A MALNOURISHED NATION? EMBRACING EMERGING TRENDS IN MALNUTRITION: A case for increased investment

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Key Messages

- Malnutrition, in all its forms, increases the risk of disease and death. It persists at unacceptably high levels on a global and country scale and remains a public health concern in Kenya.
- Some nutrition indicators showed an improving trend in the years preceding the accounting period. However other forms of malnutrition including over-nutrition and micronutrient deficiencies continued to show increasing trends. The high burden of disease and the increasing life expectancy has increased demand for specialized nutrition services.
- The expenditure on nutritional deficiencies over the accounting period remains low at less than 5% of the total health expenditure with a reducing trend over the accounting period.
- There is high out of pocket expenditure towards nutrition deficiencies at 45.9%.
- There was a notable increase in spending at National referral hospitals on nutritional care from KSh 2.3 billion in 2016/17 to KSh 3.1 billion in 2018/19, a 35 percent increase.
- A significant decline in spending was observed for county referral hospitals and providers of preventive care by 29.5 percent and 67.4 percent respectively between FY 2016/17 and FY 2018/19.
Nutrition is an essential input for development of any nation and a foundation for progress in health, education, employment, empowerment of women and the reduction of poverty and inequality. Malnutrition and poor diets are the number one driver of the global burden of disease. Malnutrition is associated with growth retardation in children, high prevalence of infectious diseases, greater risk of illness and death. For patients admitted in hospital malnutrition leads to increased hospital-related complications, longer length of hospital stay, increased costs related to treatment and higher mortality. Overweight and obesity are a major risk factor for Non communicable diseases.

The Kenya health policy 2014-2030 outlined nutrition indicators including breastfeeding, child and maternal underweight, vitamin A and zinc deficiency among top 10 priority risk factors for mortality (Table 1).

Table 1: Leading risk factors and contribution to mortality in Kenya, 2009

<table>
<thead>
<tr>
<th>Rank</th>
<th>Risk factors</th>
<th>% Total deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unsafe sex</td>
<td>29.7</td>
</tr>
<tr>
<td>2</td>
<td>Unsafe water, sanitation and hygiene</td>
<td>5.3</td>
</tr>
<tr>
<td>3</td>
<td>Suboptimal breastfeeding*</td>
<td>4.1</td>
</tr>
<tr>
<td>4</td>
<td>Childhood and maternal underweight*</td>
<td>3.5</td>
</tr>
<tr>
<td>5</td>
<td>Indoor air pollution</td>
<td>3.2</td>
</tr>
<tr>
<td>6</td>
<td>Alcohol use</td>
<td>2.6</td>
</tr>
<tr>
<td>7</td>
<td>Vitamin A deficiency*</td>
<td>2.1</td>
</tr>
<tr>
<td>8</td>
<td>High blood glucose*</td>
<td>1.8</td>
</tr>
<tr>
<td>9</td>
<td>High blood pressure*</td>
<td>1.6</td>
</tr>
<tr>
<td>10</td>
<td>Zinc deficiency*</td>
<td>1.6</td>
</tr>
</tbody>
</table>


These indicators, when combined with high blood glucose and high blood pressure, which are dietary related non communicable diseases; the risk contribution by nutrition related indicators is approximately 26 % as shown in Figure 1 below.

Figure 1: Leading risk factors and contribution to mortality in Kenya, 2009
According to the cost of hunger study-Kenya report (COHA 2019), undernourished children are more susceptible to recurring illness, had an increased risk of diarrhea, fever and malaria. The study estimated that in 2014, out of the 2.4 million incremental episodes of illness related to under-nutrition, 2.1 million were associated with higher risk of children being underweight. Cognizant of the fact that malnutrition and poor diets are number one driver of the global burden of disease there has been deliberate efforts to create favorable policy environment for nutrition.

The Constitution of Kenya 2010 guarantees every person the right: to be free from hunger, and to have adequate food of acceptable quality (Article 43(1) (c)); and every child has the right to basic nutrition, shelter, and health care (Article 53 (1) (c)).

**Burden of malnutrition in Kenya**

Kenya is facing the triple burden of malnutrition with co-existence of under-nutrition (stunting, wasting and underweight), over-nutrition (overweight, obesity, diet-related non-communicable diseases) and micronutrient deficiencies also known as hidden hunger.

Over the years, there has been significant improvement in child under-nutrition. Comparing Kenya demographic Health Survey (KDHS) 2008 and 2014; stunting, underweight and wasting improved from 35.3, 16.1 and 6.7 percent in 2008 to 26, 11 and 4 percent in 2014 respectively. Exclusive breastfeeding was at 61%. According to Kenya micronutrient survey 2011, there was progress in reduction in the prevalence of micronutrient deficiencies except for zinc whose prevalence was higher averaging 70%. This progress can be attributed to the investment for nutrition made by government and partners over this period.

The prevalence of anemias was highest in pregnant women (41.6 per cent), followed by children 6–59 months (26.3 per cent), school-age children (5–14 years) at 16.5 per cent. Other types of nutritional anemia, such as folic acid and vitamin B12 deficiency, were at 31.5 per cent and 47.7 per cent respectively among non-pregnant women aged 15–19 years. Vitamin A deficiency among children 6–59 months was 9.2 per cent. Iodine deficiency in pre-school and non-pregnant women was 22.1 per cent and 25.6 per cent respectively.

**The Emerging trends**

Despite the gains made towards the elimination of malnutrition, more needs to be done to reach the national and international targets in various nutrition indicators. In addition, Kenya has been ranked as a lower middle-income country since 2014³. As a country develops, the burden of diseases that affect a population shift from primarily infectious, such as diarrhea and pneumonia, to primarily non-communicable, such as cardiovascular disease and cancers⁴. This trend is majorly attributed to changes in lifestyles and nutrition is a key factor in this. For Kenya, the burden for malnutrition is at crossroads, with persistence under-nutrition with geographical disparities in addition to an increasing trend of overweight and micronutrient deficiencies.
Table 2: Leading risk factors and contribution to mortality in Kenya, comparison 2009 and 2019

<table>
<thead>
<tr>
<th>Risk Factor 2009</th>
<th>Risk factor 2019</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Malnutrition</td>
<td>1. Malnutrition</td>
<td>-28.8</td>
</tr>
<tr>
<td>2. Unsafe sex</td>
<td>2. Unsafe sex</td>
<td>-38.8</td>
</tr>
<tr>
<td>3. WASH</td>
<td>3. WASH</td>
<td>-36.9</td>
</tr>
<tr>
<td>5. High blood pressure</td>
<td>5. High blood pressure</td>
<td>34.4</td>
</tr>
<tr>
<td>6. Alcohol use</td>
<td>6. Alcohol use</td>
<td>15.0</td>
</tr>
<tr>
<td>7. Intimate partner violence</td>
<td>7. High body mass index</td>
<td>66.2</td>
</tr>
<tr>
<td>8. Tobacco</td>
<td>8. High fasting plasma glucose</td>
<td>39.8</td>
</tr>
<tr>
<td>10. High body mass index</td>
<td>10. Tobacco</td>
<td>-1.8</td>
</tr>
<tr>
<td>11. High fasting plasma glucose</td>
<td>11. Intimate partner violence</td>
<td>-43.2</td>
</tr>
</tbody>
</table>

The risk factors in Table 2 include metabolic, environmental/occupational risks and behavioral risk factors. High blood pressure, alcohol use, high body mass index, high fasting plasma glucose and dietary risk moved in rank to be major risk factors from 2009 to 2019. The table shows some improvement in malnutrition over the years, but it still remains top in the rank as a risk factor. Of importance to note is High body mass a major risk factor for development of Non-Communicable Diseases; that has continued to rise with a percentage increase of 66%.

**Investment in Nutrition**

The increasing burden of malnutrition and its impact on health and development agenda in Kenya cannot be overemphasized. Increased investments in nutrition are one of the major strategies to averting/reducing the burden of disease in Kenya.

An investment framework on reducing stunting and other forms of child malnutrition by World Bank and UNICEF in 2016 estimated that the costs and benefits of implementing 11 critical nutrition-specific interventions would require a yearly public and donor investment of USD 76 million. The expected benefits would be substantial: annually more than 455,000 DALYs would be averted, over 5,000 lives saved, and more than almost 700,000 cases of stunting among children under five averted.

This investment would be very cost-effective with an estimated cost per DALY averted of USD 207 cost per life saved of about USD 18,600 and a cost per case of stunting averted of USD 135.6

The Cost of Hunger Study (COHA)-2019 whose aim was to generate evidence about the cost that Kenya is already paying for not addressing malnutrition; estimated the economic impact of under-nutrition in health-related aspects to be equivalent to 0.34 percent of GDP in 2014 which as approximately ksh18.6 billion or USD 211.87 million . A scenario on economic loss as a result of all forms of malnutrition would be higher.
The Kenya Nutrition Action plan, which was developed within the NHA study period, identified appropriate interventions and targets to be implemented from 2018 to 2022 to address the nutrition challenge in the country. The plan, in cognizant that addressing basic causes of malnutrition would require a multisectoral approach, has a total budget of KSh 38.2 billion spread over the five years.

Methodology

This policy brief was informed by findings from the National Health Accounts (NHA) 2021 for FY 2016/17 to FY 2018/19, as well as evidence from other health sector documents that assessed health sector performance. Publications on access to health services were also used to collaborate the findings. The Kenya National Health Accounts (NHA) estimation was undertaken in order to track the flow of funds to the health sector.

Results/Findings

NHA findings for FY 16/17 to 18/19 show that THE for nutritional deficiencies as a percentage of total health expenditure reduced slightly by 0.2 %. This is despite the high levels of child under-nutrition and an increasing prevalence of other forms of malnutrition. Government and households were the main financiers of nutritional care a 27% and 51.4 % for FY 18/19 respectively. Out of pocket expenditure was high at 45.9 % for the same period. There was notable decrease spent from direct foreign transfers from KSh1.9 billion in 2016/17 to KSh1.1 billion in 2018/19.

The greatest utilization was realized at outpatient curative while the report showed that preventive care was on the decline. One limitation of this data was that some of the nutrition services which are preventive in nature, could have been offered in outpatient and captured as outpatient curative.

The Total health Expenditures for nutritional deficiencies was KSh 19.8 billion (USD 193.5 million) and KSh 20.6 billion (USD 203 million) in FY 2016/17 and FY 2018/19 respectively, signifying 4.5 and 4.1 percent of the total health expenditure for the two FYS respectively, a reduction by 0.4%. This is despite the growing burden of malnutrition and disease burden over the accounting period.
Figure 2: Healthcare financing schemes - THE Nutrition, 2016/17 to 2018/19

Government schemes as well as out of pocket excluding cost sharing were the major pools for funds for nutritional care at 18.1 percent and 42.9 percent in FY 2016/17 and 16.9 percent and 45.9 percent FY2018/19. However social health insurance schemes financing schemes has been increasing since 2016/17 (Figure 2).

Under-nutrition affects people of low economic status. When the household as a source of revenue is not organized, a high out of pocket expenditure is an undesirable outcome. Further the population living with diet related NCDs incur catastrophic costs when seeking specialized nutrition services as an integral part of long-term medical care. Whichever form of malnutrition, the affected population is likely to incur high medical cost for treatment derailing the spirit of UHC on access to affordable healthcare for all.
Government hospitals (referral and county level) and private clinics played a key role on nutritional care and consumed 26 percent and 14.3 percent respectively FY 2018/19 (Figure 3).

An assessment of the providers of nutrition revealed that the National referral hospitals had the highest spending on nutrition at 3.1 billion FY 2018/19 up from 2.3 billion FY 2016/17, a 35% increase. A significant decline in spending was observed for county referral hospitals by 29.5% for FY 2016/17 and FY 2018/19. This could be attributed to referral for specialized nutrition services by counties to national referral hospitals.

Spending on providers of preventive care declined by 67.4 percent for the same period. Reduced preventive care services could have been as a result of decreased donor funding over the same period.

The Kenya Nutrition Action plan has identified appropriate interventions and targets to be implemented from 2018 to 2022 to address the nutrition challenge in the county. To remove barriers to nutrition interventions and fully realize the benefits, there is a need for the government and other stakeholders to increase the availability of resources with continuous concerted efforts to further reduce the levels of under-nutrition and prevent/reverse the deteriorating trends of other forms of malnutrition. There are huge health and economics benefits (benefit-cost ratio 14:1) that will be realized with optimized investments in nutrition programs in Kenya.

2. Integrate nutrition package in social insurance cover to protect the population from catastrophic health expenditure associated with management of malnutrition.

As nation strengthens its national health systems and roll out of UHC, the government and partners are encouraged to make policy and financial

**Recommendations**

1. Invest in nutrition, a guaranteed value for money and an essential path to reaching national and country aspirations.
commitments to fully integrate nutritional interventions into national health systems as an important component for achieving quality universal health coverage. Development and inclusion of nutrition out-patient and in-patient comprehensive cover under social health insurance will be a key strategy towards reducing the high out of pocket expenditure incurred for nutritional deficiencies.

3. Increase investment on preventive measures for nutritional deficiencies

The NHA report shows a major decline in spending on preventive care. Malnutrition is majorly a behavioral and multisectoral issue which is mostly preventable. In addition to investing in the High Impact Nutrition interventions, more needs to be done to strengthen and integrate nutrition in the primary health and community interventions with an aim of promoting behavioral change.

4. Build County capacities for specialized nutrition services

An increase in the incidence of NCDs has seen an increase in demand for specialized medical and nutrition services. Building the capacity of counties to offer these services will contribute to improved access, timely management and reduced referral of patients from county hospitals to national referrals hospitals.

REFERENCES