

## COVID-19 and mortality in South Africa

The mortality risk of COVID-19  
within the South African reality

Compiled by Barend P. Uys

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## 1. Introduction

South Africa entered a state of lockdown at midnight on Thursday 26 March 2020. Lockdown was initially due to end on 16 April but was extended to 30 April. President Ramaphosa announced on 23 March that the national risk level would be lowered to level 4 on 1 May, which means that – apart from essential services – a limited number of industries may resume their operations under strict regulations.

The lockdown and regulations associated with the state of disaster have a severe impact on the welfare and rights of community members. It is therefore critical that the correct decisions are made about the end of lockdown.

This document discusses the mortality risk of COVID-19 within the South Africa reality by employing information available on COVID-19 and mortality in South Africa.

## 2. COVID-19: most important assumptions

Two important factors should be considered when evaluating the impact and risk of COVID-19 deaths. The first factor is the mortality rate, which is the percentage of infected individuals who die from COVID-19 infection. The second is the infection rate, which is the percentage of population who are infected with COVID-19.

### 2.1. COVID-19 mortality rate

An article about research on COVID-19 deaths in approximately 40 countries was published in *The Lancet Infectious Diseases*.<sup>1</sup> The mortality per age group for COVID-19, flu and severe acute respiratory syndrome (SARS) published in this paper are shown in Table 1 (see page 2).

The mortality rate by age group from the same paper is shown in **Error! Reference source not found.** (see page 3). It is important to note the relatively low fatality rate in age groups from 0 to 49 years, as well as the significant increase and high mortality rate for age groups above 50 years.

Because the mortality rate in the case of COVID-19 is significantly different for people younger than 50 compared to people older than 50, different strategies can be implemented for these two groups. It is important, however, to also consider underlying medical conditions, as research currently supports.

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<sup>1</sup> Ruan, S. 2020. Likelihood of survival of coronavirus disease 2019. In *The Lancet Infectious Diseases*. Available at: [https://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099\(20\)30257-7.pdf](https://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099(20)30257-7.pdf). Accessed on 21 April 2020

The overall mortality rate is based on the total percentage of infected people who die from COVID-19. According to the same article published in *The Lancet Infectious Diseases*<sup>2</sup>, this value is calculated as 1,38%. The preliminary results of a case study in Germany<sup>3</sup> (which is discussed in more detail below) indicate that this value is 0,37% in their study. The demographic composition of a population affects the overall mortality rate because COVID-19 does not present with the same mortality rate in people of different ages and underlying medical conditions. The steps taken and the behaviour of people in reaction to COVID-19 also have a significant influence on this figure, as it influences the speed at which the disease spreads. There is currently too little information available to draw final conclusions on the overall mortality rate of COVID-19.

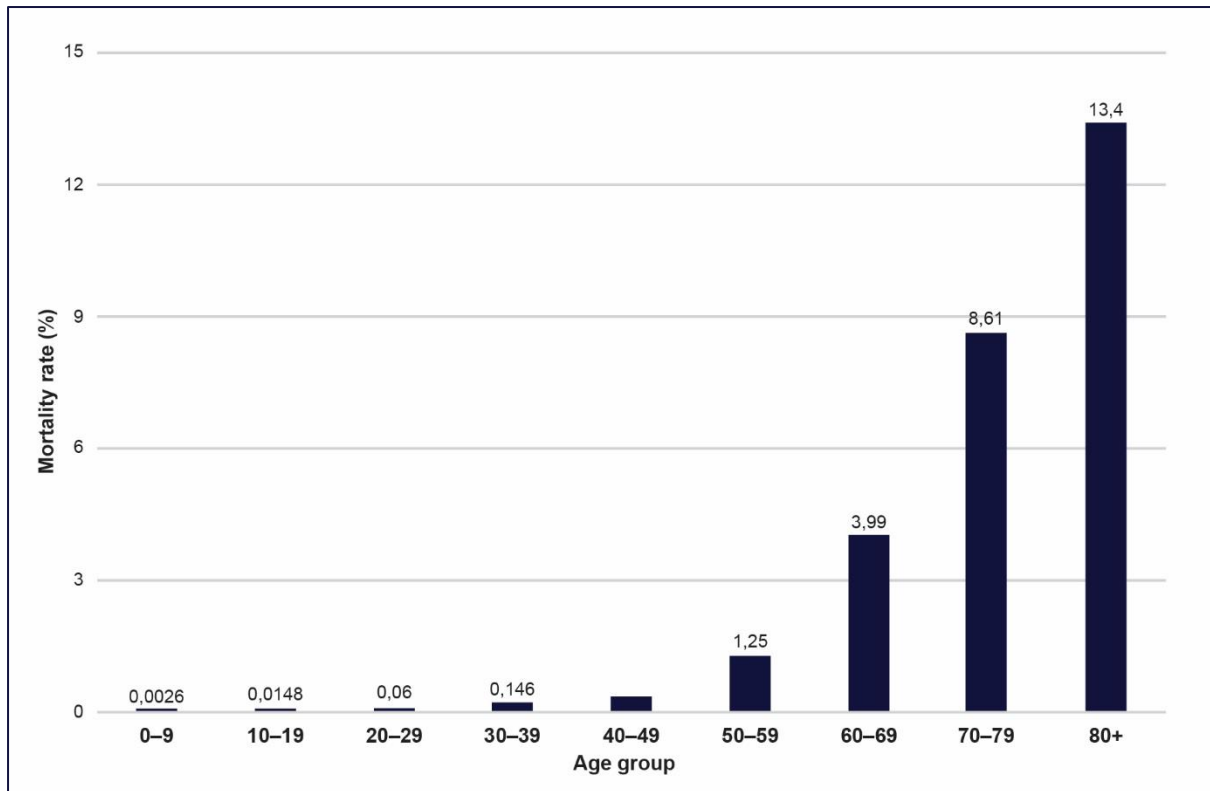
**Table 1: Mortality rate of COVID-19, flu and SARS**

Age group	COVID-19	Flu	SARS
0–4	0,0026%	0,0073%	0,0000%
5–9	0,0026%	0,0028%	0,0000%
10–14	0,0148%	0,0028%	0,0000%
15–17	0,0148%	0,0028%	0,5000%
18–19	0,0148%	0,0260%	0,5000%
20–24	0,0600%	0,0260%	0,5000%
25–29	0,0600%	0,0260%	1,6000%
30–34	0,1460%	0,0260%	1,6000%
35–39	0,1460%	0,0260%	10,0000%
40–44	0,2950%	0,0260%	10,0000%
45–49	0,2950%	0,0260%	13,0000%
50–54	1,2500%	0,0614%	13,0000%
55–59	1,2500%	0,0614%	25,3000%
60–64	3,9900%	0,0614%	25,3000%
65–69	3,9900%	0,8315%	52,5000%
70–74	8,6100%	0,8315%	52,5000%
75–79	8,6100%	0,8315%	69,6000%
≥80	13,4000%	0,8315%	69,6000%

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<sup>2</sup> *Ibid.*

<sup>3</sup> Streeck, H., Hartmann, G., Exner, M. & Schmid, M. 2020. *Vorläufiges Ergebnis und Schlussfolgerungen der COVID-19 Case-Cluster-Study (Gemeinde Gangelt)*. Bonn: Universitätsklinikum Bonn. Available at [https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis\\_covid19\\_case\\_study\\_gangelt\\_0.pdf](https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis_covid19_case_study_gangelt_0.pdf). Accessed on 21 April 2020.



**Graph 1: COVID-19 mortality per age group**

## 2.2. COVID-19 infection rate

The Universitätsklinik<sup>4</sup> in Bonn published preliminary results and conclusions of a COVID-19 case study in the Gangelt municipality.<sup>5</sup> The Gangelt municipality is one of the communities in Germany affected worst by COVID-19. A representative sample was taken from the 12 529 residents of the Gangelt community. Approximately 1 000 residents from 400 households participated in the study, and preliminary results are based on the results of roughly 500 residents. According to the authors, the World Health Organization recommends that between 100 and 300 households should participate in a study, depending on the expected infection rate. The purpose of the study was to determine which percentage of the Gangelt community was infected, as well as to determine the levels of SARS-CoV-2 immunity.<sup>6</sup> Preliminary results indicate that approximately 14% of the community showed signs of immunity, while about 2% of the community were infected with the virus. The overall infection rate was approximately

<sup>4</sup> The University Hospital.

<sup>5</sup> Streeck, H., Hartmann, G., Exner, M. & Schmid, M. 2020. *Vorläufiges Ergebnis und Schlussfolgerungen der COVID-19 Case-Cluster-Study (Gemeinde Gangelt)*. Bonn: Universitätsklinikum Bonn. Available at [https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis\\_covid19\\_case\\_study\\_gangelt\\_0.pdf](https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis_covid19_case_study_gangelt_0.pdf). Accessed on 21 April 2020.

<sup>6</sup> SARS-CoV-2 is the virus that causes the disease COVID-19.

15%. The mortality rate, based on the total number of infected community members in Gangelt, was approximately 0,37%.

The preliminary conclusions indicate that the mortality rate calculated by the Johns-Hopkins University is five times higher than for this case study. The reason for this is that the case study included all infected people, also those who presented with little or no symptoms. Because a portion of the population has already developed immunity against the virus, the transmission rate of the virus will be reduced. It is expected that the implementation of stringent hygiene measures will result in a reduction of the concentration of the virus in case of infection, to such an extent that the severity of the disease is reduced, while immunity increases at the same time.

The conclusion to be made from this, is that it would be acceptable to assume that about 15% of the population will be infected if the virus spreads for a period while measures such as hygienic vigilance and social distancing are implemented as a result.

### **3. Mortality in South Africa**

Statistics South Africa (SSA) published a report on mortality and causes of death in South Africa in 2017. The report was based on death notices.<sup>7</sup> SSA also released a mid-year population estimate for 2017 in July 2017.<sup>8</sup> Information from these documents was used to calculate the mortality rate per age group for 2017. The most recent mid-year population estimate available is the 2019 estimate, released in July 2019.<sup>9</sup> The estimated deaths per year was calculated by applying the 2017 mortality rate per age group to the 2019 population figures.

The mortality rate per age group is shown in Table 2 (see p. 5), expressed as a percentage of the total number of people in the age group, as well as the number of deaths in 2017 and the estimated deaths per year, based on the 2019 population estimate. The mortality rate in this table includes deaths as a result of natural as well as unnatural causes.

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<sup>7</sup> Statistics South Africa. 2020. *Mortality and causes of death in South Africa: Findings from death notification 2017*. Pretoria: Statistics South Africa. Available at <http://www.statssa.gov.za/publications/P03093/P030932017.pdf>. Accessed on 21 April 2020.

<sup>8</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

<sup>9</sup> Statistics South Africa. 2019. *Mid-year population estimates 2019*. Available at <http://www.statssa.gov.za/publications/P0302/P03022019.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.



According to SSA’s figures, about 446 000 people died of natural and unnatural causes in 2017. This high mortality figure is one of the harsh realities that must be considered when strategies are devised to curb COVID-19 in South Africa.

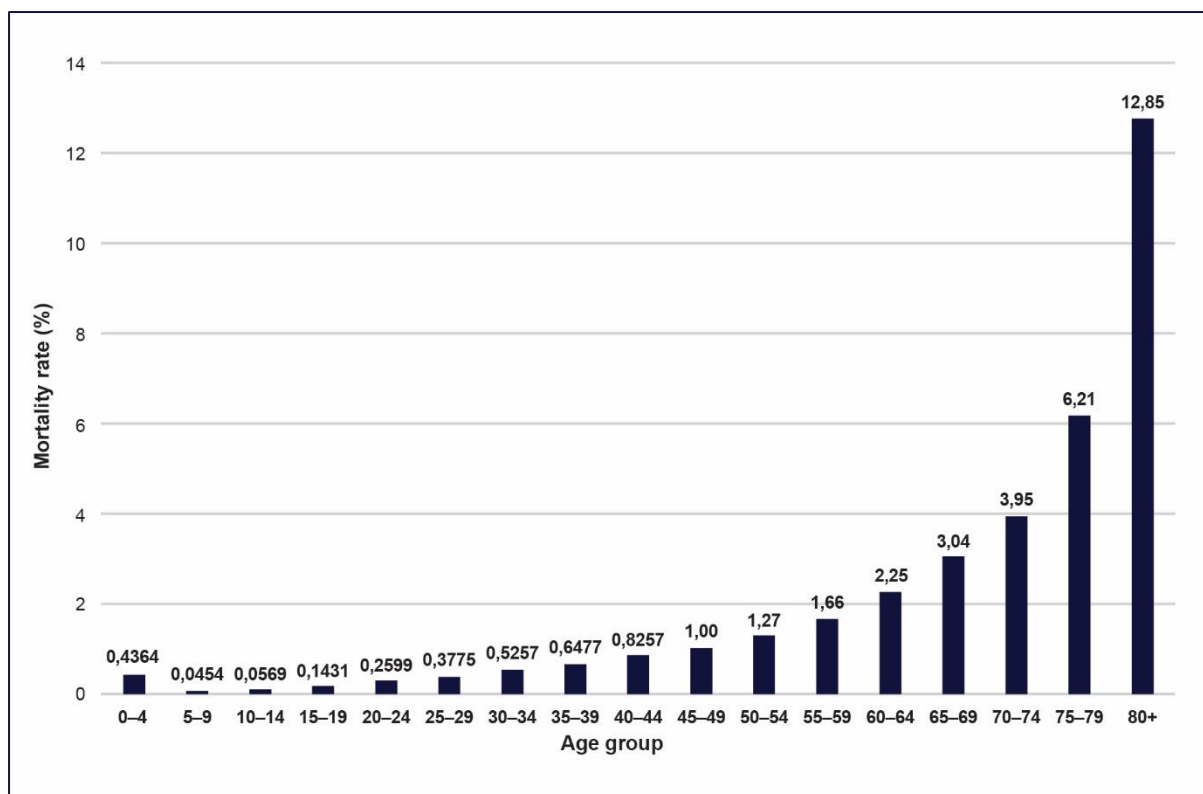
The mortality rate as a result of natural and unnatural causes per age group is shown in Graph 2 (see p. 3). It is noteworthy that the mortality rate for the age group below 5 years is relatively high compared to other age groups below 20 years. As can be expected, the mortality rate for older age groups is higher.

**Table 2: Mortality rate, deaths for 2017 and estimated deaths for 2019 per age group**

Age group	Mortality rate	Deaths 2017 <sup>10</sup>	Estimated deaths 2019 <sup>11</sup>
0–4	0,4364%	25 600	25 021
5–9	0,0454%	2 617	2 605
10–14	0,0569%	2 900	3 090
15–19	0,1431%	6 572	6 669
20–24	0,2599%	13 075	12 771
25–29	0,3775%	20 834	20 873
30–34	0,5257%	27 620	29 114
35–39	0,6477%	27 484	29 606
40–44	0,8257%	28 011	29 604
45–49	1,00%	27 962	30 550
50–54	1,27%	30 246	32 263
55–59	1,66%	33 376	36 482
60–64	2,25%	36 141	40 189
65–69	3,04%	36 196	41 646
70–74	3,95%	31 364	37 537
75–79	6,21%	31 912	37 123
≥80	12.85%	63 292	77 460

<sup>10</sup> Deaths for which the age is unknown are excluded here.

<sup>11</sup> Deaths for which the age is unknown are excluded for this estimate.



Graph 2: Mortality rate per age group for other causes of death

## 4. COVID-19 and mortality in South Africa

It is essential to consider the unique circumstances that apply to South Africa when strategies are devised to combat COVID-19. Strategies implemented in other countries with completely different circumstances and demographics simply cannot be implemented locally. Local realities are determinant for the desirability, workability and eventual success of any strategy.

### 4.1. What a 15% infection rate means for South Africa

In short, a 15% infection rate means that 15 out of 100 people are infected by the SARS-CoV-2 virus. If the 2019 population estimate is used unchanged (as discussed above) it practically means that approximately 8 800 000 people are infected. This is a very high figure and it should be understood that these infections will occur over a period of several months and include people who present with few or no symptoms. Human behaviour remains the single strongest factor that influences the infection rate; changes in human behaviour can therefore significantly influence this figure.

#### 4.2. Estimated number of deaths at a 15% infection rate

Estimates based on South African information at a 15% infection rate show that the overall estimated COVID-19 mortality rate is estimated to be approximately 0,75%. This is between 1,38%<sup>12</sup> and 0,37% (as mentioned in the German study).<sup>13</sup> As discussed earlier, however, there is currently not enough information available to draw any final conclusions about this figure.

The estimated number of deaths from COVID-19 and all other causes for the age groups below 50 years and for the 2019 population estimate is summarised in Table 3. The estimate number of deaths from COVID-19 is relatively low compared to the estimated deaths from other causes.

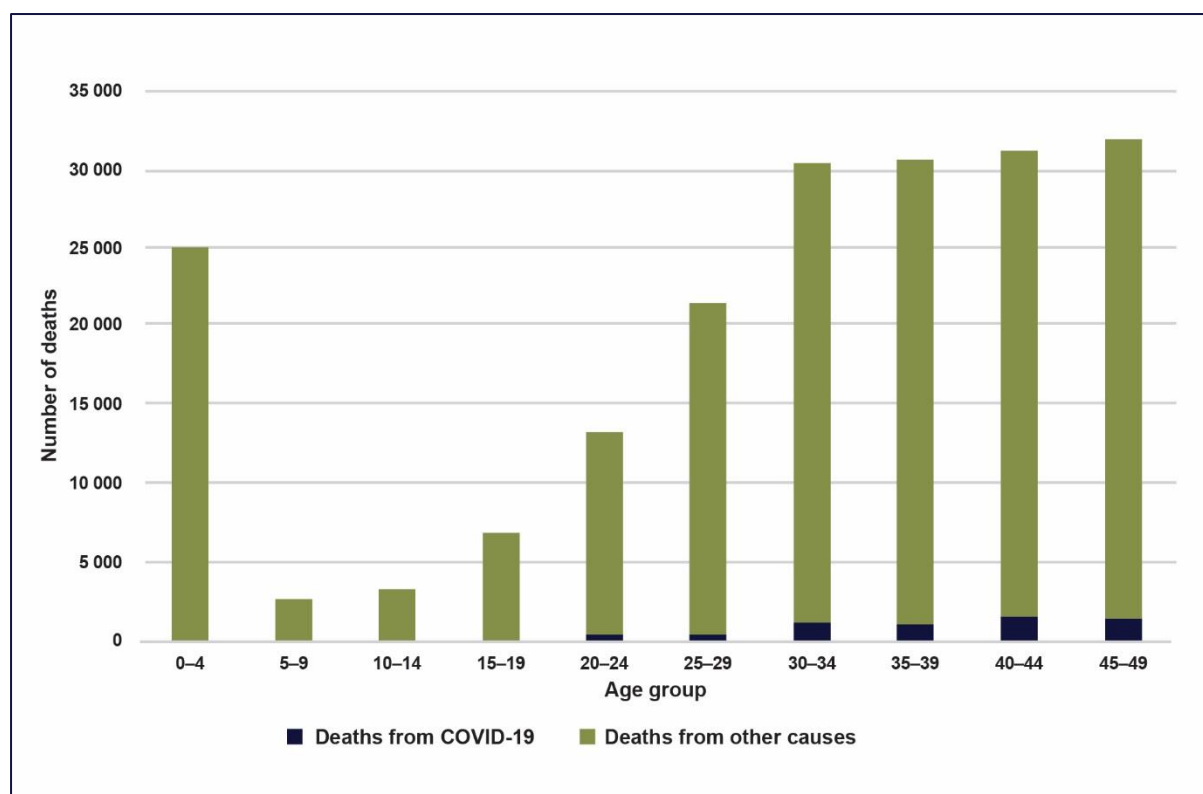
**Table 3: Estimated number of deaths from COVID-19 and other causes (0–49 years)**

Age group	COVID-19 deaths	Other deaths
0–4	22	25 021
5–9	22	2 605
10–14	120	3 090
15–19	103	6 669
20–24	442	12 771
25–29	498	20 873
30–34	1 213	29 114
35–39	1 001	29 606
40–44	1 587	29 604
45–49	1 348	30 550

A Graphic representation of the estimated number of deaths for the age group below 50 years is shown in Graph 3 (see p. 8). It is evident that the estimated number of COVID-19 deaths is relatively low compared to the number of deaths from other causes for people younger than 50 years.

<sup>12</sup> Ruan, S. 2020. Likelihood of survival of coronavirus disease 2019. In *The Lancet Infectious Diseases*. 30 March, corrected on 6 April. Available at [https://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099\(20\)30257-7.pdf](https://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099(20)30257-7.pdf). Accessed on 21 April 2020.

<sup>13</sup> Streeck, H., Hartmann, G., Exner, M. & Schmid, M. 2020. *Vorläufiges Ergebnis und Schlussfolgerungen der COVID-19 Case-Cluster-Study (Gemeinde Gangelt)*. Bonn: Universitätsklinikum Bonn. Available at [https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis\\_covid19\\_case\\_study\\_gangelt\\_0.pdf](https://www.land.nrw/sites/default/files/asset/document/zwischenenergebnis_covid19_case_study_gangelt_0.pdf). Accessed on 21 April 2020.



**Graph 3: Estimated number of deaths for age groups below 50 years<sup>14</sup>**

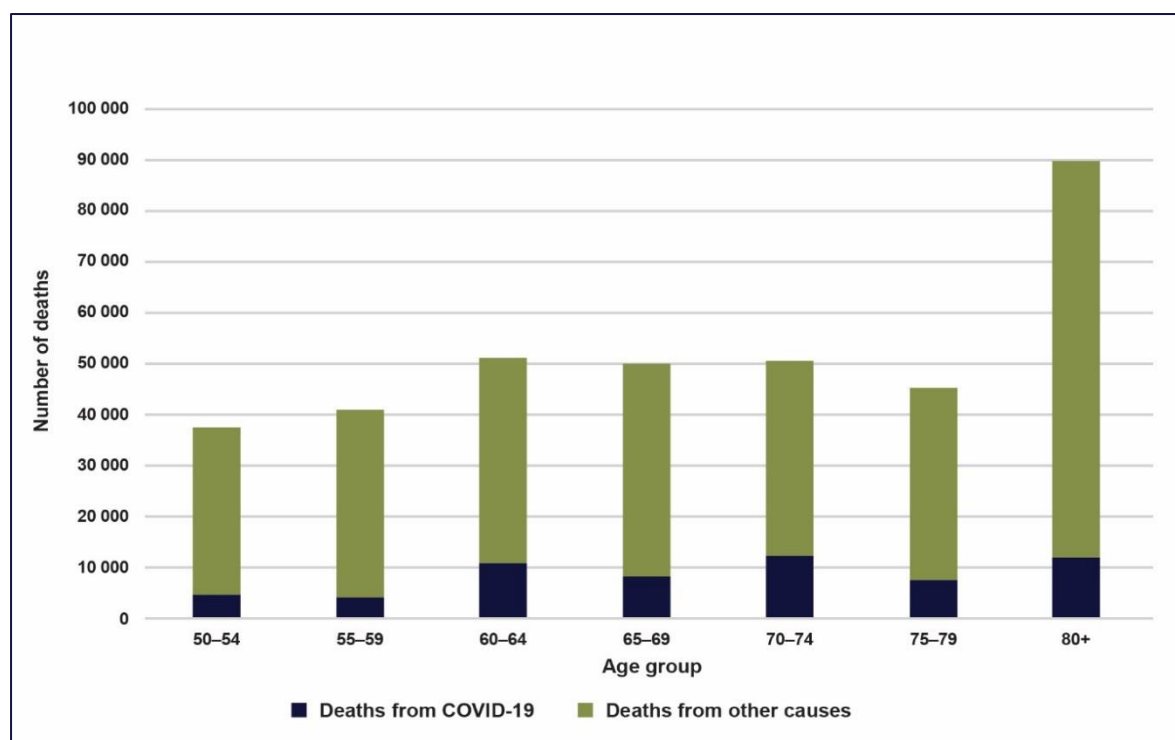
The estimated number of deaths for the age groups 50 years and older from COVID-19 and all other causes for the 2019 population is summarised in Table 4 below. It is evident that there is a significant increase in the estimated number of COVID-19 deaths for people who are 50 years and older.

**Table 4: Estimated number of deaths from COVID-19 and other causes (50+)**

Age group	COVID-19 deaths	Other causes
50-54	4 753	32 263
55-59	4 111	36 482
60-64	10 680	40 189
65-69	8 200	41 646
70-74	12 267	37 537
75-79	7 722	37 123
80+	12 120	77 460

A graphic representation of the estimated number of deaths for the age groups 50 years and older is shown in Graph 4 (see p. 9).

<sup>14</sup> Based on 2019 population figures and calculated per year.



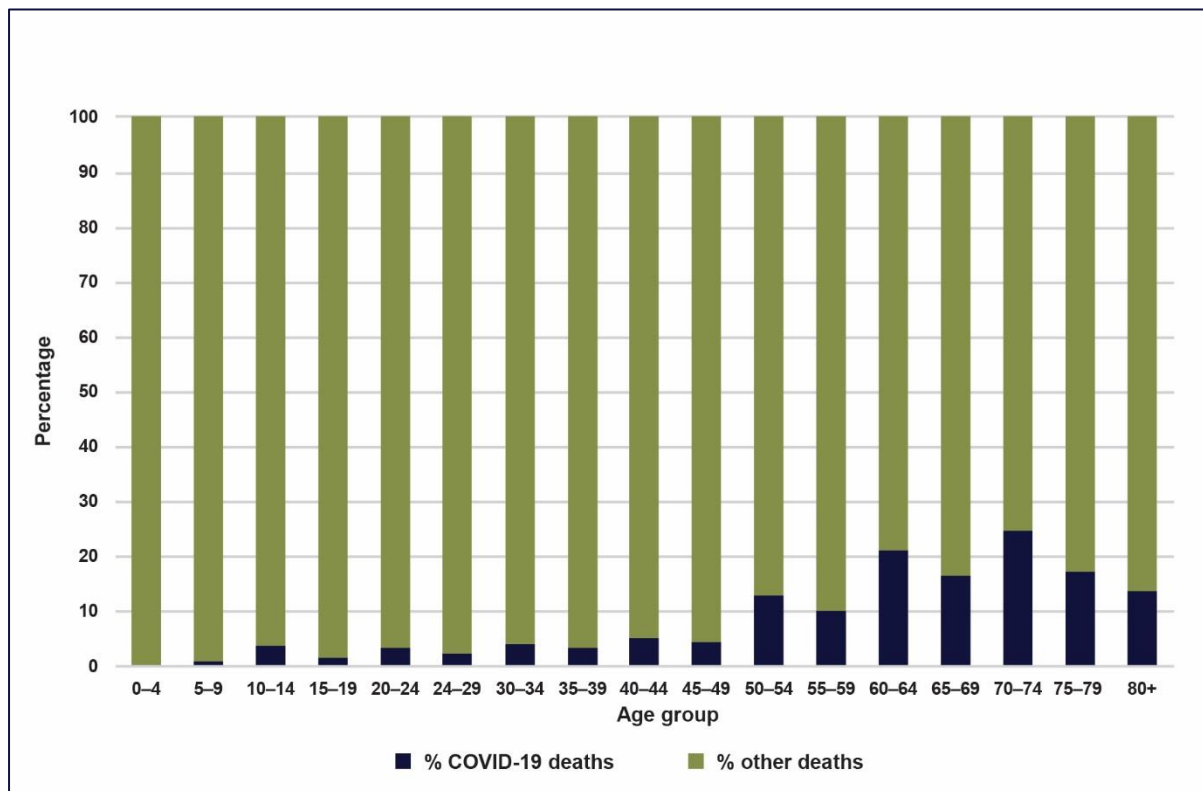
**Graph 4: Estimated number of deaths for age groups 50 years and older**

It is evident that the estimated number of deaths from COVID-19 is significant relative to the number of deaths from other causes for people who are 50 years old and older. The percentage of the estimated number of deaths from COVID-19 and other causes is shown in Table 5. It is evident that the percentage of the total estimated number of deaths from COVID-19 increases significantly for the age groups 50–54 and higher.

**Table 5: Percentage of the estimated number of deaths from COVID-19 and other causes**

Age group	% COVID-19 deaths	% other deaths
0-4	0,1	99,9
5-9	0,9	99,1
10-14	3,8	96,2
15-19	1,5	98,5
20-24	3,3	96,7
25-29	2,3	97,7
30-34	4,0	96,0
35-39	3,3	96,7
40-44	5,1	94,9
45-49	4,2	95,8
50-54	12,8	87,2
55-59	10,1	89,9
60-64	21,0	79,0
65-69	16,5	83,5
70-74	24,6	75,4
75-79	17,2	82,8
80+	13,5	86,5

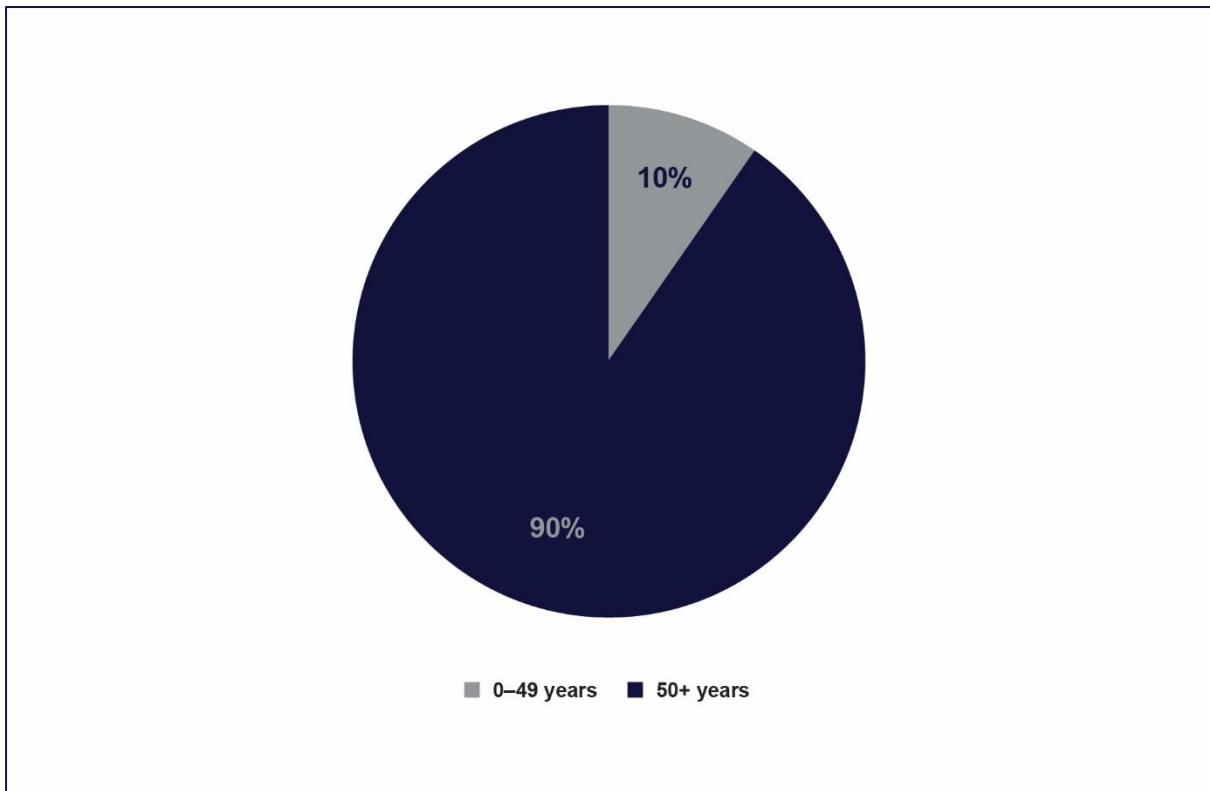
A graphic representation of the percentage of the estimated number of deaths from COVID-19 and other causes per age group is shown in Graph 5. The difference in percentage between the total number of deaths for the age groups younger than 50 years and those above 50 years is clearly evident.



**Graph 5: Percentage of estimated deaths from COVID-19 and other causes**

Of the total number estimated COVID-19 deaths, 10% will fall in the age group below 50 years, while 90% will fall in the age group of 50 years and above – see Graph 6 (on p. 11).

It is once again evident from Graph 6 that COVID-19 has an unequal impact on people younger than 50 years compared to people who are 50 years and older.



**Graph 6: COVID-19 death distribution for age groups of 50 years and younger, and 50+**

## 5. Analysis by broad age group

People who fall within broad age groups normally perform similar functions in society and participate in activities that are specific to each age group. It is therefore necessary to analyse each broad age group to come to sensible conclusions.

### 5.1. It is about understanding the risk

In the next paragraphs the estimated number of deaths from COVID-19 is compared to the estimated number of deaths from other causes, and discussed. The basis for action can never be that “only” so many people may possibly die. Loss of life must be avoided. The correct way to ensure success is to identify and understand the risks, and then to implement the necessary measures to mitigate these risks. This is how we live our daily lives – we can never eliminate all risks, but we can institute steps to limit these risks to acceptable levels.

Understanding this is so important that an example is appropriate. Travelling is part of our daily life: We travel to work and visit friends and family. There are risks attached to travelling, but we take steps to mitigate these risks. Vehicle manufacturers include safety features like safety belts, for example. However, you choose to use your safety belt every time you get into

your vehicle; also, to drive responsibly or not. When a new, unknown challenge is encountered, it is responsible to stand still, to identify and understand the risks, to develop and implement mitigative measures, and to then only continue. You are then comfortable that the mitigative measures reduce the risk to acceptable levels that are typically similar to other risks that we are exposed to.

It is very important to understand that the management of risks associated with COVID-19 is also in our hands. The decision to maintain social distance, to wash your hands and to wear a mask in public is up to every person, for example.

## **5.2. Children younger than 5 years**

The COVID-19 mortality rate for children younger than 5 years is very low, even lower than for flu (refer to Table 1 on p. 2). The estimated number of COVID-19 deaths in this age group is insignificantly small (0,1%) compared to the estimated number of deaths from other causes (99,9%). In Australia,<sup>15</sup> 88 COVID-19-related deaths were reported to date – and not a single one from this age group.<sup>16</sup> To date, 244 COVID-19-related deaths were reported in South Korea,<sup>17</sup> but no deaths in this age group.<sup>18</sup>

Children younger than five years are normally under supervision of their parents, guardians, nursery schools or other forms of day care. In terms of the current lockdown measures, nursery schools and other day-care centres are closed, however. Subsequently, at least one parent must stay at home to take of children, or alternative plans – like supervision by grandparents – must be made. This limits parents' ability to work (provided that parents can work during the lockdown).

Because the COVID-19 mortality rate for children younger than five years is so low, the risk associated isn't sufficient enough compared to other risks to justify the subsequent closing of nursery schools and day-care centres. Contact between these children and people who are 50 years old or older must be avoided, however, as the mortality rate for these people is much higher.

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<sup>15</sup> Australia is used as an example as this country is also in the Southern Hemisphere and because reliable data is readily available.

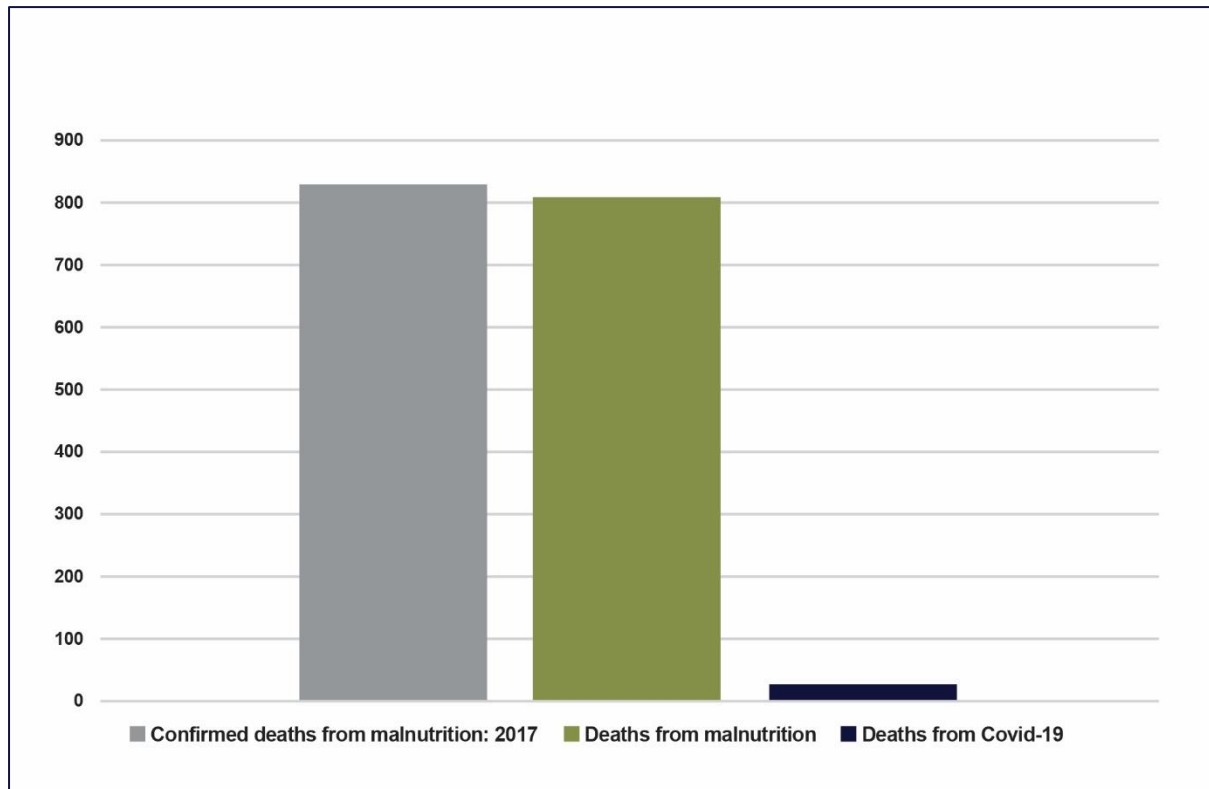
<sup>16</sup> See <https://www.covid19data.com.au/deaths>. Accessed on 22 April 2020.

<sup>17</sup> South Korea is used as an example because reliable data is readily available, and the country has ample experience with epidemics.

<sup>18</sup> KCDC. 2020. *Press Release. 11 additional cases have been confirmed*. Available at <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>. Accessed on 22 April 2020.



A shocking reality is that 828 children younger than 5 years died in South Africa in 2017 from malnutrition.<sup>19</sup> It is estimated that about 22 children in this age group will die from COVID-19, compared to an estimated 809 deaths from malnutrition, based on the 2019 figures (see Graph 7).



**Graph 7: Confirmed and estimated deaths from malnutrition and COVID-19: 0–4 years**

A possible 37 times more children may therefore die from malnutrition. There is a direct correlation between wealth and nutrition. This is the single most important reason why nursery schools, day-care centres and schools should reopen and lockdown regulations be amended: People should be able to go to work and earn an income. This will enable parents of children who are at risk of malnutrition to care for these children. Moreover, schools and day-care facilities who offer feeding programmes can resume these. The results of the discontinuation of feeding programmes – which play an important role in the fight against malnutrition – can be detrimental.

<sup>19</sup> Statistics South Africa. 2020. *Mortality and causes of death in South Africa: Findings from death notification 2017*. Pretoria: Statistics South Africa. Available at <http://www.statssa.gov.za/publications/P03093/P030932017.pdf>. Accessed on 21 April 2020.

### **5.3. Children 5 years and older, and teenagers**

The COVID-19 mortality rate for children 5 years old and older, as well as for teenagers, is also low. The estimated number of COVID-19 deaths in this age group is low (on average 2%) compared to the estimated number of deaths from other causes (on average 98%). No death from COVID-19 has yet been reported for this age group in Australia.<sup>20</sup> South Korea has also not yet recorded any COVID-19 deaths for this age group.<sup>21</sup>

Most people in this age group are normally in school. However, schools are currently closed in terms of the lock down measures. This results in the same limitations on parents' ability to work because of the supervision requirements discussed above.

Because the COVID-19 mortality rate for this age group is also low, the associated risk is insufficient compared to other risks to justify the subsequent closing of schools. Contact between these people and people who are 50 years old or older must also be avoided, however.

34 children in the age group 5–19 years died of malnutrition in 2017.<sup>22</sup> This once again points to the economic challenges that face people under ordinary circumstances. It also emphasises the importance of work, a functioning economy and why people should be allowed to earn an income.

### **5.4. Young people in their twenties**

The COVID-19 mortality rate for people in their twenties is 0,06%, which is still more than five times smaller than the mortality rate from other causes (0,32%). It is also important to note that the COVID-19 mortality rate only applies to 15% of the overall age group (according to the assumptions discussed earlier), while the mortality rate of 0,32% applies to the age group as a whole. The estimated number of COVID-19-related deaths in this age group is low (on average 2,7%) compared to the estimated number of deaths from other causes (on average 97,3%). The percentage of deaths is very similar to the figures for the 5–19-year age group. No deaths from COVID-19 were recorded in Australia for this age group.<sup>23</sup> South Korea has also not yet recorded any COVID-19 deaths for this age group.<sup>24</sup>

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<sup>20</sup> See <https://www.covid19data.com.au/deaths>. Accessed on 22 April 2020.

<sup>21</sup> KCDC. 2020. *Press Release. 11 additional cases have been confirmed*. Available at <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>. Accessed on 22 April 2020.

<sup>22</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

<sup>23</sup> See <https://www.covid19data.com.au/deaths>. Accessed on 22 April 2020.

<sup>24</sup> KCDC. 2020. *Press Release. 11 additional cases have been confirmed*. Available at <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>. Accessed on 22 April 2020.

Most people in this age group are normally young employees, students at tertiary education institutions, entrepreneurs or unemployed at home. Training institutions and many businesses are closed in terms of the lockdown regulations, however.

Because the COVID-19 mortality rate for this age group is also low, the associated risk is not sufficient enough compared to other existing risks to justify the closing of educational institutions and businesses. The same requirements apply regarding contact with people who are 50 years old or older.

### 5.5. People aged between 30 and 49 years

The estimated number of COVID-19 deaths for the age group 30–49 years is relatively low (4,2%) compared to the estimated number of deaths from other causes (95,8%). It is indeed higher than for the previous age groups. In Australia, one death (out of 88) from COVID-19 was reported for this age group.<sup>25</sup> In South Korea, five deaths (from 244) from COVID-19 were reported for this age group.<sup>26</sup>

Most people in this age group who are economically active are normally experienced employees, and also mid-level or senior managers. The restrictions placed on business in terms of the lockdown regulations also negatively impact their ability to do their work; more so where not all work can be done remotely.

It is important to consider underlying medical conditions in this age group. The report by SSA<sup>27</sup> ranks the causes of natural deaths for the age group 15–44. Other heart conditions, cerebrovascular conditions and diabetes mellitus – all of which impact the COVID-19 mortality rate negatively – rank sixth, seventh and tenth respectively in the SSA's report.

The COVID-19 mortality rate for this age group, also compared to other causes of death, is still such that healthy people within this age group can work without being exposed to extraordinary risks. Contact with people 50 years and older should still be avoided, however.

### 5.6. People who are aged between 50 and 64 years

The estimated number of COVID-19 deaths for people aged between 50 and 65 years is calculated as 15,2% of the total estimated number of deaths for this age group. This means that approximately one out of seven deaths in this age group will be attributed to COVID-19. Two COVID-19 deaths were recorded in Australia for people in their 50s and seven in their

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<sup>25</sup> See <https://www.covid19data.com.au/deaths>. Accessed on 22 April 2020.

<sup>26</sup> KCDC. 2020. *Press Release. 11 additional cases have been confirmed*. Available at <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>. Accessed on 22 April 2020.

<sup>27</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

60s out of a total of 88 deaths.<sup>28</sup> Fifteen COVID-19 deaths were recorded in South Korea for people in their 50s and 35 in their 60s out of a total of 244 deaths.<sup>29</sup>

Most people in this age group who are economically active are normally the most experienced employees and also senior and top-level managers. The lockdown regulations have a similar effect on this age group as those discussed above.

The risk from underlying diseases is significantly higher than for the previous age groups. Diabetes mellitus, cerebrovascular conditions, other heart conditions and hypertensive conditions – all of which impact the COVID-19 mortality rate negatively – are ranked second, fourth, fifth and sixth respectively in the SSA's report on natural causes of death for the age group 45–64 years.<sup>30</sup>

The COVID-19 mortality rate for this age group is significant and the associated risks are therefore significantly higher than for the previous age groups. If possible, people in this age group should work remotely and self-isolate as far as possible. If work cannot be done remotely, special arrangements should be made to lower the infection risk. Contact with people younger than 50 years – especially children – should be avoided as far as possible.

### **5.7. People who are 65 years and older**

The estimated number of COVID-19-related deaths for people who are 65 years old and older is calculated as 17,2% of the total estimated number of deaths for this age group. This means that about one out of every six deaths in this age group would be attributable to COVID-19.

The risk from underlying medical conditions in this age group is high. Diabetes mellitus, cerebrovascular conditions, hypertensive conditions and other heart conditions – all of which impact the COVID-19 mortality rate negatively – are ranked the four highest in the SSA's report on natural causes of death for the 65 years and older age group.<sup>31</sup>

The COVID-19 mortality rate for this age group is high and the associated risks require exceptional measures. This age group should self-isolate as far as possible and avoid contact with people younger than 50 years, but especially children.

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<sup>28</sup> Sien <https://www.covid19data.com.au/deaths>. Geraadpleeg op 22 April 2020.

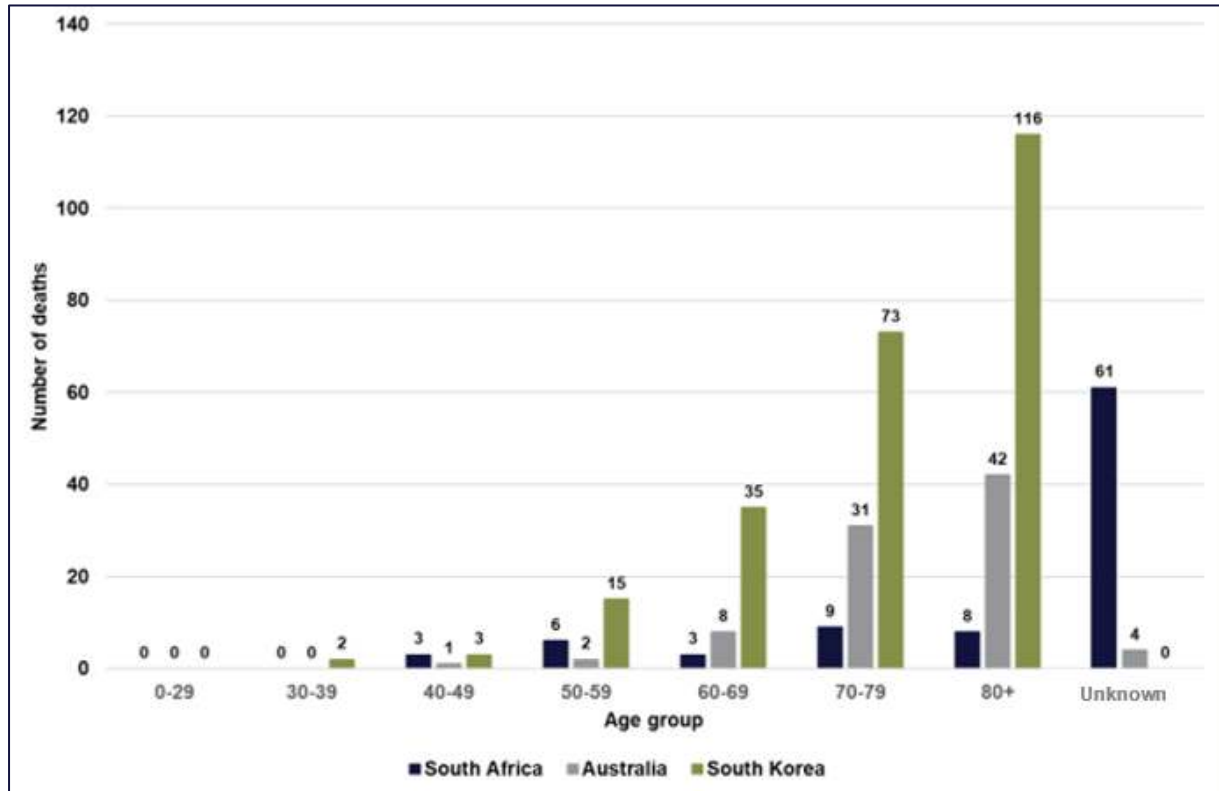
<sup>29</sup> KCDC. 2020. *Press Release. 11 additional cases have been confirmed*. Beskikbaar by <https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>. Geraadpleeg op 22 April 2020.

<sup>30</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

<sup>31</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

### 5.8 Actual figures to date

The actual number of deaths per age group is indicated in Graph 8 for South Africa, Australia and South Korea, where these ages are known.



**Graph 8: Actual number of deaths for South Africa, Australia and South Korea**

In South Africa, no deaths were recorded for the age groups younger than 40 years in cases where the ages of these people were published. In Australia, no COVID-19-related deaths have yet been recorded for the age groups younger than 40 years, while one death was recorded for a person in their 40s. In South Korea no COVID-19-related deaths have yet been recorded for the age groups younger than 30 years, while two deaths were recorded for people in their 30s, and three deaths for people in their 40s. There are significantly more deaths in the age groups 50 years and older, as indicated in Graph 8.

These figures of actual deaths reported confirm the unequal effect that COVID-19 has on people of different ages.

## 6. Underlying medical conditions

Because COVID-19 is a new and unknown disease in human beings, information on underlying medical conditions that have a negative impact on the mortality rate is limited and subject to constant change. It is therefore essential to obtain the latest available information from medical specialists when decisions are made and strategies devised.

Literature currently indicates that underlying medical conditions that increase risks include among other diabetes mellitus, cerebrovascular conditions, hypertensive conditions, cardiovascular conditions, chronic obstructive pulmonary disease (COPD), chronic pulmonary and respiratory conditions, and cancer.<sup>32,33,34</sup> People who suffer from these or any other underlying condition must consult with qualified medical practitioners when any decision is made about their health.

The major unknown factor in South Africa remains the high prevalence of HIV and TB, as well as the number of people who do not receive antiretroviral therapy. HIV is one of the ten main causes of death in people between 1 and 64 years old, while TB remains the main cause over almost all age groups.<sup>35</sup> Specific measures must be taken for people who suffer from TB and HIV until more information becomes available.

## 7. Life with COVID-19

It is imperative that children return to school and healthy people to work to ensure an income with which to buy supplies and ensure survival

It is very important, however, to understand that our way of life will have to adapt to the realities of COVID-19 for the foreseeable future.

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<sup>32</sup> Guan W.j. et al. 2020. Comorbidity and its impact on 1590 patients with COVID-19 in China: A nationwide analysis. *European Respiratory Journal* 55(4). Available at <https://erj.ersjournals.com/content/early/2020/03/17/13993003.00547-2020>. Available at 22 April 2020.

<sup>33</sup> Du R.-H. Et al. 2020. Predictors of mortality for patients with COVID-19 pneumonia caused by SARS-CoV-2: A prospective cohort study. *European Respiratory Journal* 55(4). Available at <https://erj.ersjournals.com/content/early/2020/04/01/13993003.00524-2020>. Accessed on 21 April 2020.

<sup>34</sup> Ioannidis, J.P.A., Axfors, C. & Contopoulos-Ioannidis, D.G. 2020. Population-level COVID-19 mortality risk for non-elderly individuals overall and for non-elderly individuals without underlying diseases in pandemic epicenters. medRxiv, 8 April. Available at <https://www.medrxiv.org/content/10.1101/2020.04.05.20054361v1>. Accessed on 21 April 2020.

<sup>35</sup> Statistics South Africa. 2017. *Mid-year population estimates 2017*. Available at <http://www.statssa.gov.za/publications/P0302/P03022017.pdf>. Pretoria: Statistics South Africa. Accessed on 21 April 2020.

Hygiene measures as recommended by experts must be followed with discipline. Social distancing must also be practised constantly. Wearing masks in public is also strongly advised – also as a visible reminder to people of what is necessary to behave differently.

## 8. Emotional and psychological well-being

The current lockdown in South Africa has a negative effect on people's emotional and psychological well-being.

Since the start of national lockdown, the South African Depression and Anxiety Group (SADAG) has been receiving more calls from people who are anxious, lonely, worried or depressed.<sup>36</sup>

SADAG also conducted a survey on psychological well-being during lockdown. 65% of respondents indicated that they are stressed or highly stressed. The most important challenges that face respondents during the lockdown include:

- Anxiety and panic (55%)
- Financial stress and pressure (46%)
- Depression (40%)
- Poor family relations (30%)
- Suicidal feelings (12%)
- Substance abuse (6%).

Respondents also indicated that the following help them to feel better:

- Exercise (50%)
- Company (50%)
- Watching TV (not news) (48%)
- Work or projects in and around the house (44%)
- Having a meal with family and friends (35%).

The current lockdown regulations limit people's opportunities to exercise or undertaking projects at home.<sup>37</sup> Loneliness is also exacerbated because people cannot visit each other,

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<sup>36</sup> SADAG. 2020. *SADAG's online survey findings on COVID-19 and mental health*. 21 April. Available at [http://www.sadag.org/index.php?option=com\\_content&view=article&id=3092:sadag-s-online-survey-findings-on-covid-19-and-mental-health-21-april-2020&catid=149:press-releases&Itemid=226](http://www.sadag.org/index.php?option=com_content&view=article&id=3092:sadag-s-online-survey-findings-on-covid-19-and-mental-health-21-april-2020&catid=149:press-releases&Itemid=226). Accessed on 21 April 2020.

<sup>37</sup> Department of Cooperative Governance and Traditional Affairs. 2020. Disaster Management Act, 2002: Amendment of regulations issued in terms of Section 27(2). *Government Gazette* 43232. Available at [https://www.gov.za/sites/default/files/gcis\\_document/202004/43232rg11089gon465.pdf](https://www.gov.za/sites/default/files/gcis_document/202004/43232rg11089gon465.pdf). Accessed on 21 April 2020.

even if social distancing is maintained. Vulnerable family members cannot be supported properly, which results in the shifting of these responsibilities to other institutions that are already overwhelmed.

It is paramount that people's emotional and psychological well-being are considered, and that measures and regulations are adapted accordingly.

## **9. Conclusion**

There is a significant difference between the mortality rate of COVID-19 in people younger than 50 years compared to people who are older than 50 years. It is estimated that approximately 10% of all COVID-19-related deaths will occur in the age groups younger than 50 years, whereas 90% of all COVID-19 -related deaths will occur in the age groups 50 years and older. Because the COVID-19 mortality rate differs so significantly between people younger and older than 50 years, different strategies must be developed and implemented for the respective age groups.

Another reality is that many people in South Africa die annually under normal circumstances. It is paramount that strategies that are developed and implemented to combat COVID-19 take this reality into account.

Annually, hundreds of children in South Africa younger than 5 years die from malnutrition. It is estimated that approximately 37 times more children younger than 5 years will die compared to COVID-19. The responsible management of existing malnutrition risks requires lockdown regulations to be adapted to allow nursery schools, day-care centres and schools to reopen, feeding programmes to be resumed, and people to work and earn an income to prevent children from dying.

## **10. Recommendations**

Measures and regulations to combat COVID-19 must consider the current realities in terms of mortality in South Africa. These measures and regulations should also be adapted to account for the difference in the impact of COVID-19 on different age groups and people with underlying medical conditions. For these reasons, the following is recommended:

- Day-care centres, nursery schools and tertiary institutions should reopen to allow children to return to day-care centres en schools, students to universities and healthy people to work. Measures recommended by experts to minimise infection must be followed strictly.



- Personnel who are 50 years old and older or suffer from underlying medical conditions and who work at institutions where children and young people are present, must avoid contact with these children and young people as far as possible by harnessing digital technology to fulfil their educational task. Only where the use of technology is impossible, transparent physical barriers must be erected to limit infection risks.
- Employees who are 50 years old and older or suffer from underlying medical conditions must work from home for the foreseeable future by using technology. Where this is impossible, separation between employees older and younger than 50 must be ensured by allocating separate work areas, maintaining distance between employees, erecting physical barriers between employees, ensuring good ventilation and avoiding communal areas such as kitchens.
- Doors and windows of areas where people are or work together must be opened to ensure good ventilation. Other measures recommended by experts to limit infection risks must be followed strictly, however.
- Households which comprise people younger and older than 50 years must implement practical plans to limit infection risks, for example by avoiding physical contact and allocating specific areas to the different age groups. Extreme discipline regarding hygiene must be maintained.
- Community institutions and communities can play a role by creating areas where people older than 50 years can be separated from people who are younger than 50. It is important for people to realise that they can still visit people who are older than 50; guidelines must be followed strictly to limit infection risks, however.
- Community institutions must launch awareness campaigns to inform community members that changed behaviour is imperative for the months ahead, for example to regularly wash hands, to clean work surfaces, to maintain a distance of two metres between people, to avoid touching of other people, to wear masks in public and to avoid large groups of people.
- To ensure people's emotional and psychological well-being, it is necessary to adapt measures to allow people to exercise and undertake projects at home in a safe and healthy manner, for example repair work, gardening and handicraft.
- Measures must be adapted to allow communities to still visit vulnerable old people without any physical contact taking place. In this way, the challenge of loneliness is addressed, and supplies can be provided to these old people without placing an additional burden on community institutions or the state.

## **11. Closing statement**

COVID-19 confronts us with a new challenge. Sufficient information is now available to develop and implement mitigative measures that will limit risks to acceptable levels for the next phase of our reaction to COVID-19. The management of risks associated with COVID-19 is also in the hands of every community member: Maintain social distancing, wash your hands, keep your living space clean and wear a facial mask in public.