

# Alcohol recommendations

## Background

Over the past 100+ days of the lockdown in South Africa, there has been an exponential rise in positive cases of Covid-19: from 116 on 18 March to 196,750 on 5 July. During levels 4 and 5 of the lockdown, which included a ban on the sales of liquor from both on and off-consumption outlets and substantial restrictions on movement/work, there was a 60%-70% reduction in hospital visits and admissions related to trauma (Parry et al., under review). The period of “lockdown light” from 19 to 26 March comprised of restrictions on the operating hours and days of the week when sale of alcohol at on- and off-consumption outlets was permitted as well as a restriction on the number of patrons allowed at on-consumption outlets selling alcohol. A quick review of preliminary data for the weekend of 21 and 22 March 2020 showed a 25%-50% drop in transport emergencies dealt with by ER24’s contact centre, a drop in assaults and stabbings recorded by Rescue 786 Ambulance Services, and a decline in surgical and medical emergency cases at Johannesburg’s Chris Baragwanath Hospital outside Soweto (de Wet, 2020).

Following the easing of restrictions to Level 3 on 1 June 2020 a noticeable surge in trauma-related hospital visits has been observed. This has been anecdotally attributed to easing of restrictions related to the sale and distribution of alcohol. Calls are now being made to re-impose alcohol restrictions with claims that this would stem trauma-related hospital visits, thereby freeing health services, staff and wards, for the care of Covid-19 patients.

This raises the following questions:

1. What would be the effect of re-imposing a ban on liquor sales during Level 3 lockdown on trauma-related hospital visits and admissions?
2. What would be the effect of placing tighter restrictions on alcohol access as opposed to a ban on liquor sales in terms of reducing burden on public health care system and trauma admissions?

## The effect of a ban on liquor sales on trauma-related visits during the Level 3 lockdown

Table 1 below sets out a process whereby the team estimated the number of trauma unit visits that could be averted if a ban on liquor sales is implemented.

**Table 1: Modelling the effect of a reduction in trauma unit presentations in Level 3 lockdown following imposition on of a ban on liquor sales**

			Supporting information
	Multiplier	Number	
<b>Number of trauma unit presentations per year in SA</b>			
Number of trauma presentations per year across 356+ secondary & tertiary public hospitals (1999)		1,511,040	Matzopoulos et al., 2006
Estimated number in 2020 across secondary & tertiary public hospitals	1.47	2,221,229	using 47% increase in mid-year population estimates from persons 15+ from StatsSA (StatsSA 1999, 2019)
<b>Estimates per week</b>			
Estimated trauma presentations per week before lockdown	0.019	42,716	Roughly 120 per hospital per week on average. Roughly double that at Baragwanath & ~180 at Charlotte Maxeke
Estimated trauma presentations in Level 3 per week (80% of pre lockdown trauma presentations) compared to pre-lockdown	0.8	34,173	91% of pre-lockdown in WC across 5 hospitals (WC Department of Health, 2020). 75% from Mahatma Gandhi, KZN
Estimated alcohol-related trauma presentations Level 3	0.5	17,086	Expert opinion - this is maximum we could save per week if no alcohol-related trauma presentations. Of these 50% are alcohol (not 60%, because nightclubs, bars, shebeens where violence is higher are closed, & only selling Mon-Thurs, & people have less money). Currently in L3 Bara: 60% at weekends, 50%-60% overall at Charlotte Maxeke
So what % of ~17,000 would disappear if alcohol sales stopped as in L4 & L5?			
1st week after instituting a ban on liquor sales in Level 3 lockdown	0.2	3,417	
2nd week	0.3	5,126	
3rd week	0.4	6,835	
4th & subsequent weeks	0.4	6,835	
Est. saving in alcohol-related trauma presentations over 4 weeks: 22,212 trauma presentations; over 8 weeks: 49,550			Expert opinion: In WC (5 hospitals) with drop from pre-lockdown to Level 5 we saw a 49% drop in trauma presentations. In other sites more, up to 70%, but there were many more restrictions on movement, work, exercise, less vehicles on roads so initial drop will be less. Will also be less trauma presentations reduced initially as people would have stockpiled, including entrepreneurs (but they will sell at a premium so that will reduce consumption).

In comparison to the drop in alcohol-related trauma that occurred with the imposition of a temporary ban on alcohol sales at the beginning of lockdown Level 5 (60%-70%), the effect of the ban during lockdown Level 3 is likely to be somewhat less as a result of people and businesses stockpiling alcohol, in some cases for resale for greater profit. In addition, people have learned to improvise and brew their own alcohol. The longer the duration of the ban the greater the impact.

**Using the model demonstrated in Table 1 above, it is estimated that a ban could achieve a reduction of approximately 3,400 alcohol-related trauma presentations across public secondary and tertiary hospitals by the end of the first week following a ban on liquor sales (that is, an estimated 10% reduction in Level 3 weekly trauma presentations, or 20% of the alcohol-related trauma**

presentations), levelling out to a maximum reduction of approximately 6,800 alcohol-related trauma presentations by the end of the third week (or 20% of all trauma admissions/40% of alcohol-related trauma presentations).

**This is likely to have a substantial impact on reducing the burden on staff in trauma units, the demand for inpatient beds, ICU facilities and ventilation capacity.**

In many cases such patients place a strain on medical care for extended periods. For example, 2% of stab-related admissions (a common trauma associated with alcohol use) require admission to the ICU for an average of 5 days. The impact of blunt force trauma is greater. Of 72% requiring a hospital admission, 25% are admitted to the ICU for an average of 9 days.

A trauma patient presenting to a health care facility and not requiring admission, contributes to overcrowding, and therefore increasing the risk of transmission of Covid-19 between patients and staff in the emergency centres. It is worth noting that trauma patients requiring surgery consume resources such as theatre time, and skilled staff such as anaesthetist, two surgeons, an anaesthetic nurse, scrub sister and floor nurse. Such staff can potentially be deployed to other areas of need in the hospital. Poly-trauma patients frequently require prolonged hospitalisation and extended rehabilitation often exceeding 4-weeks. We considered the percentage of cases admitted to general wards and to ICU units and the length of stay in general wards and ICU units for six different injury types: blunt force trauma, burns, sharp force trauma, road collisions, gunshots, self-harm and falls. Using the median values across these six categories we estimated that the 49,550 cases from Table 1 would, over 8-weeks, equate to 189,677 days spent in general wards and 17,714 days of ICU bed occupancy. These cases could potentially be averted through an alcohol sales ban.

In general, alcohol use is expected to reduce adherence to non-pharmacological methods of reducing the transmission of SARS CoV 2 such as physical distancing, hand sanitation and use of masks within the social setting. In addition, hospitals are considered high risk areas for exposure to COVID. By limiting alcohol-related hospital visits/admissions we are limiting exposure to and transmission of SARS CoV 2. A ban on alcohol sales will also have an impact in terms of reducing the burden on primary care and private facilities, but we were unable to quantify this at this time due to lack of data.

[Is there an alternative to a ban on liquor sales in terms of reducing burden on public health care system and especially trauma admissions?](#)

An alternative to a complete ban on alcohol sales to reduce alcohol-related trauma admissions is to implement one or more less restrictive alcohol control interventions mostly aimed at reducing the availability of alcohol. Many of these and other interventions noted below have been identified as evidence-based strategies by the WHO. In contrast to a single intervention like a ban on alcohol sales (or substantially increasing excise taxes), a combination of strategies such as these is more challenging to implement, and will have lesser impact even if used in combination. However, from a strategic point of view, it might be useful to consider taking such an approach to prevent push-back from the public and the liquor industry and associated businesses. It might also make it easier to defend legal challenges should they arise at a later stage if it is decided to still go ahead with a ban on liquor sales as government will be able to demonstrate that it implemented less intrusive options first which didn't have the desired impact.

**Table 3. Strategies other than a ban on liquor sales to consider in Level 3 to reduce alcohol-related trauma presentations**

Strategy		Rationale and approach	Challenges
<b>Limit Availability</b>	Limit off-consumption times for outlets with off-consumption licenses (Tue-Thu: 09:00-17:00) #	4 days to 3 will further reduce relatively painlessly for consumers.	Same as current. Mitigate by monitoring, enforcement, suspension of licenses, etc.
	Limit purchase amounts to reduce consumption and stop sales to unlicensed outlets (e.g. equivalent of 48 or 72 standard drinks) *#~	Industry creates ID-based system linked to national database. Limit how much can be transported by individuals without licenses.	All traders to use the system to prevent people buying small amounts from multiple outlets.
	Industry to reduce manufacturing to 70% of capacity -- perhaps close some breweries	Reduces alcohol availability and incentive to sell more. Avoids stopping production altogether.	Persuading industry. Monitoring compliance
	No off-sales by on-consumption outlets (or any unlicensed outlet) – reduce availability significantly.	Of 90 000 licensed liquor outlets, 25 000 are off-consumption and 65 000 on consumption.	Economic hardship. Mitigate by supporting esp. licensed small subsistence outlets
<b>Drink driving counter-measures and policing of public and illegal drinking</b>	Reduce BAC level for drivers to 0.02 g AA/100ml blood or less	Fast-track Road Traffic Amendment Bill <sup>1</sup> currently on Parliamentary 2020 agenda.	Same as current, though easier to enforce
	Test blood alcohol after serious motor vehicle collisions	Improve systems and turn-around times.	Requires policing & judicial response
	Action against public drinking illegal drinking at on-consumption outlets, licensed and unlicensed	Accompanied by visible awareness-raising campaign	Requires policing & judicial response
<b>Advertising and packaging</b>	Only permit advertising factual information about product (not lifestyle) & only at point of sale. No specials on bulk purchases.	Include ban on ‘responsible drinking’ ads because generally done by reinforcing the ‘lifestyle’ aspects of alcohol consumption. <sup>2</sup>	Resistance from alcohol industry and advertising industry
	Ban sale of large containers which encourage excessive drinking e.g. limit to 500ml beer and cider, 750ml wine and 750ml spirits	SAMRC research shows larger containers linked to higher consumption; stops sharing from same container; increases price so reduces consumption	Resistance from industry and consumers
	Point-of-production to point-of-sale system by industry to track products back to source of supply and stop sales to unlicensed outlets <sup>^</sup>	This worked in Russia <sup>3</sup> - action is possible against unlicensed seller and licensed supplier who sold the alcohol to them.	Resistance from industry

\* Equivalent of 24 standard drinks (24 x 330ml beers or 4 bottles 750 ml wine or 1 bottle 750ml spirits), all sales registered on a centralised database (eg the way Dischem works).

\*\* Everybody to present ID at point of sale/delivery.

\*\*\* Delivery no sooner than 2 hours after order made & do age verification before handing over.

# Revisit after Covid-19 sorted, but don't return to pre-COVID-19 operating hours, i.e. establish a ‘new, safer norm’.

~ Purchases above a certain limit must require production of a liquor license.

^ Important for preventing the sale of alcohol products to unlicensed outlets.

## What are some of the consequences of maintaining the status quo likely to be?

If we do not respond by reintroducing a ban or other measures to reduce alcohol sales and consumption, we can expect the rate of trauma cases presenting to remain the same – i.e. to pre-lockdown levels or 80%-90% thereof. In addition, there may be more negative outcomes for these cases because of shortage of staff, beds and equipment arising from the competing needs of COVID-19 patients. Consequently, we might expect to see a higher proportion of fatalities, disabilities and long-term effects not only among trauma cases, but also among patients presenting for other conditions including Covid-19.

<sup>1</sup> [http://www.nwpg.gov.za/Community\\_Safety\\_and\\_Transport\\_Management/new/documents/traffic.pdf](http://www.nwpg.gov.za/Community_Safety_and_Transport_Management/new/documents/traffic.pdf)

<sup>2</sup> For example: <https://twitter.com/blacklabels/status/1280062016170921984?s=20>

<sup>3</sup> <https://apps.who.int/iris/bitstream/handle/10665/328167/9789289054379-eng.pdf?sequence=1&isAllowed=y>

## Should liquor interventions be implemented at a national, provincial or local government level?

Table 4 demonstrates the heterogeneity of the epidemic within the country and might justify imposing ban/restrictions differentially at provincial level as opposed to one unifying move for the whole country. **On the question of whether a ban on liquor sales should be implemented at a national, provincial or local government level, our preference is for reinstating a ban at a national level due to the logistics of both preventing the distribution of liquor from areas where sales are permitted to those where it is not.** If the decision is to go with a provincial ban, it will be important to ensure that there is sufficient control over the movement of alcohol across provincial borders.

If the decision is taken to focus on strategies other than a national ban, i.e. one or more of those alcohol control measures referred to above, then this should be implemented ideally at a national level, especially those focusing on drink-driving countermeasures and alcohol advertising. Given that retail sales of alcohol is a provincial competency, those measures focusing on availability could, in principle, be implemented at a provincial level, but this is not recommended as the optimum solution.

**Table 4. Positive cases per province as of 5th July 2020: NICD website**

Province	Total cases for 5 July 2020	Percentage total
Eastern Cape	35 648	18
Free State	2 553	1,3
Gauteng	63 404	32,2
KwaZulu-Natal	15 146	7,7
Limpopo	1706	0,9
Mpumalanga	1965	1,0
North West	6063	3,1
Northern Cape	734	0,4
Western Cape	69 531	35,3
Unknown	0	0,0
<b>Total</b>	<b>196 750</b>	<b>100,0</b>

## Conclusion

The country is experiencing a surge in many of the metropolises. Considering that our health care system is fragile with little reserve it makes sense to protect our resources as much as possible and as early as possible. In addition, we expect the major impact of the ban/restriction to be gradual over several weeks. Therefore, we favour an early implementation of a ban/restriction. It should be noted that there are multiple pressures on the government to relax current restrictions on alcohol and given the above it is clear that these should not be entertained.

It is imperative to maintain absolute transparency and inform the public of rationale behind its decision to re-impose a ban or tighter restrictions. Sharing the model and the rationale behind the model is key to winning the public over. It is also important to be sensitive to the addictive nature of alcohol and provide details on where and how to seek help for dealing with alcohol withdrawal/dependence.

For the future, we strongly recommend that all trauma related to alcohol should be made reportable/notifiable so we can build a sustained bank of information to inform the impact on the health system and economy of the country.

## References

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