

# COVID-19

## Logistics for preparedness

Rajdhani COVID-19 Hospital

# Every month, frontline health responders around the world need these supplies (and more) to protect themselves and others from #COVID19

- 89 million masks
- 30 million gowns
- 1.59 million goggles
- 76 million gloves
- 2.9 million liters hand sanitizer



#COVID19  
#coronavirus



World Health  
Organization

# Plan for Rajdhani Corona Hospital SGPGI



- 80 Ventilator beds

- 130 Isolation beds

**Total = 210**

- Can be a 2 phase activation

- **Phase 1:** 40 Ventilator beds + 60 Isolation beds

- **Phase 2:** 40 Ventilator beds + 70 Isolation beds

- Although it can be planned as a phased manner, **equipment and manpower preparedness will run and be executed concurrently for both phases, so that no shortfalls happen**

# Requirements



## 1. Manpower

- Doctors
- Nurses
- Attendants
- Safai workers
- Physiotherapists
- X-ray technicians

## 2. Equipment

## Suggested HCWs for 40 ventilator beds, upgradable to 80

HCW	Per Bed Allocation	Total per shift	4 hour Shift	Daily need @ 40 beds	Daily need @ 80 beds
Doctors	1:10	4	Yes	4 x 6=24	48 (8x6)
Nurses	1:3	13	Yes	13x6=78	156 (26x6)
Attendants	1:5	8	Yes	8 x 6=48	96 (16x6)
Safai worker	1:8	5	Yes	5 x 6=30	60 (10x6)
				<b>Total=180</b>	<b>Total=360</b>
Physiotherapists	1 : 10	2 Morning shift of 4 hours 2 night Shift-4 hrs		4	8
X-ray tech	1: 10	2 Morning shift of 4 hours 2 night Shift-4 hrs		4	8
				<b>Total=188</b>	<b>Total=376</b>

# Suggested HCWs for 60 isolation beds, upgradable to 130

HCW	Per Bed Allocation	Total per shift	4 hour Shift	Daily need @ 60 beds	Daily need @ 130 beds
Doctors	1:20	3	Yes	3 x 6=18	36 (6x6)
Nurses	1:15	4	Yes	4 x 6=24	48 (8x6)
Attendants	1:15	4	Yes	4 x 6=24	48 (8x6)
Safai worker	1:15	4	Yes	4 x 6=24	48 (8x6)
				<b>Total=90</b>	<b>Total=180</b>
Physiotherapists	1:30	2 Morning shift of 4 hours 2 night Shift-4 hrs		4	8
X-ray tech		2 Morning shift of 4 hours 2 night Shift-4 hrs		4	8
				<b>Total=98</b>	<b>Total=196</b>

## Suggested **HCWs** for Miscellaneous Activities

HCW	Total per shift	6 hour Shift	Daily need
Doctors, Microbiology technicians at T3	3	Yes	3 x 4=12
Others (Consultants entering Corona ICUs)	1	Yes	4 x 4=16

# Suggested **HCWs** Miscellaneous

HCW	Total per shift	6 hour Shift	Daily need
One HCW in emergency requiring 2 <sup>nd</sup> PPE or PPE got torn or PPE wrongly donned so 2 <sup>nd</sup> PPE is required	05	yes	20



# Equipment/Medications

- N 95
- PPE
- Hydroxychloroquin Prophylaxis mandatory:

- 400 mg bd x Day 1
- 400 mg once a week x 7 weeks
- **Tablets needed (400 mg): 10 per person**

Asymptomatic HCW involved in care of suspected or confirmed cases

- 400 mg bd x Day 1
- 400 mg once a week x 3 weeks
- **Tablets needed (400 mg): 5 per person**

Asymptomatic household contacts of lab confirmed cases

- Quarantine facility

# Suggested equipment /Medicines need for HCW manning ventilator beds

HCW	Daily need @ 40 beds	Daily need @ 80 beds
Doctors	24	48
Nurses	78	156
Attendants	48	96
Safai worker	30	60
	<b>Total=188</b>	<b>Total=376</b>
<b>N 95</b>	<b>188</b>	<b>376</b>
<b>PPE</b>	<b>188</b>	<b>376</b>
<b>Prophylaxis tablets</b>	<b>2000 appx</b>	<b>4000 total</b>
<b>Quarantine facility</b>	<b>188 rooms with washroom</b>	<b>376 rooms with washroom</b>

# Suggested equipment need for HCW manning isolation beds



	Daily need @ 60 beds	Daily need @ 130 beds
Doctors	18	36
Nurses	24	48
Attendants	24	48
Safai worker	24	48
	<b>Total=98</b>	<b>Total=196</b>
<b>N 95</b>	<b>98</b>	<b>196</b>
<b>PPE</b>	<b>98</b>	<b>196</b>
<b>Prophylaxis tablets</b>	<b>1000 approx.</b>	<b>2000 approx.</b>
<b>Quarantine facility</b>	<b>98 rooms with washroom</b>	<b>196 rooms with washroom</b>

# Transport logistics



- For transfer from RCC to quarantine facility and back
  - **Bus 1 and Bus 2** (Bus 2 will come into operation once we have 80 ventilator beds) earmarked for **Ventilator bed HCW**
  - **Bus 3** earmarked for **Isolation bed HCW**
- Buses to be **equipped with sanitizer/hand wash**
- Will be **cleaned and disinfected daily**
- Quarantine center: **equipped with food/water and cleaning/laundry facilities**

# Suggested **transport schedule** for HCW of ventilator beds

HCW	Total per shift @ 40 beds	Total per shift @ 80 beds
Doctors	4	8
Nurses	13	26
Attendants	8	16
Safai worker	5	10
	<b>30 per shift</b>	<b>60 per shift</b>
	<b>1 bus</b> 12 trips @ 6 shifts/day	<b>2 buses</b> 12 trips @ 6 shifts/day
	<b>Driver shift: 2/day (12 hrly)</b>	<b>Driver shift: 2/day (12 hrly)</b>
	<b>For driver: N 95: 2/day</b>	<b>For driver: N 95:4/day (2 buses)</b>

# Suggested transport schedule for HCW of isolation beds

HCW	Total per shift @ 60 beds	Total per shift @ 130 beds
Doctors	3	6
Nurses	4	8
Attendants	4	8
Safai worker	4	8
	<b>15 per shift</b>	<b>30 per shift</b>
	1 bus 12 trips @ 6 shifts/day	1 bus 12 trips @ 6 shifts/day
	Driver shift: 2/day (12 hrly)	Driver shift: 2/day (12 hrly)
	For driver: N 95: 2/day	For driver: N 95: 2/day

# Summary

- **Ventilator beds @ 40 (4 Hour Shift)**
    - Doctors 24, Nurses 78, Attendants 48, Safai worker 30, **Total = 188**
    - **188 N95, 188 PPE/day**, For Bus drivers: **Add 2 N95**
  - **Isolation beds @ 60 (4 Hour Shift)**
    - Doctors 18, Nurses 24, Attendants 24, Safai worker 24, **Total = 98**
    - **98 N 95, 98 PPE/day**, For Bus driver: **Add 2 N95**
  - **Projected Weekly usage of N 95 and PPE: 2000 appx**
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- For Ventilator beds @ 80: **376 N 95, 376 PPE/day**, For Bus drivers: **Add 4 N 95**
  - For Isolation beds @ 130: **196 N 95, 196 PPE/day**, For Bus drivers: **Add 2 N 95**
  - **Projected Weekly usage of N 95 and PPE: 4000 appx**

# Requirements for **ventilator** beds

Requirements	1 ventilator bed	40 ventilator beds	80 ventilator beds
Ventilator	1	40	80
Multichannel monitor	1	40	80
Motorized bed	1	40	80
Infusion pumps	6	240	480
Central oxygen supply for each bed			
Central suction for each bed			
Patient Drawers	1	40	80
IV infusion racks	1	40	80
Iv rails	1	40	80
Patient Flow chart trolley	1	40	80



# Requirements for Isolation beds

Requirements	1 isolation bed	60 isolation beds	120 Isolation beds
Multichannel monitor	1	60	120
Motorized bed	1	60	120
Infusion pumps	1	60	180
Central oxygen supply for each bed			
Central suction for each bed			
Drawers	1	60	120
Iv rails	1	60	120
Flow cart trolley	1	60	120

# Additional Equipment requirements

	For 40 ventilator beds	For 80 ventilator beds	For 60 isolation beds	For 120 isolation beds
Crash Carts	4	8	3	6
Defibrillators	2	4	2	3
Dialysis Machines	CRRT 2 SLEDD 4	CRRT 4 SLEDD 8		
ECG machines	2	4	2	4
Refrigerators 250 litres	8	16	4	8

# Triage areas (ref AIIMS)

- Projected usage of **triple layer masks for T1**
  - Appx 100 day
- Projected usage of **triple layer masks for T2**
  - Appx 150 day
- **Cleaners who clean T1/T2 should have**
  - Medical mask , Gown, Heavy duty gloves, Eye protection (if risk of splash from organic material or chemicals) and Boots or closed work shoes

**Thanks**