COVID-19 WEBINAR: THE SINGAPORE EXPERIENCE (PART II)

COLLATED QUESTIONS FROM PARTICIPANTS
25 APRIL 2020, SATURDAY

The questions are grouped according to the following categories:

[**Note:** MOH's responses are accurate as of 12 May 2020. Information on discharge criteria for COVID-19 patients is accurate as of 29 May 2020, and information on the evaluation of patients with history of COVID-19 infection who present with respiratory symptoms is accurate as of 1 June 2020.]

REF QTN NO	QUESTIONS FROM CHAT PARTICIPANTS	ANSWERS
I. COVID-19 Cases		
22	Incidence in the community has been between 0.5 - 0.8 per 100 000 population since 11 April. Why is there still a significant number of unlinked cases in the community after >14 days of CB and what is the strategy to eliminate this pool? Do we need to lock down even more strictly?	Unlinked cases are indicative of ongoing, undetected community transmission. Circuit Breaker (CB) aims to reduce the amount of community transmission through social distancing measures. However, the essential workers will still need to go to work. There is also a small group of individuals who do not follow social distancing guidelines. To further reduce the degree of community transmission, the implementation of enhanced CB measures further reduced the number of essential workers. Agencies have stepped up enforcement of social distancing measures. At the same time, testing capacity has been ramped up to facilitate rapid detection of these cases within the community, for early containment. There is a need to balance the public health outcomes, with that of other considerations, at a whole-of-government level. It is important that we derive

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		the most public health value in this CB period. This is why it is it important for everyone to play their part - to keep to the CB requirements and stay home.
114	With the mandatory stay-at-home 5 d MC, & also since Circuit Breaker has resulted in many people not working/working from home, patients with ARI might be avoiding dr consults, opting instead to self medicate. Will this result in us missing cases, hence creating "hidden reservoirs" of infection?	We are tracking the number of unlinked cases and clusters in the community. Since the start of the Circuit Breaker, the number of unlinked community cases has in fact decreased.
II. Case Definition and Transmission		
22	Are there differences in the symptomology of the community cases vs the dorm cases?	There is no strong evidence to suggest that there are significant differences in symptomology at this point.
317	Do we know which variant virus is circulating locally and if there are more than one type	Further studies are needed to determine the viral strains circulating locally.
337	"There are postulated to be different variants of the virus- A,B, C etc. Is the variant seen in the FW different to the community variant?"	This has not been established at this point time.
299	the overseas cases look almost SARS like...Mutational difference?	
301	Is there an analysis of the genetic variant of covid19 we are dealing with in Singapore? is it the same variety the Spanish or New York are facing?	We are unaware of scientific research in this area.

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22	We know the virus can be detected in the stools and on rectal swabs. Is it not safer and faster to ask individual patients to collect the stools for testing rather than to do a nasal or throat swab. The patient does his own stool collecting instead of a HCW in full PPE doing nasal swab. Of course this will help only if the stool PCR has been developed in Singapore and if testing capacity is not a problem Is the SARS CoV 2 PCR being incorporated into one of the respiratory virus or stool PCRs panels by any of the biotech firms in Singapore? If so what is the progress?	The main mode of transmission of COVID-19 is through respiratory droplets, and nasal or throat swab is the mainstay of COVID-19 testing. There have been confirmed cases of COVID-19 who had two negative nasopharyngeal swabs but still continue to shed the virus in their stool. Intermittent viral shedding in stools has been observed. Studies have also shown that viral shedding in stool can last for almost 2 months, although there is no definite evidence on its infectivity. Thus, it is not possible to determine persistent infection or infectiousness by repeated stool testing for COVID-19. The SARS-CoV-2 PCR is a standalone test amongst the tests that are currently provisionally authorised by HSA. Patients with at least 1 nasopharyngeal swab positive for SARS-CoV-2 are considered confirmed cases.
54	Good afternoon. I have a case in the nursing home of a covid19 positive case. Her first swab was negative,the 2nd positive and the third negative again. How much you interpret such a result. The team managing her has gone on to order a stool test. Thanks	
7	Is there any chance of catching Covid virus from others in a chlorinated, or salt water pool?	Adequately chlorinated swimming pools eliminate most disease-causing pathogens, including viruses. Public swimming pools are regulated by the National Environment Agency and have to meet strict conditions to maintain environmental hygiene and sanitation standards. In addition, there is a dilution effect that would make it unlikely for transmission to occur through water in a swimming pool. Nonetheless, the crowded conditions in the swimming pool compound may facilitate person-to-person transmission. In general, we strongly urge parents

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		not to bring their child to recreational facilities or any other crowded public places if their child is unwell.
231	Can the virus be transmitted during money handling	It is possible for the virus to be transmitted via contaminated surfaces. This is why MOH has all along emphasised proper and frequent handwashing as a measure to reduce risk of infection.
248	Related to question 2, if it is spread through money handling, what are we able to do with the collected money and what are banks doing about it?	
III. Testing Strategy		
22	We know that pre-symptomatic or asymptomatic patients can spread the virus, why are we not testing all contacts of known cases	Testing is not the answer to concerns about asymptomatic infection. It will not be viable to subject everyone to testing every day. The answer lies in safe distancing, good hand hygiene, and appropriate use of masks to prevent spreading to others. COVID-19 testing is generally administered to individuals who show symptoms of the disease and does not extend to asymptomatic persons routinely. Nonetheless, such testing may be performed for asymptomatic persons in groups considered to be at high risk for infection (for example, families that experienced high attack rates), or where there may be a high impact of infection. We will continue to review our testing strategy on a regular basis, as the risk changes, and as various tests become available, coupled with our assessment of the diagnostic yield.
92	Is there merit in diverting some resources to additional surveillance testing in the community? To pick up asymptomatic/ mildly symptomatic people with Covid-19.	
234	how are we going to catch asymptomatic covid patients if we do not do mass screenings?	
292	If we are so concerned about unlinked cases and “cryptic” or asymptomatic cases, should we ramp up testing to include those asymptomatic individuals on a nationwide scale, such as Germany?	
22	Should we be testing all health care workers on a regular basis, especially	Please follow the risk assessment framework per MOH circular 62/2020.

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	those working with vulnerable populations eg elderly, and those managing immunocompromised patients	We cannot be testing everyone, every day. The answer lies in safe distancing, good hand hygiene, and appropriate use of masks to prevent spreading to others. COVID-19 testing is generally administered to individuals who show symptoms of the disease and does not extend to asymptomatic persons routinely. Nonetheless, such testing may be performed for asymptomatic persons in groups considered to be at especially high risk for infection (e.g. families that experienced high attack rates). We will continue to review our testing strategy on a regular basis, as the risk changes, and as various tests become available, coupled with our assessment of the diagnostic yield.
49	any considerations for mass testing of healthcare workers for IgG COIVD positive	
50.	Are we planning on antibody test to check on spread of silent carriers least in healthcare settings?	
178.	would it be prudent to start testing medical professionals esp those working with vulnerable groups particularly in eldercare (old age homes) be good way to reduce numbers of those infected? Rather than waiting till they start to have symptoms?	
83	Is there a role for "on demand" covid19 screening of the population?	At present, we do not see the need for community-based testing as the risk of community spread remains low. Hence, there will not be a good yield from this approach. While there are sufficient test kits for our current purpose, we also need to anticipate surge requirements as the number of cases builds up. Therefore, there is a need to be prudent in our testing approach. We will continue to review this on a regular basis. As the risk changes, and as various tests become available, coupled with our assessment of the diagnostic yield that will come from community surveillance, this might be an approach that we might consider in the future.
123	The no. of days from onset of symptoms to isolation appears to be very high until late March. In the early months, we had seen many reports of patients visiting multiple doctors/clinics before they were eventually sent for testing. Could we have prevented this by making swab tests more widely available from the start, and if so, were we limited by our swab test capacity then? Moving ahead, given the possible hidden reservoirs of cases without	

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	symptoms in the community, will Singapore be doing large scale community testing, such as in South Korea and Iceland? Iceland has tested 13% of its population, whereas we have only tested 1.6%. With the large number of asymptomatic cases detected in our Foreign Workers community, widespread community testing would likely reveal many such cases in the community which are currently undetected.	
127	The criteria for referring patients for swab test include a fever of 37.5degC for 4 days, history of travel, and persistent symptoms after the 5-day MC. Doesn't that mean that we are deliberately trying not to detect the majority of patients, since the majority are mild? Doesn't it mean also that we are deliberately not trying to detect them in the early phase of the infection (within the first 5 days)? Is there a shortage of test kits and reagents? Why is Singapore not able to test patients the way South Korea is doing, where they have rapidly set up 600 test centres and test anybody who wants it, even if they don't have symtoms.	
202	when would we have the capacity to do mass screenings for everyone?	

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130	May I know the plans for community testing? We can start testing HCW esp in Nursing homes, and other front liners like cashiers, Drivers and Teachers. What is MOH strategy in the coming month?	
183	Is there value to test population for POCT to see what is the percentage of the population that is infected by coronavirus like what was done in NY?	
249	Should we proactively swab all essential workers? During this CB period, theoretically, they are the only remaining source of community infections. We should do this if our community numbers do not come down satisfactorily, so that we can isolate them and stop community transmission.	
264	What are the obstacles to a more immediate roll out of community testing? Are they insurmountable?	
316	Will Singapore consider drive-through swab tests like those done in South Korea? Are we not doing widespread community testing due to limitations in our test capacities?	
325	What is the view on pooled testing to conserve tests?	Pooled testing can potentially conserve tests if applied on low or low(er) risk group of persons. If the pooled testing is positive, individual testing can be done for these groups.
167	Given that viral shedding is highest during the 1st seven days, are there any plans to change our current	We are reviewing our testing strategy on a regular basis as our testing capacity increases, guided by disease epidemiology.

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	strategy of SASHing patients only after 4 days of fever and ARI?	
96	Should individuals with ARI who have household members who are essential workers be told to go straight to a polyclinic /screening centre for swab instead of going to other GP clinics with no testing ability? We should not just apply the MC5 rule for them as if indeed they have covid19 and pass it to their household members who are essential workers, there will be community transmission among the essential workers at their workplaces.	As our testing capacity ramps up, we plan to expand testing to all individuals with ARI for early detection and isolation of cases.
195 196 197	"Is there consideration of setting up dedicated SASH centers and freeing GP clinics to continue with primary care after CB? Public seems to be avoiding GP clinics, especially PHPC, for fear of catching Covid at the clinic. Some of my patients were extremely anxious when they were contacted for contact tracing after confirmed cases at the clinic.	We are reviewing our testing strategy on a regular basis as our testing capacity increases, guided by disease epidemiology. This may include additional swabbing stations/ centres, to expand testing in the community. All GP clinics including PHPCs have been advised to adopt infection control measures, such as segregating patients with acute respiratory infection (ARI) symptoms from those without. Where necessary, patients should continue to seek care with their regular family doctor, to ensure continuity of care. To reduce the number of physical visits, MOH has also introduced policy changes such as the extension of the Chronic Disease Management Programme (CDMP) and the Community Health Assist Scheme (CHAS) on a time-limited basis to cover video consultations (VCs) for selected chronic conditions. While we will explore the set-up of SASH centres to enhance our COVID-19 case-finding capabilities in the community, the support of SASH PHPCs will remain critical as the number of patients who need to be swabbed continues to grow.
22	What is the testing capacity in Singapore? Are we diagnosing between 800-1000 per day in the dorms because of testing capacity or swabbing capacity	Please refer to the MOH Press Release on "Scaling Up of COVID-19 Testing" that was issued on 27 April 2020 for details.

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	If capacity is not a problem, should we not quickly do 2 tests on all workers in the dorms so that we can separate the infected from the non infected workers early If testing capacity is a problem, what are we doing to increase this If swabbing capacity is a problem, what are we doing to increase this? Are we only testing symptomatic cases in the dorms or are we testing the contacts of known cases as well or are we testing everyone? Are 2 swabs at least 24 hours apart being carried out in all dorm workers?	
82	What % of swab test done were positive for the foreign workers? How many were done per day on average?	
104.	Are we testing all the FWs?"	
181.	Seeing as how there are so many foreign workers that have been infected with the virus, would it be prudent to swab for all foreign workers even if they are	

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	asymptomatic? Instead of waiting for them to be symptomatic and by that time they could have spread it to others in the room?	
IV. Test Kits		
22.	What happened to the serology test developed by Duke-NUS which was used in contact tracing for the 2 church clusters? Since it works, are we not increasing capacity of this test	Serological test detect the presence of antibodies, which are produced in response to an infection. In general, there are two basic categories of such test, one of which is done in the laboratories (e.g. ELISA), the other is a point-of-care test kit. Based on current evidence, such tests are not recommended to be used for early diagnosis as it takes time for the body to produce these antibodies at a detectable level. Presence of antibodies also does not equate to complete recovery. During the later phase of disease, a person can still be shedding virus (i.e. infectious) even as antibodies become detectable. Such tests however may be useful in epidemiological studies.
15	Testing – how reliable and when to do rapid serological test? How would rapid serological tests help during the outbreak - post outbreak?	Please refer to MOH Circular (90/2020) on Guidance on the Use of Serology Rapid Test Kits for COVID-19 Infection. MOH has been conducting field validation studies on serology rapid test kits, to gather data to support guidance on the appropriate use of such tests in local clinical settings. Based on preliminary results of the local validation studies carried out under field conditions on some of the serology rapid test kits, the data indicates that in the first 2 weeks of illness, the sensitivity is low, given the biological limitations of serological testing. As serological test is not useful as a timely diagnostic test for the disease, medical practitioners are strongly discouraged from using the test kit for patients in the first 2 weeks of illness, given the above limitations. This is to avoid giving patients false reassurance that they do not have the infection, arising from a negative result.
319.	Day5 to 7 highest infectivity. Day 14 will establish recovery or worsening disease. Therefore antibody IgM , IgG develop or more sensitively pick by PCOT from recovering infected patient. Can I correlate as this? Should we (consideration) initially pre	Please refer to the MOH Circular (90/2020, released on 3 April 2020) that provided guidance on the use of serology rapid test kits for COVID-19 infection.

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	emptive antiviral tamiflu for not recovered fever ARI after 5 days onset of symptoms? Not as cure but more of viral-static effect that help improve/ decrease mortality/ morbidity rate? :)	
145	Does this sampling site affect false negative rates for swab tests? Nasopharangeal vs Oropharangeal?	Please refer to the MOH publication on "PCR Testing for COVID-19: Where to Swab?" that was published on 24 April.
334	Can the PCR test distinguish between other coronavirus infection/ common cold and previous exposure to the flu shot?	Yes, PCR testing is able to distinguish coronaviruses from other influenza and respiratory viruses.
85	How many kind of test kits are we using currently and what's the sensitivity and specificity of the tests we are using?	There are a few different types of PCR machines and a number of serology tests have been approved by HSA under provisional authorisation. Each test has its own test characteristic. Please refer to HSA website on the types and number of different test kits that had received provisional authorization.
104	1. What is the reliability (Sensitivity, Specificity, Positive and Negative predictive values) of the current test?	
300	Question to Prof Kenneth, since most Singaporeans have been under circuit-breaker conditions for 1-2 months, and the sensitivity of POCT is 90% after 2 weeks, is there a role for these tests to determine if people are okay to go back to work after the period of isolation? Is there a role of serial testing with POCT to pick up asymptomatic cases?	Results from serology-based point of care tests will not be able to indicate if an individual is still infectious, especially if a person has only been unwell recently. This is also why the role of serology (and POCT) in the national testing framework has to be examined further.

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148	Any thoughts on utility of IgG to assess community immunity levels? Are non-POCT serology tests possible? does this improve the sensitivity/specificity?	It remains inconclusive whether antibodies are always protective, or how long immune memory would last against COVID-19. Therefore an antibody test cannot be used to make clinical decisions for individual patients.
149	Can we use the Ig G test +ve as a potential indicator to enable people to go back to work deem non infective?	
169	Can we explain why there were false positives for dengue IgG in several Covid-19 positive cases?	There is insufficient information to establish if there is any correlation between COVID-19 infection and false positive dengue IgG. More detailed studies are needed.
V. Clinical Care and Management		
76	Will there be any follow up swab for those recovered individuals to confirm that they are really recovered from coved-19?	Recovered patients who are well are not routinely swabbed.
192.	How is the SASH 5-day MC following a negative swab test being enforced? Similar to SHN?	Regardless of the test outcome, the MC which was issued in view of ARI is still effective and will be enforced be under Reg3(2) of the Infectious Diseases (COVID-19 Stay Orders) Regulations 2020.
128	Is there any clinical basis for the 5 day MC? If patient recovers from ARI within 5 days does it mean that the patient definitely does not have covid19?	The recommendation for 5 days MC was made on the basis of the typical clinical progression of ARIs. While patients with most minor viral URTIs/common cold should resolve within 5 days, patients with persistent ARI symptoms should seek care at the same provider for further assessment.
203	Noted there is a drop in ARI cases starting from the end of March ,besides hand washing ,social distancing and Circult breaker measures could another possible reason for this be a change in the general publics attitude to seek early treatment for ARI symptoms for fear of 5 day of MC with punitive consequence for non compliance given to all	

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	patients presenting to the primary healthcare doctors irrespective of the severity of the symptoms? If this is a possibility how can we rectify this in order to detect and isolate these patients earlier in the course of the disease since they are most infectious in the first week minus 2 days of the symptoms?	
204	there are doctors who are asking if they can directly send for swab if their patient had ARI symptoms for >4 days but is presenting at their clinic for the first time (hence no tx rendered). is this acceptable?	Doctors should continue to exercise clinical judgement and only SASH or refer patient who are assessed to be at higher risk of COVID infection for swab testing. The current criteria includes prolonged febrile ARI for 4 days or longer with a documented or reported temperature of 37.5C or higher.
207	One of the criteria for SASH/referral for SASH is prolonged febrile ARI > 4 days. Does it apply to children?	There is no age criteria to perform a swab test under Swab and Send Home (SASH). Primary care physicians may perform the swab for children under 16 if consent is sought from the parent/guardian. Physicians should exercise their clinical discretion and professional judgement if there are other medical indications or contradictions of which a referral to KKH CE might be required for further assessment.
307	To DMS or Ruth, do you see a need to eventually channel ARIs or URTIs to specific sites which can do swabs in a mopping operation ? Going to any of over 900 PHPC with MC5 with no definitive tests may cause too much leakage from mild cases post recovery.	As of 29 April 2020, there are over 200 PHPCs on the SASH workflow, and all GP clinics can refer patients to these SASH PHPCs and other screening facilities for their patients to be swabbed. We continue to encourage more PHPCs to come onboard SASH to enhance our COVID-19 case-finding capabilities in the community.
338	"If the best i could offer is a single air-con room to swab patients, is it not advisable to offer swab , from patient safety stand point as would be then exposing the next	Primary care physicians should ensure that the swabbing area is well-ventilated and thoroughly wiped down after each swab. They should also perform regular deep cleansing of the area.

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	patient to the previous patients droplets possibly expelled during swabbing or is there an recommended interval to wait in between swabbing patients in enclosed space? I notice from a CNA video on work at NCID, showing patients seemingly swabbed in a big air-con enclosed space, with safe distancing."	
174	where should we send SASH patients who do not have a room at home to self-isolate? eg. families in v small flats. Sending them home may cause the spread of COVID within the family.	SASH patients are advised to stay in a separate room at home, ideally with an attached bathroom to minimise interaction with the rest of the household. If that is not available, these patients are also provided with an advisory on ways to minimise spread within the household. These include wiping down shared bathroom(s) before/after use, minimising close contact with family members while awaiting results, not sharing food, and maintaining good personal hygiene.
177	there are employers requesting for swab of asymptomatic patients to clear them to go back to work even after the workers have completed their 14 day isolation period. Can we swab them then?	Asymptomatic patients should not be swabbed as resources need to be preserved to care for the sick. Individuals can have a negative swab test result during the incubation period and subsequently have a positive test result. Thus, swabbing asymptomatic individuals can provide a false sense of assurance and may cause even greater harm.
47	For how long do asymptomatic patients remain infectious? Is there a difference in duration between asymptomatics vs symptomatics?	Information on asymptomatic COVID-19 cases are just emerging. There is insufficient data in Singapore or in other jurisdiction on the infectiousness and infectious period of asymptomatic persons.
321	For a cancer patient who has to stop chemotherapy half way through treatment due to Covid, when will be a safe time to restart treatment if the patient only has mild to moderate symptoms and after recovery, has no	Cancer services, including chemotherapy are considered essential services and should continue to be provided during the CB period. There is emerging evidence that patients with COVID-19 are at risk of severe disease following systemic anticancer treatment. Therefore, clinicians should exercise clinical judgement and weigh the risk of cancer progression against the risk of severe COVID-19 infection following systemic anticancer treatment. Clinicians are also advised to regularly review recommendations from local and international organisations e.g. NICE regarding delivery of systemic anticancer treatments in the context of COVID-19.

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	symptoms? Will 2 PCR negative tests be adequate or antibody level is important too? Can impaired immunity by immunosuppresant like chemotherapy cause reactivation?	
198.	Can patients on ACE inhibitor for hypertesnion continue on the drug is they have COVID since ACE2 receptor is involved in COVID-19?	Please refer to the Clinical Evidence Summaries if ACE inhibitors and angiotensin II receptor blockers should be stopped for COVID-19.
VI. Discharge Criteria		
71	What are the various quarantine discharge criteria for clinically & radiologically well PERSISTENT SHEDDERS?	Please refer to the MOH Circular 138/2020, released on 29 May 2020, on the revised discharged criteria for COVID-19 patients.
79	what the criteria for discharge of a COVID19 positive patient is and what would be the advise for these people who are discharged and how should they be managed in the community especially with regards to healthcare	
215	In Australia (and other countries), patients who are COVID positive with mild symptoms are managed at home and are considered to be non infectious 10 days after onset of illness or 72 hours after resolution of symptoms and are not tested for PCR unless high risk (healthcare workers). The data presented from Singapore earlier suggested that only a small number would actually test	

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	negative, yet these patients in Australia do not seem to be infecting others. Given our large numbers in Community isolation is there any move to change the recovery criteria to include clinical criteria as well?	
271	I believe we are now seeing local patients who were discharged after 2 negative swabs and subsequently tested positive again? Is there a need to review our discharge criteria?	Please refer to Position Statement from the National Centre for Infectious Diseases and the Chapter of Infectious Disease Physicians, Academy of Medicine, Singapore.
VII. Reinfection and Relapse		
2	Among those patients who have recovered in Sg, did any become ill again later?	To date, there have been no reported cases of reinfection from COVID-19 recovered patients in Singapore.
185	Thanks for update. What is our strategy to detect reactivation of covid infection for patients who have recovered as cases of reactivation have been reported overseas?	Recent reports have clarified that the cases of reactivation or reinfection initially reported were in fact due to PCR re-detection of prolonged shedding of non-viable virus MOH will continue to monitor as more data emerges.
218	"Are patients who have recovered from COVID 19 infection, considered to be immune to further infection ? If such a patient now present with new ARI symptoms, perhaps from other virus, how should we manage them? No need to swab them? No need to give 5 days MC?"	Please refer to the MOH Circular 140/2020, released on 1 June 2020, that provided guidance on the evaluation of patients with history of COVID-19 infection who present with respiratory symptoms.
78	As we go into the 4th mth since this started, I am sure many GP's are seeing patients who had recovered	

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	from covid in Jan/Feb. Should they present with flu like symptoms again to the GPs now, what is the likelihood that this can be a reactivation or should we just presume that it is non covid ARI? Is there a need to refer the patient back to NCID for assessment?	
332	What do we do with recovered covid patients that reappear with URTI symptoms and fever? Do we still define them based on existing suspect case definitions and subsequent management?	
305	If there are 3 strains of the virus, does recovery confer immunity to all 3 strains?	There is a lot of international discussions at this point in time. There are multiple different claims currently being reported all around the world but there is no significant change in the strain types that would make the virus different in terms of its characteristics. A little bit of amino acid and nucleotides side of changes could be picked up by the current sequencing method, but it has not translated into any conclusion. There is no clinical indication if there are any clinical phenotype changes so far.
313	Is there a possibility of a recovered Covid-19 patient developing a new infection from one of the other "variants" of the Covid-19 virus when international air travel is resumed?	
VIII. Conveyance of Cases		
111.	- Is there also any plan to ramp up the transport resources for our infected patients? They will need to be transported to appropriate healthcare facilities and our ambulances have been overwhelmed.	To complement existing ambulance services, some drivers from Grab, ComfortDelgro as well as a subsidiary transport operator SMRT have been roped in to help convey suspect cases of COVID-19 to hospitals. These drivers have been trained by SCDF in PPE and decontamination procedures to convey suspected as well as positive COVID-19 patients. In addition, all the ambulance operators supporting the transport of COVID-19 patients are now operating 24/7 as well, which has further increased availability.
IX. Vaccines and Treatment		
272	What should recovering a patient do if his PCR swab continue to be +ve even	There is currently no evidence of any specific anti-viral treatment for COVID-19.

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	after 45 days ? Can a local nasal antiviral spray help?	
310	Has there been any study on aerosol drug treatment ?	There is no known effective treatment for COVID-19 at this moment.
17	Vaccination- how early vaccine is going to be available? WHO said it takes 1.5 year (to be ready by July 21)– but many countries preparing it and recruiting human volunteers by now. What kind of vaccines (live attenuated, similar non-pathogenic strains? etc) are likely to be more effective? Can it be combined with Flu vaccine?(like H1N1)	The development of vaccines for any novel disease requires a long process. Based on current estimates, this may range from about 6 to 18 months. This encompasses broadly 3 stages: i. Firstly, proper trials need to be conducted to determine the safety of the vaccine as it gives rise to issues such as antibody development enhancements if a person contracts COVID-19 or gets exposed to COVID-19 after receiving the vaccine. ii. Secondly, trials will also need to be conducted to determine the efficacy of the vaccine. iii. And lastly, the manufacturing capability will also need to be considered to ensure that sufficient vaccine is available for the world's population. However, based on current assessment, existing manufacturing capability using current technology is not sufficient to be scaled up rapidly to meet the world's demand. This is something that we are currently working with the various institutions, including NCID and NHG, as well as international partners to resolve.
263	when will the vaccine be developed?	
291	Any indication if a Covid 19 vaccination will be available and effective. If so when will be available. (Sinovac started on research on vaccination)	
X. Mask Wearing and PPE		
39	The Multi-ministry Task Force's 'Mask up when out' directive based on the latest scientific advice aim to reduce the transmission during this circuit breaker. Are there any recommendations to advise all the inpatients to mask up if tolerated when going for services in various premises? (Eg: from ward	The intention for members of public to wear masks when out of the home is to reduce the likelihood of transmission in the community from persons who are pre-symptomatic or asymptomatic, and to protect customer-facing essential workers. In the hospitals, visitors and outpatients are also requested to mask up as part of the general policy. However, it is less practical for inpatients to be wearing masks throughout the time when they are in the ward. In addition, there are other measures in place in the hospitals to mitigate the risk of infections, including testing of patients if they show respiratory symptoms and/or pneumonia. Such patients are also isolated or cohorted to prevent potential spread. Lastly, infection prevention and control (IPC) measures are in place, such as ensuring adequate distance between beds, adequate cleaning of the

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	to diagnostics radiology for US etc)	environment, and our healthcare workers are adequately protected with appropriate PPE during their duties.
124	"According to Multi-Ministry Taskforce's "mask up when out" directive based on the latest scientific advice to protect everyone during this circuit breaker. In inpatient setting, what will be your advice for inpatients entering various premises for services such as from ward to diagnostics radiology etc? Will you advise all inpatients to wear mask if tolerable (surgical mask or own mask depending on symptoms) when going for services in various premises during this circuit breaker periods? Thanks."	
166	Given high transmission rate n evidence of pre-symptomatic transmission, should donning of mask be encouraged for asymptomatic inpatients n not limiting masking to iso patients, staff n visitors?	
245	Our PPE gown is single layer and does not cover our necks unlike those used in China. Does it confer sufficient protection especially for those HCW working in higher risk areas like dorms?	The PPE used meet, and in some cases exceed, the WHO guidance on PPE requirements for COVID-19. Appropriate use of the PPE (including donning and doffing), combined with other prevailing infection prevention and control precautions, including hand hygiene compliance, should be adequate to prevent nosocomial transmission.
269	Could someone please comment on ophthalmology and ENT as specialties and PPE.These doctors are very close to	It is important to take precautions (e.g. wearing of PPE) to protect yourself but the most important measures to take irrespective of the setting are still hygiene practices (i.e. cleaning surfaces, washing hands and refraining from touching one's own face/mouth or those of patients).

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	their patients who may be asymptomatic. Should they wear N 95 for all patients (and eye protection), as so close to their patient's breath.	
340	For the high risk hcw who work in close proximity to patients ie ENT or Eye, would n95 be preferred over surgical face mask, given that there are asymptomatic carriers.	
333	Please advise us who are dentists treating patients in the future. Do you think we should be screening all patients before treatment, as our occupation is aerosol generating and close proximity	
336	Is there such a critical shortage of covid tests that we cannot test pre-operatively if a patient has COVID? Wouldn't it make more sense to know for sure?	Please refer to the position statement on surgical management in the COVID-19 pandemic issued by the College of Surgeons Singapore. All patients should be screened for symptoms of ARI, and procedures should be deferred if patients have ARI. For urgent procedures that cannot be delayed, additional precautions need to be taken for suspected or confirmed COVID-19 cases, including full PPE for all staff involved in the procedure.
265	(a) All surgical specialties have slashed their workloads to either reduce the strain in resources at their institution of practice (e.g. reduce post-op ICU admissions, free up general ward beds, divert manpower to areas of need, etc.) and to a lesser extent, reduce the risk of transmission to healthcare workers (e.g. anaesthetists, ENT surgeons are at particularly high risk of contracting the virus). There will undoubtedly be	

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	asymptomatic COViD-19 cases that will present as urgent or emergency cases that require surgery within a specific time frame that could range from within 24 to 72 hours (e.g. traumatic head injuries, open fractures, cauda equina, etc.), to within 2 weeks (e.g. urgent cases with cancer). Also, the gradual reduction in tight measures will occur at some point and work will be "back to usual". Should surgeons be employing various strategies to improve safety by screening patients prior to surgery (i.e. swabbing patients for COVID-19) and segregating patients into "clean", "dirty" wards?	
266.	(b) Surgeons in China have been employing this and apparently, they have reported nearly a zero cross infection rate of healthcare workers with this strategy. Which raised another related question: are there plans in place for the "subacute phase" and long-term precautions to prevent further outbreaks, especially within health care facilities? **Note:** There is an earlier related question posed. "(a) All surgical specialties have slashed their workloads to either reduce the strain in resources at their institution of practice	

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	(e.g. reduce post-op ICU admissions, free up general ward beds, divert manpower to areas of need, etc.) and to a lesser extent, reduce the risk of transmission to healthcare workers (e.g. anaesthetists, ENT surgeons are at particularly high risk of contracting the virus). There will undoubtedly be asymptomatic COViD-19 cases that will present as urgent or emergency cases that require surgery within a specific time frame that could range from within 24 to 72 hours (e.g. traumatic head injuries, open fractures, cauda equina, etc.), to within 2 weeks (e.g. urgent cases with cancer). Also, the gradual reduction in tight measures will occur at some point and work will be "back to usual". Should surgeons be employing various strategies to improve safety by screening patients prior to surgery (i.e. swabbing patients for COVID-19) and segregating patients into "clean", "dirty" wards?"	
XI. Community Isolation Facilities		
86	What is the capacity of the CIF and if there is a potential of running out of space?	Please refer to the MOH Press Release on "Comprehensive Medical Strategy for COVID-19" that was issued on 28 April 2020. The Community Care Facility (CCF) has been rapidly increased, starting with about 500 beds at D'Resort NTUC to about 10,000 spaces currently, including at the Singapore EXPO and Changi Exhibition Centre. We are continuing to expand our CCFs, aiming to double their capacity to 20,000 beds by end-June.

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XII. Healthcare Manpower		
44	Is the manpower quota sent out by MTI applicable to clinics too? Some specialties (e.g. oncology) are unable to function safely with that kinds of staffing level.	Yes. Clinics who require more manpower should to submit an application to MTI to increase the quota
110.	"For our DMS: There seems to be restrictive measures being instituted by MTI regarding number of staff in a clinic. In medical oncology clinic, we need optimal number of staff to deliver our chemotherapy/immunotherapy for our cancer patients.. Why is this new ruling instituted from MTI?"	
188	healthCare Corps: how can Drs over 60 year old contribute?	In general, we would not deploy individuals who are above age 60, into high-risk areas. Potential deployments are not only to COVID-19 related operations, but can include working in other functions where there is reduced likelihood of direct contact with COVID-19 cases. Backroom functions may also be available, although in smaller numbers. Doctors may sign up via the relevant form on healthcarecorps.gov.sg and provide us additional information such as your preferences and availability, so that we can factor these in when planning for deployment options for individuals.
194.	"I understand that GPs who are fully registered but hold an EP can only volunteer at non-profit organisations - as per MOM and SMC- so this means volunteering with NUHS or other health organisations in the front line is not possible. Will these restrictions temporarily be lifted so allow such GPs to be able to volunteer? Alternatively how can such GPs offer their help?"	To allow greater flexibility to deploy manpower into new areas of need for the fight against COVID-19 outbreak (see Guidelines Governing Cross-Institutional Movement for details): ➢ Private sector specialists will be allowed to work in another inpatient site in the Public Healthcare Institutions (PHIs), non-acute hospital facility managing COVID transfers or to RHS-led/private COVID medical and swab teams on top of their existing inpatient site in private hospitals and allowed 2 outpatient sites; ➢ GP locums can be allowed to include one PHI, a non-acute hospital facility managing COVID transfers or RHS-led/private COVID medical or swab team as one of their two allowed secondary places of practice. Patient safety remains the Ministry's top priority and we are working with PHIs to put in place Infection Control Protocols to minimise the chances of cross-infections across sites. A circular has been issued to inform impacted healthcare professionals of the changes.

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		Professionals who are interested to step forward should apply to join in the fight against COVID-19, as there are a range of roles at various locations that interested doctors can support in. Applicants can also indicate whether they are available to support on full-time, part-time, or flexi-work basis. The Corps will match enlistees based on their preferences, availability, and needs across institutions. Guidelines Governing Cross-Institutional Movement  Guidelines Governing Cross-Institutional Mo
XIII. Nursing Homes		
103	Is there any surveillance system in place for nursing homes? We seem to be starting to see more cases there (e.g. KWSH & SWAMI), will cases there be managed in place or sent to acute hospital for management?	As announced in MOH's press release on 2 May 2020 regarding the additional COVID-19 support measures for all homes serving the elderly, MOH will be prioritising surveillance testing for residents and staff in all nursing homes. This will ensure that any COVID-19 infections in the Homes are detected as early as possible for treatment, as well as to limit transmission. Current practice is that residents who have been confirmed will be sent to hospital.
109	"1. Looking at the FW dorm experience, another congregated facility would be Nursing Homes. There are also increasing reports of HCW in NH being infected. What is the National strategy for Nursing homes as vulnerable older adults? 2. In addition, most older adults show atypical symptoms (even for pneumonia) or aphasic (unable to communicate), there would be difficulty to screen Nursing homes based on symptoms or ILI illness. Are there clinical and policy considerations for this group of the population?"	Nursing Homes have been implementing precautionary measures since January 2020 to reduce the transmission of COVID-19 among NH residents who are a vulnerable group. Such measures include implementing spilt team arrangements, visitor restrictions and ensuring that NH maintain good infection control practices. We have also required care facilities to maintain safe distancing (e.g. during meal times). Every provider has also stepped up on infection control and cleaning measures. Staff and residents with respiratory symptoms/fever would also be tested for COVID-19. In addition, as announced in MOH's press release on 2 May 2020 regarding the additional COVID-19 support measures for all homes serving the elderly, MOH will be prioritising surveillance testing for residents and staff in all nursing homes. This will ensure that any COVID-19 infections in the Homes are detected as early as possible for treatment, as well as to limit transmission.

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XIV. National Electronic Health Record (NEHR)		
132	Can we have a centralised system for private labs to upload their COVID swab results so hospitals can have access to them eg. NEHR? currently some dorm workers who have been swabbed show up at hospitals claiming they are positive but do not have proof. Hospitals have to call MOH to check the result/reswab. Can we mandate private labs to put the results in NEHR/get them to print a copy of the results for the patient so the hospital does not have to keep calling MOH (which is a waste of the hospital's time)?	Currently, all laboratories are required to flow their results to NEHR. We are mindful that some laboratories are unable to port their results to NEHR. They are working with IHIS to flow their results into NEHR.
XV. Foreign Workers		
80	Are the FW - positive cases swabbed before they are sent back to dorms ?	Foreign workers who have tested positive for COVID-19 will be discharged upon fulfilling the prevailing discharge criteria, which may involve further swab-testing in certain circumstances.
142	may i know what is the provision for covid positive FWs who had two negative swabs, went back dorm, and then turn positive again subsequently?	Foreign workers who test positive again after discharge will be admitted to the appropriate facility as determined by level of care required, and will be flagged up for further evaluation e.g. to determine if these foreign workers are indeed actively shedding viable virus. Necessary public health follow-up action would apply based on the assessment.
107	Dr Kenneth Mak, Thank you for the presentation. I understand the difficulty faced in isolating the huge numbers of FW . Thank you all for the hard work . Are you able to tell us how are they segregated if they are well. How can they have safe distancing when there are 12-20 people per room?	The Interagency Task Force has worked with dormitory operators to transfer migrant workers working in essential services to alternative living areas, to allow them to continue to travel daily to work. Occupancy density within dormitories have also been reduced following the decanting of presumed well foreign workers to various temporary dormitories. This reduces the risk of transmission by limiting the number of workers per room to a maximum of 10. Additionally, safe distancing measures are enforced to further reduce the risk of transmission, including:

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		- Restricting movement of foreign workers between sectors and prohibiting congregation in common areas; - Reducing mingling between foreign workers of different rooms by staggering timings for meals, toileting, and showering; Enforcing use of face masks by foreign workers when they are out of their rooms and safe distancing of 1m between each other.
290	To Prof Mak: If a foreign worker in dormitory is confirmed positive, do his other room mates automatically get swabbed, regardless of symptoms?	Contact tracing is performed to identify close contacts. In dormitories with large numbers of positive cases and categorised as high risk sites, follow up action may involve swab-testing of persons determined to be at high risk of COVID-19 infection. In other dormitories with few isolated cases, roommates of the foreign worker who tested positive will be immediately put into isolation and closely monitored for fever or respiratory symptoms. They may be referred for further evaluation which may include swab-testing when they develop symptoms within the period of isolation.
XVI. Other Areas		
295	Will dental clinics require negative pressure ventilation?	Virtually all dental clinics are not designed for or equipped to provide negative pressure ventilation. Dental practitioners have been advised to only attend to patients who are well and not meeting the prevailing suspect case criteria. Urgent/emergency dental care for high-risk and suspect patients should be carried out at the national dental centres, which are equipped with negative pressure isolation rooms.
335	is there a plan to preserve essential hospital services as the number of Covid infections increase?	On 6th April, following the announcement of the circuit breaker period, MOH had informed all licensed healthcare institutions to only continue provision of essential services and COVID-related operations and defer clinical services which are triaged as non-essential. In the next few weeks following the end of the Circuit Breaker Period on 1 June, the resumption of more healthcare services will be calibrated according to the tiered framework based on the prevailing community transmission risk of COVID-19. This resumption of services is proposed to take place over 2 phases: a. From 19 May 2020 onwards, for services that cannot be further deferred for >2 weeks, or where continued suspension will lead to adverse outcomes; b. Following end of extended Circuit Breaker period (exact date to be publicly announced), for other necessary services that cannot be deferred for >4 weeks. And it must be carefully balanced with the need to set aside sufficient capacity and manpower to cover ongoing COVID-19 operations. As a guidance to healthcare institutions, examples of services that can be considered for resumption were listed in MOH Circular 129.

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		However, we have also informed healthcare institutions that the list of services mentioned in the circular is not exhaustive and the decision of whether to resume the healthcare services should be based on these broad guiding principles: 1) Triage based on medical necessity and time-sensitivity (i.e. essential and semi-urgent procedures/services and emergency conditions should continue to be prioritized) 2) Continue measures to conserve capacity and provide care safely (i.e. continue to offer alternative means of consultation and treatment, continue to defer non-essential procedures that can still be safely deferred) 3) Maintain sufficient hospital bed/manpower capacity readiness (to balance with the COVID-19 related surge needs planning)
28	Please could DMS share what are the strategies being employed to prevent and contain any COVID spread into other institutions eg prisons, psychiatric institutions etc.	The government is paying special attention to groups that are housed in congregated/ institutional settings, and has been advising facility operators to step up their infection prevention and control measures. We are also advising facility operators on management plans should any COVID-19 cases/clusters arise in their facilities.
285	Taiwan has managed to keep their infected numbers relatively lower than other countries and hence avoid a substantial lockdown. Is there practices that we may learn from them?	Countries and regions such as Hong Kong, South Korea and Taiwan have reported varying levels of success in containing local transmission early on in their COVID-19 outbreaks. This was largely accomplished by putting into place evidence-based, best practices in containing the spread through calibrated border controls, aggressive testing and screening of contacts, strict quarantine rules, and safe distancing measures. Learning from its experience with SARS, these countries have also put in place outbreak preparedness plans and enhanced national capabilities. These measures are also what the WHO firmly advocates to curb the spread of any infection outbreak, which Singapore has similarly adopted. Singapore is learning from the experiences of other countries. For instance, Taiwan is using technology and big data analytics as part of its strategy. We are also increasingly tapping on this same resource as we link data from various government agencies to predict infection importation or forecast healthcare utilisation rates so that we can plan ahead. We are harnessing the power of social media to educate the public and dispel misconceptions. We have developed a mobile app “TraceTogether” to facilitate the identification of close contacts based on the proximity and duration of encounters between app users.