# Resource Optimization & Operations Expansion through Hotel Beds for COVID 19 isolation- APOLLO KAVACH

*Summer training report*

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Stay-I

Initiative of **Apollo Kavach.**

Financial Partners **HUL, SBI, Deutsche Bank.**

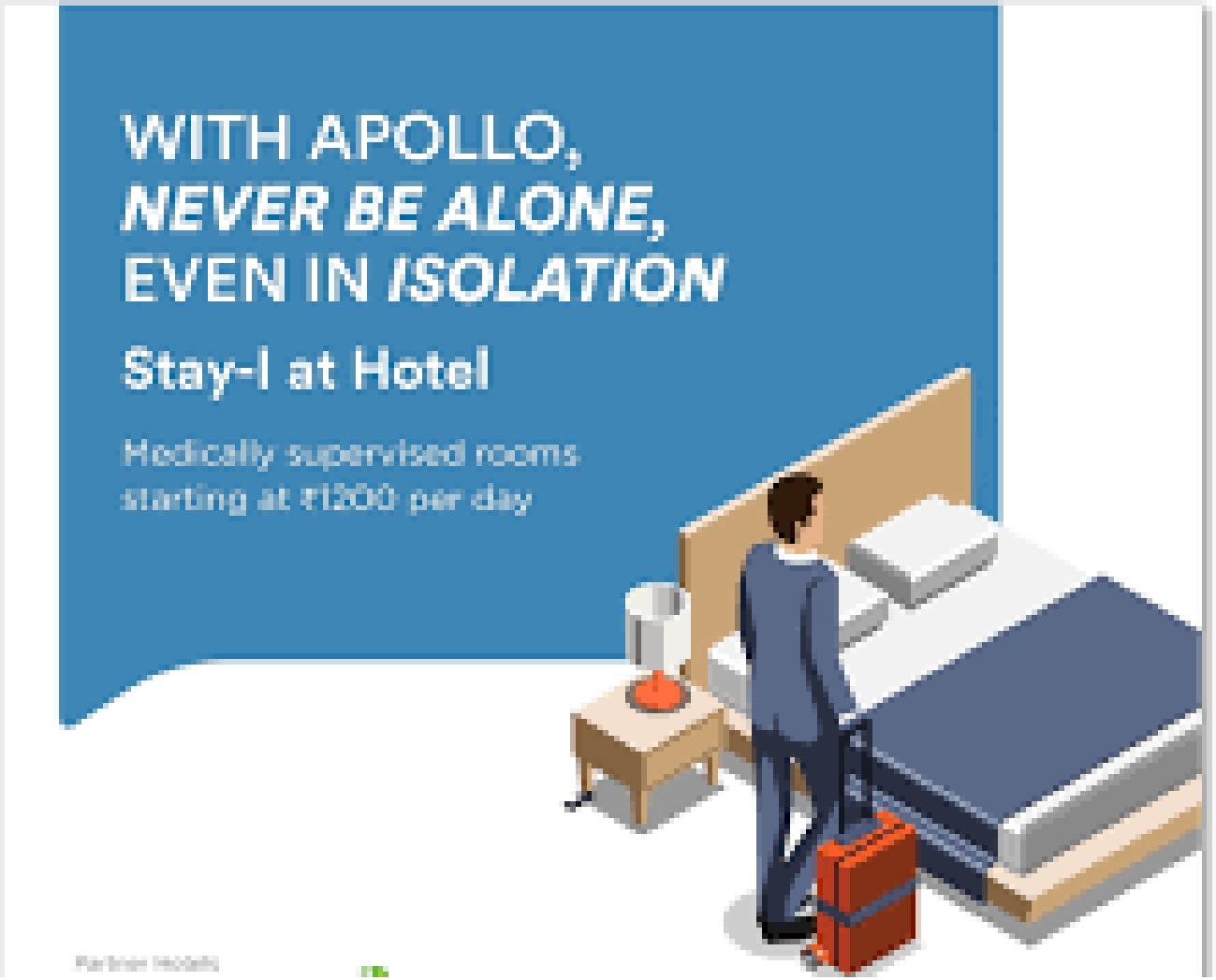
Supported by **Lemon Tree, Ginger, OYO, Zomato.**

# INTRODUCTION-
# The Big Idea

- COVID-19 pandemic has spread to every country on earth taking lives, shutting down economies, and creating worldwide havoc and panic. With growing number of COVID-19 cases in India, we all must do what it takes to deal with this single most unprecedented global event of our lifetimes.

- To address the need for monitored Home Isolation, as not all COVID-19 patients with symptoms need hospitalization, Apollo Hospitals Group has come out with an innovative COVID-19 home care services called Stay I @HOME.

- To guarantee reasonable, safe rooms, Apollo Hospitals has united with Deutsche bank, Hindustan Unilever, State Bank of India, Oyo Rooms, Lemon Tree, Ginger inns and Zomato and has dispatched a social effect drive. The functioning conventions, working and observing system have been created, and the undertaking was declared on 30th March 2020 this is the Stay I @HOTELS.



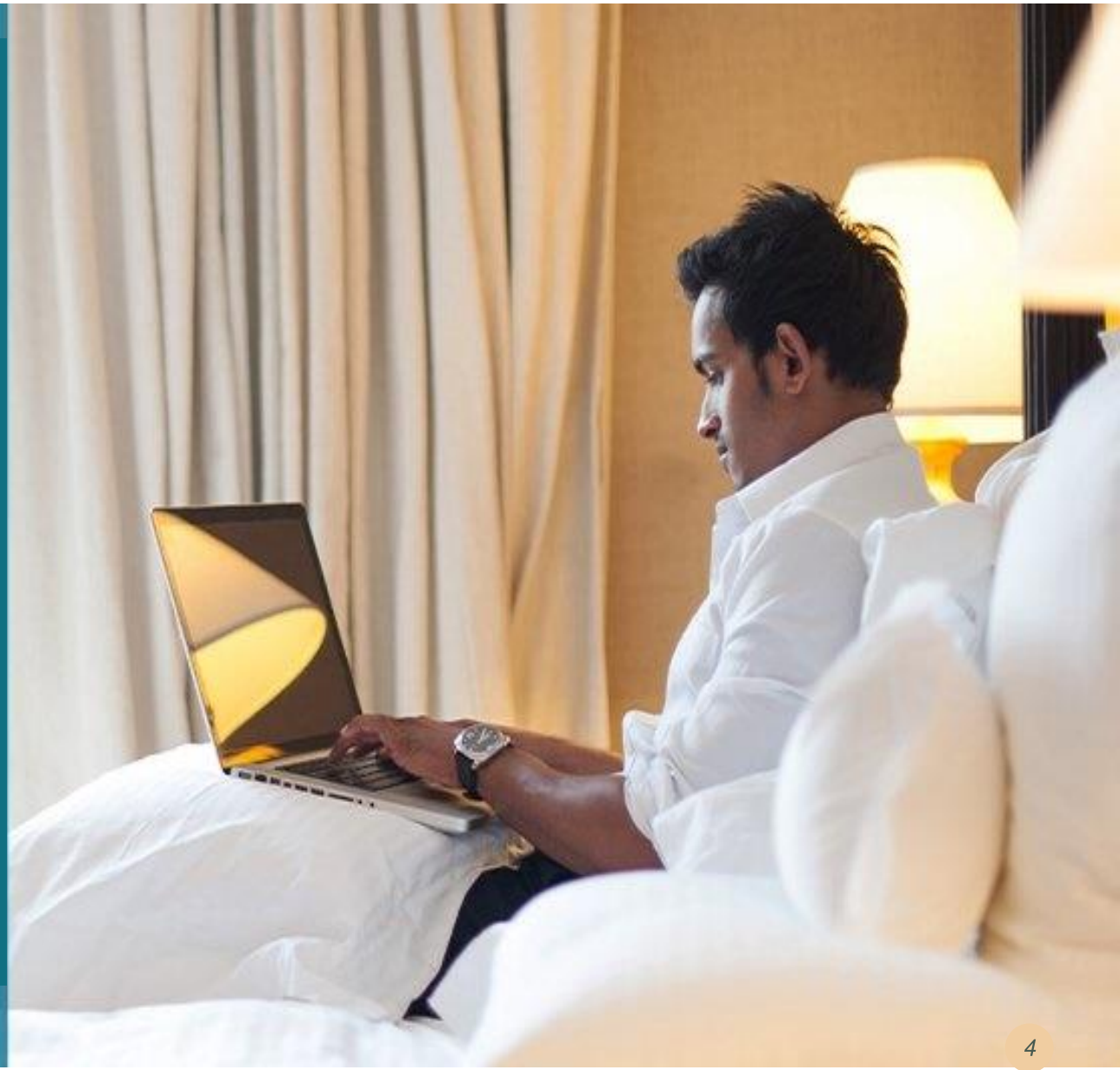

# RATIONALE

During the COVID-19 pandemic, the biggest challenge remains providing beds and isolation facilities to asymptomatic patients due to the humongous population of our county and when compared to the medical structure of the country; it turns out to be vastly insufficient.

Thus in this period of struggle Apollo Hospitals launched a project by the name Apollo Kavach, which utilizes the poor performing hotel and hospitality industry and forming tie-ups with them to use their potential for providing the population with services which benefits both the population as well as the hospitality industry for the greater good.

# RESEARCH QUESTION

1. What- Resource optimization and expansion of operations,
2. When- During COVID 19 Pandemic,
3. Who- By Apollo Hospitals for the COVID 19 RT-PCR Positive patients and contacts with asymptomatic status,
4. Where- Indian subcontinent specifically 8 major cities,
5. Why- To cope with the shortfall in bed counts when compared to the large population requiring medical facilities for managing COVID-19 disease and isolation.



# METHODOLOGY

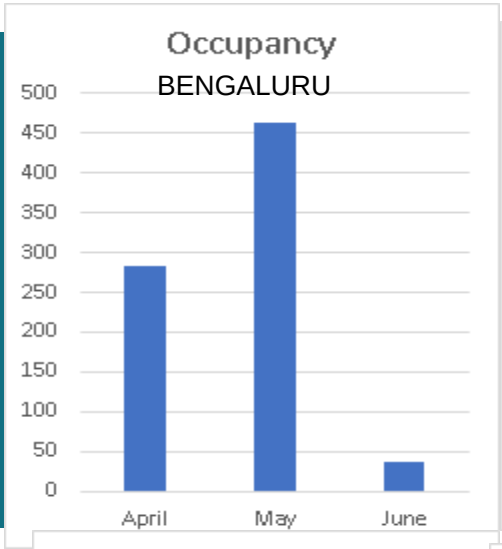
**Data collected in a tabular format with following entities- City, Facility name, Room number, Room type, Guest Credentials, Date of entry, Date of exit and Number of days stayed. And were then represented on basis of the utility when comparing throughout the country including city-wise, human resource and consumable. SAMPLE SIZE- 2867**

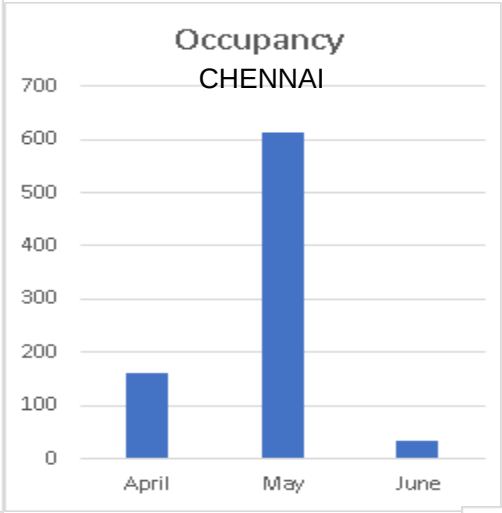
**Comparison is done in between the supervised cities on the lines of- Occupancy count, Average days stayed in isolation, Average medical expenses incurred on the patient. The latter reaches an overall Utilization of the consumables and the Human resource management in terms of dispatched doctors, nurses and staff.**

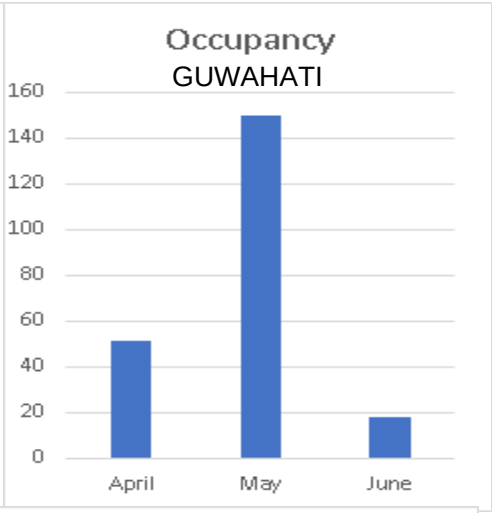
**The cities under supervision were-**

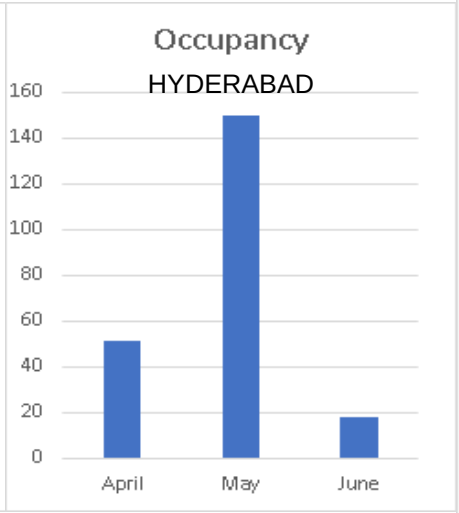
1. **Hyderabad**
2. **Bengaluru**
3. **Mumbai**
4. **Chennai**
5. **New Delhi**
6. **Pune**
7. **Indore**
8. **Guwahati**

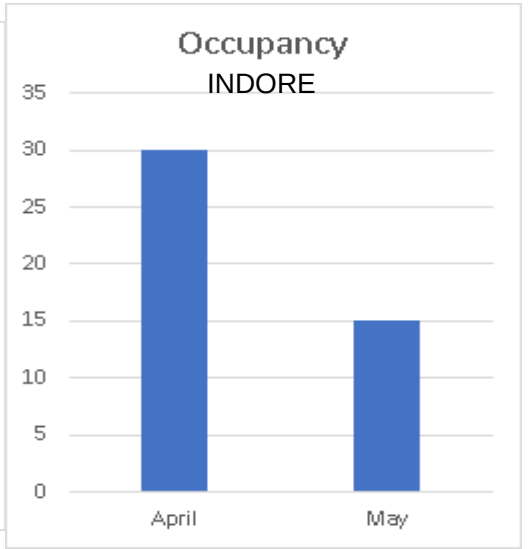
# THE RESULTS- Occupancy Trends

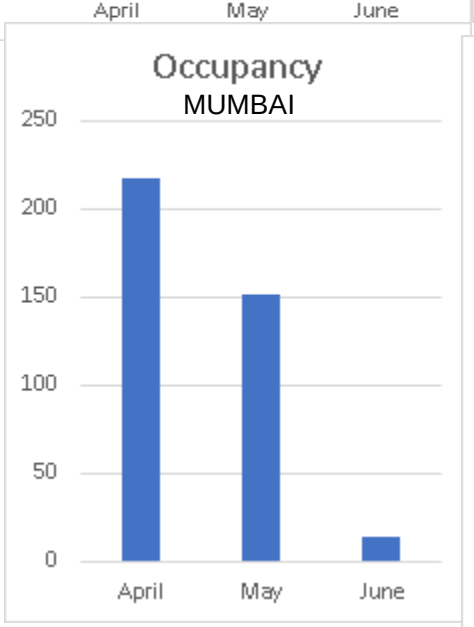


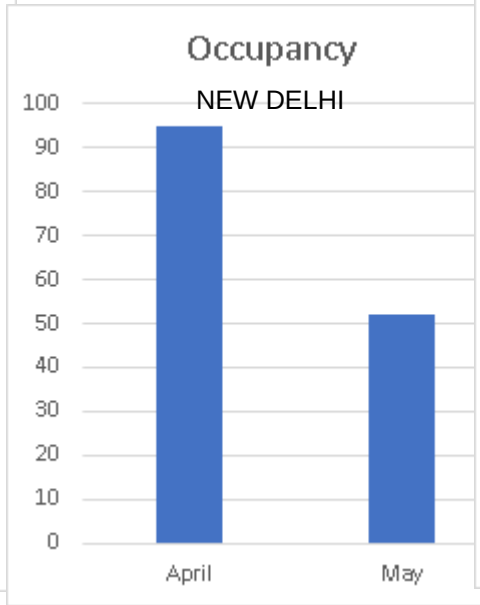



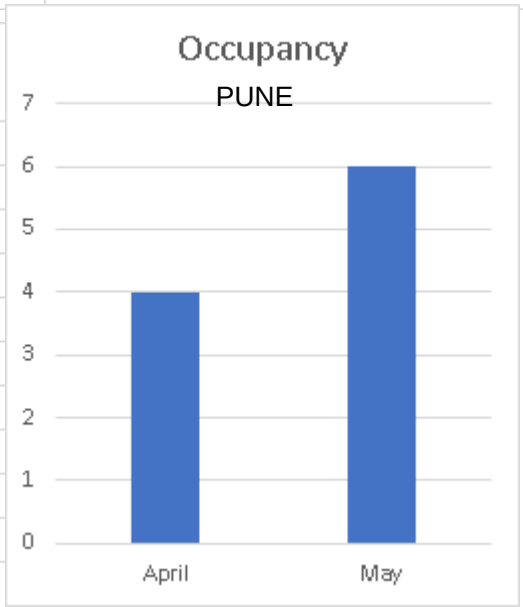



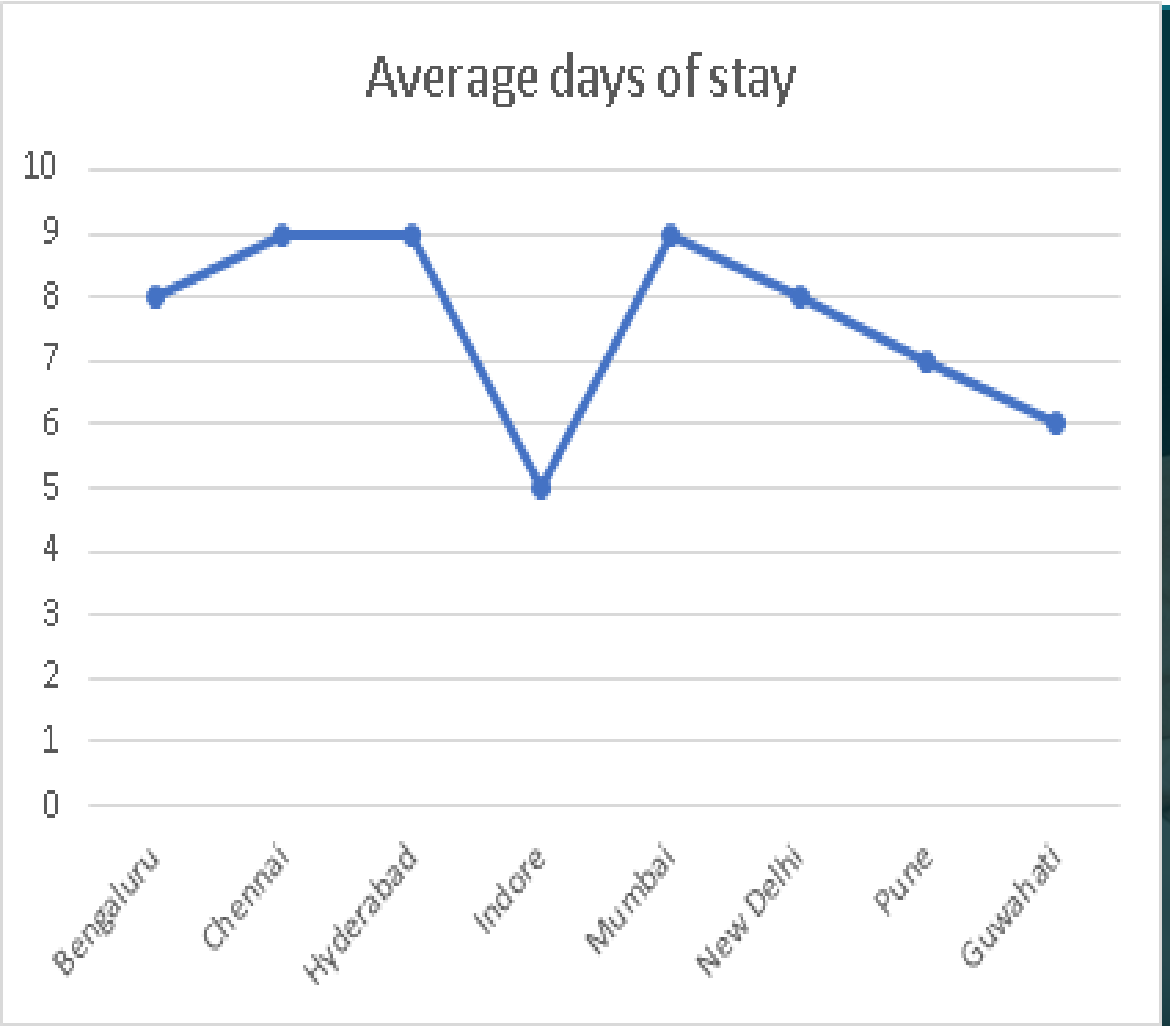




The above charts depict the effect of the rise and dip in the number of COVID positive cases on the facilities of the different states. It has been observed that the number of patients seeking isolation peaked during the month of May in Bengaluru, Chennai, Guwahati, Hyderabad, and Pune. However, New Delhi, Mumbai and Indore show higher number of patients during the month of April.

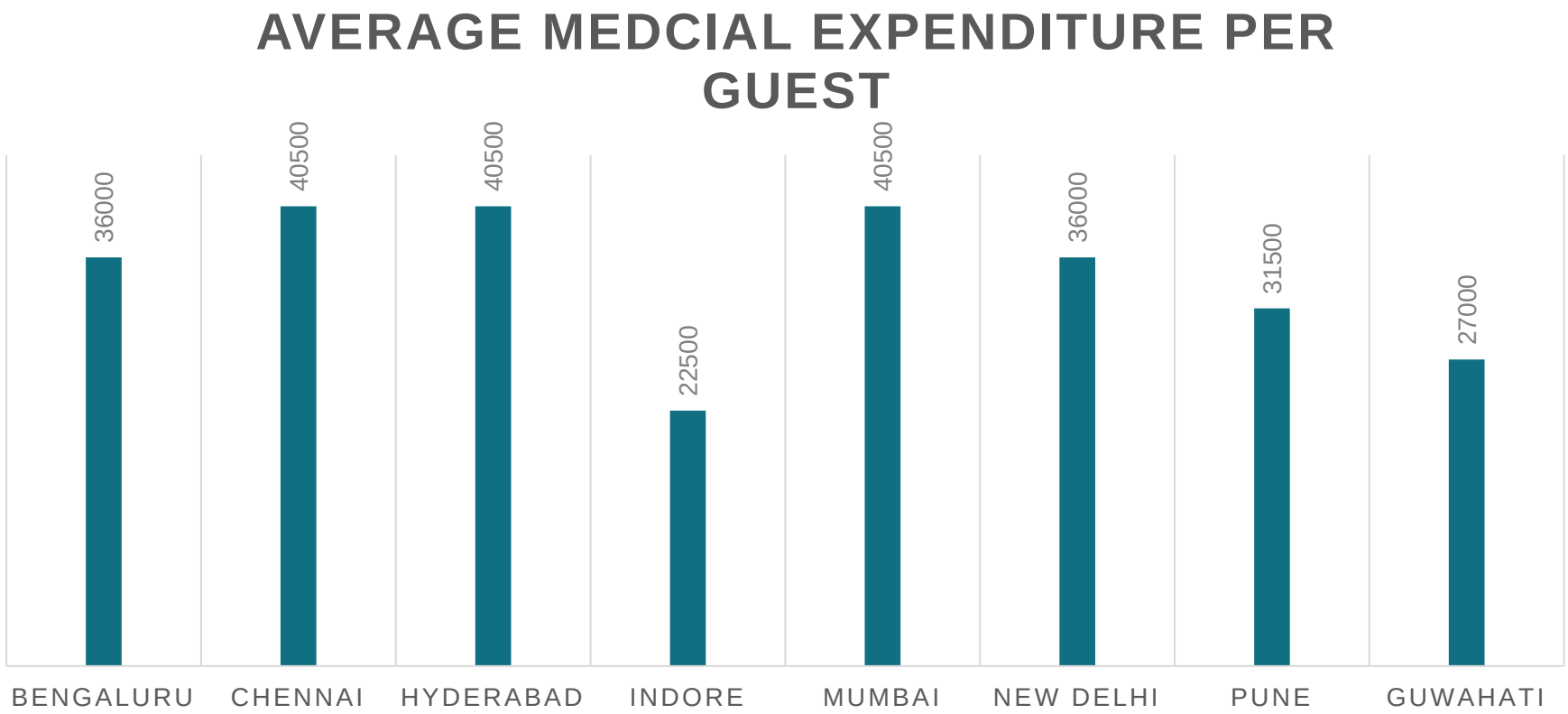
# THE RESULT- Average number of days stayed




The average number of days the patients were seeking isolation was eight days in Bengaluru and New Delhi while Chennai, Hyderabad and Mumbai saw an average of 9 days. Patients in Indore, Guwahati and Pune were isolated for an average of five, six and seven days, respectively.

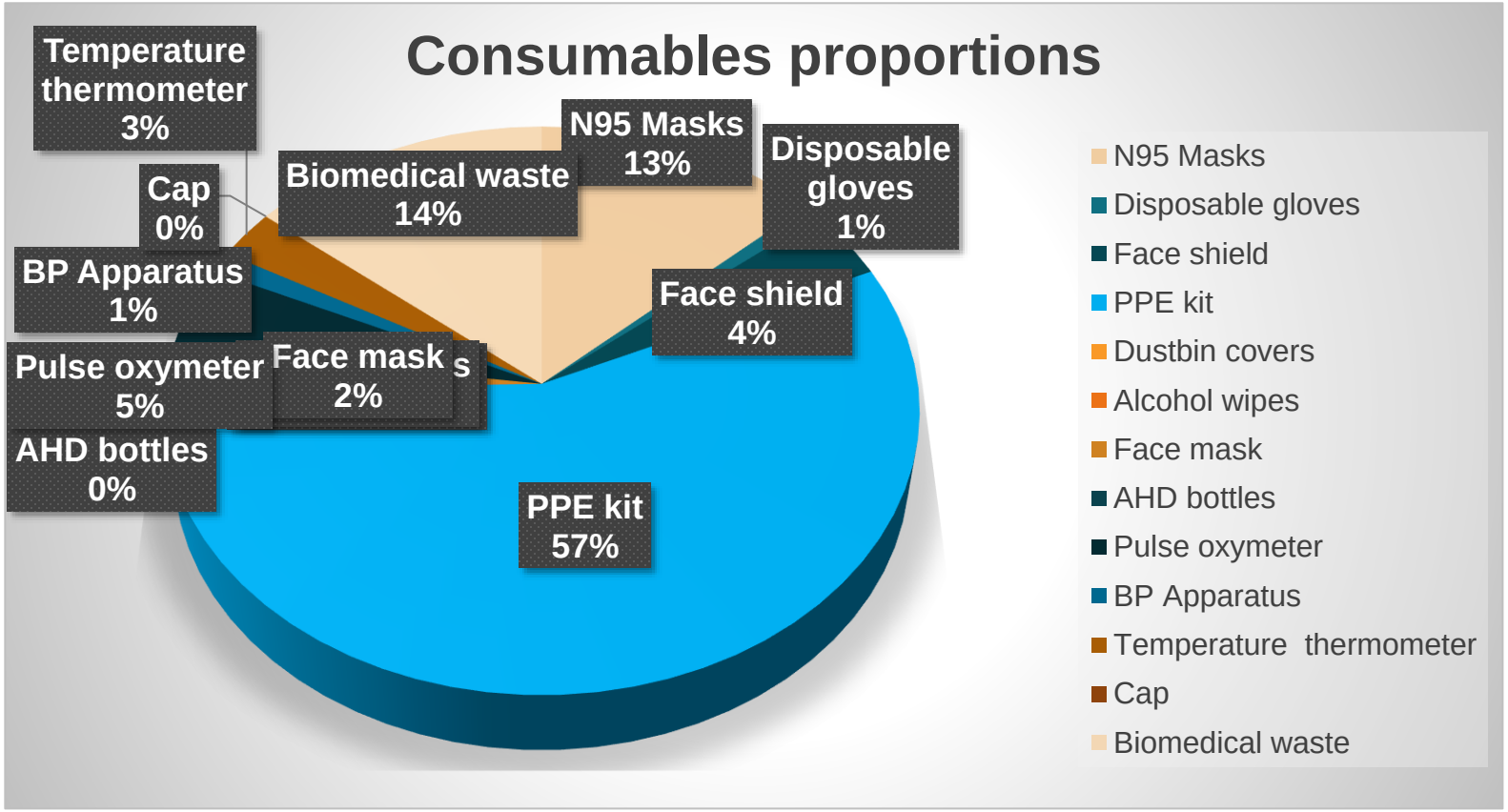
# THE RESULTS- Average medical expenditure for admissions

The revenue generation from the charged medical fees were highest from the cities of Mumbai, Hyderabad and followed by Chennai. Reason behind the higher generation is the higher number of rooms available in these cities by inclusion of more hotel facilities in those cities.

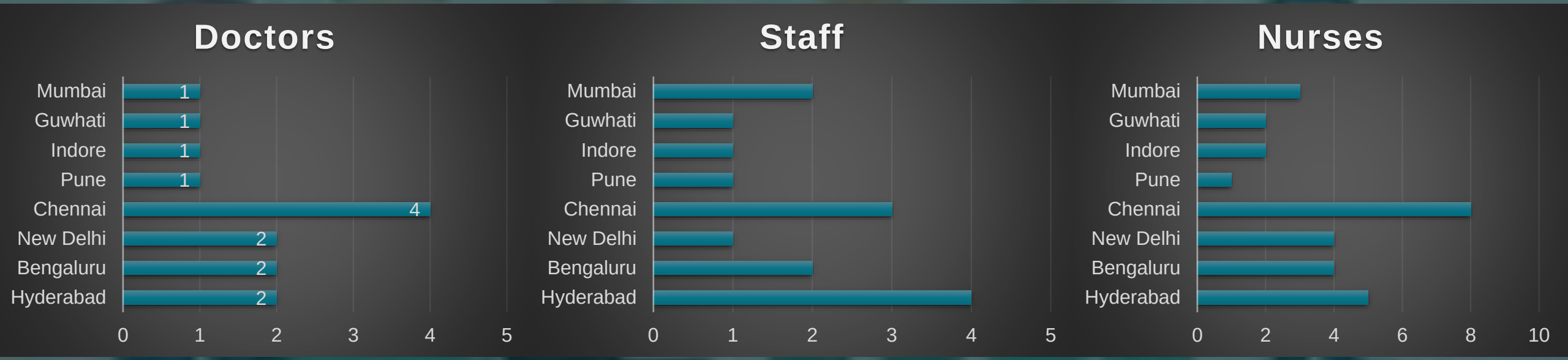


# THE RESULTS- Consumables Utilization

The Highest proportion allotted to the consumables was for PPEs which are essential for the medical staff on duty for interacting with the patients under isolation followed by the N95 Masks. This depicts the level of care provided for the human resources under the Apollo Kavach so that optimal results without absentees can be managed and the continual care can be provided.



# THE RESULTS- Human resource optimization




A good example of human resource optimization in the city-wise count of Doctors, Staff and Nurses is displayed by Apollo Project Kavach. With a count of 1 doctor and 2 nurses per isolation facility helped managing the medical supervision services and providing optimal care with it.

# LITERATURE REVIEW

**Assessing healthcare capacity in India-**

**Author- Shruti Rajgopalan, Abishek Choutagunta**

**Date- 07-April-2020**

**Key findings-** Given the way that India's private-area medical care framework has more ability to battle COVID-19 than government offices, India should depend on and boost reactions from the private area and common society.

This is best done by rapidly expanding the financial plans made accessible to battle COVID-19 and by eliminating bottlenecks

Key words- India COVID-19 preparedness, India COVID-19 lockdown, public health, economics, quarantine, economy, economic crisis

**Healthcare delivery in India amid the Covid-19 pandemic: Challenges and opportunities-**

**Author- Pragati B Hebbar, Angel Sudha, Vivek Dsouza, Lathadevi Chilgod, Adhip Amin**

**Date- 31-May-2020**

**Key observations-** Utilizing innovation for conference, further developing readiness, giving drugs at doorsteps, Streamlining travel during lockdown periods and Effective and straightforward correspondence.

Key words- Covid -19, Indian health system, OPD services, teleconsultation, lockdowns, ethical challenges, healthcare access, co-morbidities

**Capacity-need gap in hospital resources for varying mitigation and containment strategies in India in the face of COVID-19 pandemic-**

**Author- Veenapani Rajeev Verma ,Anuraag, Saini, Sumirtha Gandhi, Umakant Dash, Shaffi Fazal-u-din Koya**

**Date- Infectious Disease Modelling Volume 5 2020, Pages 608-621**

**Key findings-** We figured the flood limit, which is controlled by direction of cases and foundation committed to COVID-19 patients by getting to the timeframe around which Indian medical clinics will confront genuine emergency as far as accessibility of beds and ventilators.

The report demonstrate that the Indian medical services framework is confronting a colossal shortfall as far as the accessibility of medical care foundation, particularly for serious and basic case. We processed the flood limit, which is controlled by direction of cases and framework devoted to COVID-19 patients by getting to the timeframe around which Indian medical clinics will confront genuine emergency as far as accessibility of beds and ventilators.

Key words- Capacity-need gap, Numerical model, COVID-19, PolicyIndia

**Monitoring and Surveillance of COVID-19 Survival and Stay Characteristics: A Need for Hospital Preparedness in India-**

**Author- Ajit Deo Burma, Vinayak Mishra, Sumit Kumar Das, Mohana Balan Parivallal, Senthil Amudhan, Girish N. Rao**

**Date- 20-August-2020**

**Key findings-** As the COVID-19 pandemic is advancing, the stay and endurance attributes may change in view of progress in infection qualities or change in affirmation/release models. Preferably, the prerequisite for clinic assets is arranged dependent on information from the nearby setting in light of the fact that the age structure, COVID-19 areas of interest, and medical clinic beds are not uniform the nation over

Key words- communicable disease, community health planning, hospital bed capacity, hospital records.

**Network-based Modelling of COVID-19 Dynamics: Early Pandemic Spread in India-**

**Author- Rupam Bhattachayya, Sayantan Banerjee, Shariq Mohammed, Veera Baladandayuthapani**

**Date- 16-03-2021**

**Key findings-** The social texture comprises of broad family and cultural organizations. The test is thinking of prompt reactions, like fast lockdowns, that will lastingly affect numerous classes of society, particularly the metropolitan poor. What is required is a strong and manageable methodology, with local affectability and public availability. Pushing ahead, a system is required which makes India's thickness its benefit in managing COVID-19 and future pandemics..

Key words- Compartmental Modes, COVID-19, Forecasting, Network dynamics, Network Modelling.

**A Closer Look into Global Hospital Beds Capacity and Resource Shortages During the COVID-19 Pandemic-**

**Author- Brendon Sen-Crowe, Mason Sutherland BS, Mark McKenney, Adel Elkbuli**

**Date- 24-11-2020**

**Key findings-** Global COVID-19 death rates are possible influenced by numerous components, including emergency clinic assets, staff, and bed limit. Higher pay districts of the world have more noteworthy ICU, intense consideration, and emergency clinic bed limits.

Receiving a layered basic consideration approach and focusing on the extension of room, staff, and supplies may serve to expand the nature of care during resurgences and future fiascos.

Key words- COVID-19, Bed capacity, Hospital resources, Global health

**Effects of the COVID-19 pandemic in India- An analysis of policy and technological**

**Author- Isha Goel, Seema Sharma, Smita Kashiramka**

**Date- Health Policy and Technology; Volume 10,Issue 1, March 2021, Pages 151-164**

**Key findings-** The spread of COVID-19 in India was at first portrayed by less cases and low case casualty rates contrasted and numbers in many created nations, essentially because of a severe lockdown and a segment profit.

The monetary requirements constrained a stunned lockdown leave procedure, bringing about a spike in COVID-19 cases. This factor, combined with low spending on wellbeing as a level of total national output (GDP), made commotion due to insufficient quantities of clinic beds and ventilators and an absence of clinical faculty, particularly in the general wellbeing area

Key words- India, Pandemic, Health, Policy

**The J-IDEA Pandemic Planner- A Framework for Implementing Hospital Provision Interventions During the COVID-19 Pandemic-**

**Author- Paula Christine, Josh D'Aeth, Alessandra Lossen, Ruth McCabe, Dheeya Rizmie, Nora Schmit, Shevanthi Nayagam, Marisa Miraldo, Paul Aylin, Alex Bottle, Pablo N. Perez-Guzman, Christl A. Donelly, Azra C. Ghani, Neil M. Ferguson, Peter J. White, Katharina Hauck.**

**Date- P.M.C, U. S Library of Medicine Med Care, May 2021**

**Key findings-** The consequences of the contextual analysis show that while field medical clinics ease the weight on the quantity of beds accessible, this intercession is purposeless except if the shortage of basic consideration attendants is tended to first.

Key words- COVID-19, hospital provision interventions, adult critical care, health systems capacity, pandemic response, hospital capacity, critical care.

**Apollo Hospitals and Project Kavach: Insights from How India's Largest Private Health System Is Handling Covid-19-**

**Author- Anupam Sibal, Hari Prasad, Sangita Reddy, P. Murali Doraiswamy**

**Date- 24 February 2021**

**Key findings-** Venture Kavach was intended to mediate proactively at each stage identification, testing, segregation, and treatment and was considered fruitful by and large.

In the Apollo framework, 55,199 patients (6,081 in serious consideration units) have been treated for Covid-19, and the inpatient death rate has diminished from 3.02% (June–August 2020) to 2.38% (September–November 2020). While similar insights are not accessible to us from other Indian emergency clinics, these rates contrast well and those in Western countries.

**Innovative ideas to sustain in Covid-19 lockdown-A case study-**

**Author- Ravitheja Jampani, Vasireddy Yasaswini**

**Date- Journal of Management Research and Analysis, April-June 2020**

**Key findings-** The idea of private isolation wards to tackle lack of beds in hospitals with support from some of the hospitality providers is also a good innovative thought.

Key words- Covid-19 crisis, Survival in covid-19, Innovative ideas during covid-19, New jobs during Covid pandemic

**A Systematic Review of Smartphone Applications Available for Corona Virus Disease 2019 (COVID19) and the Assessment of their Quality Using the Mobile Application Rating Scale (MARS)-**

**Author- Vikas Aggarwal, Durga Prasanna Mishra, Ashish Goel, Latika Gupta**

**Date- 2020**

**Key findings-** Our pursuit recognized 63 applications that are presently being utilized for COVID-19.

On MARS Scale, generally scores went from 2.4 to 4.8 with applications scoring high in spaces of usefulness and lower in Engagement.

Future advances ought to include creating and testing of versatile applications utilizing evaluation apparatuses like the MARS scale and the investigation of their effect on wellbeing practices and results.

# RECOMMENDATIONS

- Faster channels and mediums to enrol/ re-enrol corporates into Stay-I @ Hotels tie ups.
- Search engine optimization for more digital outreach to the population.
- Faster telecommunication verification so to allot quicker and efficiently, the rooms for isolation on request.
- Comprehensive clinical testing for ascertaining the status of the patient coming for isolation before check-in.
- Orientation for patients about the importance of completing the isolation period.
- Record management of patient's vitals under isolation and a proper discharge summary must be kept.
- Recruiting more efficient and capable City supervisors from within the organization to provide a better flow of data input and output.
- Feedback mechanism for hotel isolation services by the patients to improvise the services and care.

# CONCLUSION

- Even though the project is in its adolescence stage it came up as a good example of Expanding operations, Optimizing resources and Profit maximization.
- The inclusion of a new project under the lead of Apollo Hospitals Enterprise Limited operated from the Apollo Hospitals, Apollo Health City Jubilee Hills, Hyderabad has opened of scope for further expansion of operations for medical facilities and services by utilizing already available infrastructure in the corporate field.
- The manner used to utilise the available provisions from the hospitals and providing them at the time of pandemic further enriches the quality of the services offered by the Apollo hospitals.
- This also includes the count of manpower brought in using contract basis employment and providing them with accommodation and other necessities on the facilities itself shows the importance given to the human resources from Apollo Hospitals.
- The revenue generated within this period was approximately Rs. 9,93,57,250.00 which in turn upon taking out the costs of hotel expenses (Rs. 6,66,44,000.00), Consumables (Rs. 25,51,478.00) and the cost of human resources (Rs. 62,55,000.00) returned the organization with an approximate profit of Rs. 2,39,06,772.00 which amounts to 32% of the revenue generated; this can be taken up as a profit maximization example for the project.

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# THANK YOU!


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