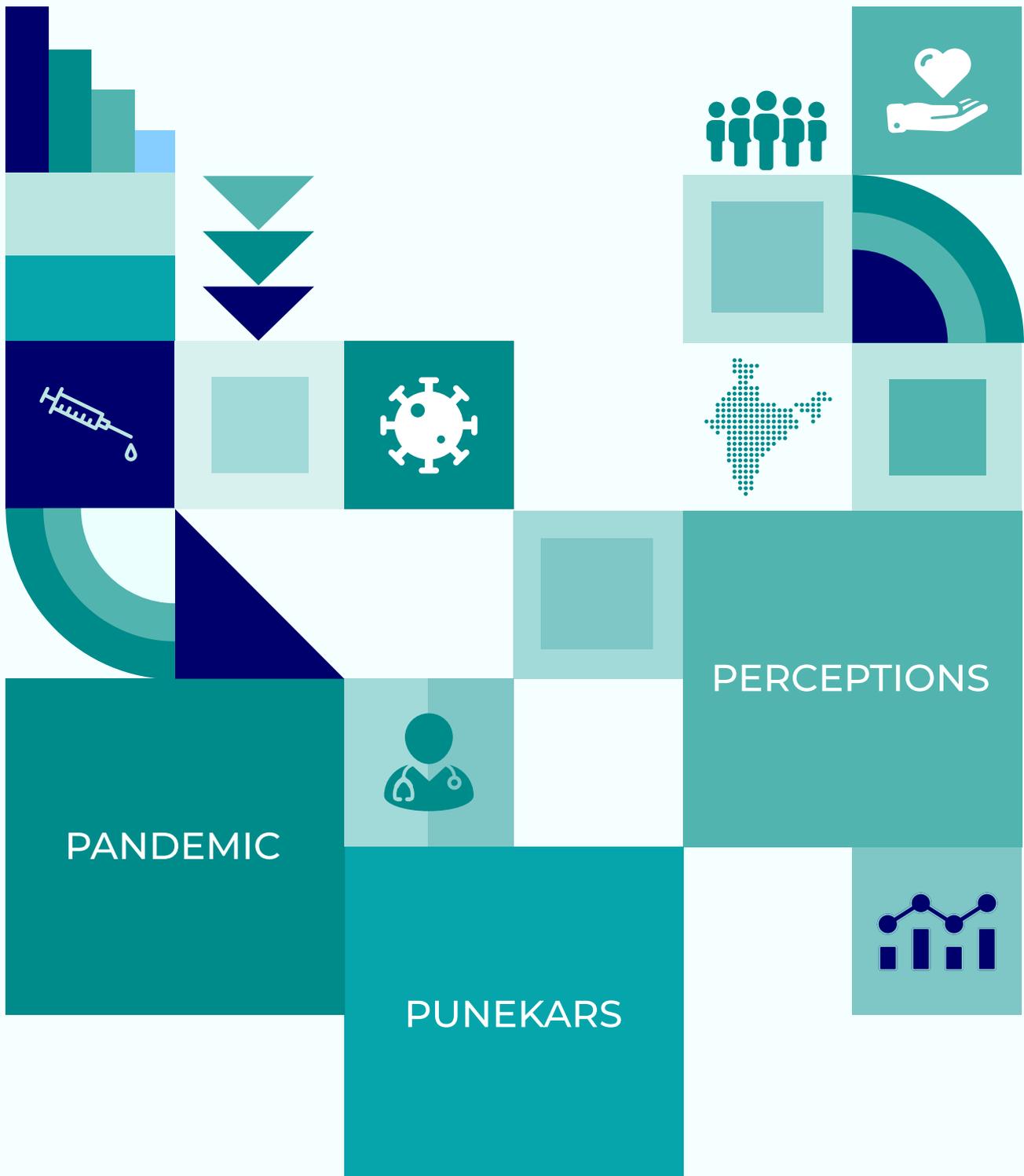


PANDEMIC, PUNEKARS, AND PERCEPTIONS

Preliminary findings of a COVID-19-related
Knowledge, Attitudes, Practices, and Wisdom survey





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Supported by



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Summary

The COVID-19 pandemic is one of the most significant threats our world has faced in over a century. It has left a mark on almost all aspects of our lives. The city of Pune in western India has seen its own share of unique challenges over the course of the pandemic. Yet the resilient residents of the city, colloquially called “Punekars”, have dealt with these challenges in their own innovative ways. How have Puneinars experienced the pandemic? Our team from Jnana Prabodhini Foundation and Carnegie Mellon University decided to answer this question.

We carried out an online Knowledge, Attitudes, Practices, and Wisdom survey in two rounds to gauge the perceptions of adult Puneinars (**Appendix: Methodology**). We first looked at the medical and economic impact of the pandemic on Puneinars from different backgrounds (**Medical Impact of the Pandemic; Economic Impact of the Pandemic**). We also characterized Puneinars’ opinion about the various public and personal mitigation measures deployed to fight the pandemic (**Fighting the Pandemic: Attitudes; Fighting the Pandemic: Practices**). In addition, we investigated beliefs about different sources of information about COVID-19 that are relevant to the infodemic accompanying the pandemic (**Fighting the Infodemic**). We then moved on to psychological aspects of the pandemic like fear and optimism (**Psychology of the Pandemic**), as well as getting Puneinars’ estimates about the future course of the pandemic and the elusive return to normalcy (**Future of the Pandemic**). The following sections contain selected insights about the above-described themes of our survey. While this report necessarily offers a high-level summary of our findings, we also present one illustrative example where we dive deeper into the details of the data about COVID-19 vaccination (**Deep dive: Puneinars & Vaccination**).

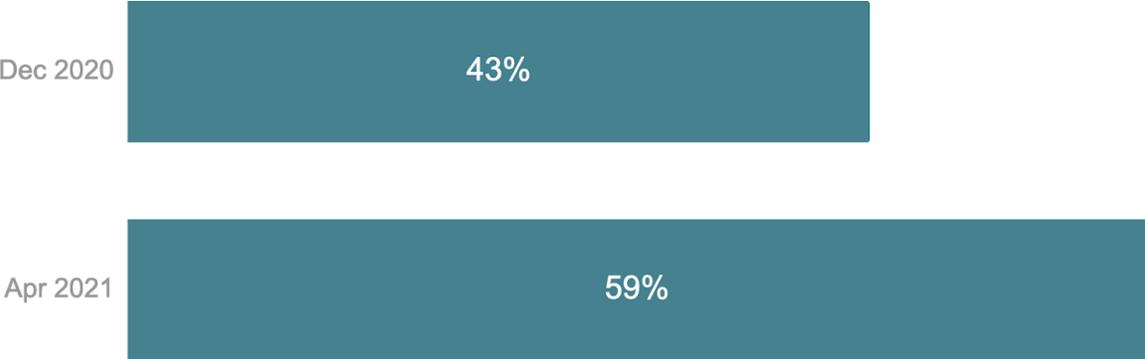
Our rationale for conducting this survey was to highlight the importance of detailed documentation and data analysis in the context of public policy in India. This survey serves as a stepping stone towards our team’s next goal of developing a knowledge-repository focused on a comprehensive understanding of how the COVID-19 pandemic played out in Pune. Knowing precisely how Puneinars perceived and experienced the pandemic is crucial towards formulating the kind of long-term strategic solutions necessary to deal with the challenges of a post-COVID world.

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Medical Impact of the Pandemic

Many PuneKars have lost a close person to COVID-19

% of PuneKars who say they know someone close to them who has died of COVID-19



Note: n = 2245 for December 2020; n = 244 for April 2021.

With over 40% of its 50 lakh (5 million) inhabitants residing in urban slums coupled with a significant floating population of migrants from surrounding rural areas, Pune has been severely affected by the COVID-19 pandemic, often earning the unwanted distinction of being the “Covid Capital” of the country. In this section, we looked at the several indicators of medical impact including COVID-19 infection history of the respondents, occurrence of COVID-19 cases and deaths in one’s household and close social network. We found that healthcare workers and those unable to work from home were disproportionately medically impacted.

Key Findings

Healthcare workers were **twice as likely** as the general public to have been infected by COVID-19.

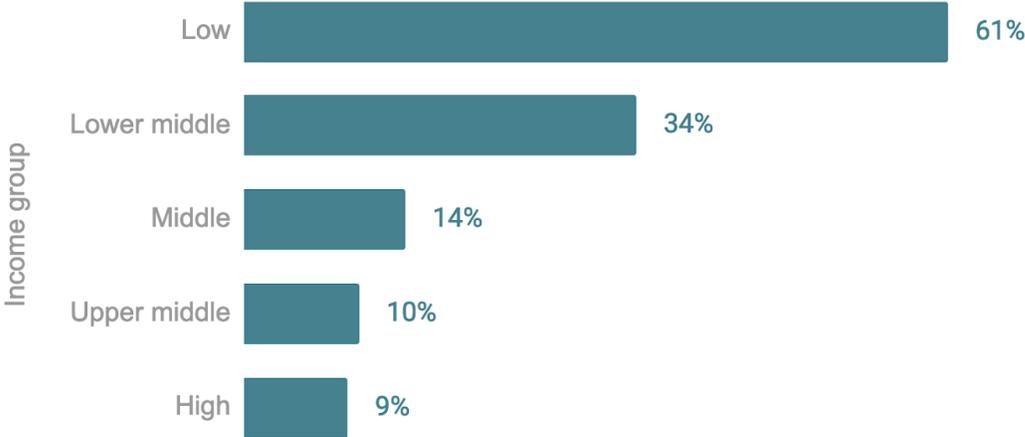
53% of the working population who had contracted COVID-19 were unable to work from home; whereas **41%** of uninfected respondents were unable to work from home.

Over **80%** of PuneKars knew at least one person in their social circle who had contracted COVID-19.

Economic Impact of the Pandemic

Low income groups were hit the hardest by unemployment

% of Pune-kars who say they became unemployed during the pandemic



Note: Data from December 2020 (Sample size = 2245).

With a GDP of over \$7000 crore (70 billion) befitting the eighth largest city of India, the automobile and IT industry hub of Pune has been economically ravaged by the COVID-19 pandemic. In this section, we looked at the several indicators of economic impact including unemployment, income change, and work-from-home privilege. While 22% of Pune-kars became unemployed and 51% saw a decrease in their income, economic hardship was felt unequally. Members of low income groups, women, and residents of urban slums experienced disproportionately negative economic consequences.

Key Findings

Of the **7%** of Pune-kars who saw an increase in their income, **61%** were men.

38% of Pune-kars who had become unemployed during the pandemic had not yet rejoined the labour force.

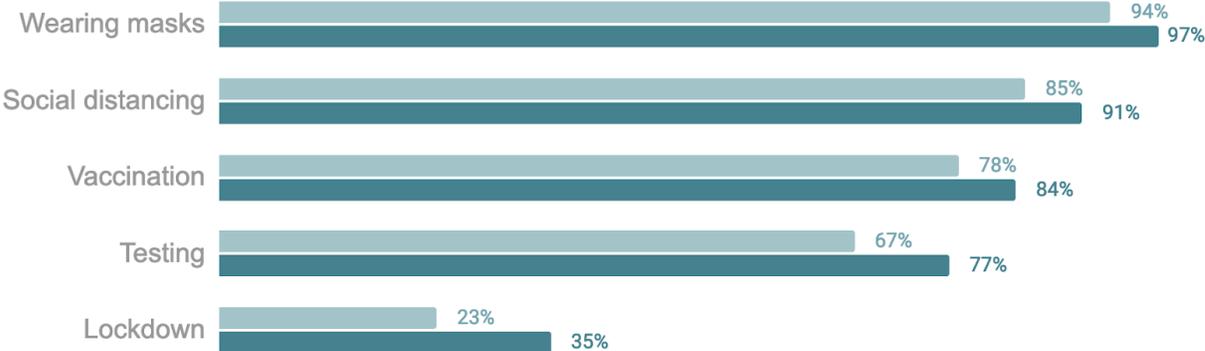
44% of the working population whose highest level of education was 4th grade were able to work from home, compared to **62%** of the working population possessing at least a bachelor's degree.

Fighting the Pandemic: Attitudes

Perceived importance of mitigation measures increased during the second wave

% of PuneKars who say ____ is very important in the fight against COVID-19

■ Dec 2020 ■ Apr 2021



Note: Sample size = 2245 for December 2020; 244 for April 2021.

The COVID-19 pandemic is being fought both on the frontlines and on a personal level. Many mitigation measures have been deployed over the past year. Widespread adoption of these measures often involves a complicated balancing of barriers over benefits. In this section, we looked at attitudes about the perceived importance of various personal and public health measures. Overall, PuneKars perceived many of these mitigation measures to be critical in the fight against COVID-19. However, support for lockdowns was the lowest, with PuneKars believing that the optimal lockdown length is about 2 weeks.

Key Findings

PuneKars overwhelmingly supported frequent hand washing (**87%**).

Only **28%** of PuneKars from high income groups believed that the Aarogya Setu app was very important in the fight against COVID-19. On the contrary **57%** of PuneKars from low income groups believed the same.

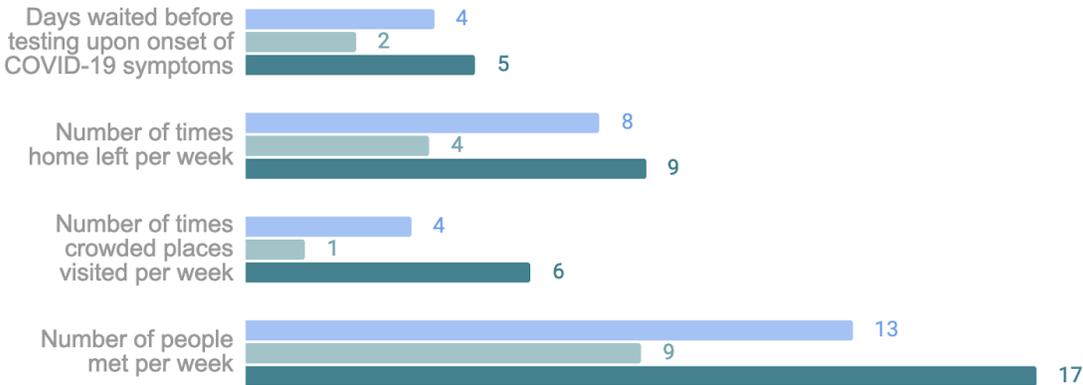
Highly educated PuneKars were **three times more** skeptical about the importance of lockdowns compared to those with less education.

Fighting the Pandemic: Practices

Individuals report being more vigilant than their fellow citizens

Individual Pune-kars' mean estimate about themselves and other Pune-kars regarding ____

■ Self (Dec 2020) ■ Self (Apr 2021) ■ Other Pune-kars (Apr 2021)



Note: Sample size = 2245 for December 2020; 244 for April 2021.

Successful COVID-19 management depends largely on the compliance of the general public with established mitigation measures. In this section, we looked at practices concerning various personal and public health measures. 74% of individuals reported high levels of adherence towards these measures, with no notable differences between the practices of healthcare workers and the general public. However, only 29% believed that other Pune-kars were equally vigilant. Vigilance levels varied with age, gender, education, and the ability to work from home.

Key Findings

Pune-kars reported washing their hands **12** times per day, slightly lower than their estimate about optimal hand washing (**14** times per day).

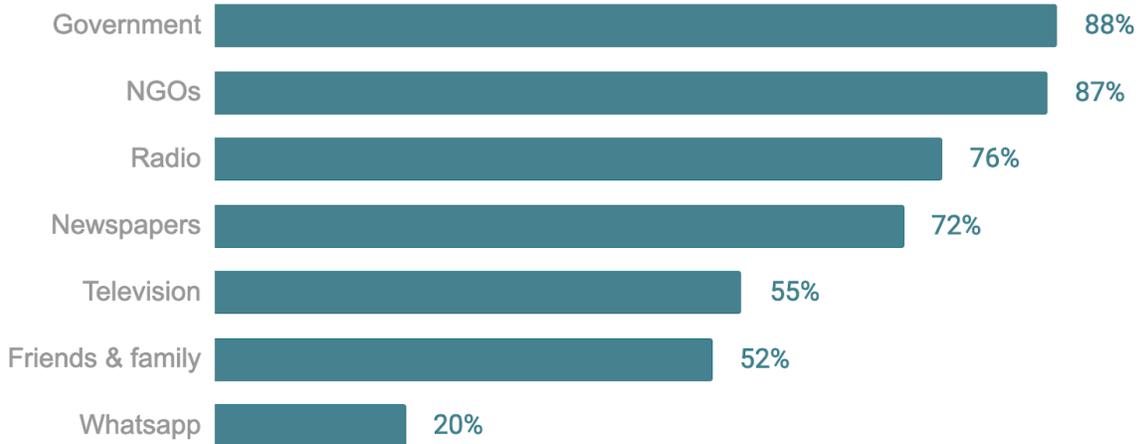
66% of Pune-kars from high income groups and **48%** of Pune-kars from low income groups reported using the Aarogya Setu app.

Pune-kars overwhelmingly (**98%**) reported personal mask-usage in crowded places; however, the corresponding estimate about other Pune-kars was lower at **67%**.

Fighting the Infodemic

Punekars trust traditional media sources more than digital ones

% of PuneKars who say they trust ____ for information about COVID-19



Note: Data from December 2020 (Sample size = 2245).

The current infodemic of misinformation and information overload is a significant obstacle in the fight against COVID-19. In this section, we looked at attitudes about information overload and trust concerning traditional and digital media sources, local civic institutions, and community networks. PuneKars reported varying degrees of trust in different information sources. Most individuals (90%) reported being well-informed about COVID-19, but a smaller fraction (66%) believed that other PuneKars were equally knowledgeable. Overall, PuneKars reported being exposed to a lot of information from all sources.

Key Findings

Strong skeptics of lockdowns were **three times more likely** to distrust the government compared to strong supporters of lockdowns.

Punekars from low income groups were **twice as likely** to trust NGOs compared to those from high income groups.

Younger PuneKars (ages 18-25) show a lower degree of trust (**41%**) in their friends and family compared to their older (ages 45+) counterparts (**63%**).

Psychology of the Pandemic

Punekars became more pessimistic during the second wave

% of PuneKars who say the overall situation about COVID-19 in Pune is improving

■ Dec 2020 ■ Apr 2021



Punekars' median estimate about when they would be able to leave the home without even thinking about COVID-19



Note: Sample size = 2245 for December 2020; 244 for April 2021.

Along with its health and social consequences, the COVID-19 pandemic has also had an immense toll on personal mental lives. In this section, we looked at psychological attitudes including fear, perceived seriousness, and general optimism about the dynamically changing situation. Most PuneKars (over 80%) reported perceiving the overall situation to be serious both during and between caseload surges. PuneKars believed that COVID-19 would be on their minds until at least the end of 2022. Perceptions varied across gender, occupation, and income group.

Key Findings

42% of healthcare workers reported being afraid of COVID-19 compared to **57%** of the general public.

Almost **60%** of PuneKars reported being afraid of COVID-19 both before and during the second wave.

A majority of PuneKars (**69%**) were most afraid of COVID-19 during the initial months of the pandemic (March-May 2020), whereas **17%** reported highest fear levels during the second wave of April 2021.

Future of the Pandemic

A majority of Pune-kars believe a future wave will occur

% of Pune-kars who say another wave of COVID-19 will occur in Pune in the future

■ Dec 2020 ■ Apr 2021



Pune-kars' mean estimate about when the next wave of COVID-19 in Pune will begin



Note: Sample size = 2245 for December 2020; 244 for April 2021.

The COVID-19 pandemic has created an atmosphere of unprecedented uncertainty in almost all walks of life. In this section, we looked at attitudes about the future including perceptions of future waves and the end of the pandemic. We asked Pune-kars about the return to normalcy as well as about the “new normal” consisting of public mask-usage, recurring lockdowns, and a turbulent economy. Pune-kars who were more skeptical of lockdowns were similarly skeptical about the existence of future waves. Perceptions of normalcy varied by income group and age.

Key Findings

Of the **76%** of Pune-kars who believed Pune will experience future waves, **over half (55%)** predicted one additional wave and a **quarter (26%)** predicted two additional waves.

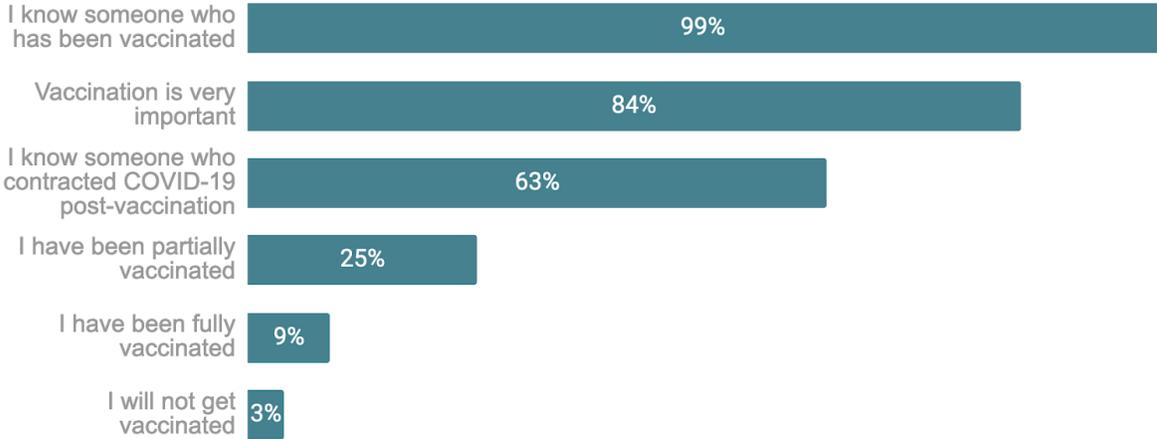
In April 2021, Pune-kars believed that an overall sense of normalcy would be achieved only after the **beginning of 2022**.

Pune-kars from lower income groups are **more optimistic** about the end of the pandemic.

Deep dive: Pune-kars & Vaccination

Punekars show high levels of support for vaccination

% of Pune-kars who say ____



Note: Data from April 2021 (sample size = 244).

The world is well-equipped to fight COVID-19, thanks to the rapid development and deployment of multiple vaccines. With the world's largest vaccine producer, the Serum Institute of India being located in Pune, the city has vaccinated a third of its residents as of July 2021. In this section, we asked Pune-kars about their perceptions of vaccine safety, skepticism, and availability. Although Pune-kars reported strong support for vaccination, concerns about vaccine safety were prevalent. Pune-kars did not believe widespread vaccine coverage will be achieved until the beginning of 2022.

Key Findings

Punekars estimated the likelihood of contracting COVID-19 after getting vaccinated was **37%**. This estimate was as high as **50%** for those who knew someone in their social network who had contracted COVID-19 after getting vaccinated.

Punekars believed that a quarter of their fellow citizens (**23%**) were not willing to get the COVID-19 vaccine.

In April 2021, **over 75%** of Pune-kars believed that they would get vaccinated by August 2021.

Conclusion

The findings of our online Knowledge, Attitudes, Practices, and Wisdom survey suggest that the COVID-19 pandemic had a significant impact on Pune-kars from different backgrounds. Healthcare workers, those unable to work from home, and Pune-kars from lower income groups were disproportionately affected, both medically and economically. Pune-kars reported strong support for most personal and public health measures with the exception of lockdowns. This support increased during the second wave, as did reported levels of compliance with these mitigation measures. Individuals believed themselves to be more informed and vigilant compared to their fellow citizens. Trust in traditional information sources and institutions was high, whereas Pune-kars were more skeptical about their own social networks and social media. Pune-kars remain optimistic about the future, believing the most fearful parts of the pandemic to be behind them. However, they also remain wary, with a majority entertaining the possibility of at least one more future wave before the pandemic ends. Pune-kars look forward to a return to normalcy, but they do not believe that will occur until the beginning of 2022. Although concerns about vaccine safety are prevalent, overall support for vaccination remains strong.

As the second wave declines, targeted programs are needed to address the medical and economic fallout of the pandemic. Creative interventions and public messaging are necessary to tackle skepticism and behavioural fatigue while also maintaining strong support and compliance with COVID-19 mitigation measures. It is crucial that the public does not get consumed by pessimism and fear but also avoids behavioral complacency. Rapid and equitable vaccination rollout is needed to achieve herd immunity, thus ending the COVID-19 pandemic. Tackling misinformation remains an important priority in the context of the pandemic and beyond. While a focus on the present battle against the pandemic remains essential, an optimistic outlook and strategic planning is needed to tackle the novel challenges of a post-COVID world.

Traditional decision-making in Indian public policy is ill-adept to deal with the demands of an uncertain new normal. It relies on institutional memory that perceives crises as acute shocks to be remedied via tactical short-term quick fixes. This approach needs to be changed by viewing crisis events as parts of larger chronic stresses that can only be addressed by implementing long term strategic solutions. Such solutions cannot be formulated in the absence of detailed documentation and rigorous data analysis. This survey serves as a stepping stone towards inculcating a data culture in Pune and India. Such a culture will spur the discovery of data-driven answers relevant to public policy. These credible answers will in-turn fuel the kind of evidence-based decision-making needed to build resilient communities that are capable of emerging from both the acute shocks and chronic stresses of today and tomorrow.

Appendix: Methodology

We carried out an online survey designed to gauge the awareness, beliefs, and behaviours of Pune-kars. We complemented public health survey methodology with insights from the ‘wisdom of crowds’ theory from cognitive science to develop a Knowledge, Attitudes, Practices, and Wisdom survey. We received ethics approval for conducting this survey from Carnegie Mellon University’s Office of Research Integrity and Compliance (IRB Registration No: IRB00000352). This process involved providing a statement of adherence to local customs and norms. We conducted surveying in two rounds: Round 1 in late 2020 (18 November - 31 December) and Round 2 during India’s second coronavirus wave of 2021 (5 April - 5 May). Both rounds of surveying involved answering 86 questions. Respondents could take the survey in Marathi or English. We employed a sample-of-convenience snowball-sampling method. The following table summarizes key statistics of our survey sample.

Demographic		Round 1	Round 2
Sample size		2245	244
Margin of error		2%	6%
Gender	Men	1086 (48%)	117 (48%)
	Women	1159 (52%)	127 (52%)
Age	18-35	1112 (50%)	123 (50%)
	36-55	882 (39%)	87 (36%)
	55+	251 (11%)	34 (14%)
Survey language	Marathi	1319 (59%)	114 (47%)
	English	926 (41%)	130 (53%)
Number of rooms in home	1-2	475 (21%)	15 (6%)
	3	478 (22%)	51 (21%)
	4	724 (32%)	95 (40%)
	4+	568 (25%)	83 (33%)
Occupation	Students	560 (25%)	69 (28%)
	Currently employed	1426 (64%)	160 (66%)
	Healthcare workers	281 (13%)	26 (11%)
COVID-19 positive		184 (8%)	45 (18%)

Appendix: Acknowledgments

This study would not have been possible without the unwavering support of numerous individuals and institutions. We would like to express our gratitude to:

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- The following Pune-based NGOs for helping us disseminate the survey among low income groups and residents of urban slums:
 - Akanksha Foundation
 - Jan Seva Nyas
 - Jnana Prabodhini
 - Khelghar
 - Kishkindha
 - Lend-A-Hand-India Foundation
 - Niramay Foundation
 - Pratham (Suprabhat Mahila Mandal)
 - Samidha Bahuddeshiya Sanstha
 - Seva Arogya Foundation
 - Seva Sahyog
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 - Swaroop Wardhinee
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 - Shravan Hardikar, IAS (Inspector General of Registration and Controller of Stamps, Pune)
 - Dr. Sundeep Waslekar (President, Strategic Foresight Group)
 - Mahesh Harhare (Chief Resilience Officer of Pune, Resilient Cities Network)
- The following guests of honour at our webinar on March 20, 2021 where we shared our findings with the public ([youtube.com/watch?v=hdG-4dg2Mmk](https://www.youtube.com/watch?v=hdG-4dg2Mmk)):
 - Rubal Agarwal, IAS (Additional Commissioner, Pune Municipal Corporation)
 - Dr. Sanjeev Wavare (Additional Medical Officer, Pune Municipal Corporation)
 - Dr. Anagha Lavalekar (Director, Jnana Prabodhini's Institute of Psychology)
- Our team from Jnana Prabodhini Foundation of over 40 volunteers from around the world for selflessly dedicating their time and efforts to this cause.



Mayur Wagh



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