STATUS REPORT
OF COVID-19 IN HARYANA

(No. 5 / May 31st 2020)

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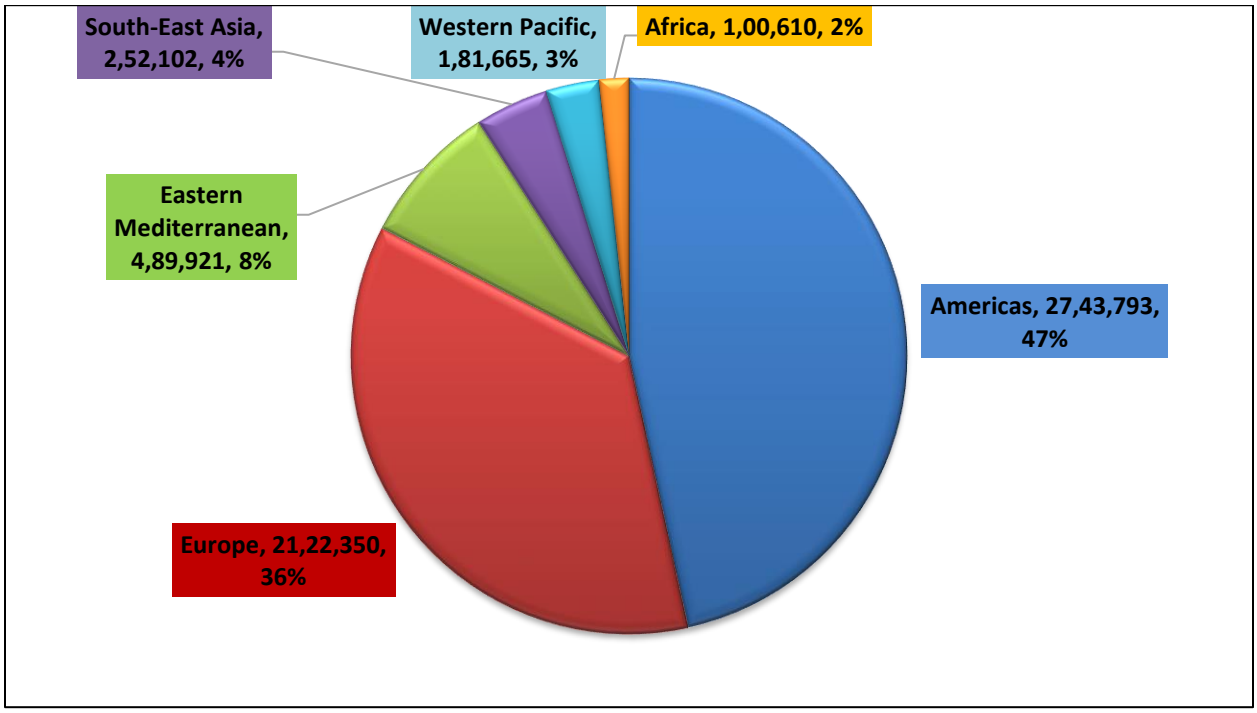
BACKGROUND: - Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Its first case was reported in China. On 31st December 2019, the World Health Organization (WHO) China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. On 7th January 2020, Chinese authorities identified a new strain of Coronavirus as the causative agent for the disease. The virus has been renamed by WHO as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and the disease caused by it as COVID-19. World Health Organization has assessed the risk for spread of this disease and declared the current novel coronavirus outbreak as a Public Health Emergency of International Concern (PHEIC) on 30th January, 2020. Further, on 11th March, 2020, WHO declared COVID-19 as a pandemic.

EPIDEMIOLOGY: - The etiologic agent responsible for current outbreak of SARSCoV-2 is a novel coronavirus is closely related to SARS-Coronavirus. This disease is an infectious disease, which mainly spreads by the viral load present in the respiratory droplets of infected persons. Current estimates of the incubation period of COVID range from 2-14 days. Most common symptoms include fever, fatigue, dry cough and breathing difficulty. Diagnosis is by demonstration of the virus in respiratory secretions by special molecular tests. The deaths reported are mainly among elderly population particularly those with co-morbidities. The case fatality rate is estimated to range from 2 to 3% (Singhal T.; 2020). The disease is rapidly spreading from its origin in Wuhan City of Hubei Province of China to the rest of the world.

GLOBAL STATUS OF COVID-19 CASES

According to WHO, on 31.05.2020, worldwide, a total 5,891,182 cases of this disease have been reported. Out of the 216 affected countries / areas / territories, the mostly affected countries were United States of America, Brazil, Russian Federation, The United Kingdom, Spain, Italy, Germany, India, Turkey, Peru, Iran, France, etc. The distribution of COVID-19 cases in WHO Regions, represent that Americas Region is having highest share followed by Europe Region, Eastern Mediterranean Region, South-East Asia Region, Western Pacific Region and Africa Region (Figure No.1).

Figure No. 1: WHO Region Wise distribution of COVID-19 Patients (as on 31.05.2020)



Source – World Health Organisation (WHO)

Figure No. 2: Number of Confirmed COVID-19 Cases, by Date of Report and WHO Region, 30.12.2019 through 30.05.2020

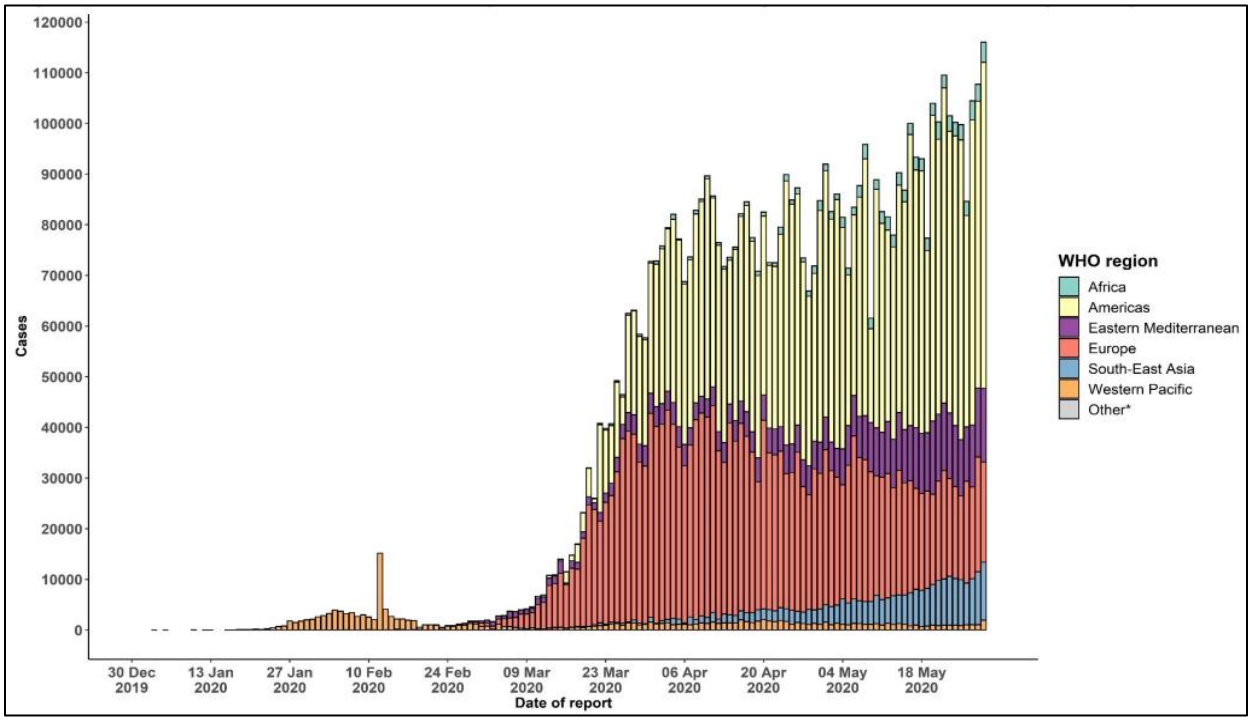


Figure Source – Situation Report, World Health Organisation (WHO)

On analyzing the Region wise trend of COVID-19 spread, it is estimated that the burden of this disease has been shifted to Americas and Europe Regions from South-East Asia Region. Further, the worldwide cumulative trends show that the number of patients of this disease are increasing day by day.

COVID-19 is also causing deaths worldwide. Since its inception, till 31.05.2020, total 365,966 deaths were reported by WHO. According to WHO, till 31.05.2020, highest deaths of COVID-19 patients occurred in United States of America followed by The United Kingdom, Italy, Spain, France, Brazil, Belgium, Mexico, Germany, Iran, Canada, Netherlands, etc.

STATUS OF COVID-19 CASES IN INDIA

India reported the first confirmed case of the coronavirus infection on 30.01.2020 in the state of Kerala. The affected had a travel history from Wuhan, China. No significant rise in cases was seen in the rest of February. On 04.03.2020, 22 new cases came to light, including those of an Italian tourist group with 14 infected members. The transmission escalated during March month, after several cases were reported all over the country, most of which were linked to people with a travel history to affected countries. Further, on 31.03.2020, a Tablighi Jamaat religious congregation event that took place in Delhi in early March month emerged as a new virus hotspot after numerous cases across the country were traced back to the event.

On 31.05.2020, total 182,143 cases were confirmed in India. As a consequence of this disease, deaths have been reported in India. The first death was reported on 12th March, 2020, a 76-year-old man who had returned from Saudi Arabia, became the first victim of the virus in the country. As on 31.05.2020, the death toll crossed to 5,164. However, on comparing the mortality percentage with International statistics, Indian scenario was observed comparatively better as represented in Table No. 1.

Table No. 1: Comparison of COVID-19 Cases and Deaths (as on 31.05.2020)

Variables	World	India
Total Cases	58,91,182	182143
Total Deaths	3,65,966	5164
Mortality (%)	6.21%	2.84%

Source – *World Health Organisation (WHO)&#Ministry of Health and Family Welfare (MOHFW)

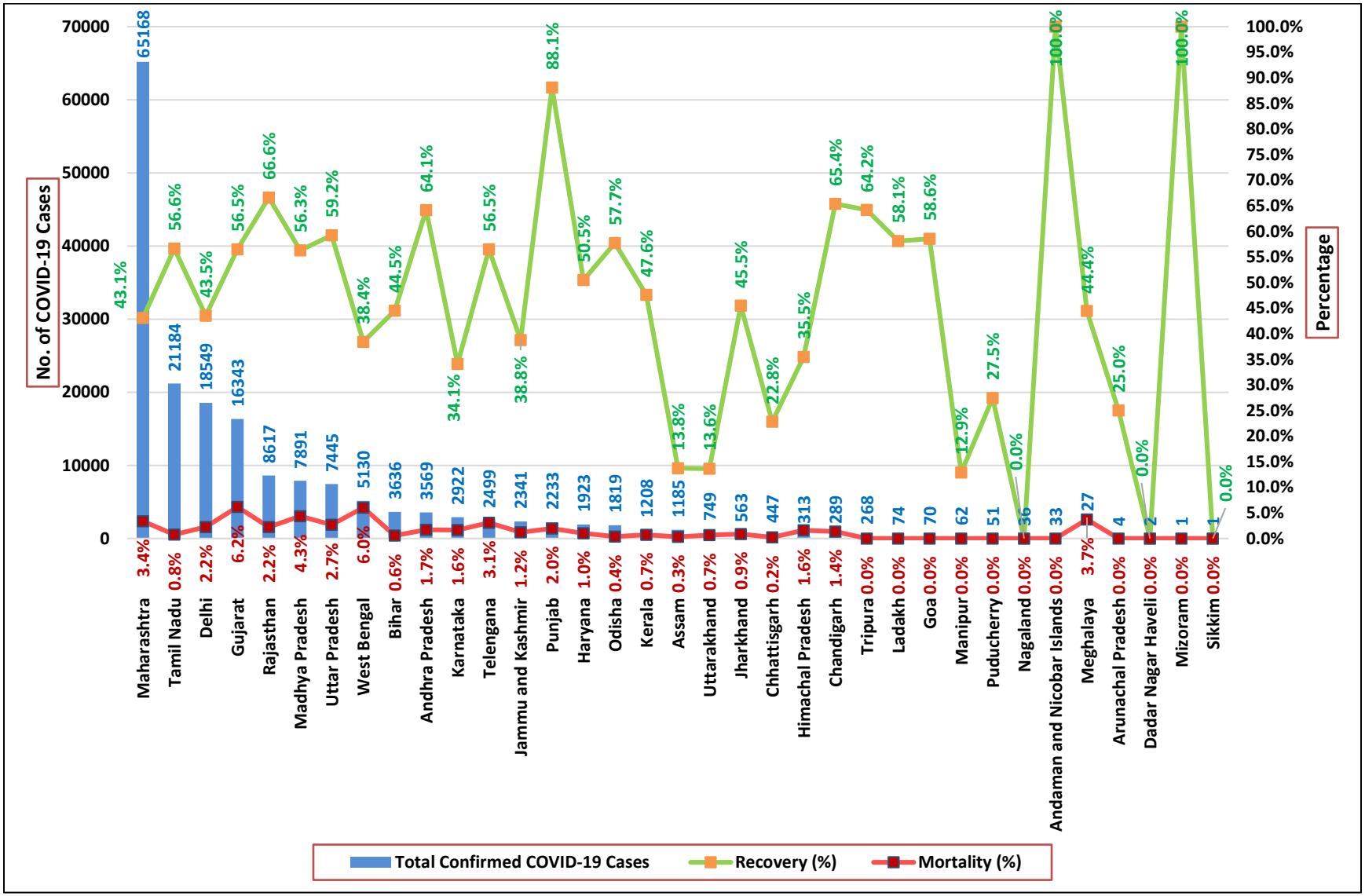
Table No. 2: State Wise Distribution of COVID-19 Cases & Death in India (as on 31.05.2020)

Name of State / UT	Population (As per census 2011)	Total Confirmed COVID-19 Cases	Cured / Discharged / Migrated	Deaths	Active Cases	Recovery (%)	Mortality (%)	Total Case Per Million Population	Active Case Load Per Million Population
Maharashtra	11,23,74,333	65168	28081	2197	34890	43.1%	3.4%	580	310
Tamil Nadu	7,21,47,030	21184	12000	160	9024	56.6%	0.8%	294	125
Delhi	1,67,87,941	18549	8075	416	10058	43.5%	2.2%	1105	599
Gujarat	6,04,39,692	16343	9230	1007	6106	56.5%	6.2%	270	101
Rajasthan	6,85,48,437	8617	5739	193	2685	66.6%	2.2%	126	39
Madhya Pradesh	7,26,26,809	7891	4444	343	3104	56.3%	4.3%	109	43
Uttar Pradesh	19,98,12,341	7445	4410	201	2834	59.2%	2.7%	37	14
West Bengal	9,12,76,115	5130	1970	309	2851	38.4%	6.0%	56	31
Bihar	10,40,99,452	3636	1618	20	1998	44.5%	0.6%	35	19
Andhra Pradesh	4,96,70,000	3569	2289	60	1220	64.1%	1.7%	72	25
Karnataka	6,10,95,297	2922	997	48	1877	34.1%	1.6%	48	31
Telengana	3,50,04,000	2499	1412	77	1010	56.5%	3.1%	71	29
Jammu and Kashmir	1,24,07,815	2341	908	28	1405	38.8%	1.2%	189	113
Punjab	2,77,43,338	2233	1967	44	222	88.1%	2.0%	80	8
Haryana	2,53,51,462	1923	971	20	932	50.5%	1.0%	76	37
Odisha	4,19,74,218	1819	1050	7	762	57.7%	0.4%	43	18
Kerala	3,34,06,061	1208	575	9	624	47.6%	0.7%	36	19
Assam	3,12,05,576	1185	163	4	1018	13.8%	0.3%	38	33
Uttarakhand	1,00,86,292	749	102	5	642	13.6%	0.7%	74	64
Jharkhand	3,29,88,134	563	256	5	302	45.5%	0.9%	17	9
Chhattisgarh	2,55,45,198	447	102	1	344	22.8%	0.2%	17	13
Himachal Pradesh	68,64,602	313	111	5	197	35.5%	1.6%	46	29
Chandigarh	10,55,450	289	189	4	96	65.4%	1.4%	274	91
Tripura	36,73,917	268	172	0	96	64.2%	0.0%	73	26
Ladakh	1,33,487	74	43	0	31	58.1%	0.0%	554	232
Goa	14,58,545	70	41	0	29	58.6%	0.0%	48	20
Manipur	28,55,794	62	8	0	54	12.9%	0.0%	22	19
Puducherry	12,47,953	51	14	0	37	27.5%	0.0%	41	30
Nagaland	19,78,502	36	0	0	36	0.0%	0.0%	18	18
Andaman and Nicobar Islands	3,80,581	33	33	0	0	100.0%	0.0%	87	0
Meghalaya	29,66,889	27	12	1	14	44.4%	3.7%	9	5
Arunachal Pradesh	13,83,727	4	1	0	3	25.0%	0.0%	3	2
Dadar Nagar Haveli	3,43,709	2	0	0	2	0.0%	0.0%	6	6
Mizoram	10,97,206	1	1	0	0	100.0%	0.0%	1	0
Sikkim	6,10,577	1	0	0	1	0.0%	0.0%	2	2
Cases Being Reassigned to States	NA	5491	0	0	5491	0.0%	0.0%	NA	NA
India	**1,21,06,40,480**	**182143**	**86984**	**5164**	**89995**	**47.8%**	**2.8%**	**150**	**74**

Source-MOHFW Link - https://www.mohfw.gov.in/ (Retrieved on 31.05.2020 at 3:20 PM)

The number of COVID-19 cases are increasing continuously since the inception of first case. On dated 31.05.2020, Maharashtra, Tamil Nadu, Delhi, Gujrat, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal, etc. were emerged as most affected states in India according to the MOHFW. COVID-19 cases related mortality pattern of Indian states shows that the states like Maharashtra, Gujrat, Delhi, Madhya Pradesh, West Bengal, Uttar Pradesh, Rajasthan, etc. had a large portion of deaths in India (Table No. 2).

Figure No. 3: State Wise Trend of Total COVID-19 Cases, Mortality (%) and Recovery (%) in India (as on 31.05.2020)



Source – MOHFW Link - https://www.mohfw.gov.in/ (Retrieved on 31.05.2020 at 3:20 PM)

STATUS OF COVID-19 CASES IN HARYANA

First case of COVID-19 was reported in Haryana on 17.03.2020. From the date of inception of COVID-19 case in Haryana, the numbers have been increased to 2091 on 31.05.2020. Out of these cases, 1048 have cured and 20 deaths were reported till 31.05.2020.

On date 31.05.2020, districts Gurugram, Faridabad, Sonepat, Jhajjar, Nuh, Panipat, Palwal and Ambala were sharing the major part of total COVID-19 cases in Haryana. The influence of Jamat related cases was the also contributing as major triggering factor in overall number of COVID-19 patients in some districts.

Figure No. 4: District Wise Distribution of COVID-19 Cases in Haryana (as on 31.05.2020)

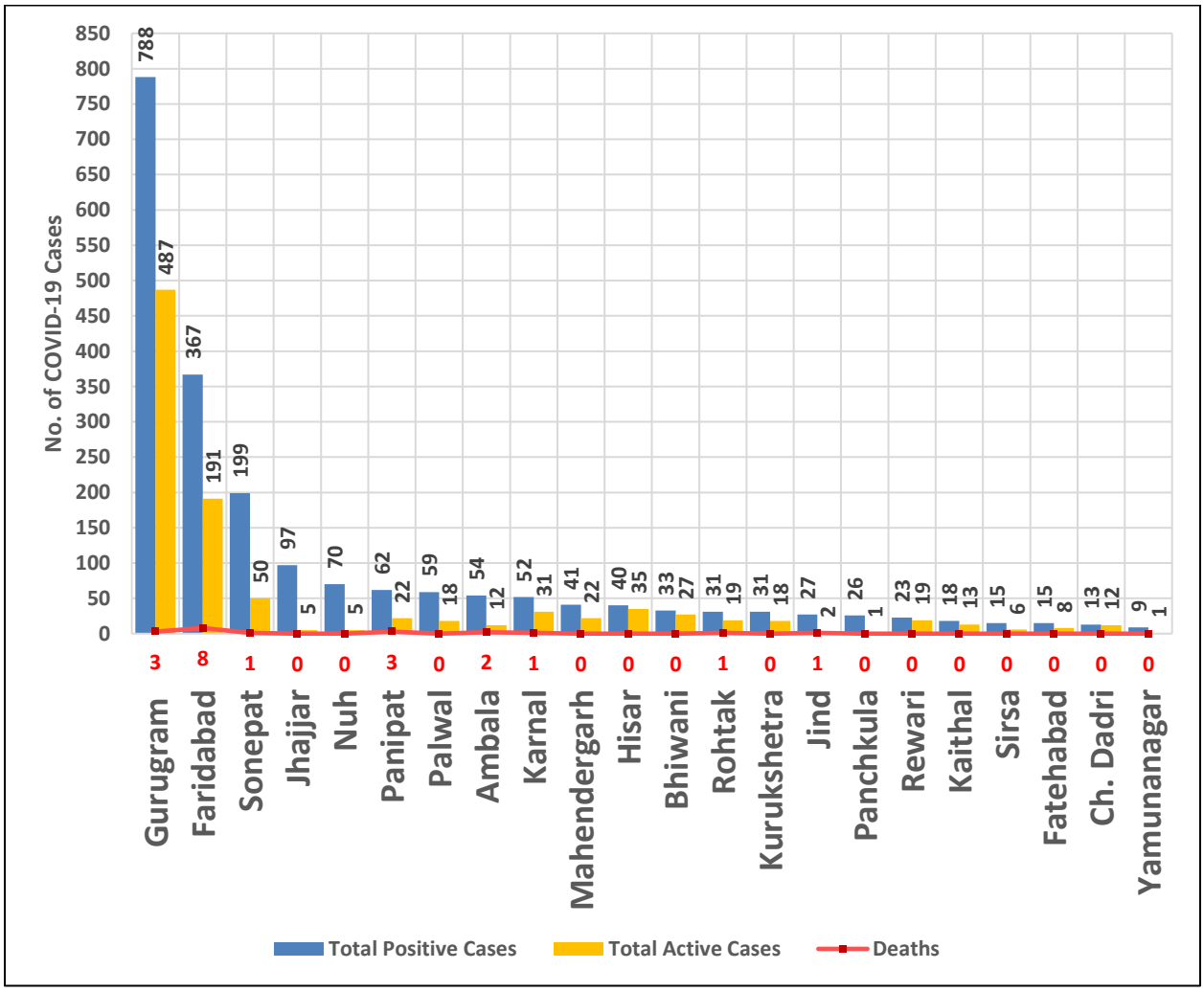


Figure No. 5: Distribution of Total COVID-19 Cases in the Districts of Haryana (as on 31.05.2020)

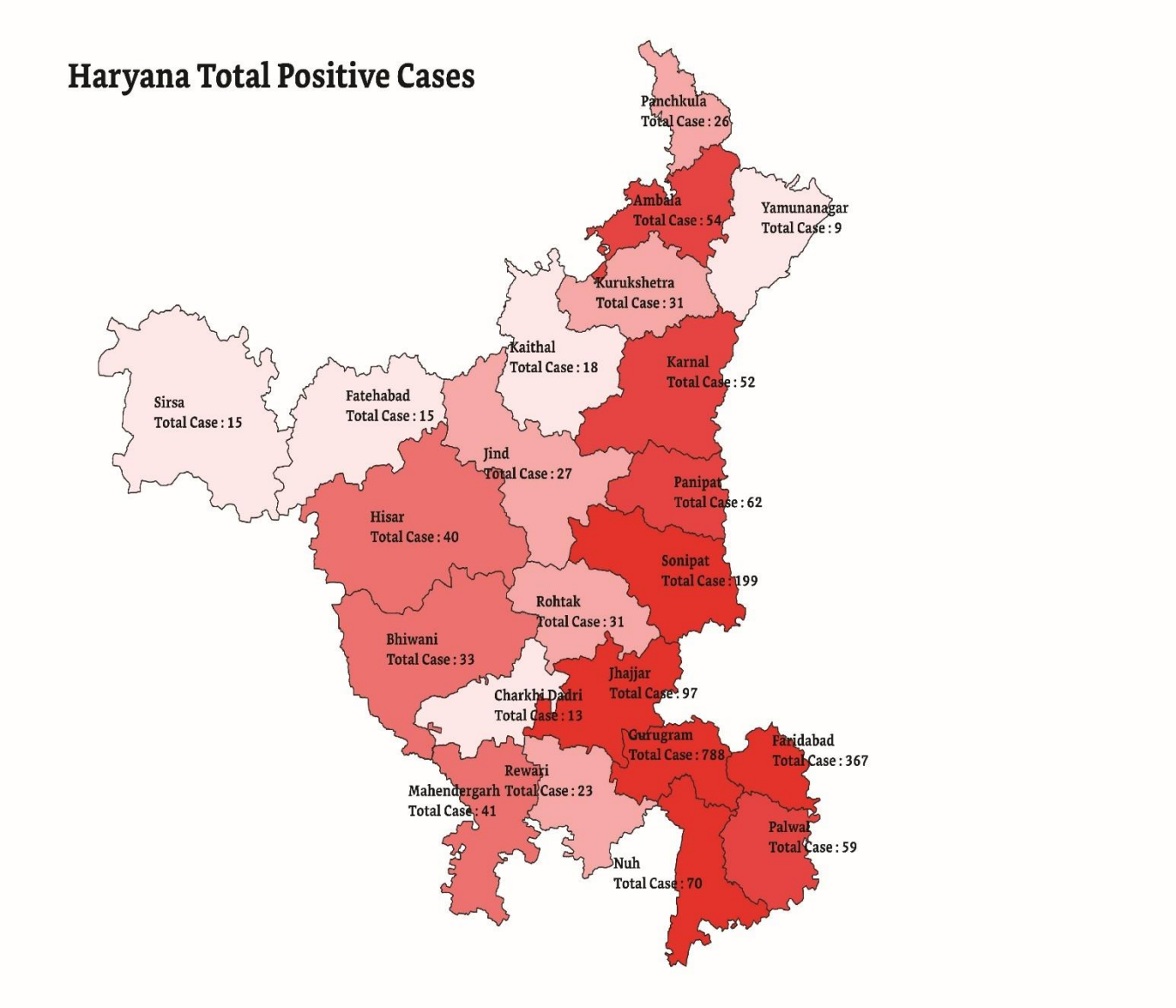


Figure No. 6: Distribution of Total Active COVID-19 Cases in the Districts of Haryana (as on 31.05.2020)

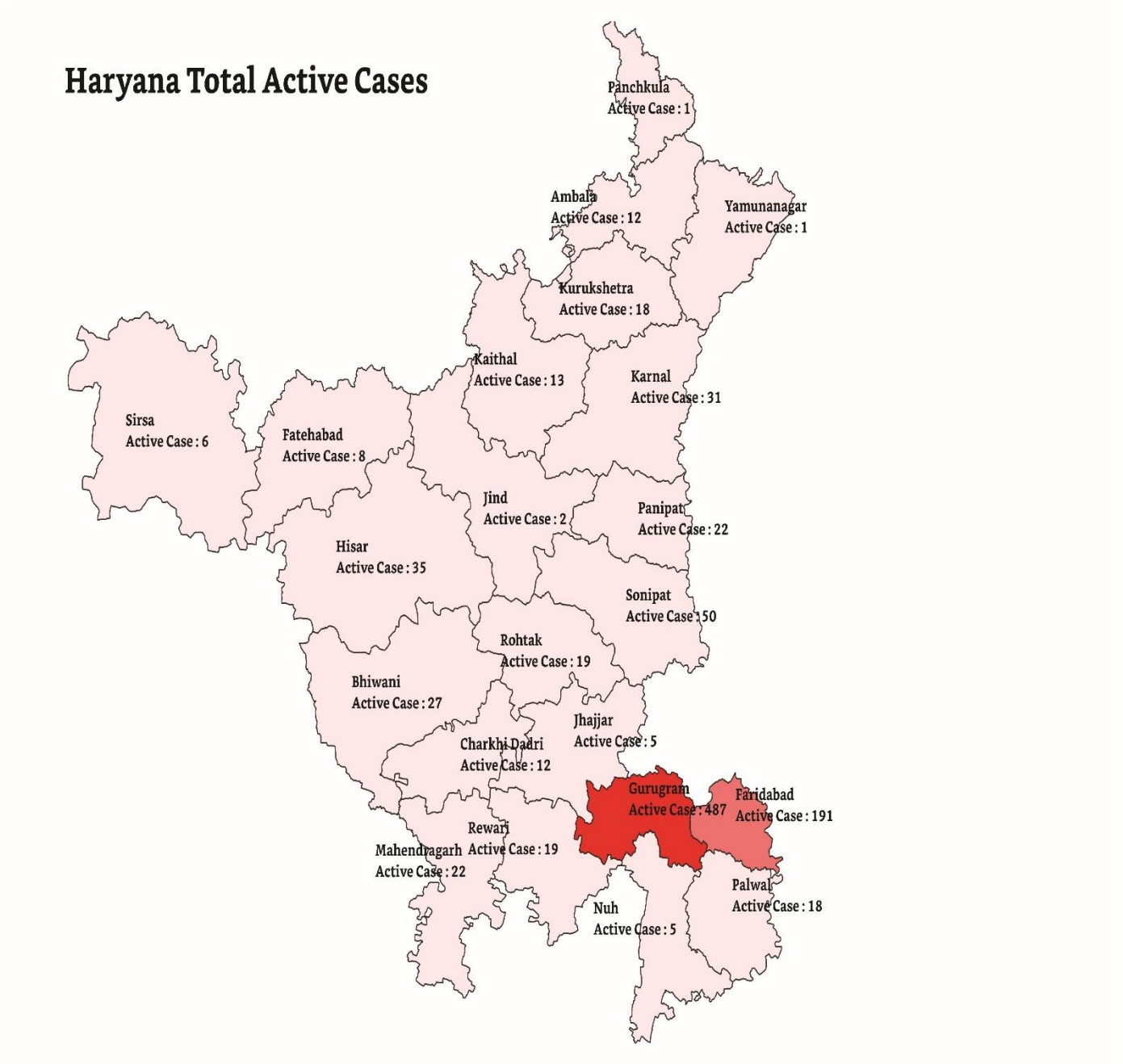


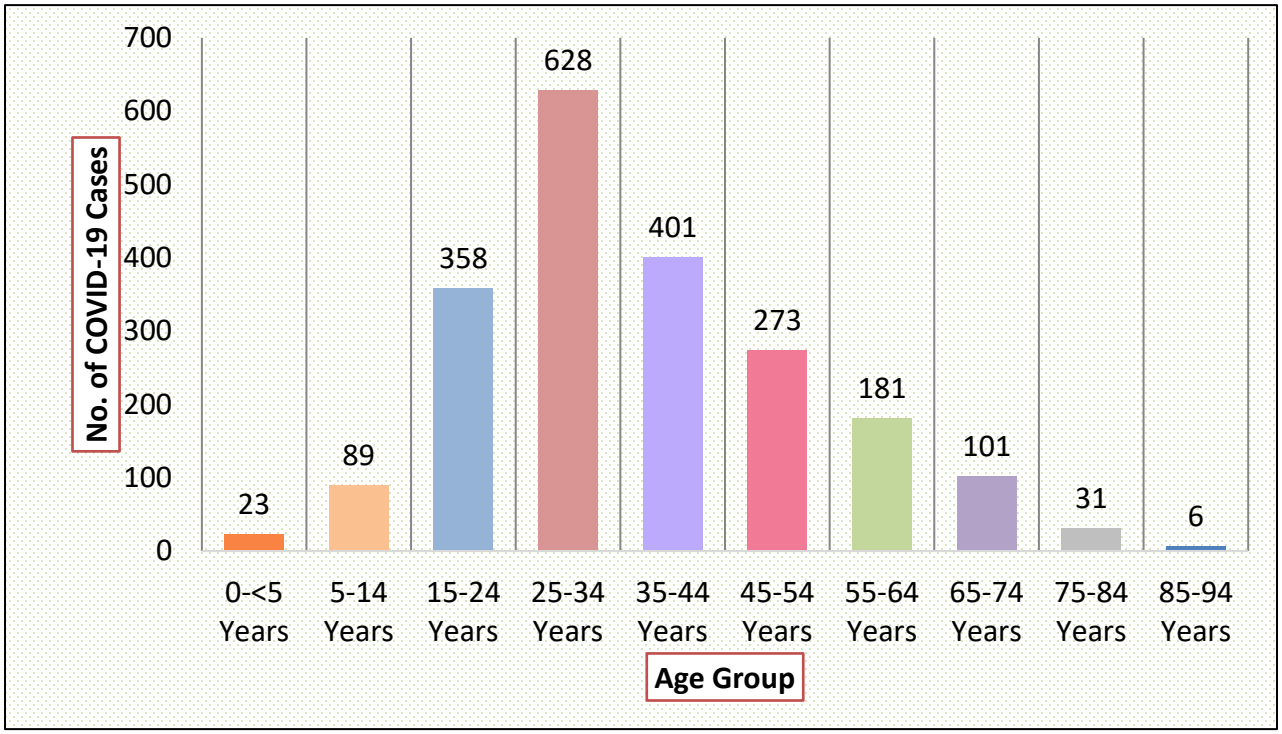
Table No. 3: District Wise Distribution of COVID-19 Cases in Haryana (N=2091) (as on 31.05.2020)

District	Population (Census 2011 & Website)	Total Positive Cases	Discharged / Cured	Deaths	Total Active Cases	Active Case Per Lakh Population	Mortality (%)	Recovery (%)	Positive Cases Per Lakh Population
Gurugram	15,14,432	788	298	3	487	32	0.4%	37.8%	52
Faridabad	18,09,733	367	168	8	191	11	2.2%	45.8%	20
Sonepat	14,50,001	199	148	1	50	3	0.5%	74.4%	14
Jhajjar	9,58,405	97	92	0	5	1	0.0%	94.8%	10
Nuh	10,89,263	70	65	0	5	0	0.0%	92.9%	6
Panipat	12,05,437	62	37	3	22	2	4.8%	59.7%	5
Palwal	10,42,708	59	41	0	18	2	0.0%	69.5%	6
Ambala	11,28,350	54	40	2	12	1	3.7%	74.1%	5
Karnal	15,05,324	52	20	1	31	2	1.9%	38.5%	3
Mahendergarh	9,22,088	41	19	0	22	2	0.0%	46.3%	4
Hisar	17,43,931	40	5	0	35	2	0.0%	12.5%	2
Bhiwani	11,98,085	33	6	0	27	2	0.0%	18.2%	3
Rohtak	10,61,204	31	11	1	19	2	3.2%	35.5%	3
Kurukshetra	9,64,655	31	13	0	18	2	0.0%	41.9%	3
Jind	13,34,152	27	24	1	2	0	3.7%	88.9%	2
Panchkula	5,61,293	26	25	0	1	0	0.0%	96.2%	5
Rewari	9,00,332	23	4	0	19	2	0.0%	17.4%	3
Kaithal	10,74,304	18	5	0	13	1	0.0%	27.8%	2
Sirsa	12,95,189	15	9	0	6	0	0.0%	60.0%	1
Fatehabad	9,42,011	15	7	0	8	1	0.0%	46.7%	2
Ch. Dadri	5,02,276	13	1	0	12	2	0.0%	7.7%	3
Yamunanagar	12,14,205	9	8	0	1	0	0.0%	88.9%	1
Foreign (USA) Returnee Haryana Citizens	NA	21	2	0	19	NA	0.0%	9.5%	NA
Haryana	**2,54,17,378**	**2091**	**1048**	**20**	**1023**	**4**	**1.0%**	**50.1%**	**8**

Table No. 4: Age Wise Distribution of COVID-19 Cases and Deaths in Haryana (as on 31.05.2020)

Age Group	No. of Cases	No. of Death	Mortality (%)
0-<5 Years	23	0	0.0%
5-14 Years	89	0	0.0%
15-24 Years	358	3	0.8%
25-34 Years	628	2	0.3%
35-44 Years	401	0	0.0%
45-54 Years	273	3	1.1%
55-64 Years	181	5	2.8%
65-74 Years	101	5	5.0%
75-84 Years	31	2	6.5%
85-94 Years	6	0	0.0%
Total	**2091**	**20**	1.0%

Figure No. 7: Age Wise Distribution of COVID-19 Cases in Haryana (N=2091) (as on 31.05.2020)



The age wise distribution of COVID-19 Cases in Haryana is given in the Figure No. 7. Highest number of the cases present in Haryana belongs to age group 25-34 years followed by age groups 35-44 years, 15-24 years, 45-54 years, 55-64 years, 65-74 years, 5-14 years, 75-84 years, 0-<5 and 85-94 years.

Figure No. 8: Age Wise Distribution of COVID-19 Deaths in Haryana (N=20) (as on 31.05.2020)

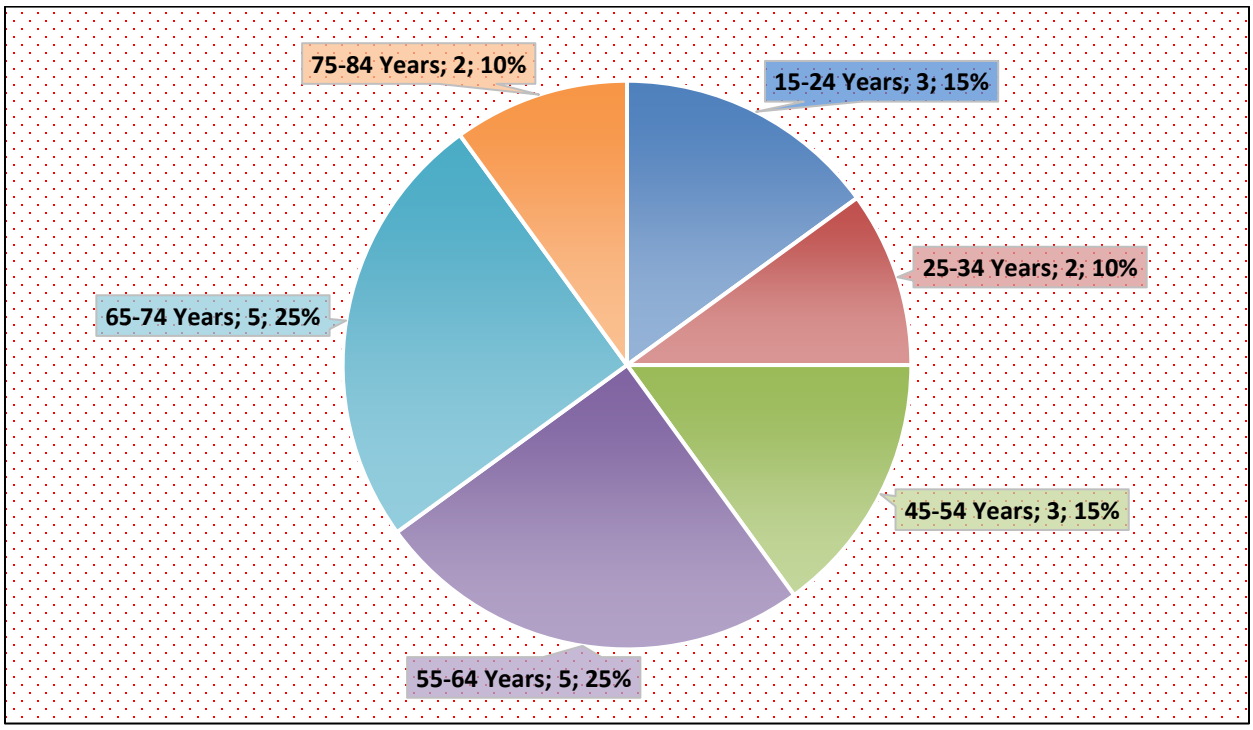


Figure No. 9: Gender Wise Distribution of COVID-19 Cumulative Cases in Haryana (N=2091)

(as on 31.05.2020)

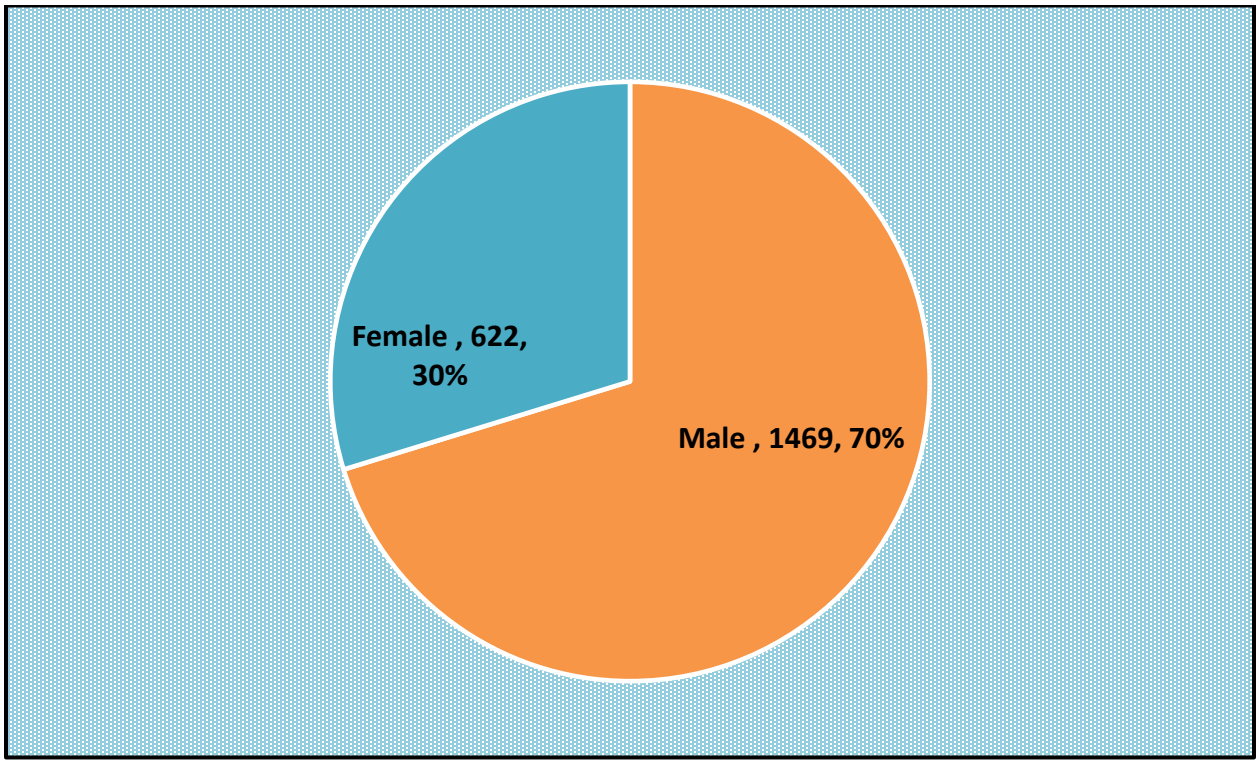


Figure No. 10: Gender Wise Distribution of COVID-19 Deaths in Haryana (N=20) (as on 31.05.2020)

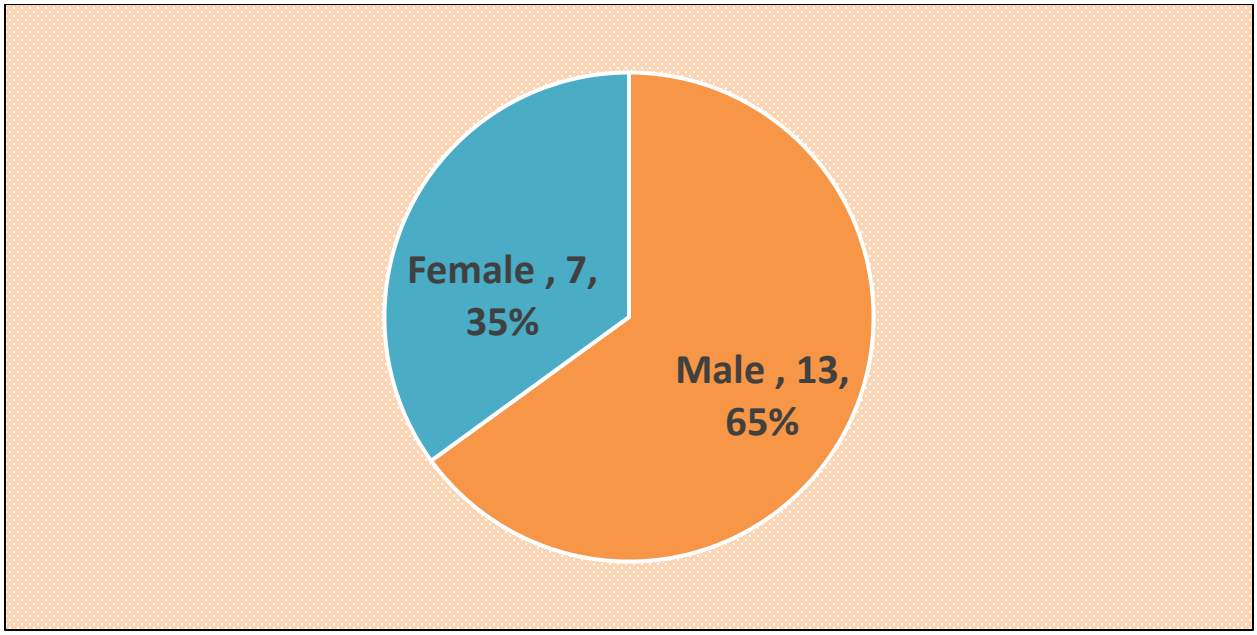


Figure No. 11: Occupation Wise Distribution of COVID-19 Cases in Haryana (N=2091) (as on 31.05.2020)

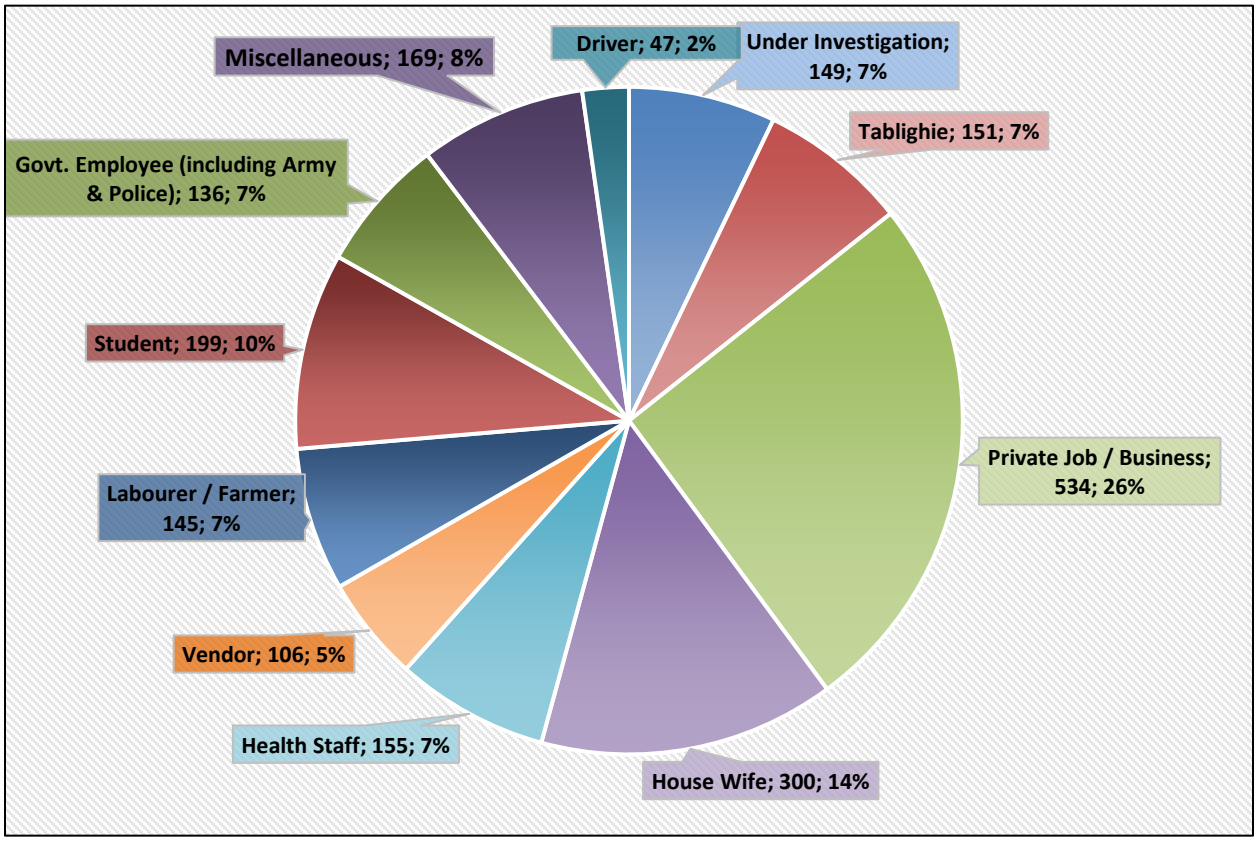


Figure No. 12: Date and Day Wise Trend of Cumulative Cases of COVID-19 and Moving Average (7 Days) in Haryana since the Inception of First Case on 17.03.2020 (as on 31.05.2020)

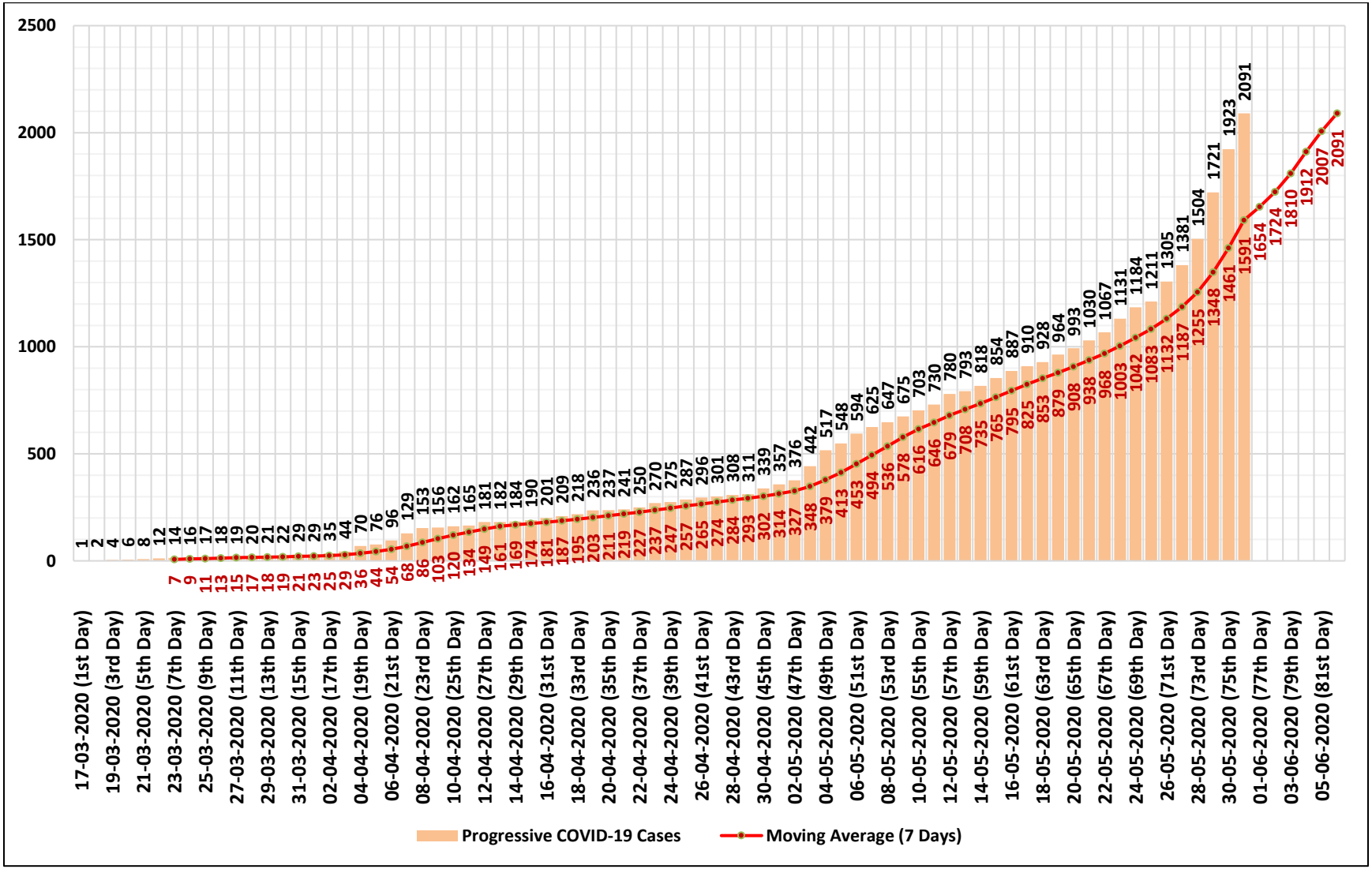


Figure No. 13: Weekly Trend of COVID-19 Cumulative and New Cases in Haryana (as on 31.05.2020)

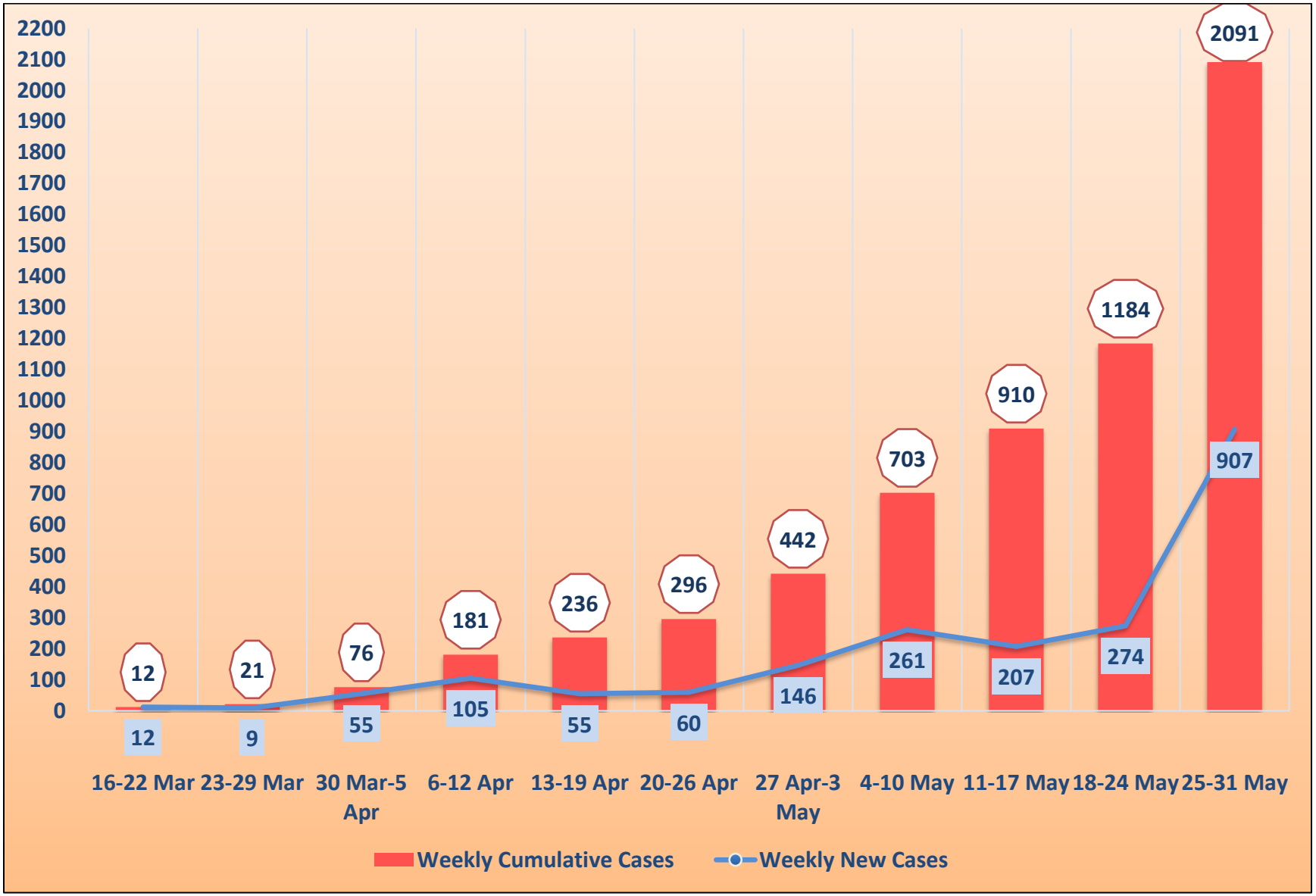


Figure No. 14: Date and Day Wise Distribution of COVID-19 New Cases and Moving Average (7 Days) in Haryana (as on 31.05.2020)

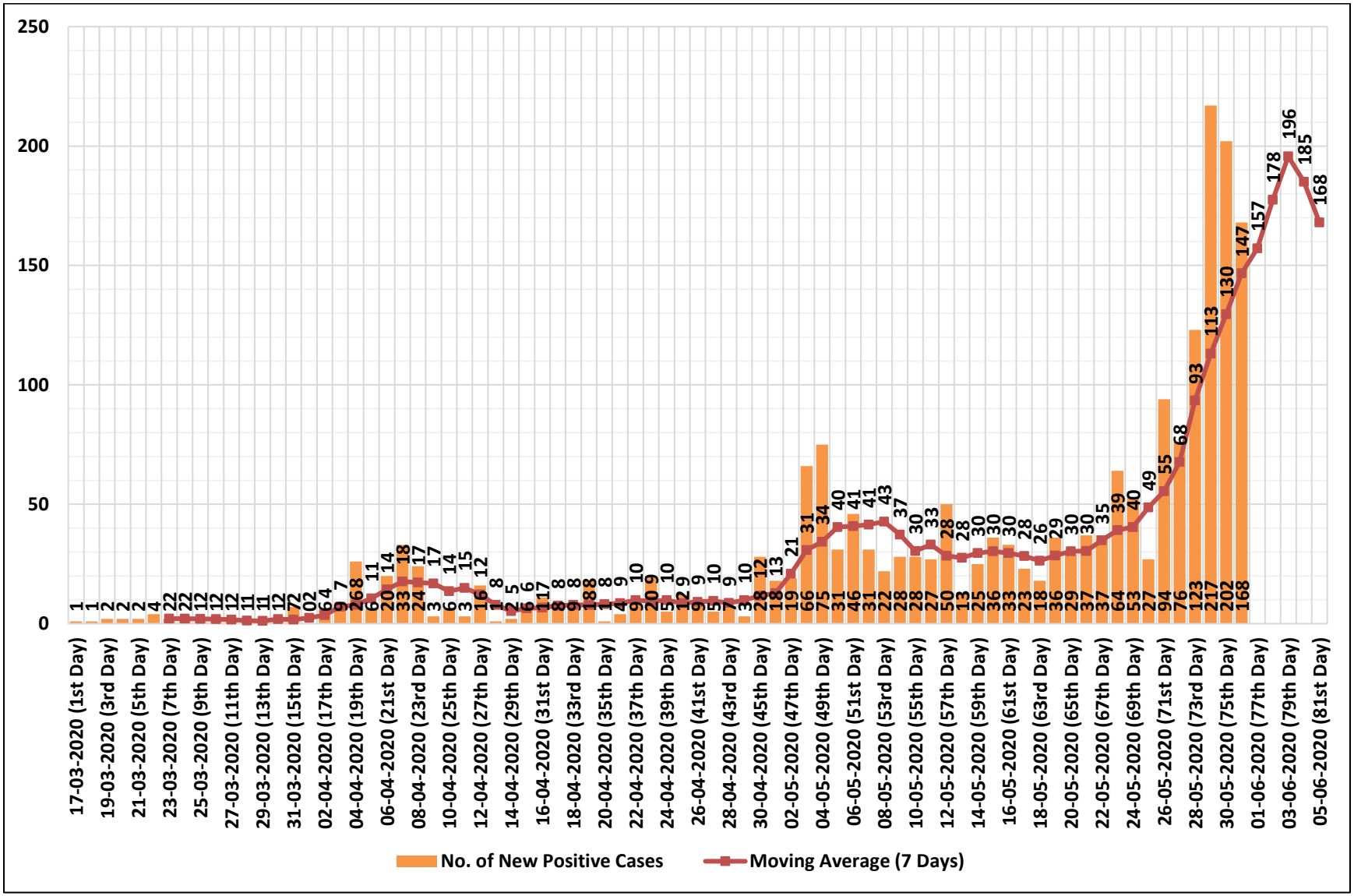


Table No. 5: COVID-19 Testing Status in Haryana (as on 31.05.2020)

District	Total Samples Collected	Positive Samples	Negative Samples	Awaited Samples	Total Samples Tested	Positivity Rate (%)	Samples Collected Per Lakh Population	Samples Tested Per Lakh Population
Ambala	5402	54	5104	244	5158	1.0	479	457
Bhiwani	2463	33	2214	216	2247	1.5	206	188
Charkhi Dadri	2786	13	2641	132	2654	0.5	555	528
Faridabad	11811	367	11205	239	11572	3.2	653	639
Fatehabad	3677	15	3444	218	3459	0.4	390	367
Gurugram	13105	788	12106	211	12894	6.1	865	851
Hisar	7185	40	6903	242	6943	0.6	412	398
Jhajjar	4020	97	3881	42	3978	2.4	419	415
Jind	5697	27	5463	207	5490	0.5	427	411
Kaithal	3322	18	3083	221	3101	0.6	309	289
Karnal	6560	52	6273	235	6325	0.8	436	420
Kurukshetra	5481	31	5191	259	5222	0.6	568	541
Mahendergarh	3294	41	3054	199	3095	1.3	357	336
Nuh	4980	70	4742	168	4812	1.5	457	442
Palwal	5635	59	5439	137	5498	1.1	540	527
Panchkula	4542	47	4340	155	4387	1.1	809	782
Panipat	4283	62	4014	207	4076	1.5	355	338
Rewari	2638	23	2563	52	2586	0.9	293	287
Rohtak	7538	31	7246	261	7277	0.4	710	686
Sirsa	2534	15	2262	257	2277	0.7	196	176
Sonepat	7807	199	7345	263	7544	2.6	538	520
Yamunanagar	3378	9	3196	173	3205	0.3	278	264
Haryana	**118138**	**2091**	**111709**	**4338**	**113800**	**1.8**	**465**	**448**

Figure No. 15: Date Wise Trend of Positivity Rate and Sample Tested in Haryana (as on 31.05.2020)

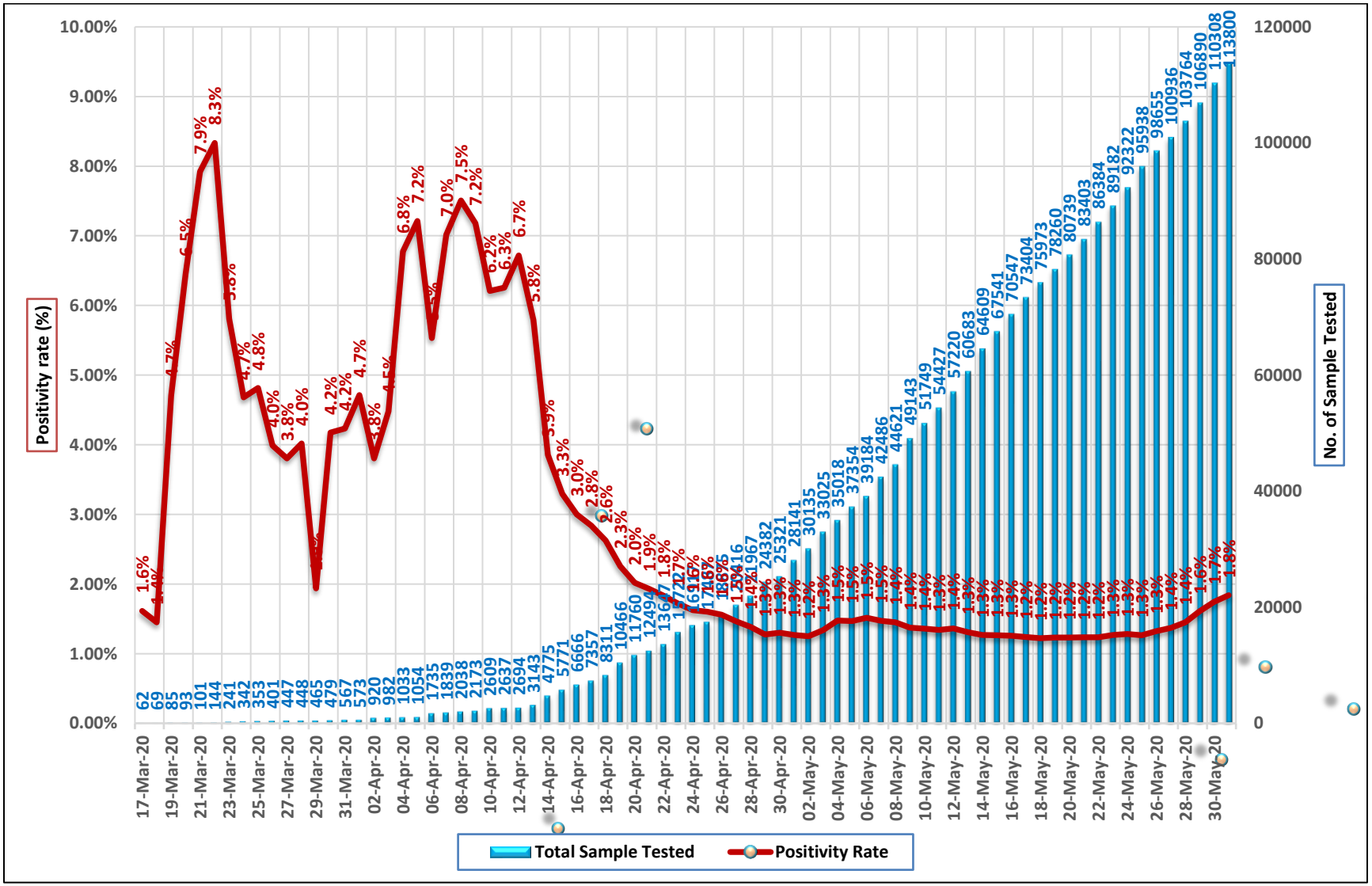


Figure No. 16: District Wise Comparison of Positivity Rate (%) and Samples Tested Per Lakh Population as per the Census 2011 & Official Website of New Districts (as on 31.05.2020)

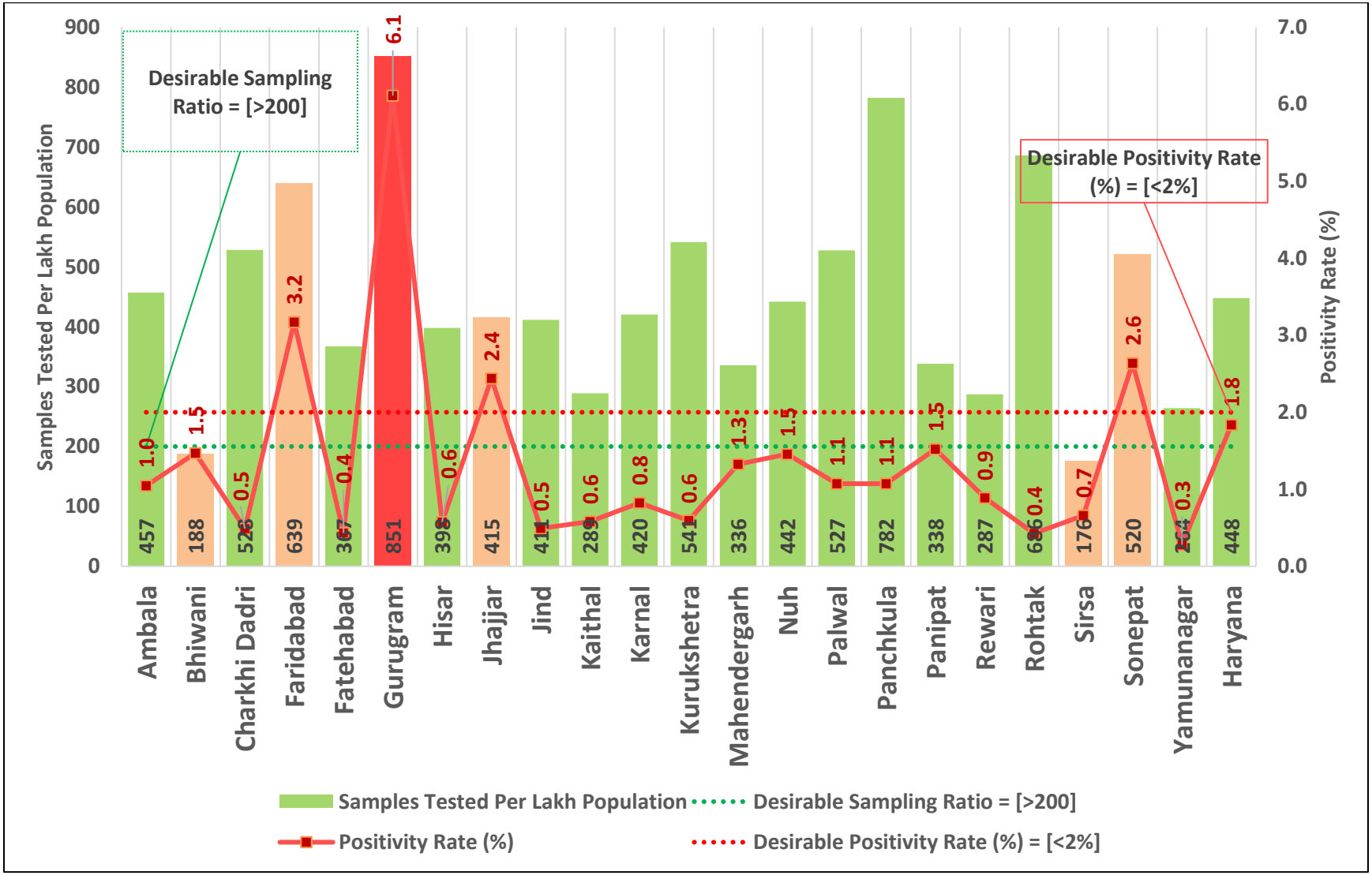


Figure No. 17: District Wise Distribution of Containment Zones and Person Found Symptomatic ILI / SARI in Haryana (as on 31.05.2020)

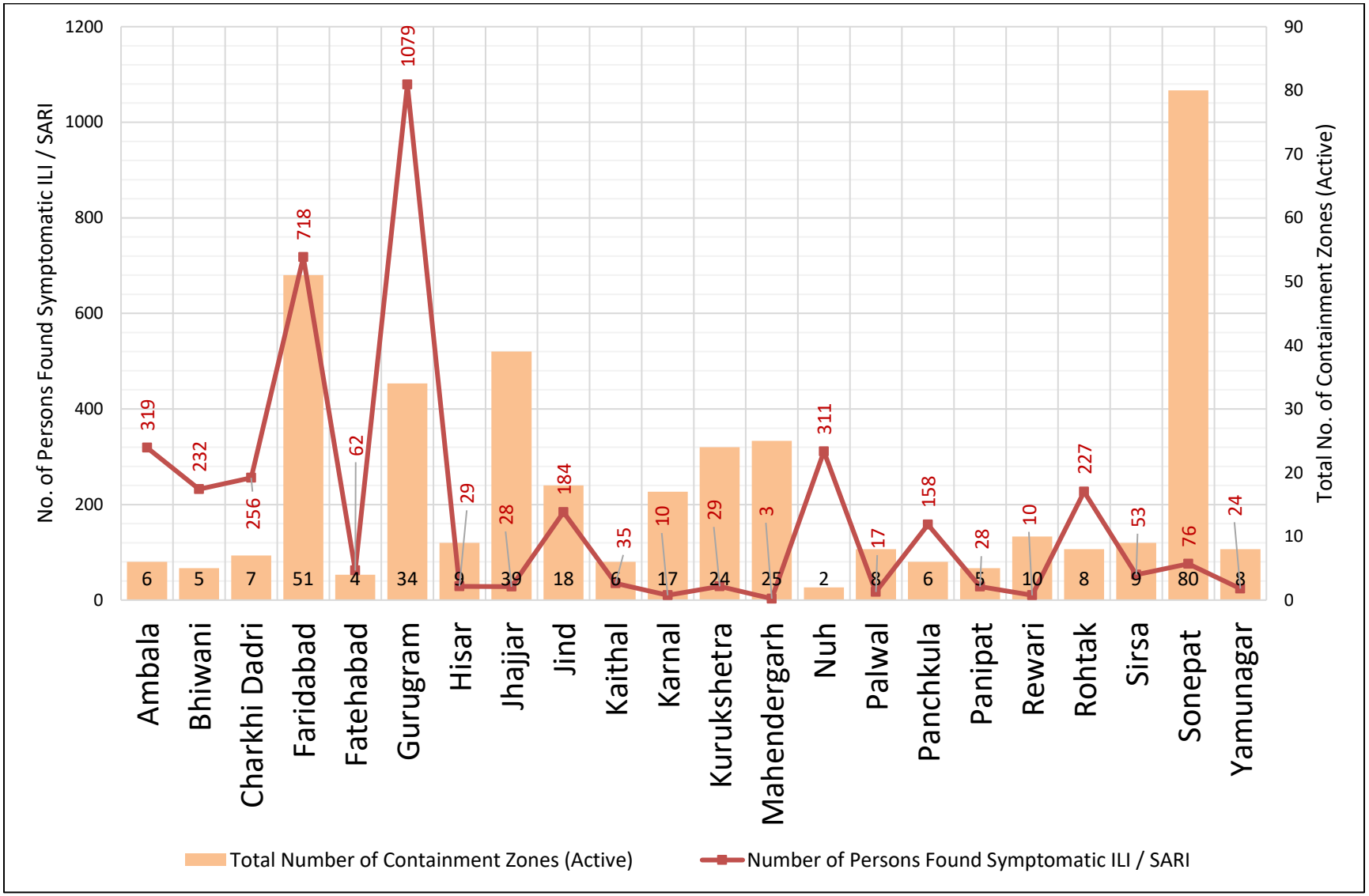


Table No. 6: District Wise Distribution of Containment Zones in Haryana (as on 31.05.2020)

Districts	Total Number of Containment Zones (Active)	Total Households in Containment Zone	Total Population in Containment Zone	Number of Persons Found Symptomatic ILI / SARI
Ambala	6	2755	14114	319
Bhiwani	5	9383	49174	232
Charkhi Dadri	7	6913	39941	256
Faridabad	51	80823	359856	718
Fatehabad	4	781	4025	62
Gurugram	34	46141	207603	1079
Hisar	9	5900	31020	29
Jhajjar	39	29868	109877	28
Jind	18	13726	73848	184
Kaithal	6	462	2416	35
Karnal	17	4206	21810	10
Kurukshetra	24	1881	10063	29
Mahendergarh	25	2532	12870	3
Nuh	2	869	6219	311
Palwal	8	12089	95766	17
Panchkula	6	4064	19608	158
Panipat	5	7406	34760	28
Rewari	10	15783	75791	10
Rohtak	8	6435	39370	227
Sirsa	9	934	4560	53
Sonepat	80	93792	448442	76
Yamunanagar	8	2909	15326	24
Haryana	**381**	**349652**	**1676459**	**3888**

Table No. 7: Category Wise Distribution of COVID-19 Facilities in Haryana (as on 31.05.2020)

Category	Facilities	Total Isolation Beds (excluding ICU Beds)	Isolation Beds of Confirmed Cases	Isolation Beds for Suspected Cases	O2 Supported Beds	ICU Beds	Ventilators	O2 Manifold	PPE Kits	N95 Masks	Compatible to B.W.M. System
Cat. I - Dedicated COVID Hospitals / DCH	42	3654	2040	1614	2344	568	261	40	34258	74193	42
Cat. II - Dedicated COVID Health Center / DCHC	181	5275	2157	3118	2690	1518	764	109	33808	71864	181
Cat. III - Dedicated COVID Center / DCCC	397	26857	5230	21627	0	0	0	0	3946	5520	379
Grand Total	**620**	**35786**	**9427**	**26359**	**5034**	**2086**	**1025**	**149**	**72012**	**151577**	**602**

Table No. 8: Status of Districts of Haryana According to Zoning Parameters Recommended by MOHFW (as on 31.05.2020)

District	Population (Census 2011 & Website)	Total Cases (Excluding 21 Foreign Returnee Haryana Citizens)	Total Active Cases	Active Case Per Lakh Population	Case Fatality Rate (%)	Testing Ratio (No. of Sample Tested Per Lakh Population)	Confirmation (%) / Positivity Rate (%)	Doubling Rate (7 days) = 7/Log 2 (N7/N1)
Ambala	1128350	54	12	1	3.7%	457	1.0	19
Bhiwani	1198085	33	27	2	0.0%	188	1.5	3
Ch. Dadri	502276	13	12	2	0.0%	528	0.5	8
Faridabad	1809733	367	191	11	2.2%	639	3.2	9
Fatehabad	942011	15	8	1	0.0%	367	0.4	9
Gurugram	1514432	788	487	32	0.4%	851	6.1	5
Hisar	1743931	40	35	2	0.0%	398	0.6	7
Jhajjar	958405	97	5	1	0.0%	415	2.4	124
Jind	1334152	27	2	0	3.7%	411	0.5	NA
Kaithal	1074304	18	13	1	0.0%	289	0.6	4
Karnal	1505324	52	31	2	1.9%	420	0.8	11
Kurukshetra	964655	31	18	2	0.0%	541	0.6	9
Mahendergarh	922088	41	22	2	0.0%	336	1.3	7
Nuh	1089263	70	5	0	0.0%	442	1.5	63
Palwal	1042708	59	18	2	0.0%	527	1.1	13
Panchkula	561293	26	1	0	0.0%	782	1.1	124
Panipat	1205437	62	22	2	4.8%	338	1.5	35
Rewari	900332	23	19	2	0.0%	287	0.9	13
Rohtak	1061204	31	19	2	3.2%	686	0.4	7
Sirsa	1295189	15	6	0	0.0%	176	0.7	9
Sonepat	1450001	199	50	3	0.5%	520	2.6	24
Yamunanagar	1214205	9	1	0	0.0%	264	0.3	40
Haryana	**25417378**	**2070***	**1004**	**4**	**1.0%**	**448**	**1.8**	**9**

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Glossary of Formula Used: -

- **Active Case Load Per Million Population** = (No. of Active Cases / Total Population) *1000000
- **Growth Rate** = {(Current Value – Previous Value) /Current Value} *100
- **Mortality (%)** = (No. of Deaths/Total Confirmed Cases) *100
- **Moving Average** = Average (No. of Cumulative Cases on N1: No. of Cumulative Cases on N7)
- **Positivity Rate (%)** = No. of Positive Cases/ (Total Sample Tested) *100
- **Positive Cases Per Million Population** = (No. of Positive Cases / Total Population) *1000000
- **Recovery (%)** = (No. of Cured Cases/Total Confirmed Cases) *100
- **Sample Collected Per Million Population** = (Total Sample Collected/Total Population) *1000000
- **Total Sample Tested** = Sum (No. of Positive Cases + No. of Negative Cases)
- **Sample Tested Per Lakh Population** = (Total Sample Collected/Total Population) *100000
- **Sample Tested Per Million Population** = (Total Sample Collected/Total Population) *1000000