

Health Risk Assessment (HRA) Related to Infection Transmission in Events and Gatherings

Novel Coronavirus (COVID-19)

Risk assessment Method:

The health risks related to outbreaks of infectious diseases are assessed during human gatherings by a team of experts from the Global Center for Mass Gathering Medicine (GCMGM) and the Saudi Center for Disease Prevention and Control (Weqaya). The health risk assessment (HRA) is carried out by using 'Salem Tool', developed by GCMGM.

To assess the risk of transmission during events and gatherings, the following three questions must be answered:

- How high is the risk of transmission, based on the epidemiological information available at the time of the assessment?
- What are the special health capabilities available for addressing infectious diseases in and around the event location?
- What is the kind of the event for which risks are assessed: in terms of location, and audience size and category?

* This tool is subject to continuous review and modification, based on the information available on COVID-19.

First: How high is the risk of transmission based on the epidemiological information available at the time of the assessment?

HRA is conducted accurately and continuously, based on the epidemiological situation of the disease. The assessment is based on the updated information from MOH, the Saudi Center for Disease Prevention and Control (Weqaya), the World Health Organization (WHO) and public health organizations in other countries. The assessment items shall be modified based on the updates of the disease.

S/N	Item	Description	Risk Assessment Scale	Score
1	Are there COVID-19 outbreaks in the event's region or neighbouring regions?	No cases in KSA	1	
		COVID-19 cases reported (without recurring secondary cases)	16	

		Recurring secondary cases exist in the Kingdom	32	
		Recurring secondary cases exist in a neighbouring region	64	
		Recurring secondary cases exist in the region	Postponing the event	
2	Are there individuals attending from countries where outbreaks took place (based on Weqaya's HRA)?	Risk level 1	1	
		Risk level 2	5	
		Risk level 3	10	
		Risk level 4	15	
		Risk level 5	20	
		Risk level 6	32	
3	Are there guests attending the event from countries KSA banned flights to?	No	1	
		Yes	8	

*Recurring secondary cases: the virus is transmitted from a person to another, and spreads across several communities.

Second: What are the available health capabilities?

S/N	Item	Description	Risk Assessment Scale	Score
1	Distance to nearest reference hospital	Less than 10km	1	
		10-50km	2	
		51-100km	4	
		More than 100km	8	
2	Time to reach the nearest reference	20 minutes or less	1	

	hospital (during rush hours)	21-40 minutes	2	
		41-60 minutes	4	
		61-120 minutes	8	
3	Readiness of nearest reference health facility to deal with outbreaks of infectious diseases.	Both isolation rooms and special ambulances are available.	1	
		Either isolation rooms or special ambulances are available.	8	
		No isolation rooms or ambulances are available.	16	
4	Are preventive measures taken to combat infection at the event?	Yes, entirely.	1	
		Yes, partially.	8	
		Not applied.	16	
5	Efficiency of epidemiological surveillance teams in the region	Strong	1	
		Partial	8	
		Limited	16	

Third: What is the type of the event for which the risks are assessed: in terms of location, and audience size and category?

S/N	Item	Description	Risk Assessment Scale	Score
1	Event type	- Poetry, cultural, and music events - Specialized exhibitions - Conferences and workshops	1	
		- Family-oriented events - Local sport events - School events	2	

		- Festivals and public exhibitions - Large sport events that attract fans' attention	4	
		- Crowded, enthusiastic concerts - Major sport events, such as finals and international competitions - Multiple activity events (season)	6	
		International event receiving great attention	8	
2	Size of audience expected to be present at the same time	Less than 1,000	1	
		1,000-5,000	4	
		5,001-10,000	8	
		10,001-50,000	16	
		50,001-100,000	24	
		More than 100,000	32	
3	Audience type	Families	1	
		- Fans of sport clubs - Community support groups	4	
		Artists and international visitors	8	
		VIPs	16	
4	Age group	14-60 years	1	
		Less than 14 years	4	
		More than 60 years	8	
5	Event location	Outdoor – open area	1	
		Outdoors – restricted (walled) area	2	
		Indoors – spacious area, large doors	4	

		Indoors – small areas and doors	8	
6	Event duration	Less than 1 hour	1	
		1-4 hours	2	
		4-8 hours	4	
		8-12 hours	6	
		12-24 hours	8	
7	Number of event days	One day	1	
		2-3 days	2	
		4 days – 1 week	4	
		More than 1 week, up to 1 month	6	
		More than 1 month	8	

Total Score	
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Risk level	Total Score
Low	Less than 30
Medium	30-105
High	106-181
Severe	More than 181