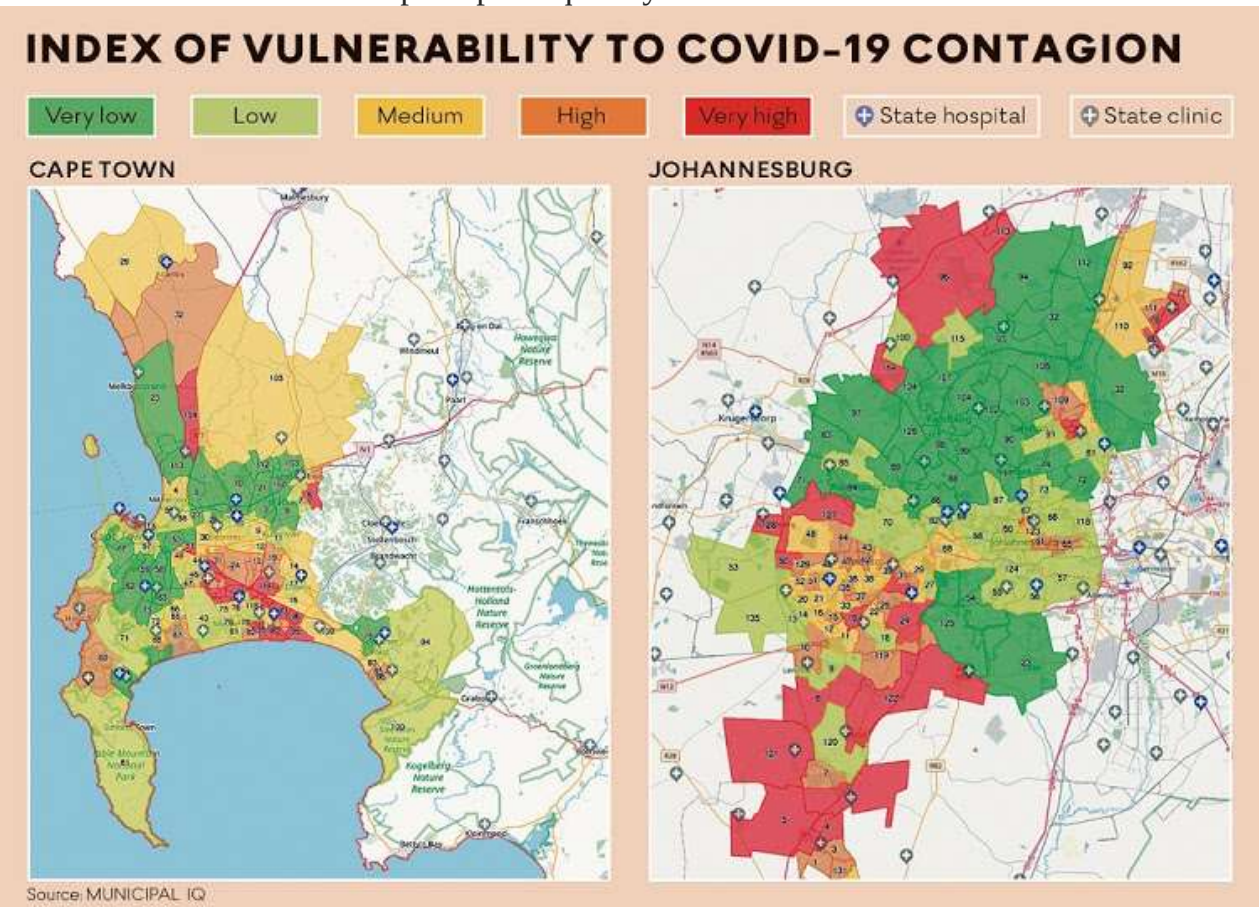
Spatial policy has never been watched so keenly as in differentiating districts while we move from lockdown level 4 to level 3. The emphasis for provincial governments has been to understand how infection rates vary between, and ideally within, metros and districts, given that hotspot areas with high infection rates will determine lockdown options.

While there are individual factors concerning “super-spreaders”, clusters of outbreaks and institutional factors (for instance in prisons), the extent to which Covid-19 is likely to take root is strongly influenced by a range of underlying factors specific to poverty and living conditions.

Clearly, respiratory disease spreads more easily and quickly in township areas and informal settlements, aptly described as “vulnerable” by Gauteng premier David Makhura. Where infection rates are relatively higher in these areas, there should be considerable caution not to open up too quickly.



In addition, more than eight weeks of lockdown have shown that enforcing social distancing and isolation is extremely difficult in densely populated urban contexts, even though this is where such measures are ironically needed most.

Municipal IQ’s Index of Vulnerability to Covid-19 Contagion — broken down by ward across SA — demonstrates the overlay between poverty and the risk of Covid-19 contagion. This understanding assists in prioritising tracing, testing and where necessary quarantining affected residents.

The index models socioeconomic data to measure contagion risk factors, such as the extent of informal housing, large household size, inadequate access to water and sanitation, low income, reliance on public transport and high population density.

The conditions faced by poor people, especially those in townships and informal settlements, typified by large households deprived of easy access to running water or sanitation, restricted by limited income and reliant on congested public transport and other facilities (including shops), provide fertile ground for the spread of the virulent Covid-19 virus.

Cape Town's most densely populated communities illustrate the risk faced by communities most susceptible to contagion once infection takes root.

The Western Cape represents only 8% of wards across the country in the top decile (highest scoring 10%) of wards on the index, but the high numbers of Covid-19 infections in a cluster of wards has propelled the province forward as the current epicentre of infections. Half of the Western Cape's top-scoring wards (at risk of contagion) are in Cape Town, and six of the highest scoring wards in the Western Cape are concentrated in Khayelitsha (wards 87, 89, 90, 91, 93, and 95).

It is of concern that Khayelitsha has had more than 2,000 cases of Covid-19, of which 773 are active, with many in the township living in close confines and poverty. The map shows up the highest risk of contagion in Cape Town in red; with Khayelitsha the red portion in the south-eastern corner. Adjoining Khayelitsha to the west, Klipfontein and Philippi (wards 35, 55, 34 & 50), also score very high on our index and it is a concern that this area now has 1,934 cases.

While Tygerberg, to the northeast, has the highest number of infections in the Western Cape, it has a slightly lower ranking on our index (falling in the fourth highest quintile). It is clear that compromised living conditions in the city are proving tinder for Covid-19 bushfires, and are driving the exponential increase in Covid-19 cases in the Western Cape compared to areas in the rest of the country.

In Gauteng, while there are 2,993 cases, only 1,044 (35%) are active, and have only becoming evident in high-risk communities in recent days. The highest number of cases in Gauteng, at 1,453, are in Johannesburg, with only 328 (22%) of these active. An analysis of total infections and the recovery rate at a regional level in Johannesburg reiterates a high rate of recovery and low rate of contagion. The second map shows that the active cases in Johannesburg's regions are in the dozens, and while region G in the south (Lenasia, Ennerdale, and Orange Farm) are in the highest risk of contagion category on our index, there are only 18 active cases in the region (for the time being).

Similarly, region A in the northwest, containing Diepsloot, Midrand and Ivory Park, has wards that are also in the highest risk of contagion category (specifically Diepsloot) but at present only has 12 active cases. Region E, in the centre, containing

Alexandra and Sandton, also has high risk of contagion, especially Alexandra, but at present has only 46 active cases. Makhura has flagged high-risk communities as a concern, undertaking to aggressively trace and contain cases through quarantine to flatten infection rates.

The hugely varying social circumstances in which people live in SA, and the extent to which there is a response in identifying, tracing and containing Covid-19 in areas at high risk of contagion, may well determine the rates at which Covid-19 spreads within communities and regions. A strategy of undifferentiated opening up ignores such variations in vulnerability to contagion and would put many of SA's poorest citizens in the direct firing line of the virus, and would probably flame its spread to surrounding and economically integrated communities at a higher level than is necessary.

What can already be learned is that when Covid-19 successfully seeds itself in highly built-up poor urban areas where people live in close confines, such as in the poorer urban townships and informal settlements of Cape Town, the rate of infection can increase exponentially. Conversely, where Covid-19 is present among a limited number of individuals in wealthy suburbs, where risk of contagion is low and self-isolation is relatively easy — as was the case initially in SA — it is far easier to control its spread successfully.

If health officials work to slow the spread of the virus in those areas at highest risk of contagion, as has been promised as a priority in Gauteng, Covid-19 can be slowed, decreasing the burden on the health-care system. With spatial inequality one of the greatest challenges in a democratic SA, now is not the time to overlook its role in spreading Covid-19. Opening up can and should take place, but this needs to be done with sound data and understanding of the hugely varying risk of contagion in communities, as well as the extent of Covid-19 infection.