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# Counting the Cost

*COVID-19 school closures in South Africa & its impact on children*

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# Counting the Cost

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*"In all matters concerning the care, protection and well-being of a child the standard that the child's best interest is of paramount importance, must be applied."*

(Children's Act, 2005: p.34)

### **Executive Summary**

The present paper sets out to offer evidence drawn from nationally representative household surveys, school surveys and administrative datasets, as well as research reports. The paper focuses on children, teachers and schooling with the following five focal areas: (1) school days lost to COVID-19, (2) comparing regular mortality risk by age to COVID-19 mortality risk by age, both for teachers and the public at large, (3) the feasibility of practicing social distancing within classrooms, (4) the social, economic and health costs associated with lockdown and school closures, (5) the challenges of re-opening the economy without re-opening schools, and especially the prevalence of young children being "home alone" without any adult care givers. We summarise the findings of each these areas below:

**School days lost:** Based on the government's current plans, by the end of Term 2 (7<sup>th</sup> of August 2020) South African children will have lost between 25% and 57% of the 'normal' school days scheduled up to that point as a result of COVID-19 school closures (depending on the grade of the child). If schools do not close again later in the year then children will have lost between 14% and 33% of the regular academic year (Table 1).

**Comparing COVID-19 mortality risk and regular mortality risk:** Using StatsSA data on 2016 mid-year population estimates and 2016 mortality figures, we calculate the regular mortality risk by age. This ranges from a 1-in-1000 chance (0.1%) of dying in the year for 0-19 year olds, and a 1-in-7 chance (15.2%) of dying in the year for those 80 years and older (Table 3). This is based on 2016 data and is not affected by COVID-19. We then look at the Department of Health's current projections for total annual deaths from COVID-19 in 2020, which range from 40 000 to 48 000 deaths (which are sourced from the Actuarial Society of South Africa (ASA) modelling, the Deloitte modelling and the South African COVID-19 Modelling Consortium (SACMC)). We use the Western Cape's COVID-19 age fatality distribution and apportion the higher number of deaths (49 000) across the population's age distribution to give the projected annual COVID-19 mortality by age. Given that these are now both annual figures we can compare "regular" annual mortality with COVID-19 annual mortality in 2020. We show that the risk of death from COVID-19 ranges from a 1-in-76 878 chance (0.001%) for

those aged 0-19 years, and a 1-in-94 chance for those aged 80 years and older. It is clear that “regular” South African mortality risk in 2020 is far higher than COVID-19 mortality risk for all age ranges. While age and comorbidities do increase mortality risk from COVID-19, the total number of projected deaths from COVID-19 in South Africa (48 000) is considerably smaller than the total number of annual deaths from “regular” causes (435 000). Although initially there was considerable uncertainty about the number of deaths that COVID-19 would cause in South Africa, and there is still some ongoing uncertainty, existing projections from almost all analysts do not show more than 48 000 deaths from COVID-19 in South Africa. We argue that the relatively low mortality risk from COVID-19 needs to be contrasted to the significant additional mortality risk from acute malnutrition and associated mortality in children (especially pneumonia, diarrhoea and HIV/AIDS) arising from the lockdown.

**Social distancing:** Reviewing the evidence on class size in South Africa, at least 50% of learners are in classes that exceed 40 learners per class (and 10 - 20% exceed 60 learners per class). South African classrooms are built to accommodate 40 learners with 1.2 to 1.5 square metres per learner. As a result, widespread overcrowding makes practicing social distancing in most classrooms in the country practically impossible. Given that COVID-19 mortality risk is very low compared to regular mortality risk (Table 3), and virtually non-existent for children, we believe the Department of Basic Education should acknowledge that it is not feasible for most South African schools to practice social distancing within the classroom. Other preventative measures like hand hygiene and mask-wearing for older children should be implemented but social distancing within the classroom should not be enforced.

**Social, economic and health costs of lockdown and school closure:**

*Malnutrition and stunting:* Even before the lockdown began, General Household Survey data showed that at least 2.5-million children experienced hunger and lived below the food poverty line. Approximately 1-million children under the age of five are stunted. Hunger and acute malnutrition are likely to have been severely aggravated by the lockdown and school closures since hundreds of thousands of informal workers lost all income and children no longer received free-school meals. Even though malnutrition is not often stated as the cause of death in South Africa, it often remains an important contributor. Child mortality audits show that almost a third of children who die are severely malnourished (Bamford, McKerrow, Barron, & Aung, 2018). Emerging evidence from rapid surveys from both Statistics South Africa and the HSRC have shown clear increases in rates of hunger among children and adults. Increases in acute malnutrition significantly raise the risk of children dying from pneumonia, diarrhoea and HIV/AIDS. These avoidable deaths need to be considered when deciding whether and how to lockdown South Africa, and whether schools should be closed again in future.

*Mental health:* School closures, lockdowns and increased financial stress are likely to have increased the risk of child abuse, mental health breakdowns and the emotional exhaustion of caregivers together with rising rates of depression and anxiety. Recent surveys of children in Nicaragua, Indonesia and a number of other countries have shown that children are at higher risk of lasting psychological distress, including depression (Radesky, 2020). After one month school closures in Hubei, nearly a quarter (23%) of children in Grades 2-6 reported symptoms of depression (Xie et al., 2020). Recent reviews of lockdowns, school closures and natural disasters show increases in rates of substance abuse, depression, fear, loneliness, domestic violence and child abuse (Galea et al., 2020; Soland et al., 2020).

**Health and education:** Children’s routine immunisations, testing for HIV and TB, and health seeking behaviour when children seem sick are all likely to have decreased as a result of the lockdown and school closures. The NICD reports a 48% reduction in TB testing. Any delays in

the diagnosis and treatment of HIV in either pregnant mothers or new-born children is likely to have long term consequences. The education impacts of the lockdown and school closures are likely to be large and sustained. By the 7th of August 2020 at least 4 million children will have missed more than half (57%) of the number of school days that are normally scheduled up to this point. Teachers will not be able to complete the entire remaining curriculum in the limited time available. Inequality is likely to increase since poorer learners and schools are least able to catch up. International research on the cumulative effects of learning losses and subsequent income losses indicate that many of the losses in both learning and income are long term in nature and can be measured five years after the event (Das et al., 2020). As these authors conclude “the hidden paradox of disasters is that even if those who suffer today are the elderly, those who will pay throughout their lives will be the youngest” (Das et al., 2020).

**Young children left home alone:** One of the least appreciated costs of re-opening the economy while keeping schools closed for 90% of learners (as is currently the case in South Africa) is that children are at higher risk of being left home alone. Our analysis of the Quarterly Labour Force Survey (QLFS) data of 2019 shows that if all employed workers return to work, there would be more than 2-million children aged 0-15 years without an older sibling (15 years+) or an adult caregiver to look after them. Of highest concern are the almost one million children (974 000) below the age of six who have no other adult caregiver in the household except a working parent. It is highly plausible that hundreds of thousands of these children would be left home alone in households without an adult caretaker if their employed caregiver was forced to return to work to earn an income and sustain her family. Even though most sectors of the economy have re-opened, ECD centres or crèches remain closed.

#### **Conclusion and recommendations:**

After reviewing the evidence presented in this paper, it is our view that keeping children out of school is not in the best interests of the child. Consequently, all children should return to schools, crèches and ECD centres without any further delay. The profound costs borne by small children and families as a result of the ongoing nationwide lockdown and school closures will be felt for at least the next 10 years.

When the new coronavirus rapidly spread across the globe, the impact of the virus on children was still unclear, and closing schools from an abundance of caution seemed the responsible thing to do. But much has been learnt since about both COVID-19 and about the effects of lockdown and school closures, both in South Africa and internationally. Given the large social and economic costs of hard lockdowns and wholesale school closures we would strongly caution against future nation-wide lockdowns or school closures, even in the presence of a surge in COVID-19 infections. Policy-makers and government leaders have an obligation to weigh up the costs and collateral damage of their policies, particularly for those who are most vulnerable, such as small children, the elderly and those in poverty.

Millions of South African children’s education and mental health have been compromised in this initial period of uncertainty. Given what is now known about the mortality rates of COVID-19, we believe that the ongoing disruptions to children’s care, education and health are no longer justified.

# 1. Introduction

Like most countries around the world, South Africa has experienced disruptions of unprecedented proportions as a result of the novel coronavirus SARS-CoV-2 commonly referred to as COVID-19. Following the World Health Organisation's (WHO) declaration of COVID-19 as a global pandemic, South Africa acted swiftly and severely to limit the spread of this virus. On the 23<sup>th</sup> of March 2020 the President announced that South Africa would enter a state of almost complete lockdown three days later on the 26<sup>th</sup> of March. At the time there were 927 positive cases in the country and zero deaths.

What began as a three-week lockdown period morphed into an eight-week lockdown that is now in its ninth week and still on-going, albeit with fewer restrictions. The eight-week lockdown included bans of all public gatherings, closing all schools, and prohibiting all forms of physical commercial activity, except for the sale of food and medicine. The sale of alcohol and tobacco was banned. A national curfew was imposed prohibiting movement between 8pm and 5am. For the first time since apartheid the army was deployed across the country with the intention of maintaining law and order and supporting the police. This included 70 000 reserve soldiers who, at the time of writing, are still deployed across South Africa, largely in informal settlements. Even parliament was temporarily closed. Only the courts remained open out of fear that there would be no recourse to challenge government actions or to oppose the constitutionality of the measures being implemented.

By and large these containment measures were initially welcomed, or at the very least accepted, by the public, opposition parties and most scientific advisors. This is now starting to change. There are now numerous legal challenges (the Helen Suzman Foundation, Democratic Alliance) and growing scientific opposition to the way the government is handling the crisis (Mendelsohn, Madhi, Nel & Venter, 2020; Van Bruwaene, Mustafa, Cloete, Goga and Green, 2020).

It is within this context that crèches and schools were also closed, and at the time of writing remain closed for 90% of children. For the ten weeks of lockdown up to the 8<sup>th</sup> of June, children were not allowed to go to school or see their friends and family outside of their house. During the first five weeks of 'hard' lockdown children were not allowed to leave their homes for any reason except to seek medical attention. Based on the government's current plans, by the end of Term 2 (7<sup>th</sup> of August 2020), South African children will have lost between 25% and 57% of the 'normal' school days scheduled up to that point (Table 1). The reason for the range is that school reopenings are staggered such that Grade 7 and 12 children miss only 25% of days up to 7 August, while their Grade 4, 5, 8 and 9 peers will miss 57% of scheduled school days up to 7 August 2020.

Table 1 on the following page reports the old and new school calendar based on amendments documented in Government Gazette No. 43381 (1 June 2020). Given that South Africa has not yet reached its expected peak in terms of infections, and may well lockdown again when it does reach the peak, it is unclear yet how long schools will remain open and whether they will close again when the peak does arrive. If schools close again, these trends are likely to be true for the entire academic year of 2020, and possibly the first half of 2021.

**Table 1:** School days lost due to school closures up to 7 August 2020 and in the 2020 calendar year (assuming no further closures)

School days lost up to 7 August 2020 by Grade				
	(New calendar) Current school days up to 7 Aug	(Old calendar) Pre-COVID scheduled school days up to 7 Aug	Days lost up to 7 Aug	School days lost as a percentage of pre-COVID scheduled school days up to 7 Aug 2020
Grades 7 & 12	92	122	30	25%
ECD + Grades 1,2,3,6,10,11	72	122	50	41%
Gr 4,5,8,9	53	122	69	57%
School days lost in 2020 by Grade (assuming no further closures)				
	(New calendar) Current school days in proposed 2020 calendar	(Old calendar) Pre-COVID scheduled school days in 2020	Days lost up in 2020 (assuming no further school closures)	School days lost in 2020 compared to pre-COVID scheduled school days in 2020
Grades 7 & 12	175	204	29	14%
ECD + Grades 1,2,3,6,10,11	155	204	49	24%
Gr 4,5,8,9	136	204	68	33%

The aim of this paper is to provide empirical evidence on how COVID-19, lockdown(s) and school closure(s) affect children (<19 years). We provide evidence on the age distribution of teachers and map these onto COVID-19 risk categories (Section 2). The following section presents evidence on school infrastructure and class-sizes in South Africa which are relevant for considerations around hygiene and the feasibility of social distancing (Section 3). We then use household survey data to document the living situations of children and specifically how many children live with high-risk family members, and the employment status of their caregivers (Section 4). Subsequent sections deal with the impacts of the lockdown(s) and school closure(s) on children (malnutrition, depression, declining immunisations, indirect mortality from avoiding clinics, learning losses and the impacts on young children’s cognitive development, to which should be added income losses and increased inequality (Section 5). The penultimate section (Section 6) reports the number of children left “home alone” while the economy has re-opened and schools remain closed (i.e. those with no other care-givers except a working parent. Section 7 provides concluding comments and policy recommendations.

## 2. Children, teachers and COVID-19 risk

### *a. Age and COVID-19 risk in South Africa*

One of the primary findings emerging from the medical research around COVID-19 is that age and COVID-19 mortality risk are strongly correlated. That is to say that the risk of severe illness or death from COVID-19 is heavily concentrated among the older cohorts of the population. Figure 1 below uses South African data from the Department of Health (as at 9 June 2020) and reports the distribution of COVID-19 mortality by age. It shows that 81% of people who died from COVID-19 in South Africa were 50 years or older, and that 58% were 60 years or older. This age distribution of deaths is somewhat ‘younger’ than those seen in most high-income countries. For example, in the United States 81% of people who died from COVID-19 were 65 years or older (CDC, 2020). See Our World In Data (2020) for case fatality rates by age for China, Italy, Spain and South Korea.

Figure 1: Distribution of COVID-19 deaths in South Africa by age category. Total deaths = 998 (Source: Department of Health, 9 June 2020)

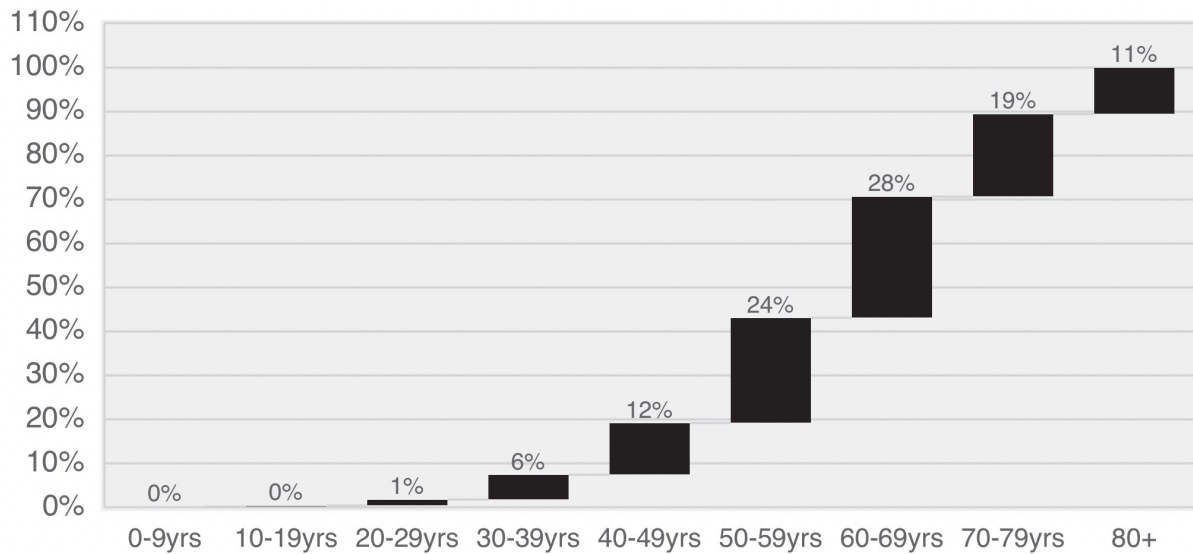


Table 2 below reports the case fatality rate (CFR) by age in China (China CDC, 2020: p.115) and compares this to the latest data available for the Western Cape (Western Cape Government, 2020). The CFR is the probability of dying if you are infected with COVID-19. The Western Cape was selected as the best proxy for South African risk by age since it has the highest number of infections (66% of the national total), the highest number of deaths (77% of the national total), as well as the highest rate of testing per 100 000 persons – at least as at the time of writing (NICD, 2020a: p.6). Apart from having the largest sample size on which to make conjectures, the province is also reporting testing and deaths by age group, which is necessary to calculate the CFR. If the age distribution of the 851 deaths in the Western Cape (as at 9 June 2020) is a reliable indicator of age and susceptibility to severe COVID-19 illness, it would seem that COVID-19 mortality risk starts increasing from those aged 50 and older in South Africa, rather than 60 and older as in China and most high-income countries. Note this is for those who are infected.

Table 2: Comparing COVID-19 Case Fatality Rates in China and the Western Cape by age

Age category	COV-19 Case Fatality Rate (CFR) in China	COV-19 Case Fatality Rate (CFR) in WC	WC Cases	WC deaths
0-9yrs	0.0%	0.2%	2 377	5
10-19yrs	0.2%			
20-29yrs	0.2%	0.3%	7 501	19
30-39yrs	0.2%	0.6%	9 345	55
40-49yrs	0.4%	1.5%	6 833	105
50-59yrs	1.3%	4.9%	4 488	218
60-69yrs	3.6%	12.7%	1 837	233
70-79yrs	8.0%	17.6%	780	137
80+yrs	14.8%	13.9%	569	79
<b>Total</b>	<b>2.3%</b>	<b>2.5%</b>	<b>33 730</b>	<b>851</b>
<b>Source</b>	China CDC (2020: p.115) based on 1023 deaths	WC COVID-19 Dashboard 10 June 2020, based on 851 deaths	WC COVID-19 Dashboard 10 June 2020	WC COVID-19 Dashboard 10 June 2020
<b>Note:</b>	Of those infected what percentage die (Deaths = 1023)	Of those infected what percentage die (WC deaths / WC Cases)		



This data from the Chinese CDC show that the average Chinese 55 year old had a 1.3% chance of dying of COVID-19 if they were infected, while the average South African 55 year old had a 4.9% chance of dying of COVID-19 if they were infected. These differences are likely due to contextual and demographic differences between South Africa and China. Due to higher rates of malnutrition, wider prevalence of tuberculosis and HIV, and lower access to healthcare, it is plausible that South Africa may have a higher CFR per age group, and indeed preliminary data from the Western Cape supports that hypothesis.

It is worth contextualising COVID-19 mortality risk relative to 'normal' mortality risk. That is to say that in a regular year people that are older also have a higher probability of dying from non-COVID-19 causes. Comparing COVID-19 mortality risk to 'normal' mortality risk is also helpful to put the relative risk of death in terms that are understandable. Table 3 below reports Statistics South Africa's mid-year population estimates for 2016 (StatsSA, 2016b: p.9) as well as deaths for the same year (StatsSA, 2018c: p.8) by age category. They show that a typical 45 year old in South Africa had a 1 in 100 chance of dying in 2016 from 'regular' (i.e. non-COVID-19) causes. It is clear that regular mortality risk is also strongly associated with age, as one would expect.

Given that South Africa has not yet experienced peak infections or deaths from COVID-19, in order to compare annual risk of death (from 2016) to COVID-19 risk of death in 2020, one needs to make assumptions about the total number of deaths from COVID-19 in 2020 in South Africa.

The Department of Health has consulted numerous modelling experts to predict the total number of infections and deaths from COVID-19 since this is important information needed for planning and preparation. Reviewing the projections put forward by the Actuarial Society of South Africa (ASA, 2020: p.4), the South African COVID-19 Modelling Consortium (SACMC) and Deloitte indicate that there may be as many as 40 000 deaths (optimistic) or 48 000 deaths (pessimistic) from COVID-19 by the end of 2020 (Davis, 2020; Child, 2020). These are also the current projections cited by the Minister of Health. Taking a conservative approach and using the higher projection of COVID-19 deaths in South Africa in 2020 (48 000), we use the distribution of deaths by age in the Western Cape (Column E) to apportion the 48 000 total deaths across the different age categories. For example, if the 48 000 deaths follow the Western Cape distribution of COVID-19 deaths then there will be 13 142 deaths among the 60-69 year age group.

This table allows one to ask "*What is the probability that someone in a particular age category is going to die from COVID-19 in 2020 in South Africa?*". It shows that for those under 70 the risk of death from COVID-19 is exceedingly small. For example the average 35 year old has a 1-in-2753 chance of dying of COVID-19 in 2020.

Table 3: Comparing risk of death in a regular year and risk of death from COVID-19 infection by age

Column	A	B	C	D	E	F	G	H	I
<b>Age category</b>	<b>Population in 2016</b>	<b>Deaths in 2016</b>	<b>% died in 2016</b>	<b>Normal probability of dying is 1 in _____</b>	<b>WC distribution of COVID-19 deaths up to 10 June 2020</b>	<b>Projections: Projected SA Cov-19 deaths in 2020 if following WC pattern</b>	<b>Projections: Probability of dying of COVID-19 in 2020 in SA</b>	<b>Projections: Probability of dying of COVID-19 in 2020 in SA</b>	<b>COVID-19 risk categorization relative to regular mortality risk</b>
<b>0-9yrs</b>	11 624 007	9 974	0.1%	1 in 1 000 chance	5	282	0.001%	1 in 76 878 chance	Practically non-existent
<b>10-19yrs</b>	10 057 108	9 904	0.1%	1 in 1 000 chance	19	1 072	0.010%	1 in 10 099 chance	Very Low
<b>20-29yrs</b>	10 822 615	35 917	0.3%	1 in 333 chance	55	3 102	0.036%	1 in 2 753 chance	
<b>30-39yrs</b>	8 540 322	56 763	0.7%	1 in 143 chance	105	5 922	0.097%	1 in 1 028 chance	
<b>40-49yrs</b>	6 085 366	57 925	1.0%	1 in 100 chance	218	12 296	0.286%	1 in 350 chance	Low
<b>50-59yrs</b>	4 302 071	65 535	1.5%	1 in 67 chance	233	13 142	0.480%	1 in 208 chance	
<b>60-69yrs</b>	2 739 297	72 056	2.6%	1 in 39 chance	137	7 727	0.585%	1 in 171 chance	Moderate
<b>70-79yrs</b>	1 320 831	63 628	4.8%	1 in 21 chance	79	4 456	1.068%	1 in 94 chance	High
<b>80+yrs</b>	417 248	63 549	15.2%	1 in 7 chance	<b>851</b>	<b>48 000</b>	<b>0.086%</b>	<b>1 in 1 165 chance</b>	Low
<b>Total</b>	<b>55 908 865</b>	<b>435 251</b>	<b>0.8%</b>	<b>1 in 129 chance</b>					
<b>Source</b>	(StatsSA, 2016: p.9)	(StatsSA, 2018c: p.8). Infant deaths (age 0 years; 20 649) are excluded so as to make these figures comparable to the Population estimates in Column A	Calculated as B/A	Calculated as 100/C	WC COVID-19 Dashboard 10 June 2020	Apportioning ASA, SAMRC & Deloitte 2020 total projected deaths conservative estimate (48 000) across age distribution	Calculated as F/A	Column G reported as chance (1/G)	Comparing column H and column D

While it is true that these projections depend on the assumption of 48 000 COVID-19 deaths in South Africa in 2020, there are very few specialists who believe that the figure will be higher than this. Furthermore, even if COVID-19 deaths were twice as large as predicted here (96 000) (which would halve the chance numbers in Column H), the risk of death from regular causes for all age groups would still drastically outweigh the risk of death from COVID-19 multiple times over. It is for this reason that the risk categorization in Column I, which reports the relative risk of COVID-19 mortality and regular mortality, indicates that for the population at large under 70 years of age, the risk of death from COVID-19 is low or very low when compared to regular mortality risk. Put differently, people should be far more worried about dying of regular causes than from COVID-19. This does not, however, indicate that sensible precautions such as social distancing or wearing a mask should be ignored.

The above discussion has important implications for school closures, since these measures are justified partly on the basis that they will prevent the healthcare system becoming overwhelmed, but also because of the excess mortality risk to teachers. For example, schools were scheduled to be opened for some grades on the 1<sup>st</sup> of June 2020, but this was delayed based on teacher union opposition that schools were not adequately prepared to protect learners and teachers. Yet if the assumptions underlying the above data are correct, the additional mortality risk to teachers and caregivers up to age 70 is low relative to the normal mortality risk that they face. For children the risk is exceedingly small. Following analysis of COVID-19 mortality data in the United Kingdom by Professor David Spiegelhalter at Cambridge University, he concluded that “In school kids aged five to 15 it’s not only a tiny risk, it’s a tiny proportion of the normal risk.” He went on to say that the risk was so low that children were more likely to get struck by lightning (a chance of one in 1.7-million) than die of COVID-19 (one in 3.5-million) (Spiegelhalter, 2020).

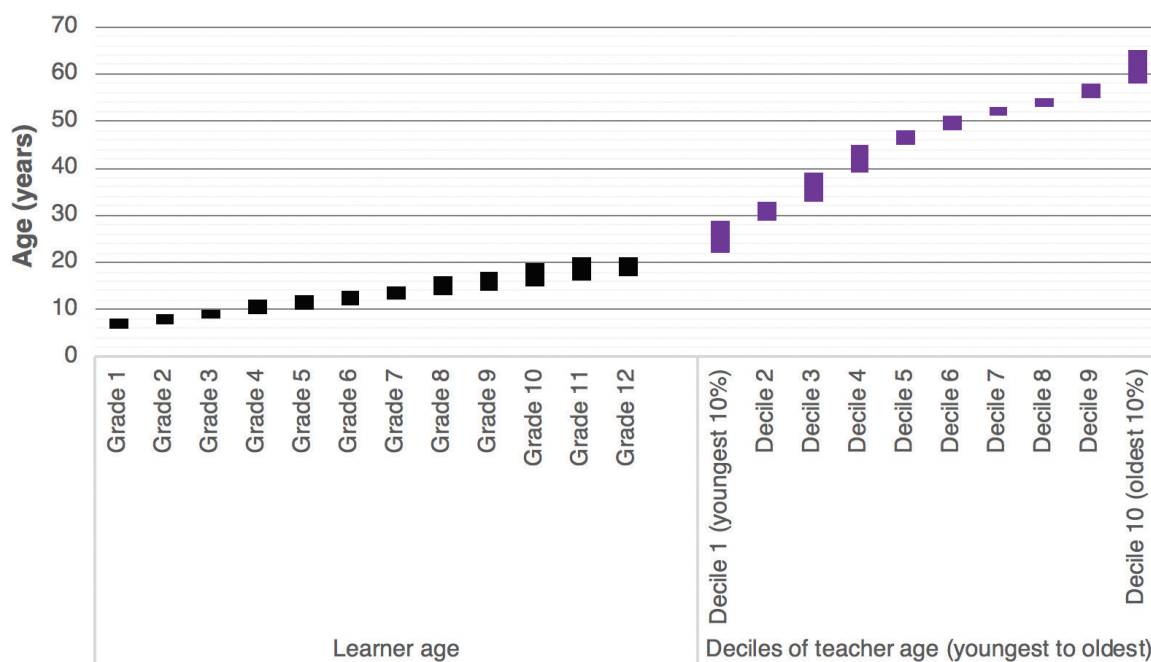
The evidence emerging from South Africa on children’s COVID-19 risk of severe illness is completely congruent with international research showing that children do not get severely ill from COVID-19. There are so few recorded deaths of children from COVID-19 that it is difficult to draw any conclusions (see Spaul, 2020 for an overview of the epidemiological research on this). The South African Paediatric Association (SAPA) in their statement on COVID-19 (SAPA, 2020) explain that “Children biologically contain SARS-CoV-2 better than adults, are less likely to get sick if infected, have milder disease, are unlikely to die from COVID-19, and are probably less infectious than adults.”

#### *b. The age distribution of learners and teachers in South Africa*

Although it is clear that the additional mortality risk posed by COVID-19 is small relative to regular mortality risk, it is nevertheless true that this additional risk is related to age. Therefore we report the age distributions of both learners and teachers in South Africa with the aim of identifying the number and percentage of teachers in higher risk age categories. To do so we use data from the Education Management Information System for learner age (EMIS, 2013) and government payroll data for teacher age (PERSAL, own 2020 projections based on 2017 data).

For learners we report the age range of the 10<sup>th</sup> to the 90<sup>th</sup> percentile per grade, while for teachers we order the distribution by age from youngest to oldest and create ten equal deciles of age (Figure 2 and Table 4). For example, in Grade 12 there are 10% of learners who are younger than 17 (10<sup>th</sup> percentile) and 90% of learners who are under the age of 21 (90<sup>th</sup> percentile). Given that those under the age of 60 are at low risk of severe illness and death from COVID-19, of most interest for the present purposes is the finding that 10% of teachers are aged 58 to 65 years old (10<sup>th</sup> decile). There are approximately 380 000 teachers in the system, so approximately 38 000 are aged 58-65 years (see also Figure 3 on the next page).

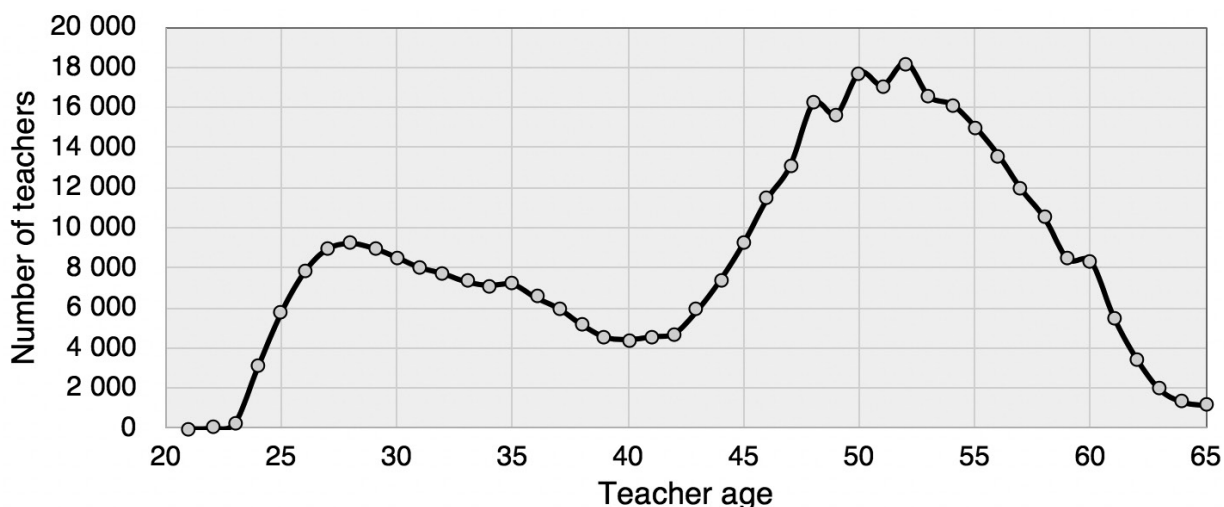
**Figure 2:** The distribution of learner age range (10th-90th percentile) by grade (EMIS), and teacher age by decile (PERSAL) in South Africa



**Table 4:** The distribution of learner age range (10th-90th percentile) by grade, and teacher age by decile in South Africa

Distribution of <b>learner</b> age in years (EMIS)				Distribution of <b>teacher</b> age in years (PERSAL)			
		Learner age by grade		Deciles of teacher age (youngest to oldest)	Teacher age by decile		
		10 <sup>th</sup> percentile	90 <sup>th</sup> percentile		Youngest	Oldest	
Learner age by grade	Grade 1	6	8	Deciles of teacher age (youngest to oldest)	Decile 1 (youngest 10%)	22	29
	Grade 2	7	9		Decile 2	29	33
	Grade 3	8	10		Decile 3	33	39
	Grade 4	9	12		Decile 4	39	45
	Grade 5	10	13		Decile 5	45	48
	Grade 6	11	14		Decile 6	48	51
	Grade 7	12	15		Decile 7	51	53
	Grade 8	13	17		Decile 8	53	55
	Grade 9	14	18		Decile 9	55	58
	Grade 10	15	20		Decile 10 (oldest 10%)	58	65
	Grade 11	16	21				
	Grade 12	17	21				

Figure 3: Projected teacher age in South Africa, 2020 (PERSAL)



c. What percentage of teachers have co-morbidities?

In addition to age, international research has shown that individuals with certain co-morbidities are at higher risk of COVID-19 mortality. The World Health Organisation (WHO) reports that “evidence to date suggests that two groups of people are at a higher risk of getting severe COVID-19 disease. These are older people (that is people over 60 years old); and those with underlying medical conditions (such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer)” (WHO, 2020: p.2).

There is currently no nationally-representative data on the comorbidities of teachers specifically. However, nationally 4 581 200 South Africans aged 20-79 are estimated to have diabetes, according to the International Diabetes Federation (2019). Applying the ratio of teachers to the national population in this age group, there could be perhaps around 47 500 teachers who have diabetes, or one in every eight teachers. Cardiovascular disease is a major source of mortality in South Africa, often associated with hypertension. These diseases increase an individual’s COVID-19 mortality risk. However, it should be noted that the mortality total provided in Table 3 is a national figure and already includes deaths associated with these and other comorbidities.

### 3. School infrastructure, class sizes and social distancing in South Africa

While there are numerous ways to limit the spread of COVID-19, the two preventative measures that receive the most attention are (1) washing hands with soap and water or alcohol-based sanitizer, and (2) practicing social distancing. At the most elementary level the former requires soap and water and the latter requires space. To what extent are these available in South African schools? In the section below we look at data from the School Monitoring Survey (SMS) of 2017 to report what percentage of primary schools and high schools in South Africa have access to running water, and what is the distribution of class sizes in the country.

a. Access to running water

The SMS data show that nationally 74% of primary schools and 80% of secondary schools report

access to running water in 2017 (DBE, 2018: p.80). However, there is considerable provincial variation in access to this most basic resource. Lack of access to running water is especially acute in KwaZulu-Natal, where only 53% of primary schools and 59% of secondary schools report access. In contrast, approximately 95% of primary schools and high schools in Gauteng and the Western Cape have running water (DBE, 2018: p.81). Without access to running water, how are children and teachers expected to wash their hands? Thus special measures had to be instituted. COVID-19 is an opportunity for South Africans to reflect and acknowledge that in 25 years of democracy we have not managed to provide all schools with basic infrastructure like running water, electricity, and safe toilet facilities<sup>1</sup>. The fact that a quarter of primary schools do not have access to running water in a middle-income country like South Africa is an indictment and an ongoing source of shame. While this is clearly a pre-requisite for basic hygiene during a pandemic, it is also a pre-requisite for basic dignity in everyday life.

Due to teacher union opposition about returning to schools where there is no running water and therefore limited ability to practice personal hygiene, the Department of Basic Education went into overdrive to provide schools with water tanks so that teachers would return. On the 7<sup>th</sup> of June the Minister announced that 95% of schools now had running water (Motshekga, 2020). This was accomplished through a contract with Rand Water to provide water tanks to 3500 schools:

“The support provided by the Department of Water and Sanitation, Rand Water, the Department of Health, National Treasury; and the recent involvement of the South African National Defence, the Development Bank of Southern Africa (DBSA), the Department of Transport, and Mvula Trust is second to none. Their involvement has accelerated our interventions in the provinces, especially the reach to the most rural and remote schools” (Motshekga, 2020).

This is a commendable achievement, and may yet be one of the few positive outcomes of the pandemic. It is truly remarkable that in the space of six weeks the Department of Basic Education has managed to do what it was unable to do in the last 20 years.

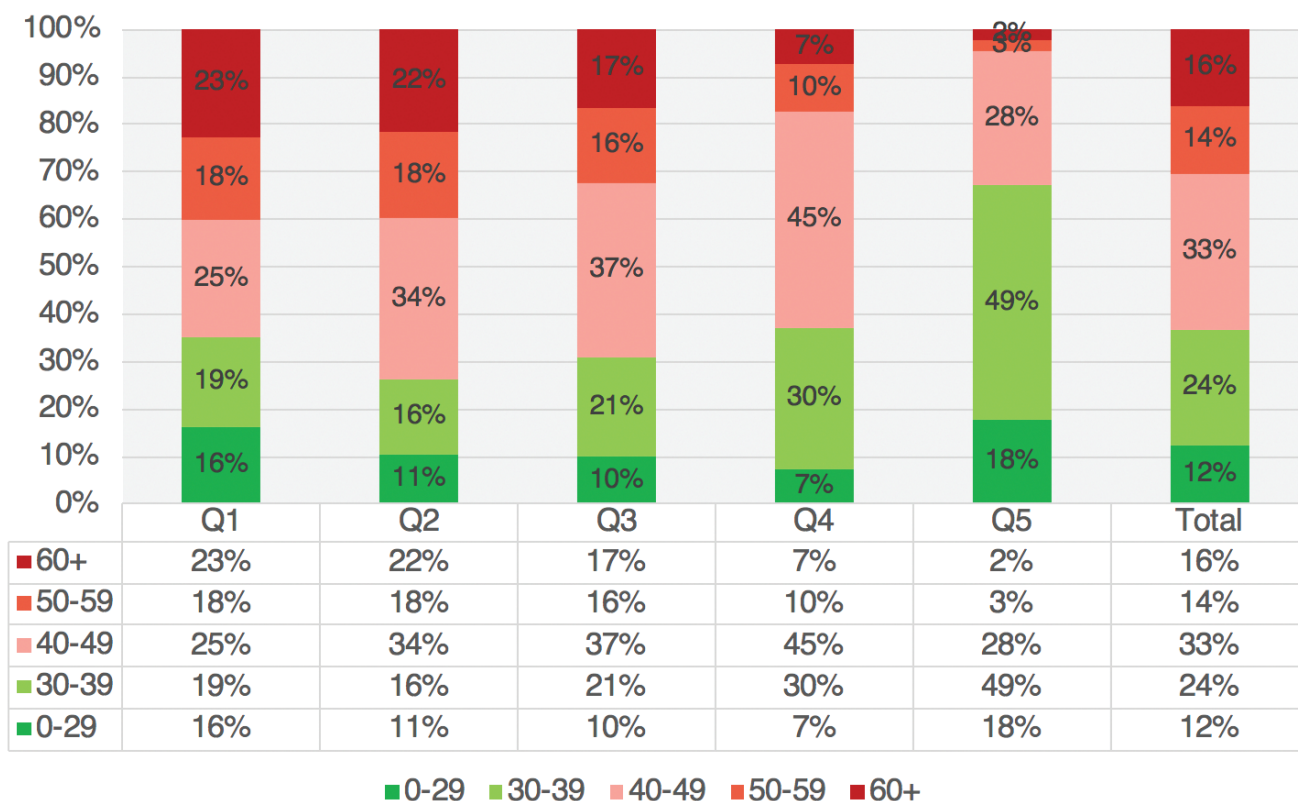
#### *b. Class sizes and the feasibility of social distancing*

In addition to information on school infrastructure, the School Monitoring Survey also asked teachers about the class size of the largest class<sup>2</sup> that they taught. This was asked of teachers in Grades 3, 6, 9 and 12. The two graphs below report the distribution of class sizes in South African primary schools (Figure 4) and high schools (Figure 5) split by quintiles of school wealth (Q1 is poorest, Q5 is richest). They show that nationally 63% of primary school children are in classes of 40 or more learners per class, with 16% in classes of 60 or more per class. In secondary schools 70% of learners are in classes of 40 or more learners per class and 26% are in classes of 60 or more learners per class. Appendix A reports the same figures separated by province. Appendix B provides corroborating evidence on class sizes from TIMSS, PIRLS and SACMEQ.

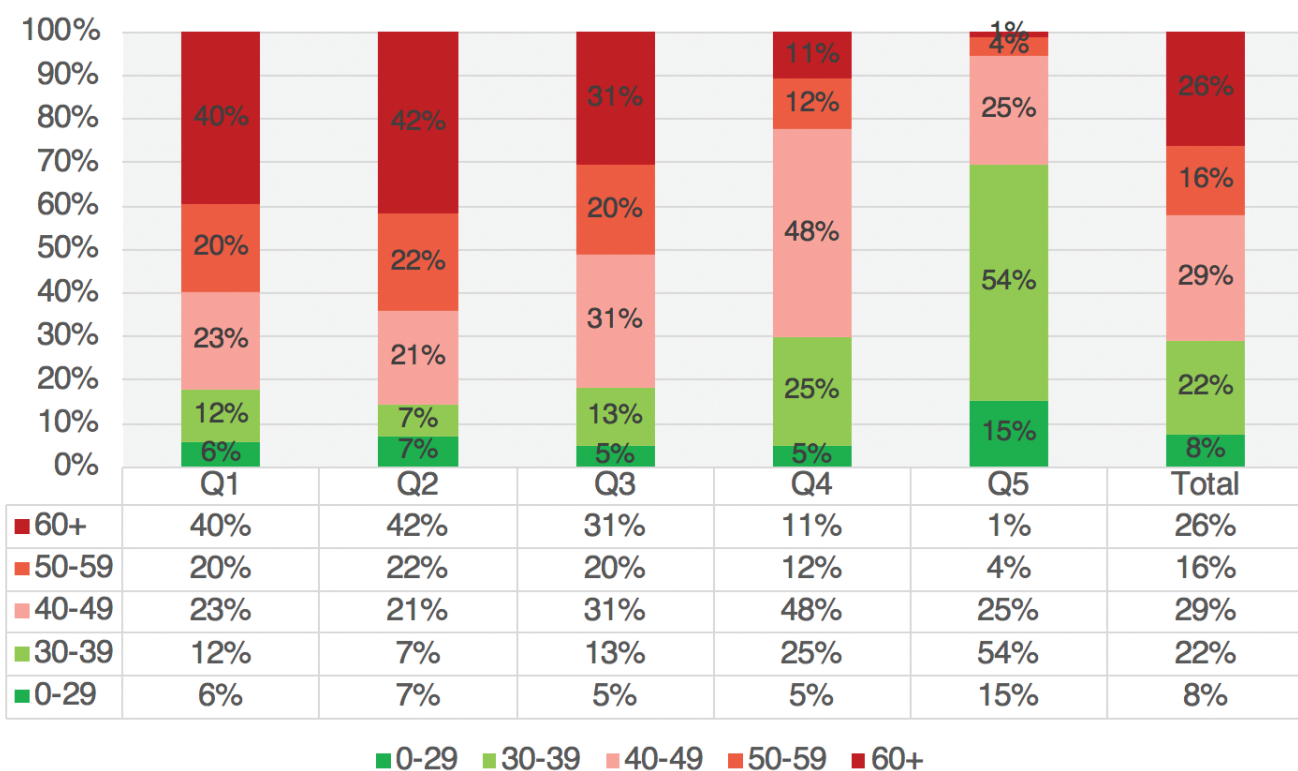
<sup>1</sup> The SMS data show that nationally 12% of primary schools and 6% of high schools do not have electricity, while 21% of primary schools and 16% of high schools do not have adequate toilets (DBE, 2020: p.80). Provinces with the greatest needs are Limpopo, KwaZulu-Natal, the Eastern Cape and the Free State. Note that the SMS sample is nationally representative and includes 1000 primary schools and 1000 secondary schools (DBE, 2018: p.11).

<sup>2</sup> It is only in Grade 3 that we also have the observed class sizes in SMS (not Grades 6, 9 and 12), in addition to the question on largest class taught. However, it is reassuring to note that the observed and self-reported class sizes are not very dissimilar. Thanks to Tim Kohler for help with this.

**Figure 4:** Distribution of largest class taught by Grade 3 and 6 teachers in South African primary schools by school wealth quintile (School Monitoring Survey 2017, own calculations)



**Figure 5:** Distribution of largest class taught by Grade 6 and 9 teachers in South African secondary schools by school wealth quintile (School Monitoring Survey 2017, own calculations)



The Department of Basic Education's draft "National Minimum Norms and Standards for School Infrastructure" document reports architectural norms that must be followed when building classrooms. Page 91 of those norms state that the maximum class size that should be considered is 40 learners per class (SA Government, 2008: p.91). As a result virtually all South African classrooms are built to accommodate 40 learners. The norms further specify sitting spaces of 1.2 to 1.5 square metres for each child (p.91). If a class had 40 learners in it, then social distancing within the classroom in accordance with the WHO guidelines (WHO, 2020) would be possible.

Reviewing the data on class sizes in South Africa (Figures 4 and 5) in conjunction with government regulations and the spatial realities of South African classrooms, it is clear that at least half of South African learners will not be able to practice social distancing within a classroom. Furthermore, teaching outdoors is problematic, since South Africa is now in the winter season. This is apart from the fact that teaching 50+ learners in an open space is practically very difficult even without weather considerations.

Given that COVID-19 mortality risk is very low compared to regular mortality risk (Table 3), and virtually non-existent for children, we believe the Department of Basic Education should acknowledge that it is not feasible for most South African schools to practice social distancing within the classroom. While it should require mask-wearing for older children and social distancing on the playground, social distancing within the classroom is simply not realistic. Attempts to do so are futile in our context and are likely to further disrupt teaching and learning, to the detriment of children.

## **4. Household living situations**

Thanks to Statistics South Africa and other surveys and an active research community, we know a lot about the often dismal social and economic conditions that many children still find themselves in today. We know that poverty has declined since the political transition, and so has one of its worst manifestations, child hunger – but they have not been eliminated. According to the Community Survey of 2016, exactly one-third of children were still in households that had an income below the food poverty line, where not even minimum food needs can be met, and just over two-thirds (67%) were below the higher, but still frugal, upper-based poverty line, the level of income required to meet most basic needs (Statistics South Africa, 2016). Thanks to the expansion of the Child Support Grant, these child poverty rates have been declining over a large part of the post-transition period, but even in 2018, parents indicated that 2½ million children (13% of children) sometimes go hungry. As Table 5 shows, this ratio was as high as 21% in the North West province, before the economic effects of COVID-19 and the lockdown were felt. Anthropometric indicators of nutritional status in the Demographic and Health Survey (DHS) indicate that stunting (low height for age, an indicator of long term nutrition and health status), was still prevalent in 27% of children under 5 in 2016. Wasting (low weight for height), a measure of shorter term nutritional adequacy, was less common at less than 3% (National Department of Health et al, 2019). In the context of COVID-19 it is especially concerning that school closures and the lockdown are likely to have significantly exacerbated child hunger. Both because of job and income losses, but also because children are not receiving free school meals. In 2018, 77% of children in public schools, approximately 9-million children, received a school meal every school day (Statistics South Africa, 2019a). This is an important source of food that would have fallen away during the lockdown and continues for those who are not yet allowed to go back to school. Even though malnutrition is not often stated as the cause of death in South Africa, it often remains an important contributor. Child mortality audits show that almost a third of children who die are severely malnourished. (Bamford, McKerrow, Barron, & Aung, 2018)



**Table 5:** Children who live in households with no employed adults, who experience hunger, or who live in areas where crime prevents them from using parks, 2018

	Child population 2018 ('000)	Children living in house-holds with-out an employed adult	Children experiencing hunger ('000)	Children experiencing hunger (%)	Children in public schools who benefit from school feeding (%)	Areas where fear of crime prevent children from going to parks
Western Cape	1 971	8%	288	15%	54%	47%
Eastern Cape	2 514	46%	212	9%	90%	38%
Northern Cape	436	29%	73	17%	83%	57%
Free State	1 021	35%	131	13%	80%	35%
Kwazulu-Natal	4 184	36%	826	20%	84%	28%
Northwest	1 382	35%	284	21%	80%	21%
Gauteng	4 186	15%	345	8%	55%	46%
Mpumalanga	1 673	29%	222	13%	88%	39%
Limpopo	2 374	41%	118	5%	91%	15%
<b>Total</b>	<b>19 741</b>	<b>30%</b>	<b>2 500</b>	<b>13%</b>	<b>77%</b>	<b>35%</b>

Sources: Statistics South Africa, 2019a; Statistics South Africa, 2018a; Hall, 2019; Statistics Sount Africa, 2019c

**Households:** It is perhaps helpful to provide some context as to the types of households that children find themselves in. Altogether 62% of South African children, and three-quarters of those in rural areas, live in extended families. Less than one-third of children live in households where both parents are present, and almost 42% live in households where the mother is the only parent present (Statistics South Africa, 2019). Only 13% of children are in households with medical aid, 32% live in households without potable water, and almost 20% in homes without sanitation (Statistics South Africa, 2018a).

**Stimulation:** Although almost half (49%) of children aged 0 to 4 stay at home with parents or guardians, research shows a worrying lack of stimulation for many children. Only 53% of parents or guardians report reading books with children, 57% report colouring or drawing with them, and 65% report telling stories (Statistics South Africa, 2019a). For those without these forms of stimulation at home, the lockdown experience is likely to be dire. In addition there have been further limitations placed on these children, given that they could not play outside or see their same-age peers.

**Child abuse:** In 2016, the extensive Optimus study was undertaken on child abuse in South Africa. The researchers found that “one in every three young people had experienced some form of sexual abuse at some point in their lives” (Artz, et al., 2016: p.11). Other forms of child abuse were also investigated; among children aged 15-17, they found that 42% had experienced some form of maltreatment (sexual, physical, emotional or neglect), and 82% reported that they had experienced criminal victimisation or exposure to family or community violence (Artz, et al., 2016). The authors recognize that many parents and caregivers lack the financial and emotional support needed to nurture children, and that caregivers struggling with poverty and adversity were more likely to be perpetrators of violence. Pelton (2015) also identifies poverty as one of the risk factors for child maltreatment, together with sleeping density – the number of people a child shares a room with at night (Richter, Dawes & Higson-Smith, 2004).

## 5. Impacts of the lockdown(s) and school closure(s) on children

### *a. Learning loss*

Existing research in South Africa shows that children in weaker schools fall increasingly below a threshold of required achievement (Van der Berg, 2015; Spaull & Kotze, 2015). The learning deficits resulting from COVID-19 are likely to further exacerbate this problem and widen overall inequality in South Africa. Furthermore, with an ever-dwindling number of school days left in the year, teachers will be increasingly under pressure to cover an already “full” curriculum in a fraction of the time. An emerging body of research shows the detrimental effects of a disconnect between curricular expectations and the level of the child (Pritchett & Beatty, 2013; Banerjee & Duflo, 2011). In the South African context, how much can teachers adjust the level at which they teach to the new reality of children who have missed 29-68 out of 204 days of the school year? How much of the curriculum can be excluded in any one grade without affecting children’s readiness for the subsequent grades and the expectations of further study?

Using assessment data from 5 million American students in Grades 3 to 8 and extrapolating from that based on learning losses during school holidays or absenteeism from school, Soland, et al. (2020) estimate that COVID-19 may result in around 30% of a year’s learning in reading and more than 50% in mathematics in the U.S. Younger children may lose almost a full year of mathematics learning. Moreover, a long lockdown will increase heterogeneity in classes when schools reopen, which would raise the challenges for teachers, especially in mathematics. (Soland, et al., 2020). All of these estimates are likely to be drastic underestimates when applied to South Africa, due to the low levels of educational materials at home, the lack of educational technology like computers and the internet and the inability of most South African teachers to continue teaching while children are not at school. Realistically, for the poorest 80% of learners in South Africa, virtually no curricular learning is taking place during lockdown.

Apart from the fact that parents and caregivers are not trained or equipped to teach their own children, the existing lockdown ‘plans’ for learning have not significantly mitigated the losses in learning for children that do not have proper technology-enabled learning at home. At most, 5-10% of learners can continue learning at home given their access to computers and the internet. Data from the Trends in International Mathematics and Science Study (TIMSS 2015, Grade 9) shows that for no-fee schools (the poorest 75%), less than half of children in a given class have a computer with internet access. Only in the wealthiest 5% of schools do at least 90% of learners have access to a computer and the internet at home (Gustafsson 2020).

The DBE’s partnership with the South African Broadcasting Corporation (SABC) to provide “COVID-19 Learner Support” via television and radio (DBE, 2020b), while admirable, is not a replacement for school. It targets only “Grade 10-12 and ECD” and is only available for 1.5 hours per day across three television channels. Given that these programs would need to be subject- and grade-specific for students to continue with curricular work, this still amounts to less than 5% of the ‘instruction’ time learners would be receiving if they were in school, assuming they watch all the programs dedicated to their grade. It is also not clear what children in Grades R-9 are meant to do.

Access to computers and the internet in South African homes is very low. The General Household Survey of 2018 shows that only 22% of households have a computer in them (StatsSA 2019a, p. 63) and only 10% of respondents have an internet connection in their home (p.57). While it is true that 90%+ of South African households report access to a mobile phone (p.56), only

60% report access to the internet via their mobile phone. It should further be emphasised that these rates are for adults in the household. One cannot assume that during lockdown, children in a household would have exclusive or unlimited access to the cell phone to access educational content. There is also the issue of multiple children in the same household needing to share a mobile phone, and the high cost of data, although there are now some free educational sites (Duncan-Williams 2020).

*b. Economic effects, nutrition and immunisations*

The lockdown and school closures have had severe economic effects for many households, especially households where the informal sector contributes a large part of household income, or where people have lost jobs or income because of the lockdown. Government social relief for the unemployed has not been very effective, due to the difficulties of setting up new payment systems and procedures, and problems in dealing with the application process and documentation. Social relief through increased social grants was much more successful, despite some hurdles in implementation (for example in the Western Cape, where social pensioners received pensions twice in one month). Thus children in the 20% of households whose main income source is social grants may have been better off since the lockdown began, but it is not so clear that this would also be true for the other 24% of households where social grants are only one of the main income sources (Statistics South Africa 2019a).

It will take some time before we will know how the gains from social relief match up against the effect of job and income losses in these households. The South African Reserve Bank and the International Monetary Fund (IMF) estimate that the South African economy will contract by 6% in 2020 (National Treasury, 2020a: p.5), while a social accounting model by Arndt et al. (2020) point to a much bigger economic decline, perhaps as much as 16% without consideration of government social relief efforts. It is worth noting that labour market income makes up more than 70% of total household income and that grant income has never been more than 7% of total household income in South Africa (StatsSA, 2019b: p.41). Given the relative proportions of government grants to total market income, the additional relief in government grants can unfortunately never outweigh the loss in income from job losses and income shocks. To place the R500-billion government relief package in further context, the 'pre-COVID-19' 2020 budget had allocated approximately R276-billion to government grants and social security (UIF) (National Treasury, 2020b). Therefore, the total amount of government social assistance is likely to be three times higher in 2020 than it would normally be.

Since the widespread lockdowns in response to COVID-19, there has been increasing evidence of disruptions to routine childhood immunisation services globally, with more than 68 countries reporting moderate to severe or even total suspension of such services. This may affect provision of vaccines against measles, polio and cholera to around 80 million children under one year globally. Delays in vaccine deliveries, fears of visiting health facilities and pressure on health workers all contribute (WHO, 2020). This is in line with a systematic review of articles on the indirect health effects of the Ebola virus outbreak in West Africa that showed substantial short and long term effects on health services, including declines in caesarean sections and facility-based deliveries and in utilisation of antenatal, postnatal, family planning and children's health services (Brolin Ribacke, Saulnier, Eriksson, & Von Schreeb, 2016).

In South Africa, too, some members of the medical community have tried to highlight the effect of the focus on COVID-19 on other health services. The public's fear of contracting the coronavirus may have led to children not being immunised, pregnant mothers avoiding antenatal care appointments and many patients with chronic comorbidities not presenting for treatment or not collecting needed medications ('Greater crisis' looms: 38 doctors plea for non-

COVID health care resources, 2020). Among children under five years of age, three conditions make up 50-60% of non-neonatal deaths: pneumonia, diarrhoea and HIV/AIDS (Nannan et al., 2019: p. 482). All three of these require prompt medical services to avoid severe illness and deaths. Given the very low mortality of COVID-19 among children, it is extremely probable that excess and avoidable deaths from these three illnesses will outweigh COVID-19 deaths among children.

Of particular concern in South Africa is the high prevalence of HIV and Tuberculosis. Any decline in the rates of testing and treatment of these pernicious diseases is likely to have significant long-term consequences. Already the National Institute of Communicable Diseases (NICD) has reported that “The COVID-19 level 5 restrictions have resulted in an approximately 48% average weekly decrease in TB Xpert testing volumes” (NICD, 2020b: p.6).

## **Statement from the Desmond Tutu TB Centre**

At the Desmond Tutu TB Centre, as advocates for children affected by TB and by HIV, we urge that the limited risk that COVID-19 infection poses on children be balanced against the substantial risks posed by other leading causes of childhood morbidity and mortality in South Africa, including TB and HIV.

### **Tuberculosis (TB) and HIV and South African children**

TB is one of the top 10 causes of deaths in children globally with most children developing pulmonary TB (TB of the lungs). Each year in South Africa approximately 17 500 children under the age of 15 are treated for TB. However, this is likely only two thirds of the actual TB burden in children due to missed diagnosis and underreporting of cases. There are also about 300 000 children under the age of 15 who are living with HIV in South Africa. Diagnosing and treating TB and HIV in children relies on a functional and accessible health system, and if TB in children is diagnosed early and appropriate treatment is started, treatment outcomes are excellent with close to 95% treatment success for most forms of disease. If the diagnosis of TB in a child is delayed by several weeks, the child may die or develop more severe TB disease (such as TB meningitis), and subsequently suffer long-term morbidity. Interruptions to TB treatment, where less than 80% of doses are taken, are associated with worse TB treatment outcomes and also risk of development of drug-resistant TB, which is more difficult to treat and requires longer treatment. If a child has been exposed to TB, preventive therapy dramatically reduces their risk of developing TB disease.

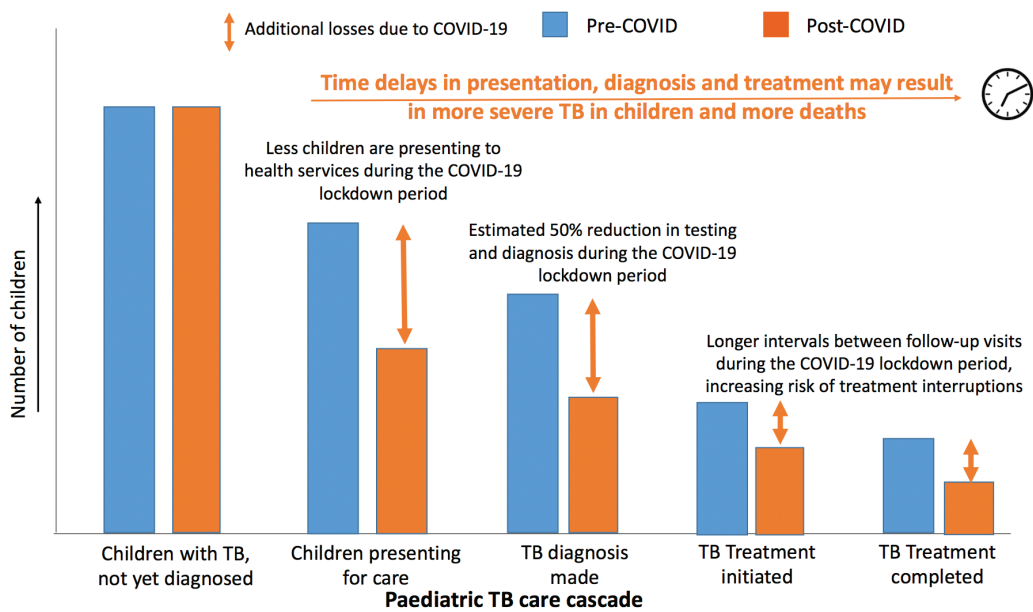
### **Lockdown can impact on TB and HIV services for children at multiple levels**

Delays to a TB diagnosis in adults may lead to more household transmission of Mycobacterium tuberculosis, the organisms causing TB, and possibly more children infected with TB. During lockdown in South Africa, overall TB testing has declined by 50% at a national level, which will result in fewer children being diagnosed and started on TB treatment. Fewer children with TB disease are being brought for evaluation and diagnosis to health services which means that the diagnosis of TB or other diseases is not being made and that children are not started on treatment. Children brought to health services are less likely to be correctly diagnosed with TB due to COVID focussed care, e.g. fewer children are getting chest x-rays or are having sputum taken.

Children with HIV are also less likely to be diagnosed with TB in the current context, and if on antiretroviral therapy, are less likely to be supported in taking their treatment by healthcare services. If antiretroviral therapy requires modification for TB treatment, this may be harder to do and could lead to antiretroviral resistance. Children with TB are less likely to be supported by healthcare in completing their TB treatment, for all forms of TB. There is currently limited TB contact tracing of at-risk close TB contacts like children and HIV-positive people, leading to a decrease in starting much-needed TB preventative treatment for children.

Figure 6 below shows the TB care cascade for children with TB, entering care, being tested and diagnosed and started on TB treatment to treatment completion. Before the COVID-19 pandemic there were already substantial losses in every step of this care cascade in South Africa (e.g. children not presenting to care, not being diagnosed or no treatment being initiated and children not being reported). During the COVID-19 pandemic, substantial additional losses are expected due to direct and indirect effects of COVID-19 on children’s access to health services in the public sector.

**Figure 6:** The TB care cascade for children with TB, entering care, being tested and diagnosed and started on TB treatment to treatment completion.



### c. Mental health

Large-scale disasters, such as terrorist attacks, mass shootings or natural disasters “...are almost always accompanied by increases in depression, posttraumatic stress disorder (PTSD), substance use disorder, a broad range of other mental and behavioural disorders, domestic violence, and child abuse” (Galea, Merchant, & Lurie, 2020). This was also the case with the SARS epidemic in the countries that it affected. It is therefore quite likely that following the pandemic there will be increases in anxiety and depression, substance abuse, loneliness, domestic violence and child abuse (Soland, et al., 2020).

A recent study of 1784 children in Grades 2 to 6 in Huebei Province in China when schools had been closed as a result of the pandemic for over a month found that 23% reported depression symptoms and 19% had anxiety symptoms (Xie et al., 2020). Depression was more common amongst children who were worried about being affected by the virus.

Recent surveys by Save the Children in the United States, Spain, UK, Finland, Germany, Nicaragua and Indonesia led them to conclude that almost one-quarter of children affected by lockdowns and school closures have feelings of anxiety, and that many are at risk of lasting psychological distress, including depression (Radesky, 2020). Similarly, Lee (2020) argues that "School routines are important coping mechanisms for young people with mental health issues. When schools are closed, they lose an anchor in life and their symptoms could relapse."

Drawing from other situations, such as the effect of Hurricane Katrina, Soland, et al. (2020) note that children may face greater food insecurity, loss of family income, loss of family members to the virus, and fear of being infected themselves. The return to school may therefore not be easy for all children. Some would have trouble concentrating and would manifest symptoms of depression and acute anxiety. It is essential to try to understand these impacts and support children's social and emotional needs after the disruption of the pandemic and the lockdown.

An especially pertinent recent systematic review on the psychological impact of quarantine-type situations has found that it led to high levels of post-traumatic stress (29% to 34%) and fear (20%), while also increasing depression, low mood, irritability, insomnia, anger and emotional exhaustion (Fegert, Vitiello, Plener, & Clemens, 2020).

Increased financial stress during economic recessions is also associated with increases in domestic violence. The added complications of the lockdown and permanent presence of children in the home increases the likelihood of children falling victim to such behaviour. As Fegert, Vitiello, Plener, & Clemens (2020) state,

"... [the lockdown phases] of the current COVID-19 pandemic represent a dangerous accumulation of risk factors for mental health problems in children and adolescents of enormous proportions: re-organization of family life, massive stress, fear of death of relatives, especially with relation to grandparents and great-grandparents, economic crisis with simultaneous loss of almost all support systems and opportunities for evasion in everyday life, limited access to health services as well as a lack of social stabilization and control from peer groups, teachers at school, and sport activities."

The Human Sciences Research Council (HSRC) and a University of Johannesburg team analysed the mental health consequences of the lockdown for adults in South Africa, based on an online survey. They derived two latent variables from the responses they obtained about the emotions people felt. The one they termed psychological distress (including stress, being scared, irritability, feeling depressed, sadness, anger) and the other isolation (boredom and loneliness). Further investigation found that the components of psychological distress are higher among individuals that reported feeling hunger. The strong presence of this emotion in the contexts of hunger, and its association with psychological distress, is something that children are also likely to experience (Orkin et al., 2020).

## 6. Home Alone: The extent to which children are left home alone when caregivers return to work and schools remain closed.

Reviewing the South African media discourse on the ‘post-lockdown’ regulations, one of the areas that has been most neglected are the unintended consequences of re-opening the economy while schools and crèches remain closed for most children.

Using data from the Quarterly Labour Force Survey (QLFS) of StatsSA for the fourth quarter of 2019, it is possible to determine how many schoolchildren, pre-schoolers and toddlers would be at home with or without an adult caretaker, if everyone who had jobs at the end of 2019 were again to return to work. The table shows that 3.3 million children (18% of all children in this age group) were in households where there was no additional adult care-giver apart from employed adults. In the remaining 82% of households there would still be an adult available to act as caretaker, especially in extended families. As one would expect, proportionately the number of children without a caretaker would be largest in metropolitan areas, where this ratio is 25%. The biggest proportion of children would be affected in the Western Cape (30%) and Gauteng (24%).

**Table 6:** Number of children aged 0 to 18 at home with or without an adult caretaker in the household if all employed people were to be back at work

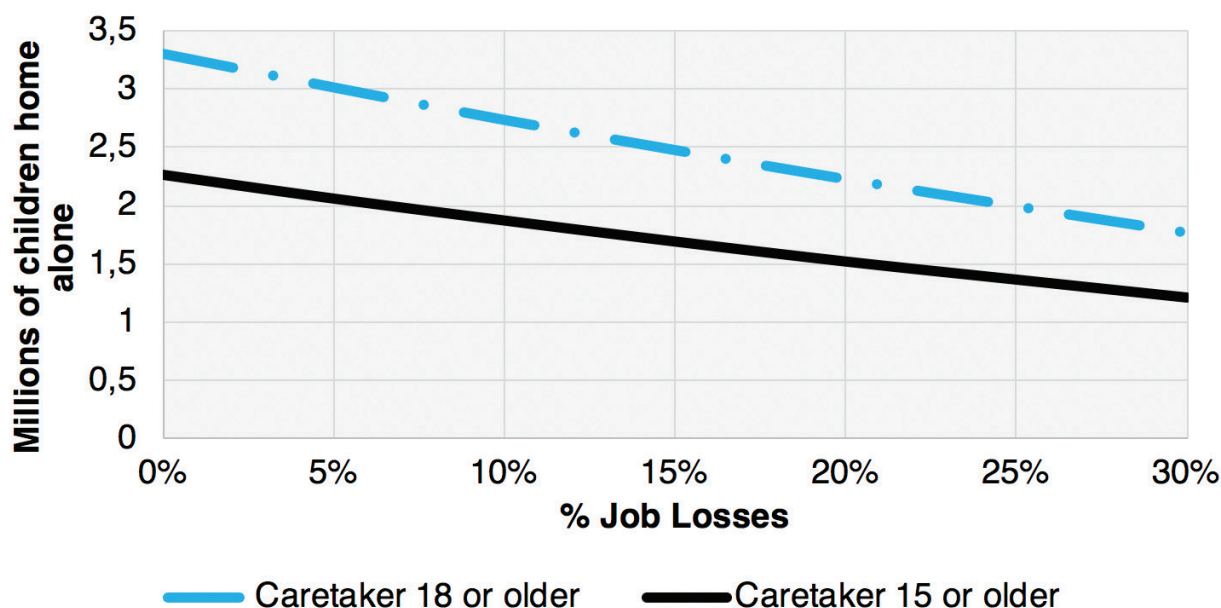
	Children with a caretaker at home	Children with no caretaker at home	Percentage with no caretaker
Western Cape	1 315 712	562 859	30%
Eastern Cape	2 207 130	341 025	13%
Northern Cape	332 266	63 860	16%
Free State	673 526	168 521	20%
KwaZulu-Natal	3 460 694	495 896	13%
North West	1 070 441	211 184	16%
Gauteng	2 809 828	891 763	24%
Mpumalanga	1 274 182	249 008	16%
Limpopo	1 837 844	315 074	15%
South Africa	14 981 623	3 299 190	18%
Non-Metropolitan	10 244 619	1 735 737	14%
Metropolitan	4 737 004	1 563 453	25%

Source: Quarterly Labour Force Survey, Quarter 4, 2019

One can further estimate these ratios allowing for older siblings (15 or above) who might be able to act as caretakers. While that reduces the numbers (Figure 7), the basic problem remains. Even if one includes household members 15-years and older as possible caretakers, there would still be 2.3 million children aged 0-15 years that could be home alone if their employed caregivers returned to work and their school grade or their ECD centre or crèche remained closed.

Given the job-losses expected to result from the lockdown and the COVID-19 induced recession, more caregivers will become unemployed and therefore would be at home and available to care for children (albeit now with less income). While this does decrease the percentage of children that are home alone, as the figure shows, even if there were 30% job losses there would still be 1.8 million children aged 18 or below that would be left home alone because their only caregivers would be at work, or 1.2 million if 15 year olds can act as caretakers.

Figure 7: Schoolchildren with no non-working adult caretaker at home under job loss scenarios



Perhaps the most severe instance of this would be the care of very young children, i.e. those under the age of 6 years. Our analysis shows that if all employed workers return to work, there would be almost one million (974 000) children below the age of six who would be left alone in households without an adult caretaker. While it is true that parents and caregivers would try and make some arrangements for members of other households to take care of their children, many caregivers may not have the networks needed, and may feel compelled to go to work to earn income to support their child(ren). This is all because community-based early childhood development centres and preschools are still not allowed to operate despite the economy re-opening.

Government Gazette No. 43381 (1 June 2020) reports that Early Childhood Development (ECD) will be allowed to re-open on the 6th of July 2020, despite the fact that the vast majority of the economy ‘re-opened’ on the 1st of June 2020 when the country moved to Level 3 Lockdown (DBE, 2020a: p.4). It is unclear what the Department of Basic Education and the Department of Social Development think is meant to happen to these 974 000 children under the age of six who have no alternative non-working caregiver.

In addition to the above, given that most ECD facilities in South Africa are primarily privately-operated small businesses, it is unclear how many of these ECD centres and creches will have been able to survive the income loss of the extended lockdown.



## **7. Conclusion and policy recommendations**

After reviewing the evidence presented in this paper, it is our view that keeping children out of school is not in the best interests of the child. Consequently, all children should return to schools, crèches and ECD centres without any further delay. The profound costs borne by small children and families as a result of the ongoing nationwide lockdown and school closures will be felt for at least the next 10 years.

When the new coronavirus rapidly spread across the globe, the impact of the virus on children was still unclear, and closing schools from an abundance of caution seemed the responsible thing to do. But much has been learnt since about both COVID-19 and about the effects of lockdown and school closures, both in South Africa and internationally. Given the large social and economic costs of hard lockdowns and wholesale school closures we would strongly caution against future nation-wide lockdowns or school closures, even in the presence of a surge in COVID-19 infections. Policy-makers and government leaders have an obligation to weigh up the costs and collateral damage of their policies, particularly for those who are most vulnerable, such as small children, the elderly and those in poverty.

Millions of South African children's education and mental health have been compromised in this initial period of uncertainty. Given what is now known about the mortality rates of COVID-19, we believe that the ongoing disruptions to children's care, education and health are no longer justified.

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## Appendix A: Provincial distributions of class size

Figure 8: Distribution of largest class taught by Grade 3 and 6 teachers in South African primary schools by province (School Monitoring Survey 2017, own calculations)

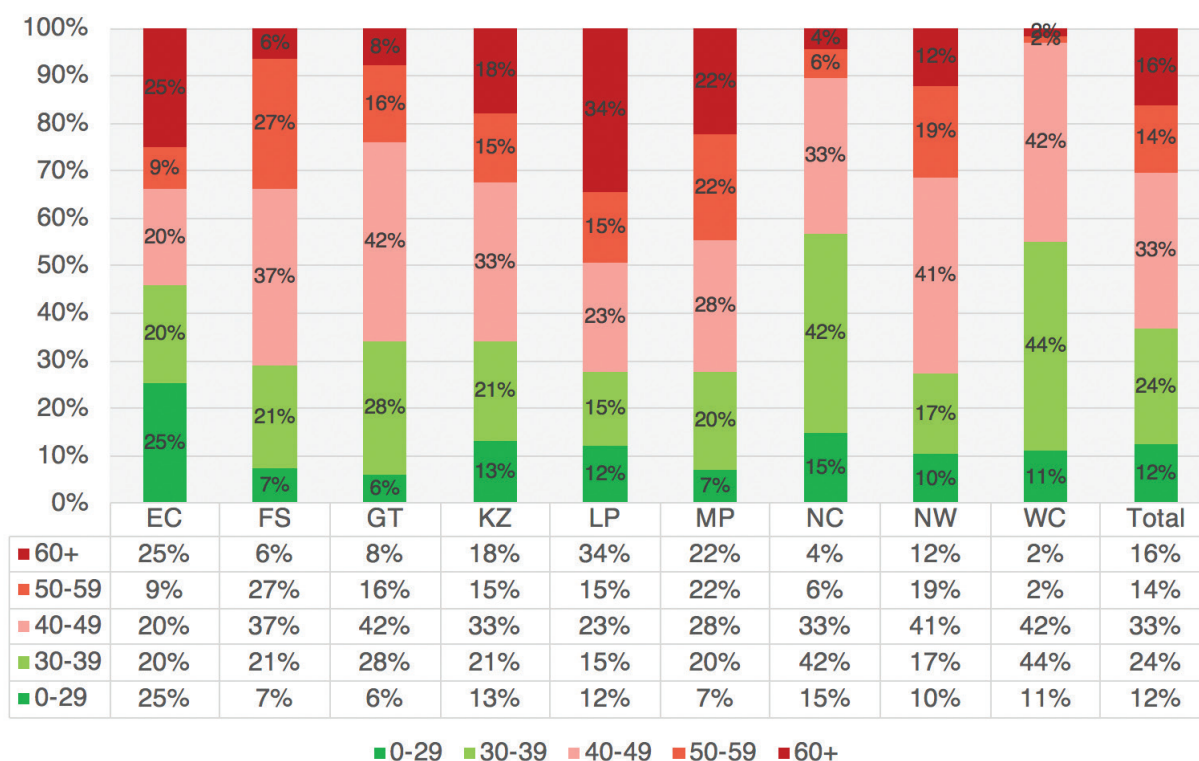
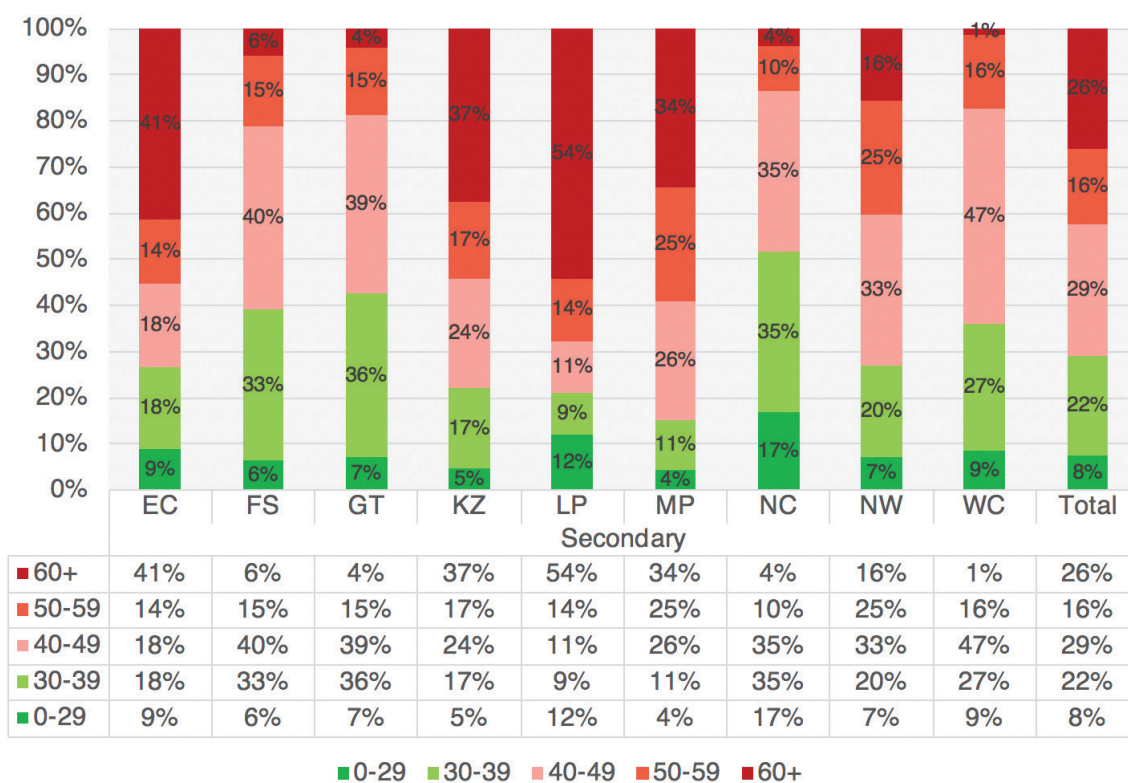


Figure 9: Distribution of largest class taught by Grade 9 and 12 teachers in South African secondary schools by province (School Monitoring Survey 2017, own calculations)



## Appendix B Further evidence on class sizes in South Africa

Table 7: Independent estimates of realized South African class sizes 2011-2017

Study	Grade	Year	Sample		Class sizes						Reference – variable name in microdata
			Schools	Learners	p10	p25	p50	p75	p90	Mean	
TIMSS	9	2011	285	11969	28	35	43	57	74	47,4	BTBG12
		2015	292	12514	28	35	44	53	71	46,3	BTBG12
TIMSS-N	5	2015	297	10932	24	32	40	45	54	39,1	ATBG12A
PIRLS	4	2011	341	15744	25	33	38	46	59	40,2	ATBG12A
	4	2016	293	12810	28	35	43	54	67	45	ATBR01A
SACMEQ	6	2013	297	7117	26	32	39	46	54	39,7	xclsize; yclsize; wclsize
SMS	3	2017			27	34	40	47	55	41,1	EFQ18