts as a “protection”, even in the presence of other risk factors (Barlow, Brill, Blair & Kohl, 1990).

As previously indicated, various charters have been formulated over the last couple of decades, trying to convince leaders at various levels regarding the need for the improvement of the health and well-being of a nation. In support of this, the WHO (2012) declared the 10th of May annually as the “World move for Health Day”, aiming to promote physical activity and well-being. In South Africa, the “Vuka South Africa – move for your health” which means “wake up

South Africa - "move for your health" was launched in 2005 by the national Departments of Health, Education, Sport and Recreation together with private companies, tertiary institutions and non-government organizations (Lambert & Kolbe-Alexander, 2006). However, evidence-based research on this laudable programme is hard to find. Also the Charter of Physical Activity, Sport, Play and Well-being for all children and youth in South Africa, together with the Youth Fitness and Wellness Charter launched in 2004, have not yet provided results on the success of these programmes. Another government-imported sport development programme from England and Australia was launched in South Africa in 2004 to facilitate the development of a broad sport participation base focused on identifying sport talent and on using sport as a means to achieve social and human development, called *Siyadlala*, (Burnette, 2006).

Outcomes of this programme provided positive impact on social markers within the community regarding health, well-being and self-worth, environment, education and training, economy, crime and security (Burnette, 2006). The author concluded that "the programme impacted on human and community development, yet many challenges still remain to meaningfully contribute to sustainable human development" (Burnette, 2006). Some success stories from this programme were also available from other provinces in South Africa (Western Cape Government, 2013) and it can only be hoped that it will be supported by officials and organizations at all levels, and that this programme may contribute to combatting the threat of NCD in South Africa. As everywhere, too often an insufficient multi-sectorial coordination and drive towards a concerted programme of action for non-communicable diseases is found in South Africa (Mayosi et al., 2009).

Physical activity, ageing and non-communicable disease

Population ageing is happening globally, progressing faster in developing countries than in the developed countries (UNFPA, 2012). The population age group 60⁺ years is growing at a faster rate than the total population in almost all world regions (UNFPA, 2012), with the age group 80⁺ years growing faster than any other younger age group. The population of centenarians, those aged 100 years or more, is growing fastest (UNFPA, 2012). In 2012, people aged 60⁺ years represented almost 11.5% of the total global population of 7 billion. It is projected that by 2050 this portion will be 22% and then for the first time there will be more elderly people than children under 18 years (UNFPA, 2012). The alarming aspect of this situation is that research has proven that an increase in age is associated with an increase in NCD (Leenders, 2009; UN, Gen. Ass. 2011), which goes hand in hand with increased health care costs and care for the elderly that may be in health centres or old-age homes, because the old people may not be able to perform activity of daily living or self-care (Leenders, 2009). It is therefore of critical importance that some innovative strategies be developed

to prepare for the large number of elderly people in the future and to increase their physical well-being and quality of life, not only to take care of themselves but also to fulfil important roles as productive citizens in their various countries. In this respect many countries in the world have realized the valuable input of the elderly in almost every spheres of life (UNFPA. 2012).

Results on fiscal savings that might result from a physical conditioning intervention, especially on the elderly population, is unfortunately not readily available (Shephard, 1978), but it is estimated that the impact only on cardiovascular and respiratory diseases could reduce costs for acute and chronic treatment by at least 33% (Shephard, 1978). A decrease in anxiety and elevation of mood might also yield a 10% reduction in the costs of mental care (Shephard, 1978). However, the biggest saving may come from the fact that older people may stay independent for a longer period of time when their physical fitness/performance has increased as a result of physical conditioning. In this respect Shephard (1978) indicated that an increase of 20% in the cardiorespiratory fitness may extend the time of independency by as much as 8.6 years, reducing the number of people requiring residential care by as much as 66%.

The South African population pyramid projections

In Figure 3 the population pyramids of the South African population are presented with projections to the year 2050 (US Census Bureau, 2003). A decline in the age groups 0-4 and 5-9 years (male and female) is perceivable in the pyramid for the year 2000. Since then this decline consistently occurred up to the projections to the year 2050. In the projected pyramid for the year 2050 the approaching “wave” of people in the middle-age group is clearly noticeable.

When a comparison of the rate of increase in the various age groups in South Africa is calculated, it follows the global pattern where the fastest growing segment is the male and female groups of 80⁺ years, which will grow at a rate of 77% and 79% respectively by the year 2050. The rates for various other age groups 40 – 49, 50 – 59, 60 – 69 & 70 – 79 are projected to be the following for males and females respectively; 30% & 20%; 35% & 29%; 57% & 46% & 56% & 60% (Strydom, 2012).

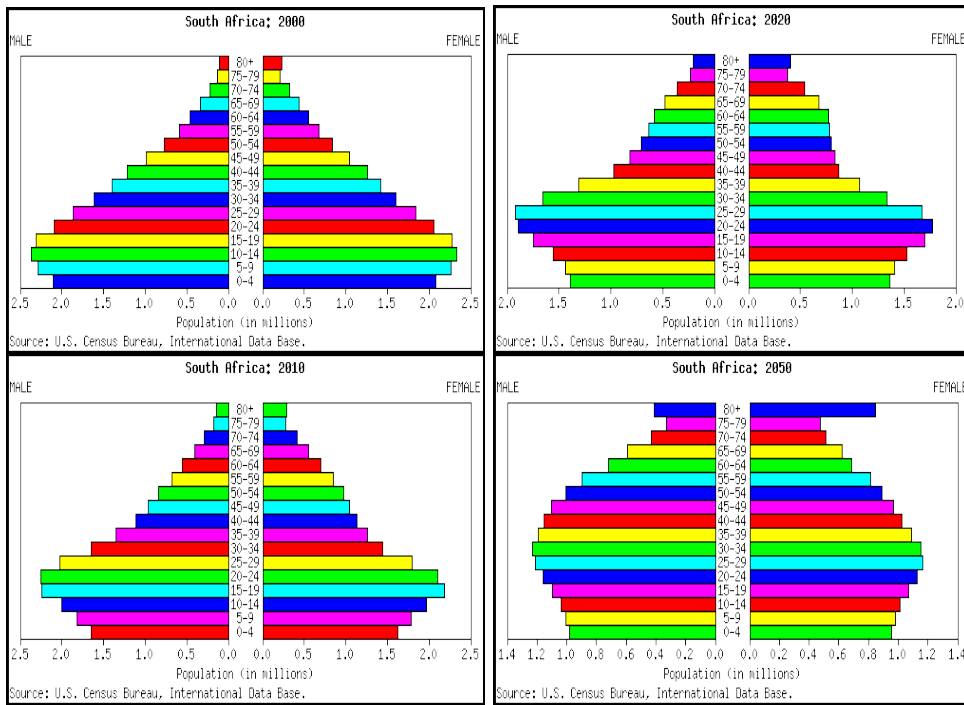


Figure 3: The South African population pyramids

Conclusion

In the light of the discussion regarding the impact of ageing, non-communicable disease and physical inactivity (hypokineses), it is of paramount importance that we should echo and embrace Vuka South Africa – Move for your health. The strategic objective of the NSRP for South Africa, viz. to improve the health and well-being of the nation by providing mass participation opportunities through active recreation, is indeed a wake-up call which cannot be ignored by leaders at all levels in this country. However, successful implementation thereof requires dedication and acceptance of responsibility together with the will and thrust to “make things happen”. This challenges political- social- academic- professional people and volunteers to be willing to “walk the extra mile”. As discussed, many endeavours to tackle the idea of health improvement already emerged in South Africa with various levels of success.

Various reasons for this may exist, but often continuity is lacking. Especially in the context of the impact of physical activity on health and other health-related issues, the outcome of such an intervention is strongly associated with the rate of compliance (Booth et al., 2000). In the case of interventions based on physical activity, adherence to these programmes posed huge challenges, asking for innovative leaders (Shephard, 1988). The three primary reasons South Africans indicated for non-participating in physical activity, viz. “not interested” (24.6%), “age” (20.1%) and “no particular reason” (15.2%) may be indicative of a lack of

knowledge together with an attitude of not willing to take responsibility for their health (DSR, 2005). To change this attitude will really challenge programme leaders and require a national dedication to “make things work”. It is imperative to make a paradigm shift and to start utilizing all efforts to improve the well-being of the South Africa population.

By looking at the projected population pyramid of SA’s population in 2050 and providing morbidity and mortality patterns does not change by unforeseen consequences, the main “wave” (portion) of the population will reach the clinical horizon of 45 years in 10 years’ time, that is in 2060, and in 25 years’ time (2075) they will reach the 60-year mark. Therefore it seems important to target the age group 25-34 years with intervention strategies in order to bring about a paradigm shift to take self-responsibility for their own health and well-being. The major part of this group may be employed, making company wellness programmes, aiming at the improvement of employee health and well-being a very strategic approach, which is also strongly supported by the World Economic Forum (2013).

The child population in school should also be an important target group, as they are the most susceptible to positive lifestyle influences (Strydom, 2005). In this respect the former Surgeon-General of the United states, Dr Everette Koop, emphasized the importance of focussing on the youth, stating as follows (Pfeiffer, 1996): “Everything we have ever done in health education, as good as it might be, always has one fault, it’s too late... Until we shift down and start talking to kids before they go to school, we’re never going to make it”. In South Africa we are presently reaching a critical stage in which many talks are held on the restoration of physical education in schools as a major subject, but with very little practical implementation at ground roots level. In negligence of this important initiative, the words of Arthur Steinhaus (1963) may come true for South Africa. viz: “We who professionally represent the field of health, physical education and recreation are responsible more than any other group for the development of fitness in all persons; if we fail, our mistakes will inhabit the earth, they become parents to a group of little mistakes... In frustrated ego, they may literally set the world on fire.”

Therefore one can only hope that this NSRP will contribute to improving the health and well-being of the South African population, as the remedy for NCD which will be the challenge to the health sector in the future, will require self-responsibility from the individual’s part.

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