Addressing the social determinants of health in the COVID-19 pandemic:
High poverty, NCD & HIV burden settings

Khayelitsha, Cape Town in South Africa as a case study

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The evolution of the Covid pandemic in South Africa

5 March – first case in South Africa

11 March – first case in Western Cape

28 March – first case in Khayelitsha

Socio-economic context

Increasingly unequal South Africa
Income inequality in South Africa has remained high and decoupled from the average for emerging markets.
(index scaled, 0-1)

Key Statistics

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to piped water</td>
<td>89.9%</td>
</tr>
<tr>
<td>Access to improved sanitation</td>
<td>77.9%</td>
</tr>
<tr>
<td>Access to mains electricity</td>
<td>85.4%</td>
</tr>
<tr>
<td>Use solid fuels for cooking</td>
<td>10.9%</td>
</tr>
<tr>
<td>Dwelling owned</td>
<td>66.4%</td>
</tr>
<tr>
<td>Living in formal dwellings</td>
<td>77.7%</td>
</tr>
<tr>
<td>Municipal refuse removal</td>
<td>66.0%</td>
</tr>
</tbody>
</table>

Source: World Development Indicators.
Figure 16: A) Map of 9 quantiles of poverty distribution at municipal level. The darkest blue areas represent 26 municipalities with individual poverty incidence from 4-9 percent. The darkest red displays the poorest quantile with poverty rates between 33 and 67 percent.

B) Map of 9 quantiles of distribution of inequity (Gini coefficient) at municipal level. The darkest blue areas represent 26 municipalities with lowest quantile of Gini coefficient (0.37-0.44). The darkest red displays the highest [most unequal] quantile with Gini co-efficient >0.53.

Source: Statistics South Africa: Poverty Mapping in South Africa using data from Census 2011 and the 2010/11 Income and Expenditure survey.3

Socio-economic context of Khayelitsha

Source: Census 2011 data
COVID Cases Cape Metro March to October 2020

Data extracted from WC DoH Covid Dashboard: Natacha Berkowitz
SDHE 1 – Differentiated exposure

Constraints to implement public health prevention, even during lockdown

Photo credit: MUCHAVE/SOWETAN

Photo credit: unknown Khayelitsha resident
Poverty and impoverished living conditions limited the sustained implementation of public health strategies.
SDHE 2 – Differentiated vulnerability

% Premature mortality - YYL

- HIV/AIDS/TB: 18.1%
- CANCERS: 15.8%
- INTENTIONAL INJURY: 14.8%
- OTHER NCDs: 14.8%
- CARDIOVASCULAR DISEASE: 13.2%
- UNINTENTIONAL INJURY: 7.3%
- DIABETES: 6.1%
- INFECTIOUS PARASITES: 5.9%
- MATERNAL/PERINATAL/NUTRITION: 3.8%
How much are these factors contributing to COVID-19 deaths in WC?

For every 100 people in the public sector who have died from COVID-19 - we can attribute as follows:

- 52 to diabetes
- 19 to high blood pressure
- 9 to kidney disease
- 12 to HIV
- 2 to current TB
- 4 to previous TB

Graphic: Mary-Ann Davies on behalf of the Western Cape Department of Health. Western Cape: COVID-19 and HIV / Tuberculosis 9 June 2020

Accepted manuscript: Boulle A, Davies M-A, Hussey H. Risk factors for COVID-19 death in a population cohort study from the Western Cape Province, South Africa. https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa1198/5899044
### Analysis of the Social Determinants of NCDs in South Africa

<table>
<thead>
<tr>
<th>Proximal – downstream - immediate</th>
<th>Co-morbidities</th>
<th>Behavioural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>Genes; Age; Thrifty phenotype hypothesis</td>
<td>Obesity; Increased abdominal girth Hypertension</td>
</tr>
<tr>
<td>Socio-cultural - intermediate</td>
<td>Social exclusion and lack of social support Perceived lack of control and inequity Cultural perceptions about body size</td>
<td></td>
</tr>
<tr>
<td>Distal - upstream - social determinants</td>
<td>Decreased opportunity to exercise in urban settings Local food environment Access to effective, quality health services (incl diagnosis, monitoring, care, rehabilitation) Occupation, Literacy</td>
<td></td>
</tr>
<tr>
<td>Structural</td>
<td>Trade liberalisation - processed and ultra-processed foods (incl ‘fast food’); Neoliberal policies – job insecurity, loss of social security leading to stress Accelerated urbanisation.</td>
<td></td>
</tr>
</tbody>
</table>

SDHE 3 - Differentiated access to care

Accessed: 2 Nov 2020
Currently admitted

- O2 (Tons, 7dMA)
- PUI-Pub
- Gen-Pvt
- Gen-Pub
- ICU-Pvt
- ICU-Pub

Accessed: 2 Nov 2020

SDHE 4 - Differentiated impact of Covid-19

Figure 1: The percentage of respondents experiencing net job loss or furlough (an employment relationship but no income) in the working age population: February to April 2020

Source: NIDS-CRAM WAVE 1 SYNTHESIS REPORT: OVERVIEW AND FINDINGS
Figure 1: Reported hunger in the last seven days (asked separately for ‘anyone in the household’ and for ‘children (<18 years)’ (NIDS-CRAM Wave 1, weighted)

Any hunger in the last 7 days? If yes, how often?

- Household hunger (anyone)
- Child hunger

Source: NIDS-CRAM WAVE 1 SYNTHESIS REPORT: OVERVIEW AND FINDINGS
Covid-19: We need both physical distancing and social solidarity

By Lydia Catonwana for Spotlight — 10 March 2020

The global pandemic could become an opportunity to build an equitable, inclusive education system

By Ashlee Colijn — 10 October 2020

Tabling a human rights budget on civil society’s radar this week

By Ashlee Colijn — 10 October 2020
  Accessed: 3 November 2020
• CHILD POVERTY IN SOUTH AFRICA: A Multiple Overlapping Deprivation Analysis June 2020
• Mary-Ann Davies, Erna Morden, Thato Mosidi et al. BURDEN OF DISEASE RAPID REVIEW UPDATE 2019. Western Cape Department of Health
• Mary-Ann Davies on behalf of the Western Cape Department of Health. Western Cape: COVID-19 and HIV / Tuberculosis 9 June 2020
• StatsSA. Census 2011.
• IMF. Six Charts Explain South Africa’s Inequality.

With thanks to Natacha Berkowitz, Epidemiologist, City of Cape Town, for support in accessing reports and dashboards