Addressing key social determinants of health: what role can ward-based outreach teams play?

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A WHO Collaborating Centre for Research and Training in
Human Resources for Health
Outline of Presentation

- The significance of nutritional status in South Africa’s health situation
- Prevalence, trends and determinants of undernutrition and hunger
- Prevalence trends and determinants of overweight/obesity
- Dietary factors and the food environment in overweight/obesity and their social and structural determinants
- Possible interventions to address the ‘double burden’ of malnutrition including the role of WBOTs
Causes of under-five deaths in South Africa

- Neonatal causes; pneumonia, diarrhoea and other child illness; and HIV/AIDS each account for 30% of U5 deaths.

According to Child PIP, 60% of children were underweight and a third were severely malnourished.

Based on SA Burden of Disease estimates for 2000.
What is the prevalence of undernutrition in South Africa?
Trends in the prevalence of undernutrition in children aged 1-3 years, SA 2005-2012

- Stunting: 23.4% (NFCS-2005), 26.5% (SANHANES)
- Severe Stunting: 6.4% (NFCS-2005), 9.5% (SANHANES)
- Wasting: 5.1% (NFCS-2005), 1.1% (SANHANES)
- Severe Wasting: 2.2% (NFCS-2005), 0.9% (SANHANES)
- Underweight: 11% (NFCS-2005), 6.1% (SANHANES)
- Severe Underweight: 1.2% (NFCS-2005), 1.7% (SANHANES)

SANHANES
Trends in the prevalence of undernutrition in children aged 4-6 years, SA 2005-2012

- Stunting: 16.4%
- Severe Stunting: 11.9%
- Wasting: 5%
- Severe Wasting: 2%
- Underweight: 8.6%
- Severe Underweight: 0.6%
## Trends in vitamin A status in children under five years of age, SA 1994-2012

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SAVACG</th>
<th>NFCS-2005</th>
<th>SANHANES-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Vitamin A</td>
<td>0.84 µmol/L</td>
<td>0.62 µmol/L</td>
<td>0.75 µmol/L</td>
</tr>
<tr>
<td>Vitamin A deficiency (serum retinol &lt; 0.70 µmol/L)</td>
<td>33.3%</td>
<td>63.6%</td>
<td>43.6%</td>
</tr>
<tr>
<td>VARIABLE</td>
<td>NFCS-2005</td>
<td>SANHANES-1</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Anaemia (Hb &lt; 12 g/dL)</td>
<td>29.4%</td>
<td>23.1%</td>
<td></td>
</tr>
<tr>
<td>Iron depletion (Hb ≥ 12 g/dL and Ferritin &lt; 15 ng/mL)</td>
<td>7.7%</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td>Iron deficiency anaemia (Hb &lt; 12 g/dL and Ferritin &lt; 15 ng/mL)</td>
<td>10.5%</td>
<td>9.7%</td>
<td></td>
</tr>
</tbody>
</table>
Imagine a stroll by the river …

You notice a movement in the water, it is a baby, drowning!
… then another infant, half-submerged, floats down in the water struggling for life
… followed by 5, 10 more -- and more and more and more and more

You become very good at saving drowning children, develop new methods & technology, teach others, attend international conferences

but more and more and more and more and more come struggling down …
Risk Factors/Determinants

DOWNSTREAM

Biological

Behavioural

Societal

Structural

UPSTREAM

Burden of Disease study, PGWC
Breast Feeding in South Africa

Duration of Breastfeeding

- Only 8 percent of infants under 6 months are exclusively breastfed and a further 19 percent are almost exclusively breastfed with the addition of water only.
- Addition of other liquids whilst breastfeeding starts very early in South Africa.

DHS 2003
Food security

- Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

- This definition has been identified with the four dimensions of food security: availability, access, stability and utilisation. It embodies the food and care-related aspects of good nutrition (Committee on World Food Security 1996, 2012)

- Food insecurity can be chronic, temporal, temporary or cyclical
Prevalence of food insecurity (experiencing hunger) by province, SA 2012

(n=6115)

<table>
<thead>
<tr>
<th>Province</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
<td>36.2</td>
</tr>
<tr>
<td>Limpopo</td>
<td>30.8</td>
</tr>
<tr>
<td>North West</td>
<td>29.5</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>29.5</td>
</tr>
<tr>
<td>Free State</td>
<td>28.8</td>
</tr>
<tr>
<td>KwaZulu Natal</td>
<td>28.3</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>20.7</td>
</tr>
<tr>
<td>Gauteng</td>
<td>19.2</td>
</tr>
<tr>
<td>Western Cape</td>
<td>16.4</td>
</tr>
<tr>
<td>Total</td>
<td>26.0</td>
</tr>
</tbody>
</table>
## Trends in Food Security status: SA 1999-2012

<table>
<thead>
<tr>
<th>Variable</th>
<th>NFCS 1999 (n = 2735)</th>
<th>NFCS 2005 (n = 2413)</th>
<th>SASAS 2008 (n = 1150)</th>
<th>SANHANES-1, 2012 (n = 6306)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Secure</strong></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Food Secure</td>
<td>25</td>
<td>19.8</td>
<td>48</td>
<td>45.6</td>
</tr>
<tr>
<td><strong>At risk of hunger</strong></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>At risk of hunger</td>
<td>23</td>
<td>27.9</td>
<td>25</td>
<td>28.3</td>
</tr>
<tr>
<td><strong>Experiencing hunger</strong></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Experiencing hunger</td>
<td>52.3</td>
<td>52</td>
<td>25.9</td>
<td>26.0</td>
</tr>
</tbody>
</table>
Table XX: Dimensions of deprivation and inequality in South Africa

<table>
<thead>
<tr>
<th>Dimensions of deprivation</th>
<th>Children in poorest 20% of households</th>
<th>Children in richest 20% of households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income poverty</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Child hunger</td>
<td>28%</td>
<td>3%</td>
</tr>
<tr>
<td>Inadequate water</td>
<td>54%</td>
<td>9%</td>
</tr>
<tr>
<td>Inadequate sanitation</td>
<td>47%</td>
<td>9%</td>
</tr>
<tr>
<td>Overcrowding</td>
<td>28%</td>
<td>5%</td>
</tr>
<tr>
<td>Educational throughput†</td>
<td>46%</td>
<td>17%</td>
</tr>
<tr>
<td>Clinic far from home*</td>
<td>46%</td>
<td>25%</td>
</tr>
</tbody>
</table>


* See Part 3: Children Count – The numbers for more information on these indicators.
† Proportion of children aged 16 – 17 who have completed compulsory schooling (grade 9).
Child poverty in South Africa remains extremely high. In 2010, six out of every 10 children lived in households with an income of less than R575 per person per month. Stark racial disparities persist, with 67% of African children living in poor households compared to only 4% of White children.

Inequality persists

- The poorest 10% of households received less than 0.5% of all income
- 90% of households received 55% of all income
- The income of the wealthiest group is 88 times greater than that of the poorest decile

Stats SA, 2013, MDG Report
Non-communicable Diseases, overweight and obesity in South Africa
Figure 2. Diabetes prevalence based on 1985 WHO criteria presented by age categories for men and women in 1990 and 2008/09.

http://www.plosone.org/article/info:doi/10.1371/journal.pone.0043336
Prevalence of underweight, overweight and obesity by sex and age, SA 2012

Males (n=2572)

- Underweight (BMI < 18.5)
- Overweight (BMI 25-29.9)
- Obese (BMI 30+)

Females (n=4695)

- Underweight (BMI < 18.5)
- Overweight (BMI 25-29.9)
- Obese (BMI 30+)
The shape of things to come
Obesity Trends* Among U.S. Adults
BRFSS, 1986

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1987

(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1988
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults

BRFSS, 1989

(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1990
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1991

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1992
(*BMI ≥ 30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1993
(*BMI ≥ 30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1994
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1995

(*BMI ≥30, or ~30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1996
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1996
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Source: Behavioral Risk Factor Surveillance System, CDC.
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BRFSS, 1997
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1998
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1999

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2000
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2001
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2002

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2003
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2004
(*BMI ≥30, or ~30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2005
(*BMI ≥30, or ~30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2006

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2007

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2008

(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2009

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2010

(*BMI ≥30, or ~30 lbs. overweight for 5’4” person)
AFTER A TWO YEAR LOAN TO THE UNITED STATES, MICHELANGELO’S DAVID IS BEING RETURNED TO ITALY.

HIS PROUD SPONSORS WERE: 🍔 McDonald’s 🌞 Starbucks ☕️ Burger King 🍔
Determinants of ‘Overnutrition’ in South Africa
Risk Factors/Determinants

Burden of Disease study, PGWC
Prevalence of dietary risk factors for NCDs (high fat and sugar intake) by locality, SA 2012

- Urban formal: 23.1%
- Urban informal: 18.2%
- Rural informal: 11.3%
- Rural formal: 9.8%
- Total: 18.3% and 19.7%

(n=15 332)
Consumption of sweet beverages and confectionery

- Compared with a **worldwide average of 89 in 2010**, South Africans consumed **254 Coca-Cola products per person per year**, an increase from around **130 in 1992 and 175 in 1997**.

- In 2010, up to **half of young people** were reported to consume fast foods, cakes and biscuits, cold drinks, and sweets at least four days a week.

- Carbonated drinks are now the **third most commonly consumed food/drink item** among very young urban South African children (aged 12–24 months)—less than maize meal and brewed tea, but more than milk.

Figure 12.1 Fast food consumption (1995 and 1999) in selected countries.

Number of transactions at chained burger and chicken outlets in selected countries, 1995 & 1999

Reprinted, with permission of the publisher, from Hawkes (2002).
Dietary behaviour of children 10-14 years in relation to eating breakfast, SA 2012

- 19% of children do not eat breakfast at home in the morning

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not hungry in the morning</td>
<td>39.2%</td>
</tr>
<tr>
<td>No food in the house to eat for breakfast</td>
<td>33.9%</td>
</tr>
<tr>
<td>People at home do not eat breakfast</td>
<td>33%</td>
</tr>
<tr>
<td>Cannot get up early enough to have breakfast</td>
<td>19.2%</td>
</tr>
<tr>
<td>Cannot make their own breakfast</td>
<td>15.3%</td>
</tr>
</tbody>
</table>

(n=2408)
Dietary behaviour of children aged 10-14 years in relation to taking lunchboxes, SA 2012

- 51% of children do not take a lunchbox to school

(n=2406)
Societal Factors in Obesity

‘I am scared of exercising because I will lose weight and people may think that I have HIV/AIDS.’

‘People who boil food are not civilised. Fried food is attractive and tasty such as “Kentucky Fried Chicken”. If your neighbour boils food people say she is still backward because the food does not taste nor look attractive’

Factors influencing grocery shopping by sex, SA 2012

- Don't do grocery shopping
- How easy the food item is to prepare
- Convenience
- Safety (hygiene) of the food item
- How well / how long the food item keeps
- The nutrient content of the food item
- Health considerations
- Taste of the food item
- The price of the food item

Males (n = 6267)
Females (n = 8884)

SANHANES
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity tracked</th>
<th>Increase in Rands</th>
<th>Increase in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>10kg</td>
<td>R 12.13</td>
<td>29.42%</td>
</tr>
<tr>
<td>Canned beans</td>
<td>3 cans</td>
<td>R 4.44</td>
<td>23.24%</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>8kg</td>
<td>R 17.92</td>
<td>21.90%</td>
</tr>
<tr>
<td>Fresh milk</td>
<td>2L</td>
<td>R 4.54</td>
<td>21.64%</td>
</tr>
<tr>
<td>Beef</td>
<td>3kg</td>
<td>R 26.97</td>
<td>20.32%</td>
</tr>
<tr>
<td>Cabbage</td>
<td>3 pieces</td>
<td>R 3.97</td>
<td>19.25%</td>
</tr>
</tbody>
</table>
Poor households are responding to high food prices by dropping certain foods off the plate or eating less of these particular foods:

**Foods that are off the plate**
- Red meat
- Fresh milk
- Maas
- Cheese

**Foods which much less are eaten of**
- Sugar beans
- Tomatoes
- Cabbage
- Potatoes
- Bread (for adults)
Structural Factors in Obesity
<table>
<thead>
<tr>
<th>Category</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaged food</td>
<td>69475</td>
<td>74462</td>
<td>78929</td>
<td>84062</td>
<td>92671</td>
<td>101192</td>
</tr>
</tbody>
</table>

Source: Packaged Food: Euromonitor from trade sources/national statistics
Packaged Food Sales in South Africa

The largest ten packaged food companies account for 51.8% of total packaged food sales. This is greater than the global average (globally in 2007, ten companies accounted for around 26% of the processed foods market).

### Table 2. Packaged Food Company Shares in South Africa, 2009.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Location of Company Headquarters</th>
<th>Contribution to Total Packaged Food sales (%)</th>
<th>Examples of Product Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tiger Brands Ltd</td>
<td>South Africa</td>
<td>17.2</td>
<td>Milling and baking, groceries, confectionery, beverages, value added meat products, fruit and vegetables, products for the food services sector</td>
</tr>
<tr>
<td>2</td>
<td>Unilever Group</td>
<td>UK/Netherlands</td>
<td>4.9</td>
<td>Spices, sauces, dressings, margarine, teas, syrup and food solutions</td>
</tr>
<tr>
<td>3</td>
<td>Parmalat Group</td>
<td>Italy</td>
<td>4.8</td>
<td>Dairy products including milk, yoghurt, ice cream and cheese, fruit juices</td>
</tr>
<tr>
<td>4</td>
<td>Nestle SA</td>
<td>Switzerland</td>
<td>4.6</td>
<td>Baby foods, drinks, breakfast cereals, chocolate, confectionery, coffee, dairy products, ice cream</td>
</tr>
<tr>
<td>5</td>
<td>Clover Ltd</td>
<td>South Africa</td>
<td>4.6</td>
<td>Dairy products, desserts, beverages such as fruit juices, nectars and ice teas</td>
</tr>
<tr>
<td>6</td>
<td>Dairybelle (Pty) Ltd</td>
<td>South Africa</td>
<td>4</td>
<td>Dairy products, fruit juices</td>
</tr>
<tr>
<td>7</td>
<td>Pioneer Food Group Ltd</td>
<td>South Africa</td>
<td>3.7</td>
<td>Baking aids, tea/coffee, breakfast cereals, biscuits, condiments, juices and acidic drinks, dried fruits, eggs</td>
</tr>
<tr>
<td>8</td>
<td>Cadbury Plc (bought by Kraft in 2011)</td>
<td>UK/US</td>
<td>2.8</td>
<td>Chocolate, candy, gum, biscuits, coffee, other grocery</td>
</tr>
<tr>
<td>9</td>
<td>AVI Ltd</td>
<td>South Africa</td>
<td>2.8</td>
<td>Coffee, tea, biscuits, potato chips, frozen fish and seafood products</td>
</tr>
<tr>
<td>10</td>
<td>PepsiCo Inc</td>
<td>US</td>
<td>2.4</td>
<td>Drinks, savoury snacks</td>
</tr>
</tbody>
</table>


*Euromonitor does not collect data on the informal sector (defined as sales that are not taxed).

doi:10.1371/journal.pmed.1001253.t002

<table>
<thead>
<tr>
<th>Category of Packaged Foods</th>
<th>Subcategory</th>
<th>Sales Volume</th>
<th>Rate of Change of Sales Volume (%)</th>
<th>2005–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakery</td>
<td></td>
<td>2009.3</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td>Meal solutions</td>
<td>Canned/preserved food</td>
<td>241.8</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen processed food</td>
<td>102.1</td>
<td>18.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chilled processed food</td>
<td>95.9</td>
<td>-2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sauces dressings and condiments</td>
<td>88.1</td>
<td>27.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ready meals</td>
<td>70.1</td>
<td>43.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soup</td>
<td>11.1</td>
<td>32.6</td>
<td></td>
</tr>
<tr>
<td>Impulse and indulgence products</td>
<td>Confectionery</td>
<td>119.4</td>
<td>16.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweet and savoury snacks</td>
<td>87.9</td>
<td>27.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Snack bars</td>
<td>1.9</td>
<td>42.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ice cream</td>
<td>76.0</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Dried processed food</td>
<td></td>
<td>345.4</td>
<td>-2.8</td>
<td></td>
</tr>
<tr>
<td>Pasta</td>
<td></td>
<td>62.9</td>
<td>35.0</td>
<td></td>
</tr>
<tr>
<td>Noodles</td>
<td></td>
<td>7.4</td>
<td>44.5</td>
<td></td>
</tr>
<tr>
<td>Oils and fats</td>
<td></td>
<td>343.6</td>
<td>14.9</td>
<td></td>
</tr>
<tr>
<td>Meal replacement</td>
<td></td>
<td>0.6</td>
<td>9.6</td>
<td></td>
</tr>
<tr>
<td>Spreads</td>
<td></td>
<td>28.8</td>
<td>23.9</td>
<td></td>
</tr>
</tbody>
</table>

Source: Euromonitor 2011 [17].
*in thousand tonnes, except for ice cream, which is million litres.
doi:10.1371/journal.pmed.1001253.t001
“Popularly positioned products (PPPs). Products aimed at lower income consumers in the developing world, will continue to grow strongly in 2008 and beyond. Nestlé PPPs, which mostly consist of dairy products, Nescafé and Maggi culinary products, grew by over 25% to reach around CHF 6 billion in sales in 2007. The overall market for such products in Asia, Africa and Latin America is estimated at over CHF 80 billion.”
Bread, Pastry, Cakes, Biscuits and Other Baker's Wares

Value of imports from world in Rand

Rapid growth of supermarkets in South Africa

- Supermarkets now share at least 50-60% of food sales in South Africa, with the majority of this growth occurring after 1994.
- In a recent study, nearly two-thirds of households in a rural area in South Africa were now buying their food at supermarkets.

### Number of households in two rural areas in Transkei, Eastern Cape going to supermarkets

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<tr>
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<th>Xume</th>
<th>Luzie</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of total</td>
<td>78.4%</td>
<td>50.0%</td>
<td>64.8%</td>
</tr>
</tbody>
</table>


### Growth in Supermarket Food Sales

Expansion of Supermarkets in Cape Town

Battersby, AFSUN
The consequences...

• Rural consumers pay almost R6 more than urban consumers for the same food basket. The poor households spent 33% of their income on food, compared to 11% for the non-poor.

• Healthier foods typically cost between 10% and 60% more when compared on a weight basis (R per 100g) and between 30% and 110% more when compared based on the cost of food energy (R per 100 kJ).

• Children from the most food insecure households are most at risk of under-nutrition whilst adult women in the same households are often most at risk of obesity (NFCS 1999, 2005; SANHANES 2012).
Total imports of soft drinks and processed snack foods into South Africa and other SADC countries

Source: FAOSTAT detailed trade data
Structural Determinants of ‘Overnutrition’ Regionally and Globally
Regional trade and investment policies in SADC since 1990

• early 1990s: ongoing liberalization associated with multilateral trade negotiations
• 1996: SADC trade agreement signed
• 1997-2003: South Africa strengthens investment policy and signs 22 Bilateral Investment Agreements
• 1999: South Africa signs bilateral agreement with European Union (EU)
• 2000: SADC trade protocol comes into effect; Government of South Africa strengthens support for regional export and investment
• 2002: new Southern Africa Customs Union Agreement completed
• 2007: Interim Economic Partnership Agreement concluded between EU and Botswana, Lesotho, Namibia, Swaziland and Mozambique
• 2008: SADC Free Trade Area completed (except for Angola, Democratic Republic of the Congo, Seychelles)
“Transnational corporations have flourished as trade liberalization has broadened and deepened. The revenues of Wal-Mart, BP, Exxon Mobil, and Royal Dutch/Shell Group all rank above the GDP of countries such as Indonesia, Norway, Saudi Arabia, and South Africa (EMCONET, 2007).

The combination of binding trade agreements .. and increasing corporate power and capital mobility have arguably diminished individual countries’ capacities to ensure that economic activity contributes to health equity, or at least does not undermine it”. 
The global food system is causing a public health disaster

The UN rapporteur on the right to food says governments in rich and poor countries must bring in tough measures to combat the unhealthy products being marketed.

More than 1.3 billion people around the world are overweight or obese. Photograph: Finbarr O’Reilly/Reuters

Olivier de Schutter
UN Special Rapporteur on the Right to Food
March 2012

Felicity Lawrence, The Guardian, 9 March 2012
“... trade policy that actively encourages the unfettered production, trade, and consumption of foods high in fats and sugars to the detriment of fruit and vegetable production is contradictory to health policy ...” (p 10)

It is important therefore that ministers of health, supported by the ministry, are strongly equipped to play such a stewardship role within government”(p 111)
SUMMARY

- In South Africa, as in other jurisdictions, “Big Food” (large commercial entities that dominate the food and beverage environment) is becoming more widespread and is implicated in unhealthy eating.

- Big Food in South Africa involves South African companies, some of which have invested in other (mainly, but not only, African) nations, as well as companies headquartered in North America and Europe.
SUMMARY

- These companies have developed strategies to increase the availability, affordability, and acceptability of their foods in South Africa; they have also developed a range of “health and wellness” initiatives. Whether these initiatives have had a net positive or net negative impact is not clear.

- The South African government should act urgently to mitigate the adverse health effects in the food environment in South Africa through education about the health risks of unhealthy diets, regulation of Big Food, and support for healthy foods.
Priority Actions Needed

Policy advocacy and social action to address environmental and social determinants
“The health sector is a defender of health, advocate of health equity, and negotiator for broader societal objectives. It is important therefore that ministers of health, supported by the ministry, are strongly equipped to play such a stewardship role within government” (p 111)
Policy Actions to Combat Stunting and ‘Overnutrition’

- Raise awareness of deteriorating food environment amongst health workers and general population
- Review local government policies and regulations around vending eg in and around schools and advertising, especially to kids.
- Review School Nutrition Programme and invest in community infrastructure for sport, recreation and improved personal safety
- Analyse pricing incentives/disincentives to tax unhealthy and subsidise healthy foods
- Review trade policy, especially wrt food trade
  - Challenge inequitable macroeconomic regime through evidence-based advocacy and social mobilisation
‘Re-engineering PHC’
Three streams for Re-engineering PHC

(a) a ward based PHC outreach team for each electoral ward;
(b) strengthening school health services; and
(c) district based clinical specialist teams with an initial focus on improving maternal and child health.
Figure 1 Proposed PHC model
WARD BASED PHC OUTREACH TEAM
PHC Team Responsible for providing: Primary Health care to 1620 Families/households; Community Outreach Services; preventative, promotive, curative and rehabilitative services;

Professional Nurse
(Team leader)
Health Promoter
Environmental Health Practitioner

1 CHW: 1200 people
CHW roles in South Africa currently

• Focusses on assessment and referral
• No curative functions
• Advising families where CHWs could be delivering the interventions themselves:
  “Inform the mothers of deworming at least twice a year and to ensure the child gets vitamin A and other necessary micronutrient supplements.”

Very recently permission has been granted for CHWs to dispense Vit A and antihelminthics.
“Liberator or lackey” (David Werner, 1981)

- The early literature emphasises the role of the CHWs as not only (and possibly not even primarily) a health care provider, but also as an advocate for the community and an agent of social change:
  - functioning as a community mouthpiece to fight against inequities and advocate community rights and needs to government structures.

- This view is also reflected in the Alma Ata Declaration which identified CHWs as one of the cornerstones of comprehensive primary health care.
Large trials in Nepal have demonstrated a **30% reduction in newborn mortality** simply by facilitation of women’s groups involving pregnant women.

‘Women’s groups in Malawi and Nepal are increasing the important capacities within communities, such as the **ability to identify maternal and neonatal health problems and their root causes**; the **ability to mobilise resources necessary** for improving the health of mothers and newborn infants; the **internal and external social networks they can draw on when needed**; and the **development of strong local leaders** who have the motivation and drive to improve maternal and neonatal health in the community.’

How will REPHC address Social determinants?

• Presently the responsibility is allocated to WBOTs (CHWs) and Local Government

• Have CHWs the training and authority to address SDH?

• Does Local govt have outreach and capacity to address SDH?

• Are communities able to influence action on SDH? Does REPHC focus enough on ‘community participation’ and structures eg health committees?
The status of community representation health committees

- Eight of the nine provinces have legislation, draft legislation or guidelines. One province is in the process of creating a legislative framework by amending its Health Facility Boards Act.
- In 2008 only 57% of facilities had clinic committees
- Concerted efforts are required to activate/strengthen health committees
Key actions to equip WBOTs to address SDH

- Expand training of CHWs and their supervisors in SDH.
- Focus on strengthening clinic/health committees.
- Raise awareness of communities (through their structures) of negative impact of SDH.
- Define local actions that can be taken to address SDH and enrol assistance of relevant sectors eg environmental health, agriculture, social development, education.
- CHWs to work with communities (and school communities) in taking action, including social mobilisation.
Social mobilisation is essential for the realisation of human rights
The Peoples Health Movement (PHM) is a large global civil society network of health activists supportive of the WHO policy of Health for All and organised to combat the economic and political causes of deepening inequalities in health worldwide and revitalise the implementation of WHO’s strategy of Primary Health Care.

www.phmovement.org
PHM: The Global Health Watch

Research, Analysis and Watching

GHW is a platform of resistance to the neo-liberal dominance of health.

www.ghwatch.org
“Should medicine fulfill its great ends, it must enter into the larger political and social life of our time; it must indicate the barriers which obstruct the normal completion of the life-cycle and remove them.”

- Rudolf Virchow
Local interventions: an example from New York City
Fight for Calorie Labeling in NYC

- **2006** – NYC BOH adopts calorie labeling rule, making NYC the first locality to require chain FSEs to post calorie information on menus

- **2007** – First lawsuit against BOH in attempt to stop calorie labeling

- **2008** – NYC BOH adopts revised calorie labeling rule, implementation begins

- **2009** – Calorie labeling rule is upheld by US Court of Appeals, Second Circuit, creating a legal framework for others to follow
Menu Labeling becomes National Trend
Calorie Labeling Becomes a National Model

- **2009** – Seattle requires calorie labeling on restaurant menus

- **2010** – Menu labeling requirements included in the Affordable Care Act

- **2014** – Federal regulations issued requiring all chain restaurants/retailers to post calorie information

- **2015** – Federal regulation effective December 1
Calorie Labels Increase Awareness

• Labels increase awareness
  – Exposure to calorie labels is critical to educating consumers about calorie content

• Studies have shown customers using labels purchase fewer calories
  – Patrons who used calorie information purchased > 100 fewer calories
Calorie Awareness Campaign

2000 CALORIES A DAY IS ALL MOST ADULTS SHOULD EAT

If this is lunch, is there room for dinner?

Healthy snack? Maybe not.

Choose less. Weigh less.
Majority of New Yorkers Find Calorie Labeling Useful

2011: Do you think the New York City law requiring fast-food restaurants to post calorie information is useful or not useful?

- Useful, 79%
- Not Useful, 19%
- Don't Know/No Answer, 2%
Improving the hospital management of severe child malnutrition
AN EXAMPLE OF EFFECTIVENESS RESEARCH: MT. FRERE HEALTH DISTRICT

- Eastern Cape Province, South Africa
- Former apartheid-era homeland
- Estimated Population: 280,000
- Infant Mortality Rate: 99/1000
- Under 5 Mortality Rate: 108/1000
CASE FATALITY IN RURAL HOSPITALS

PRE-INTERVENTION CFRs

Mary Teresa 46%
Holy Cross 45%
St. Elizabeth’s 36%
Mt. Ayliff 34%
St. Patrick’s 30%
Bambisana 28%

Sipetu 25%
St Margaret’s 24%
Taylor Bequest 21%
Greenville 15%
Rietvlei 10%
Implementation Cycle

Policy

Advocacy

Evaluation

Teambuilding

Situational Assessment

Capacity Development

Planning

Implementation and Management

Analysis
<table>
<thead>
<tr>
<th>Step 1</th>
<th>Treat/prevent hypoglycaemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Treat/prevent hypothermia</td>
</tr>
<tr>
<td>Step 3</td>
<td>Treat/prevent dehydration</td>
</tr>
<tr>
<td>Step 4</td>
<td>Correct electrolyte imbalance</td>
</tr>
<tr>
<td>Step 5</td>
<td>Treat/prevent infection</td>
</tr>
<tr>
<td>Step 6</td>
<td>Correct micronutrient deficiencies</td>
</tr>
<tr>
<td>Step 7</td>
<td>Cautious feeding</td>
</tr>
<tr>
<td>Step 8</td>
<td>Catch-up growth</td>
</tr>
<tr>
<td>Step 9</td>
<td>Stimulation, play and loving care</td>
</tr>
<tr>
<td>Step 10</td>
<td>Preparations for discharge</td>
</tr>
</tbody>
</table>
### Comparison of recommended and actual practices

<table>
<thead>
<tr>
<th>SITUATIONAL ANALYSIS</th>
<th>IMPLEMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended practice</strong></td>
<td><strong>Practice prior to intervention</strong></td>
</tr>
<tr>
<td><strong>Step 1: Treat/prevent hypoglycaemia</strong></td>
<td><strong>Children were left waiting in the queue in the outpatient department and during admission procedures.</strong></td>
</tr>
<tr>
<td>Feed every 2 hours during the day and night. Start straight away.</td>
<td><strong>In the wards, they were not fed for at least 11 hours at night</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Hypoglycaemia not diagnosed</strong></td>
</tr>
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<td></td>
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</table>
Evaluation of Implementation

- **Major improvements:**
  - Separate HEATED wards
  - 3 hourly feedings with appropriate special formulas and modified hospital meals
  - Increased administration of vitamins, micronutrients and broad spectrum antibiotics
  - Improved management of diarrhea & dehydration with decreased use of IV hydration
  - Health education & empowerment of mothers

- **Problems still existed:**
  - Intermittent supply problems for vitamins and micronutrients
  - Power cuts – no heat
  - Poor discharge follow-up
  - Staff shortage, of both doctors and nurses, and resultant low morale and QOC

Ashworth et al, Lancet 2004; 363:1110-1115
SIPETU CASE FATALITY RATES BY TRAINED/UNTRAINED PERIODS

- PRE-INTV: 25
- TRAINED: 20
- TRAINED-STUDY: 18
- UN-TRAINED: 38

Case Fatality Rate (%)
## Differences in Treatment

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Trained</th>
<th>Un-Trained</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCl</td>
<td>78%</td>
<td>13%</td>
<td>p=0.0000</td>
</tr>
<tr>
<td>Broad Spectrum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antbx</td>
<td>47%</td>
<td>15%</td>
<td>p=0.0001</td>
</tr>
<tr>
<td>IV Hydration</td>
<td>5%</td>
<td>6%</td>
<td>p=0.774</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>92%</td>
<td>76%</td>
<td>p=0.0115</td>
</tr>
</tbody>
</table>

*No change in diagnoses, severity, co-morbidity or nursing care related to 10-steps across the two time periods.*
“There wasn’t enough emphasis on patient management in a lower level institution, our training was mostly theoretical. Most patients are filtered out at lower level, therefore students don’t see them.

It’s not so much WHAT as WHERE the training takes place... The environment here is very different from both RXH and Pretoria Academic. Some of the antibiotics we were taught to use aren’t available so we have to look for alternatives.

The sister is teaching me a lot -- I’m learning more than I ever learnt in my whole training!”

Community service doctor working at Sipetu Hospital, Tabankulu, Eastern Cape
Ongoing research indicates **leadership** and **management** at all levels are the key reasons for the differences between well and poorly performing hospitals.

Key themes: Training

GOOD PERFORMERS

- Strong in - service training
- Senior and junior, trained and untrained nurses confident with management
- Commitment and management support shown for training.
- Nurse takes lead role in training and is well supported

POOR PERFORMERS

- Reliance on external training
- Lack of confidence demonstrated. Priority is given to nurses with training
- Lack of management support for training
- St. Elizabeth - no lead nurse apparent.
- Mt. Ayliff - lack of support affects impact of training
EVALUATION OF STEP 10

- To determine Household Food Security (HHFS), caregiver knowledge & factors associated with malnutrition

- To look at the rate of recovery & health status at 1 month & 6 months post discharge
STUDY POPULATION

POST DISCHARGE HOME VISITS (HV)

- At 1 month \( (n) = 30 \)
- At 6 month \( (n) = 24 \)
## DEMOGRAPHIC & SOCIO-ECONOMIC FACTORS

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average No. of people</td>
<td>8</td>
</tr>
<tr>
<td>Average No. of children &lt; 6</td>
<td>2.5</td>
</tr>
<tr>
<td>Female Headed HH</td>
<td>40%</td>
</tr>
<tr>
<td>Residing in mud houses</td>
<td>82%</td>
</tr>
<tr>
<td>Subsistence Crop Production</td>
<td>83%</td>
</tr>
<tr>
<td>Livestock keeping</td>
<td>90%</td>
</tr>
<tr>
<td>Average family income</td>
<td>R550/($90)</td>
</tr>
</tbody>
</table>
CAREGIVER KNOWLEDGE OF NUTRITION

- 76% remembered key messages about food fortification
- 71% of caregivers unable to implement acquired knowledge of feeding practices
# STAPLE FOOD INVENTORY LIST

- Samp / Maize
- Beans
- Maize Meal
- Flour
- Rice
- Sugar
- Soup
- Tea / Coffee
- Milk
- Oil
- Peanut Butter
- Eggs

<table>
<thead>
<tr>
<th>No. of food items in HH Cupboard</th>
<th>% of HH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 4</td>
<td>47</td>
</tr>
<tr>
<td>5 - 8</td>
<td>30</td>
</tr>
<tr>
<td>9 - 11</td>
<td>23</td>
</tr>
</tbody>
</table>
HOUSEHOLD SOURCE OF INCOME

- PENSION GRANT 40%
- MIGRANT LABOURERS 25%
- NO INCOME FAMILIES 20%
- DOMESTIC WORKERS 15%
- CHILD SUPPORT GRANT (CSG) 0%
- ANTI POVERTY PROGRAMME 0%

CSG – Children aged 0-9 years in families earning less than R800 per month eligible
CSG - currently R160 ($26)
Advocacy Component

- Presentation of data to Government Commission on Social Welfare

- Partnership with ACESS resulted in TV documentary – ‘Special Assignment’ – elicited unexpected response from both public and government

- Minister of Social Development visited Mt Frere and ordered mobile team in to process CSGs

- Questions in Parliament re child welfare

- Massive Child Support Grant Campaign in E. Cape, October 2002
Starving to death on arable land

Poverty is killing children in the Eastern Cape. But breaking out of its grip is no easy task, write Thabo Mkhize and Heather Robertson

A nutrition study by the University of Western Cape showed that Samkelo is one of the more fortunate - 166 babies at 11 hospitals in the northeastern district have died of malnutrition

ONE-year-old Samkelo Mbulawe has only a tattered blanket to cover his distended stomach and flaking skin. He has just returned home after two months in the Mount Ayliff Hospital where he was treated for kwashiorkor, a form of malnutrition.

EMPTY STOMACHS: Year-old Samkelo is one of nine children that his jobless grandmother, Nofuduka Mbulawe, has to feed

Picture: Richard Shorey
% Change in CSG Beneficiaries Per Province from Dec 2001 to Oct 2002

Source of data: SOCPEN daily records: 19/12/2001 and 3/10/02 in T. Guthrie, UCT & ACESS, Feb. 2003