

# COVID-19

## Tracker Surveys in India



मुण्डे मुण्डे मतिभिन्नः

*Sanskrit: Munde Munde Matirbhinnah: Each Individual has a different opinion.*

*ChanakyaNiti: Chanakya (IAST: Cāṇakya; 350–275 BCE)*

# COVID-19 Tracker Surveys in India

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## COVID-19 Tracker: Part A

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## Understanding The Tracker

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One can read in great details about our routine DAILY Omnibus as well as the Corona Tracker. All the technical details are provided in this document. However, if you wish to skip that, and understand the core things that we want you to keep in mind, here is a one page short and crisp summary.

1. The Cvoter India OmniBus is the only Survey Instrument which covers India 100% Geographically and Demographically both. We interview in 10 languages.
2. ***It is the ONLY Survey Instrument running EVERYDAY, day after day for the last 10 years.***
3. It the ONLY Survey Instrument in India, which is based on RDD CATI.
4. ***In the extraordinary circumstances of complete lockdown due to COVID-19 crisis, we have successfully decentralized the CATI process and as on today our 100 plus research colleagues are interviewing from their own homes.***
5. ***As on today, we happen to be the only research agency which continues to collect data even in this lockdown period.*** It is the ONLY routine CATI OmniBus amid this Covid Crisis, without a single day break, not just in India, but in entire South/ South East Asia.
6. ***There are 543 Lok Sabha Areas in India, and more than 4000 Assembly Areas across different states. The fact that our routine OmniBus of 1200 randomly selected respondents covers more than 1000 random Assembly Segments, proves the point that it cannot get more representative than this. This is as diverse spread as it would have been technically possible.***
7. It is the ONLY Daily Tracker Instrument in India used by IVY League Universities for their research. Every year, we support about 10 major Academic collaborations in Primary data collections and analytics for their research in India.
8. Outside the realm of ICMR random testing, it is the only other available instrument to gauge not only the Public Sentiment, but also the monitoring of symptoms using a thorough RPS (Random Probability Sample) in India.
9. ***Using this technology and Instrument, we have successfully tracked the impact, perceptions, problems and solutions during many previous Disaster Mitigation and Conflict Resolution assignments across many Countries.***
10. On Covid-19 tracker, we are collaborating with researcher across the Globe and finetuning the Questionnaire evolved in other Countries/Societies for Indian application.

## What are we asking in #CoronaTracker ?

Apart from few routine questions on issues, wellbeing, media habits and items used for National Approval ratings, we are basically tracking 15 major items in our #CoronaTracker. These are:

<b>Q1</b>	<b>How strongly do you agree or disagree with the following statements?</b>		
<b>Q1a</b>	I am afraid that either myself or someone in my family may actually catch the Coronavirus	1	Strongly Agree
<b>Q1b</b>	I think the Indian government is handling the Coronavirus well	2	Agree
<b>Q1c</b>	I believe the threat from the Coronavirus is exaggerated	3	Disagree
		4	Strongly disagree
		0	Don't know/Can't say
<b>Q4</b>	<b>How many days of Ration/ medicine etc. or money for ration/medicine etc. is available for your family in your house?</b>		
0	Less than a week	3	For three weeks
1	For a week	4	For a month
2	For two weeks	5	For more than a month
<b>Q7a</b>	<b>Have you seen flu like symptoms like high fever, cold, dry cough or similar symptoms in any family member (within your own household) or in your neighbourhood (people who you normally meet in your day-today life)?</b>		
	<b>Note for researchers: If the respondent answers Yes for anyone in this question, then ask the next 3 questions of Q7 b/c/d. If they answer No or DKCS for all three questions, then please skip to Q8 &amp; continue.</b>		
<b>Q7aa</b>	Yes, myself		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7ab</b>	Yes, in my household		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7ac</b>	Yes, in my neighborhood		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7b</b>	<b>If yes, which of the symptoms like high fever, cold, dry cough etc are there?</b>		
	<b>Note for researchers: If there are multiple people with these symptoms in previous question, then ask Q7 b/c/d for the first patient mentioned in previous question. Please ask each question &amp; mark Yes/No.</b>		
<b>Q7ba</b>	High Fever		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7bb</b>	Tiredness		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7bc</b>	Dry Cough		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7bs</b>	Difficulty in breathing		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7be</b>	Cold, nasal congestion, Running nose		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7bf</b>	Body pain		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7bg</b>	Soar Throat / Pain in throat		1. Yes / 2.No 0. Don't know-Cant say
<b>Q7c</b>	<b>If yes, what is the age of the concerned person?</b>		
	Please write down the actual age of patient as mentioned by the respondent. In case they don't know the actual age, please ask them about the approximate age of patient.		

## Are all demographics covered in #CoronaTracker?

Current survey findings and projections are based on CVoter daily tracking poll conducted during last seven days among 18+ adults statewide, including every major demographic, details of which are available for each and every item on the instrument. The data is weighted to the known demographic profile of the States. Sometimes the table figures do not sum to 100 due to the effects of rounding. Our final data file has Socio-Economic profile within +/- 1% of the Demographic profile of the State. We believe this will give the closest possible trends. MoE is +/- 3% at macro level and +/- 5% at micro level with 95% Confidence interval.

Q4 : How many days of Ration/ medicine etc. or money for ration/medicine etc. is available for your family in your house?					
		17/18 March	26/27 March	4/5/6 April	Change
Index Of Preparedness	Less than a week	Was not asked in this wave	12.2	13.2	1.0
	For a week		37.3	29.4	-7.9
	For two weeks		19.2	19.9	0.7
	For three weeks		6.2	4.6	-1.6
	For a month		15.6	18.9	3.3
	For more than a month		9.6	14	4.4
	Total		100	100	0.0
Index Of Preparedness					
		17/18 March	26/27 March	4/5/6 April	Change
	Total : Less than 3 weeks	Was not asked in this wave	68.7	62.5	-6.2
	Total : More than 3 weeks		31.4	37.5	6.1
	Nett. Preparedness		-37.3	-25.0	12.3

		Q4 : How many days of Ration/ medicine etc. or money for ration/medicine etc. is available for your family in your house?						Index Of Preparedness		
		Less than a week	For a week	For two weeks	For three weeks	For a month	For more than a month	Demography	Total : < 3 Weeks	Nett. Surplus
Gender	Male	13.8%	30.6%	17.6%	4.2%	16.7%	17.2%	Male	62.0%	-24.0%
	Female	12.7%	28.2%	22.3%	4.9%	21.4%	10.5%	Female	63.2%	-26.4%
Age_Group	Fresher(Below-25)	13.9%	29.0%	20.7%	3.0%	18.3%	15.0%	Fresher(Below-25)	63.6%	-27.2%
	Young(25-45)	14.2%	31.1%	18.9%	4.8%	18.0%	13.0%	Young(25-45)	64.2%	-28.4%
	Middle Aged(45-60)	11.0%	35.4%	18.3%	4.9%	18.8%	11.6%	Middle Aged(45-60)	64.7%	-29.4%
	Old(60 and above)	11.8%	15.0%	24.3%	5.7%	23.7%	19.6%	Old(60 and above)	51.1%	-2.2%
Education_Group	Lower Education	16.1%	35.5%	20.6%	3.4%	14.8%	9.7%	Lower Education	72.2%	-44.4%
	Middle Education	7.4%	20.6%	19.2%	6.5%	22.8%	23.5%	Middle Education	47.2%	5.6%
	Higher Education	8.0%	13.0%	17.5%	7.5%	33.3%	20.7%	Higher Education	38.5%	23.0%
Income_group	Lower Income Group	14.4%	36.1%	24.3%	3.5%	14.9%	6.8%	Lower Income Group	74.8%	-49.6%
	Middle Income Group	13.1%	25.1%	17.7%	6.6%	21.4%	16.0%	Middle Income Group	55.9%	-11.8%
	Higher Income Group	9.7%	17.2%	10.2%	3.2%	26.8%	32.9%	Higher Income Group	37.1%	25.8%
Social_group	Others	6.6%	37.1%	12.3%	3.4%	15.1%	25.4%	Others	56.0%	-12.0%
	SC (Scheduled Caste/Dalits)	9.4%	29.1%	33.3%	2.6%	19.3%	6.4%	SC	71.8%	-43.6%
	ST (Scheduled Tribes)	7.6%	40.8%	31.3%	5.5%	6.8%	8.0%	ST	79.7%	-59.4%
	OBC (Other Backward Classes)	16.2%	30.8%	13.5%	3.2%	22.5%	13.9%	OBC	60.5%	-21.0%
	UCH (Upper Caste-Hindus)	14.2%	20.7%	19.0%	9.0%	22.5%	14.7%	UCH	53.9%	-7.8%
	Muslim	14.7%	32.3%	15.6%	3.2%	15.6%	18.6%	Muslim	62.6%	-25.2%
	Christians	4.3%	53.2%	18.3%	0.0%	3.6%	20.6%	Christians	75.8%	-51.8%
country specific region: India	Sikhs	14.4%	12.3%	14.9%	1.6%	11.4%	45.5%	Sikhs	41.6%	16.8%
	East	18.9%	40.0%	16.0%	1.7%	9.4%	14.0%	East	74.9%	-49.8%
	North	10.7%	24.7%	21.8%	4.6%	18.7%	19.5%	North	57.2%	-14.4%
	South	13.0%	38.0%	16.4%	6.2%	19.4%	7.0%	South	67.4%	-34.8%
	West	13.1%	24.1%	21.6%	5.8%	26.8%	8.7%	West	58.8%	-17.6%
Location	Urban	11.3%	21.3%	22.4%	6.7%	22.5%	15.9%	Urban	55.0%	-10.0%
	Semi-urban	11.9%	28.7%	24.7%	5.3%	17.2%	12.2%	Semi-urban	63.3%	-30.6%
	Rural	14.4%	33.6%	17.8%	3.4%	17.4%	13.3%	Rural	65.8%	-31.6%
	Total	13.2%	29.4%	19.9%	4.6%	18.9%	14.0%	Total	62.5%	-25.0%

## What is roll over sample analysis?

The daily tracker data collection starts in a typically 3 months cycle and continues until that Issue/phenomenon fades out. Technically speaking, for a single universe, we conduct Weekly waves of 2100 respondents via CATI. But by splitting that sample into 300 interviews every day and making one rollover file of the last 7 days every day, we can analyze 30 waves of 2100 samples each month.

In other words, this gave us an opportunity of analyzing fresh data daily. We have used this methodology and our algorithms to correctly predict many demographic measurements across many societies in transition. We strictly follow the WAPOR code of conduct (World Association of Public Opinion Research) for our ethical & transparent scientific practices as our SOP (Standard Operating Procedures).

For example, look at the first question mapped in #CoronaTracker. It's a 5 point scale, converted in 3 point scale while analyzing the data and eventually the Nett figure to calculate the "Index Of Panic" through this particular question.

<i>How strongly do you agree or disagree with the following statements? I am afraid that either myself or someone in my family may actually catch the Coronavirus</i>										
Date	Strongly Agree	Agree	Disagree	Strongly disagree	DK/CS	Total	Total : Agree	Total : Disagree	Nett. Agree	Sample
4/13/2020	27.8	16.2	13.6	40.5	1.9	100%	44	54.1	-10.1	3048
4/12/2020	29.2	15.6	12.7	39.8	2.7	100%	44.8	52.5	-7.7	2742
4/11/2020	29.5	15.5	11.8	40.5	2.7	100%	45	52.3	-7.3	2550
4/10/2020	29.8	15.1	12	39.7	3.4	100%	44.9	51.7	-6.8	2451
4/9/2020	29.3	15.4	12.7	38.7	3.9	100%	44.7	51.4	-6.7	2384
4/8/2020	29.5	16.5	12.5	37.7	3.8	100%	46	50.2	-4.2	2110
4/7/2020	29.4	16.3	12.9	37.8	3.6	100%	45.7	50.7	-5	2193
4/6/2020	29.7	16.6	12.8	37.8	3.1	100%	46.3	50.6	-4.3	2159
4/5/2020	29.6	17.2	13.2	37	3	100%	46.8	50.2	-3.4	2201
4/4/2020	29.2	16.5	13.3	38	3	100%	45.7	51.3	-5.6	2257
4/3/2020	28.3	16.6	13.4	38.9	2.8	100%	44.9	52.3	-7.4	2289
4/2/2020	27.3	16.1	13.7	39.6	3.3	100%	43.4	53.3	-9.9	2333
4/1/2020	27.6	17.6	13.8	38.6	2.4	100%	45.2	52.4	-7.2	2342
3/31/2020	21	15.8	13.4	37.9	11.9	100%	36.8	51.3	-14.5	2269
3/30/2020	20.3	16.3	13	38.2	12.2	100%	36.6	51.2	-14.6	2484
3/29/2020	19.7	15.9	13.2	39.1	12.1	100%	35.6	52.3	-16.7	2361
3/28/2020	20	15.7	13.8	38.8	11.7	100%	35.7	52.6	-16.9	2233
3/27/2020	19.9	15.9	14	38.3	11.9	100%	35.8	52.3	-16.5	2094
3/26/2020	19.5	15.5	14.4	39.1	11.5	100%	35	53.5	-18.5	1968
3/25/2020	19.3	15.8	14.1	39.2	11.6	100%	35.1	53.3	-18.2	1838
3/24/2020	18.2	15.7	13.9	40.9	11.3	100%	33.9	54.8	-20.9	1700
3/23/2020	18.1	15.6	13.7	41.3	11.3	100%	33.7	55	-21.3	1561
3/22/2020	16.5	15.6	14.3	42	11.6	100%	32.1	56.3	-24.2	1421
3/21/2020	16.5	15.3	14.3	42.6	11.3	100%	31.8	56.9	-25.1	1217
3/20/2020	15.3	16.2	14.4	42.1	12	100%	31.5	56.5	-25	1006
3/19/2020	14.6	17.7	12.9	43	11.8	100%	32.3	55.9	-23.6	798
3/18/2020	16.2	19.3	12.4	41.1	11	100%	35.5	53.5	-18	605
3/17/2020	16.8	17.6	10.3	44.1	11.2	100%	34.4	54.4	-20	425
3/16/2020	13.8	21.3	10.7	43.4	10.8	100%	35.1	54.1	-19	215



## Are all questions on 7 Day roll over analysis?

Generally speaking, all questions are analyzed on 7 days roll over, but in case of #CoronaTracker, we are analyzing the “Symptoms” Questions Battery of the instrument on 14 days roll over mode. This is done primarily because of the fact the Covid-19 strain takes two weeks for the symptoms to show up.

Thus, any mild symptom or Day 0 might become Serious to Severe in 14 days cycle. Apart from this, as the number of “n” is still low in 7 day roll over, making it 14 day roll over gives it better statistical robustness and stability.

***Have you seen flu like symptoms like high fever, cold, dry cough or similar symptoms in any family member (within your own household) or in your neighbourhood (people who you normally meet in your day-to-day life)?***

Date	Yes, myself	Yes, in my household	Yes, in my neighborhood	Total
4/13/2020	0.368	0.697	0.912	1.977
4/12/2020	0.348	1.05	1.184	2.582
4/11/2020	0.36	1.047	1.223	2.63
4/10/2020	0.384	1.001	1.343	2.728
4/9/2020	0.798	1.009	1.602	3.409
4/8/2020	0.93	1.21	1.695	3.835
4/7/2020	0.977	1.178	1.67	3.825
4/6/2020	0.985	1.169	1.815	3.969
4/5/2020	0.91	1.165	1.886	3.961
4/4/2020	0.98	1.141	1.482	3.603
4/3/2020	1.057	1.207	1.636	3.9
4/2/2020	0.996	1.296	1.819	4.111
4/1/2020	1.013	1.092	1.996	4.101
3/31/2020	1.367	1.206	2.196	4.769
3/30/2020	1.367	1.206	2.196	4.769
3/29/2020	1.139	1.263	2.373	4.775
3/28/2020	1.316	0.967	2.454	4.737
3/27/2020	1.582	0.894	2.681	5.157
3/26/2020	1.931	1.039	2.802	5.772
3/25/2020	0.497	1.254	1.739	3.49
3/24/2020	0.193	0.139	1.965	2.297
3/23/2020	0	0.052	3.032	3.084

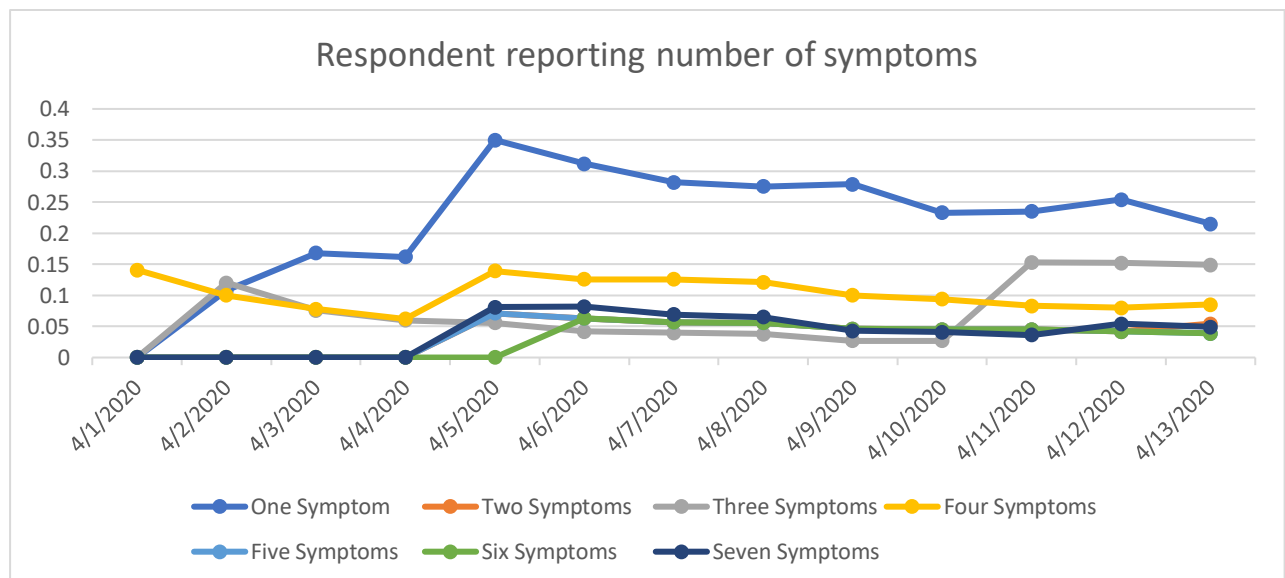
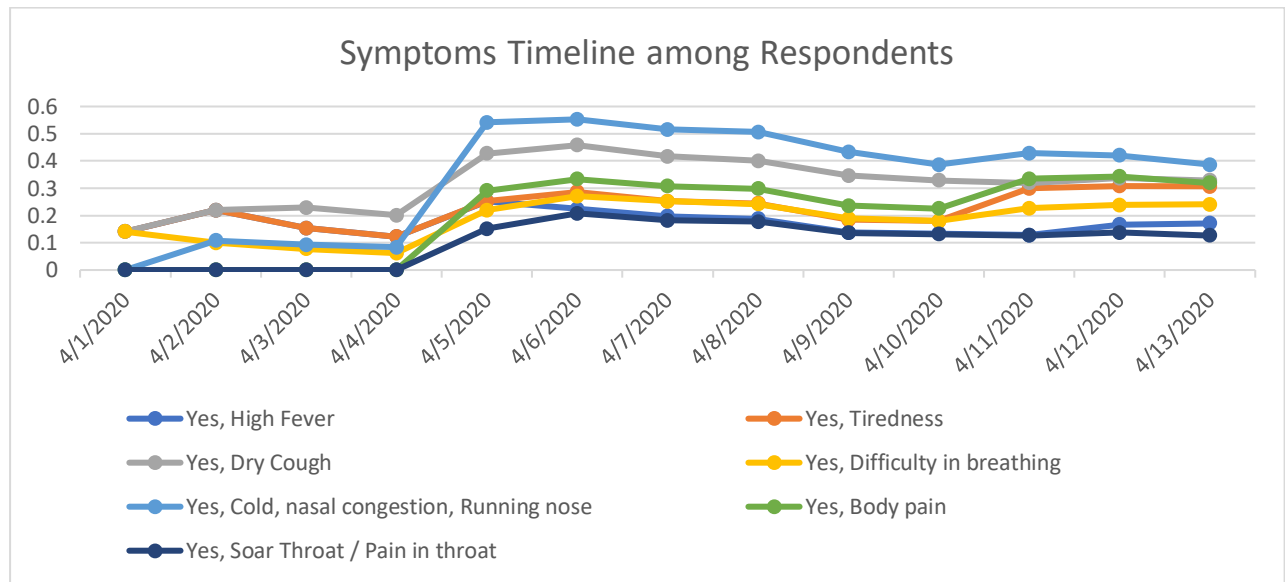
## So, what exactly are we trying to map in #CoronaTracker?

***Apart from keeping a daily tab on the issues related to lockdown, the Index of Optimism, Index of Preparedness and Index of Complacency, we are working hard on a model where we can get an overall idea of trends in ILI (Influenza Like Illness) reported by respondents.***



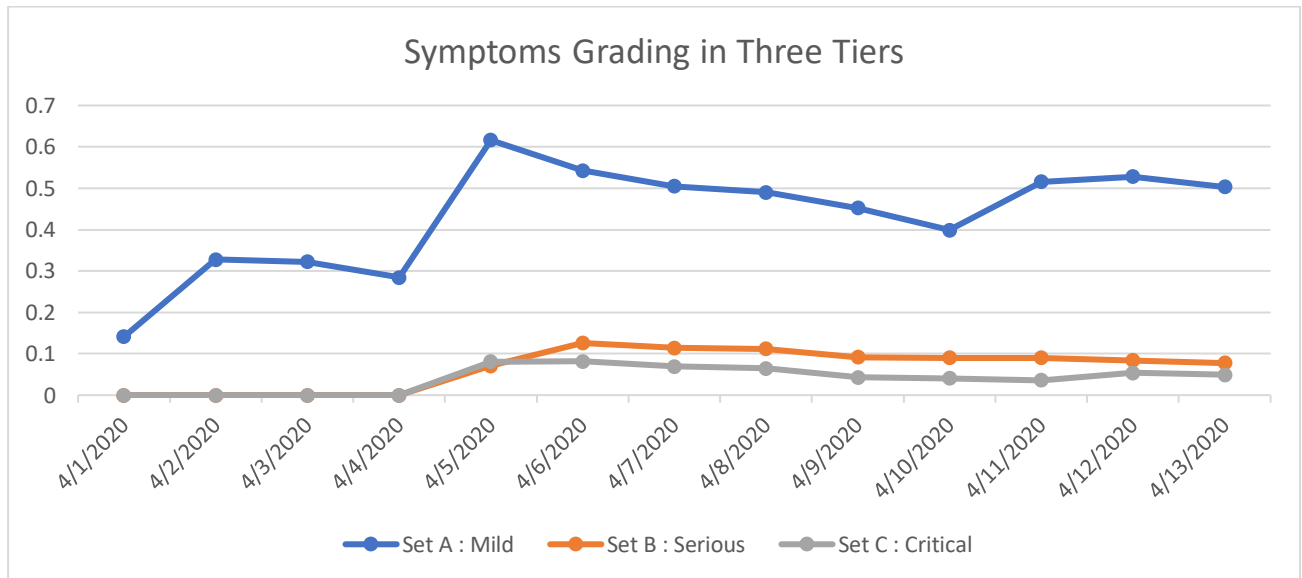
## Mapping the symptoms in #CoronaTracker

*In the ILI battery we are asking for all 7 major symptoms as reported by WHO and ICMR. Basically, rating each reported ILI patient on a score of 0 to 7 for number of symptoms that are applicable on them. We are also trying to analyze the threshold of number of Symptoms that could lead to severe ILI status. Majority of ICMR tests are being conducted among severe ILI patients.*

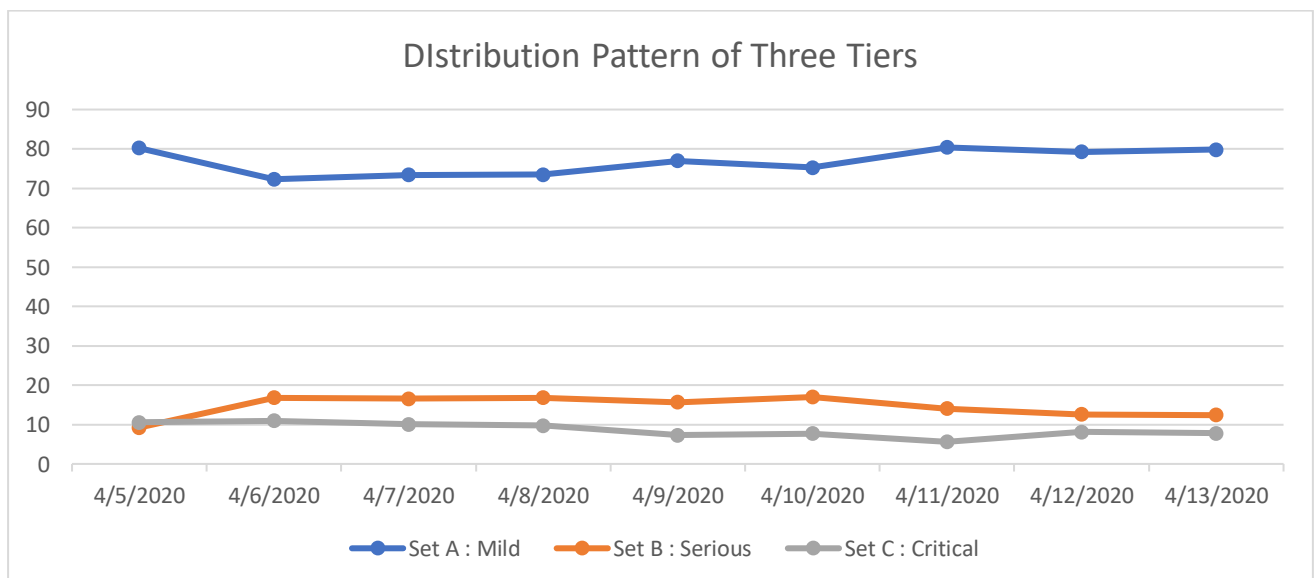


## Symptoms Grading in #CoronaTracker

*We tried to analyze clubbing number of symptoms into 3 categories. Treating the 7 Scale symptoms map, we simply clubbed those showing 4 or less symptoms as Set A. Those respondents reporting more than 4 but less than 7 symptoms were clubbed as Set B, while those reporting all 7 symptoms were clubbed as Set C.*

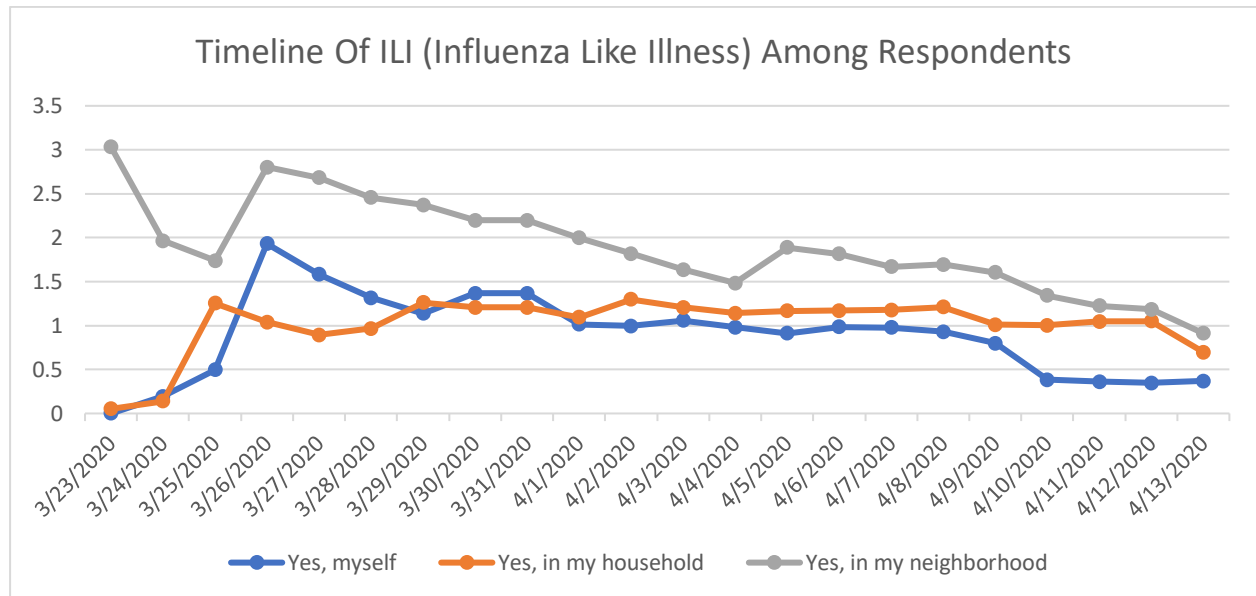


*Interestingly when analyzed as a separate Universe, these three sets came up with a very unique pattern. Taking the total ILI Symptoms reporting respondents as a standalone universe, the split of these three sets more or less matched the split of Symptoms globally reported in Corona Universe. You can see over the timeline that Set A of “Mild” has been consistently about 80% of this universe, while the “Serious” set is about 15% and the “Critical” set is about 5% reported.*

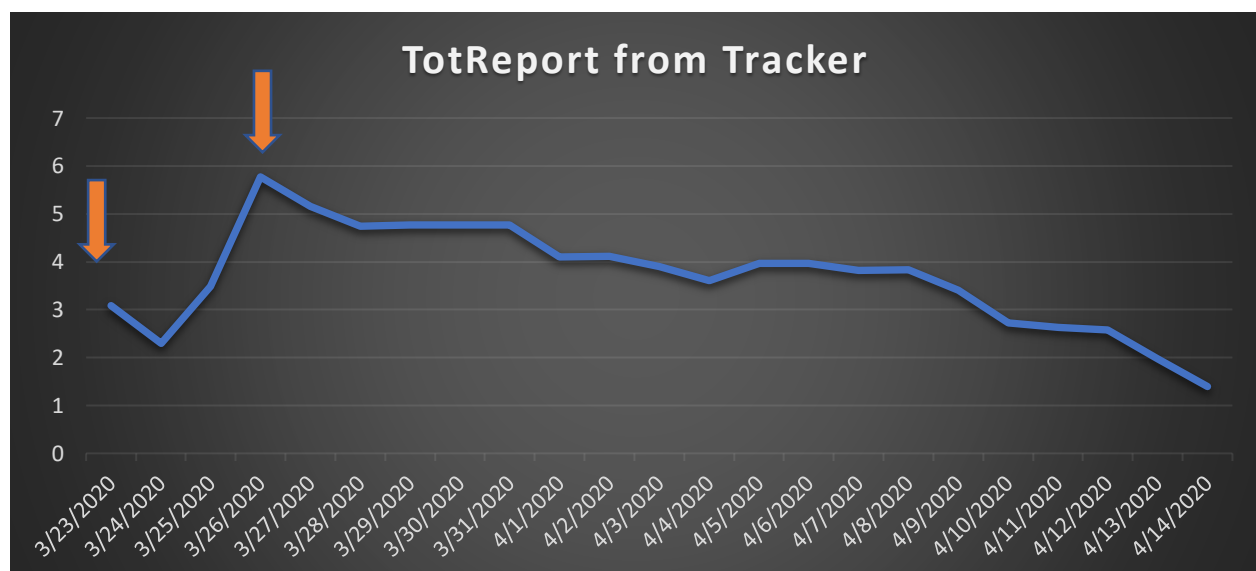


## Mapping the TotReport in #CoronaTracker

*We have tried to analyze the number of respondents reporting ILI within their households as well as within their immediate neighborhood. These numbers show a unique pattern of bigger number of self-reporting in initial days lagged by ILI symptom in household. But as the time progressed, this pattern inverses as self-infection leads to more infections in Household. Meanwhile the immediate Social Circle shows more numbers than the household numbers initially, but the gap reduces over the period of three weeks.*



*Since each respondent was treated as a sources of information on three different Universe, adding them up actually triplicated the amount of information in terms of data : myself + immediate household + immediate neighborhood clubbed together to for TotReport.*



## COVID-19 Tracker: Part B

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## Methodology: CATI (Computer Assisted Telephonic Interviews)

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Computer Assisted Telephone Interviewing (CATI) is an interactive front-end computer system that aids interviewers to ask questions over the telephone.

### 1. How is CATI done?

CATI functions in the following manner

- Our researchers are given access to a computerized web form that contains the questionnaire with all the automated built in skip patterns.
- The computer dialer dials a random number when asked (in GenPop its RDD).
- When the respondent is contacted, the researcher reads out the question one by one.
- The researcher then records the answers given by respondents
- These are saved in the server and later analyzed by the stats team
- It also has built in logic system to work on the anomalies.

### 2. India Omnibus

We run a **weekly India omnibus** survey. An **omnibus survey** is a method of quantitative research where data on a wide variety of subjects is collected during the same interview. Usually, multiple research clients will provide proprietary content for the survey (paying to 'get on the omnibus'), while sharing the common demographic data collected from each respondent.

The advantages to the research client include cost savings (because the sampling and screening costs are shared across multiple clients) and timeliness (because omnibus samples are large and interviewing is ongoing).

### 3. Our Capacity

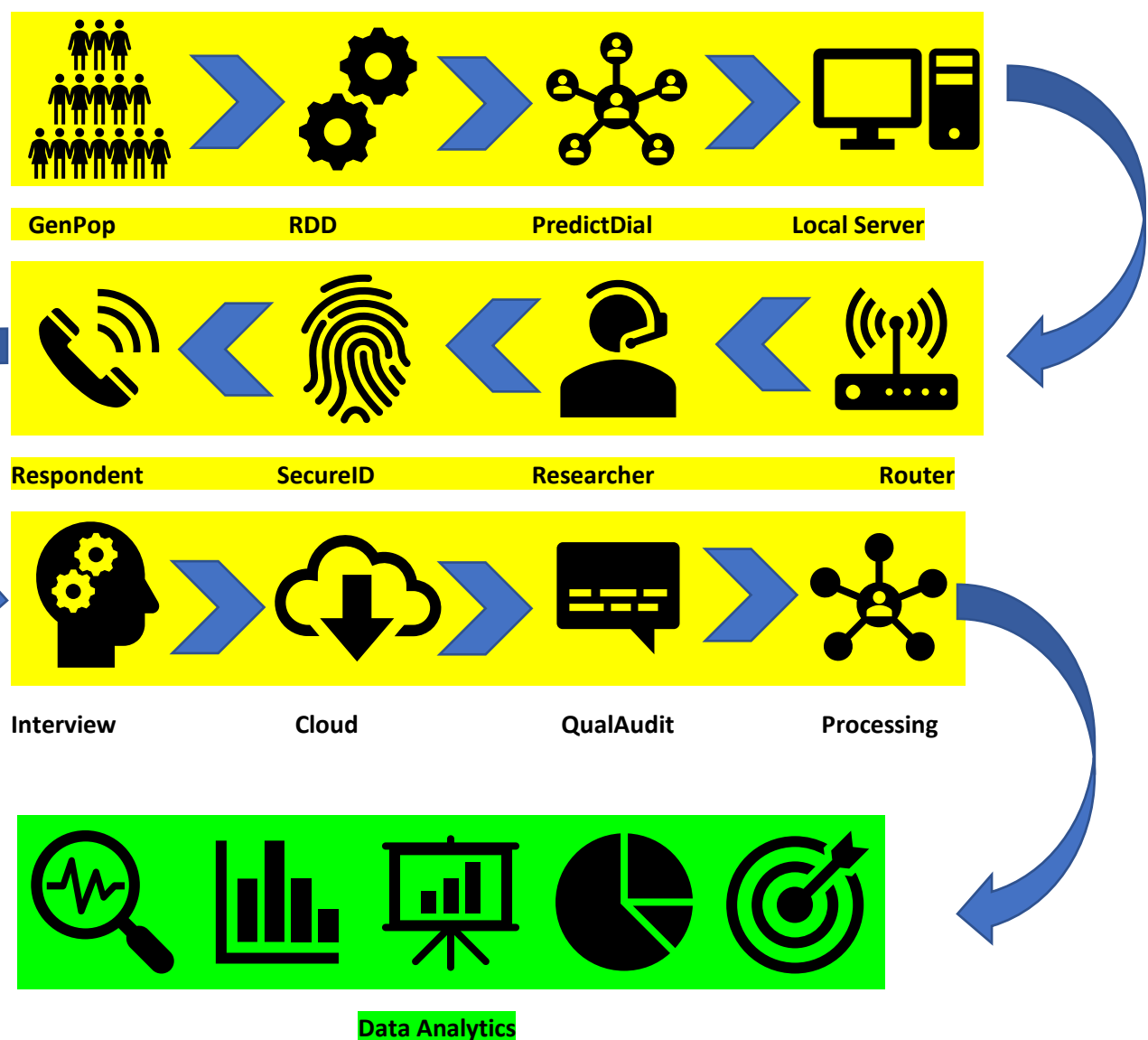
We are equipped with state of the art **125 seat KPO** which runs on the latest predictive dialer software. The KPO can handle both inbound and outbound calls. We are currently running omnibus in all **11 national languages** to cater to the local language requirements of the survey in urban as well as rural parts of the country. All our interviewers are multilingual. This means they can speak at least one more Indian language apart from being fluent in Hindi.

*In the extraordinary circumstances of complete lockdown due to COVID-19 crisis, we have successfully decentralized the CATI process and as on today our 100 plus research colleagues are interviewing from their own homes. As on today, we happen to be the only research agency in South Asia which continues to collect data even in this lockdown period using decentralized CATI operations. Details of this decentralization are provided in this document.*

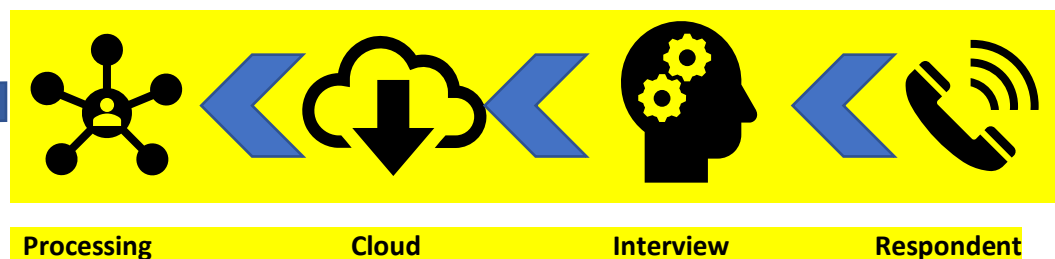
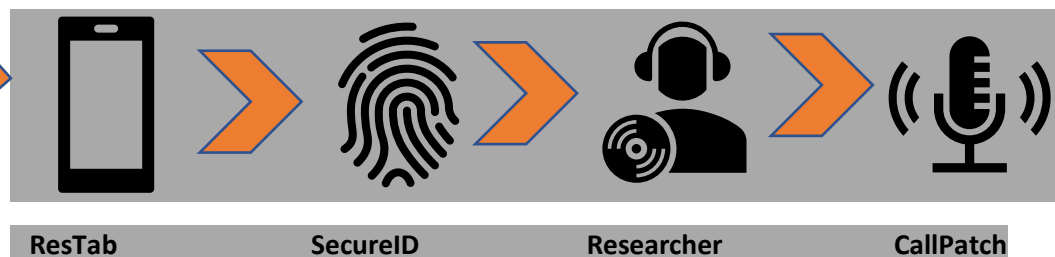
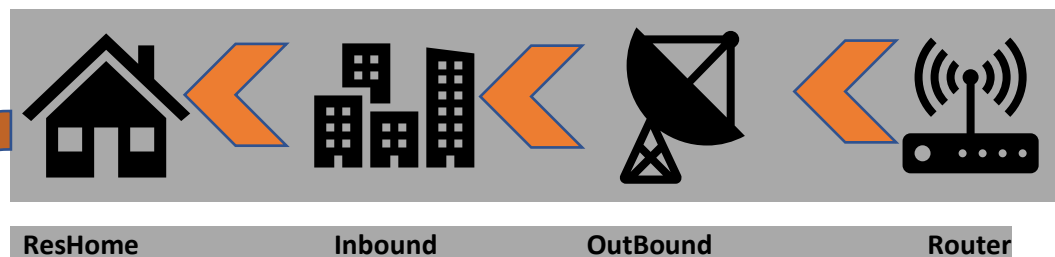
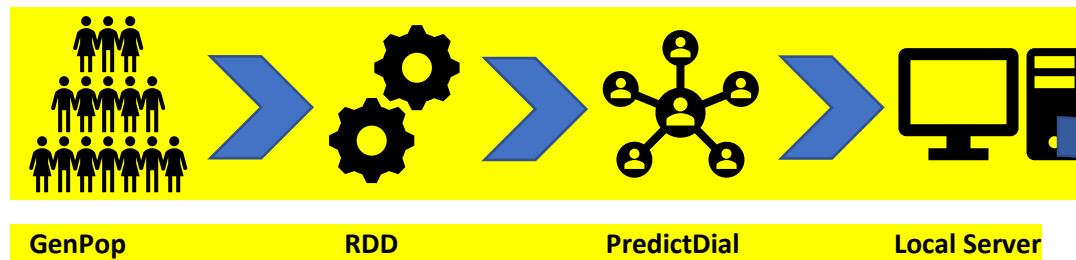
#### 4. CATI operations in the COVID crisis

Social distancing procedures during fieldwork: As explained above, the researchers will be calling from home to randomly selected respondents (RDD selection). All precautions are being taken to ensure social distancing as none of the staff is also going to the office. All the project will be managed from safety of respective homes. We had to do massive modification in our work flow during the lockdown. In the routine operations, the entire CATI work was centralized in our CATI center.

#### Centralized CATI Operations:



## Decentralized CATI Operations:





## 5. Explanation of the languages used for surveying:

For our weekly Omnibus we translate our questionnaire in 11 languages: Hindi, Punjabi, Gujarati, Marathi, Kannada, Malayalam, Tamil, Telugu, Oriya, Bangla and Asamiya. These virtually cover entire India. Though officially there are 29 languages in India spoken by more than a Million people each.

## 6. Statistical documentation used to design the sample

For designing of samples, the structure of telephone system needs to be understood. India's national numbering format is 10-digit for both land line phone as well as cellular phone services. This 10-digit format is expected to remain for another 30 years. For cellular phone services, the numbering format is 2-digit access code (currently 98 or 94) plus 3-digit provider code plus 5-digit subscriber number.<sup>1</sup> At first a list of all the existing telecom circles of the area is made. The first five prescribed digits of all the specified circles are used and then they are extended by five digits randomly. This creates a list of a large number of possible numbers in the given telecom circles. These numbers are randomly dialed by the RDD and the researchers sitting on the system start the process as soon as a call is connected.

Since the mobile penetration is huge, this method covers all the respondents in the sampling universe by equal probability. **No particular section of the universe is left out in this manner. This is a single frame of surveying and is highly random in its selection of the respondent**

States	census	Valid Percent	Deviation
Andhra Pradesh	4.3	4.3	0
Assam	2.3	2.3	0
Bihar	7.6	7.6	0
Chattisgarh	2.2	2.1	0.1
Delhi	1.5	1.5	0
Goa	0.1	0.1	0
Gujarat	4.9	4.9	0
Haryana	1.9	1.9	0
Himachal Pradesh	0.6	0.6	0
Jammu & Kashmir	0.9	0.9	0
Jharkhand	2.4	2.4	0
Karnataka	5.5	5.5	0
Kerala	2.9	2.9	0
Madhya Pradesh	5.7	5.7	0
Maharashtra	9.8	9.8	0
NE	1.1	1.1	0
Orissa	3.5	3.5	0
Punjab	2.4	2.4	0
Rajasthan	5.2	5.2	0
Tamil Nadu	6.6	6.6	0
UT	0.3	0.3	0
Uttar Pradesh	16.5	16.5	0
Uttarakhand	0.8	0.8	0
West Bengal	7.7	7.7	0
Telangana	3.3	3.3	0
Total All India	100	100	

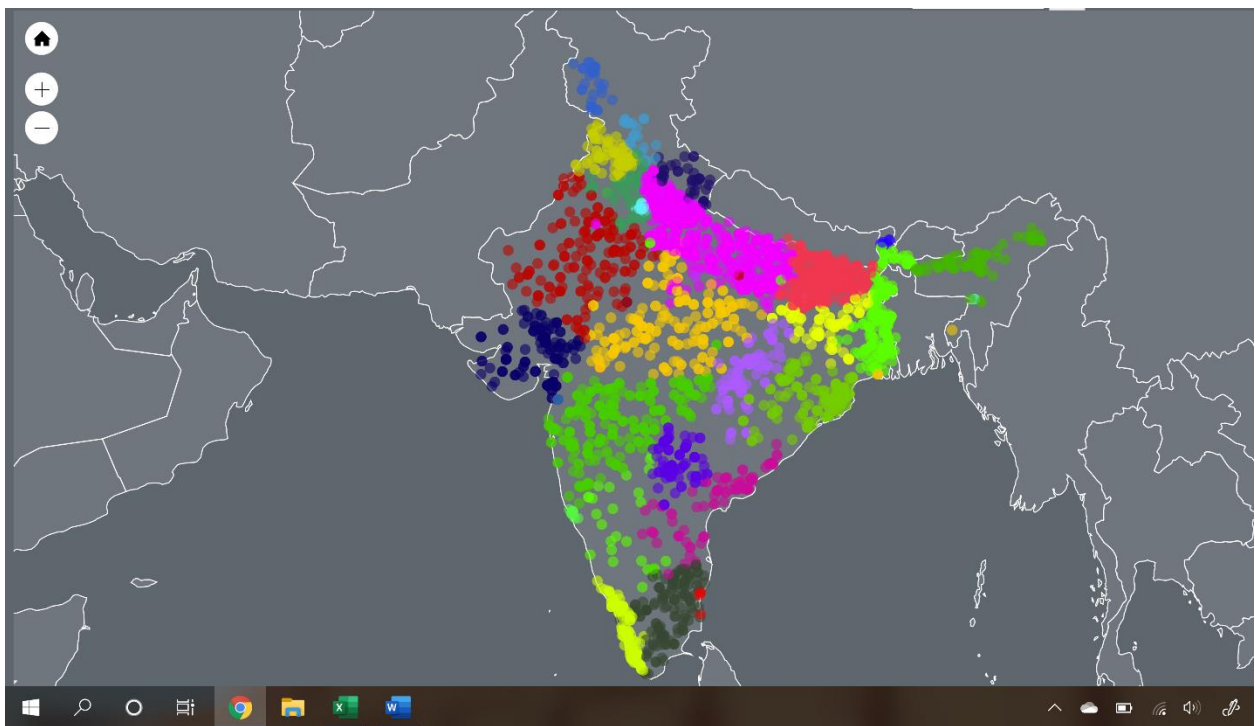
<sup>1</sup> <http://www.immihelp.com/nri/phone-number-scheme-india.html>

## 7. Sampling Design

Generally, we take a **nationwide representative sample size of 1200<sup>2</sup>**. But it can vary as per the clients' requirement. In this project, we need to call in ALL states. The predictive dialer picks up the number to be dialed from the list of randomly generated numbers based on various telecom circles and digital exchanges in India; covering all the mobile telephonic service providers in the country. **Thus, the calling data covers India fully 100%; both geographically and demographically.**

## 8. Weekly CATI Omnibus Coverage

This is a typical coverage of our routine Omnibus on CATI. Each dot on map marks one respondent, and each change in colour marks a different State with different language/dialect interview. As mentioned earlier, the CATI data covers 100% demographically as well as geographically.



*There are 543 Lok Sabha Areas in India, and more than 4000 Assembly Areas across different states. The fact that our routine OmniBus of 1200 randomly selected respondents covers more than 1000 random Assembly Segments, proves the point that it can not get more representative than this. In the Gold Standard Quality scenario of  $n > N$ , where the number of sampling location almost equals to number of samples covered, this is as diverse spread as it would have been technically possible.*

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<sup>2</sup><http://www.surveysystem.com/sscalc.htm>

## 9. Comparison of the projected sample with current census data

At the State level, we propose to do sampling applying the State Quotas as per the given table. But each State is treated as stand-alone Universe for RDD. Thus at the national level the State Quotas are in-built, but for the demographics we apply the weights based on latest Census and NSS estimates. Thus the final weighted demographic profile achieved would be in  $\pm 3\%$  range as given in the table.

Gender	Census	Valid Percent	Deviation
Male	52	52	0
Female	48	48	0
Total	100		
Age Group	Census	Valid Percent	
Fresher(Below-25)	21.7	21.8	-0.1
Young(25-45)	47.1	47.1	0
Middle Aged(45-60)	18.5	18.5	0
Old(60 and above)	12.7	12.6	0.1
Total	100	100	
Education	Census	Valid Percent	
Lower Education	67	67	0
Middle Education	20	20	0
Higher Education	13	13	0
Total	100	100	
Income	Census	Valid Percent	
Lower Income Group	50	50.1	-0.1
Middle Income Group	35	35	0
Higher Income Group	15	14.9	0.1
Total	100	100	
Social Group	Census	Valid Percent	
Others	1.9	1.9	0
SC (Scheduled Caste/Dalits)	16.2	16.2	0
ST (Scheduled Tribes)	8.2	8.2	0
OBC (Other Backward Classes)	32	32.1	-0.1
UCH (Upper Caste Hindus)	23.7	23.8	-0.1
Muslim	13.7	13.7	0
Christians	2.3	2.3	0
Sikhs	1.9	1.8	0.1
Total	100	100	
Location	Census	Valid Percent	
Urban	30	30	0
Rural	70	70	0
Total	100	100	

## 10. The Urban / Rural divide in India

The essential of a Standard Urban Area are (This was first implemented during the process of Census 1971.):

- i. it should have a core town of a minimum population size of 50,000
- ii. the contiguous areas made up of other urban as well as rural administrative units should have close socio- economic links with the core town and
- iii. the probabilities are that this entire area will get fully urbanized in a period of two to three decades.

As per the Constitution of India, we consider the polling booths which are governed by a Municipality as urban and those which come under Panchayat are taken as rural. The Urban Population is served by local government known as “Municipal Corporations” while the Rural Population is served by local government known as “Panchayat”. There are village-level ‘Panchayat’ known as “Gram Sabha” and there are also District level ‘Panchayats’ known as “Zila-Panchayat” especially for districts which are completely Rural in population.

This Government criterion is based on the census information primarily on Occupation and Infrastructure. The guiding principal is the fact that, if, the population is Agrarian or Agriculture based or affiliated economy; then the locality is marked as rural in official records and the local government system is formed accordingly.

This is why, even in big metropolitan areas like Delhi, there are so many rural enclaves which have local government system of Panchayat. Such hybrid areas are also sometimes known as “Nagar Panchayat” which roughly indicates to “Urbanized Village”. Such hybrid enclaves are generally found across all big metros and cities and add an extra dimension to the rapid urbanization India is going through after opening up of the economy in last two decades.

The respondents are asked the following questions to code their areas:

Location			
	1) Urban	2) Semi Urban	3) Rural
	Are you still in connection with village life or Rural India?		
1	Yes, I am currently living in a village or rural area	3	I now live in city and have no connections with Village / Rural life
2	I live in a city but I still have a house/family/relative in village or rural area	0	Can't say

## **11. The Question of Tele density in India**

CATI is relatively new phenomenon in India as before the launch of mobile phone services; telephones in India were basically an Urban and High-Income proposition. Twenty year back, the landline telephones were installed in hardly about 3% of Indian Households. Today; this number is still around the same. But the real game changer has been the mobile phone services.

### **The Key Statistics of Tele density in India<sup>3</sup>**

In the last two decades, it has reached to more than 3 mobile connections per households. **India has the world's second-largest mobile phone user base with over 1.16 billion users as of May 2019.** The Indian telecommunications industry is the world's fastest growing telecommunications industry. It is also the second largest telecommunication network in the world in terms of number of wireless connections after China.

**Telephone subscribers (wireless and landline):** 1.1835 billion (May 2019)

- **Cell phones:** 1.161 billion (May 2019)
- **Tele density:** 89.92% (May 2019)

## **12. Quality and transparency of the data**

The CATI process involves 100% quality back-check. **All the voice calls are digitally recorded in the server** and the quality of the calls and the data collected is carefully and continuously monitored throughout the sampling process. **Dip checks**, wherein the quality team revisits the respondent to confirm the surveys are also randomly performed. The transparency of the data is a serious matter of concern to us and is maintained with utmost priority.

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*[3https://en.wikipedia.org/wiki/Telecommunications\\_in\\_India](https://en.wikipedia.org/wiki/Telecommunications_in_India)*

### TEAM CVOTER: A Brief Profile

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Centre for Voting Opinion & Trends in Election Research (CVOTER) is South Asia's leading agency for Public Opinion Research with almost two decades of experience in Market Research, Conflict Resolution Research, Media research, Disaster Mitigation Research, Social and Political Research along with targeted consultancy services. While we started in 1993 with an initiative to act as an interface between the people and the polity, establishing ourselves as one of the leading Public Opinion Research groups of India in the process, we gradually expanded our service net to include specializations in social research and evaluation.

Over the years, our consummate quantitative and qualitative research prowess in more than 30 countries has established Team CVOTER as a leader in Evaluation and Stakeholder Research with a global footprint. CVOTER has been providing timely and accurate advice to organizations working in various parts of the world; especially to firms that are involved in the upliftment of the deprived sections of society. Fired by the ambition to create a better and more equal world, we have worked consciously towards cultivating and developing the expertise of professional communities working in the areas of humanitarian and societal assistance. We do this through our **core expertise areas** which include **evaluation, designing, field data collection, report writing, analysis and training** in planning, monitoring and evaluation.

Internal quality assurance and back-breaking support supplied by our 26-member core team of experts ensures superb quality and timely delivery of every domestic and international assignment we undertake. The company carries out almost 25 international and domestic evaluation projects every year, contracting out a part of its assignments to trusted subject expert consultants to access expertise required for individual assignments. In each case, our core team complements the expertise required for individual assignments. We are structured to support our teams in difficult and unstable environments and have full travel and war risk, kidnapping and terrorism insurance.

Annex: 1

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