

**DIGITAL INTERACTIONS: HEALTHCARE PROFESSIONALS’  
EXPECTATIONS AND PREFERENCES IN THE POST-COVID ERA**

Dissertation Submitted to



**The IIHMR University, Jaipur**

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

Vinny

Under the Supervision and Guidance of

Dr. Susmit Jain

2021

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### DECLARATION BY STUDENT

I hereby declare that this dissertation titled "Digital Interactions: Healthcare Professionals' Expectations and Preferences in the Post-COVID era" is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

A handwritten signature in black ink, appearing to read 'Vinny', with a stylized flourish at the end.

Name of Student - Vinny

Roll No. – 1038

Date – 30-06-2021



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## CERTIFICATE

This is to certify that Vinny in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her internship/dissertation at THB Technology HealthCare Big Data Analytics, Gurugram, Haryana during March 22, 2021 to June 19, 2021.

Place: Gurugram  
Date: 30-06-2021

Mr. Jatinder Singh Bedi  
Head – Products & Insights  
THB Technology HealthCare Big Data Analytics

*Jatinder S. Bedi*

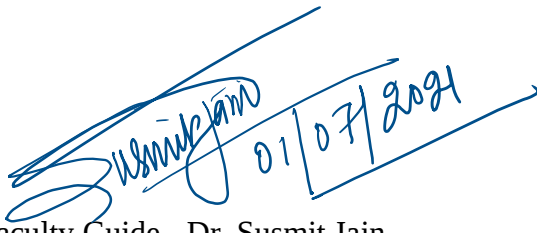
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## CERTIFICATE

This is to certify that dissertation titled "Digital Interactions: Healthcare Professionals' Expectations and Preferences in the Post-COVID era" is a record of Research work undertaken by (in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his approach to the research study has been sincere, scientific, and analytical.



Faculty Guide - Dr. Susmit Jain  
Associate Professor  
IIHMR University, Jaipur

Date

School Dean – Dr. Dharendra Kumar  
IIHMR University, Jaipur

Date

## **Digital Interactions: Healthcare Professionals' Expectations and Preferences in the Post-COVID era**

### **ABSTRACT**

**Background:** The worldwide outbreak of coronavirus pandemic (COVID-19) has triggered a move from physical to virtual work in several sectors in order to avoid the spread of the infectious disease and save the economy. COVID-19 has pushed both providers and consumers into widespread acceptance of these digital healthcare interaction services such as “telemedicine”, “e-pharmacy”, “personal health management”, “home healthcare”, “health based applications” and others at mass level. The digital healthcare interaction generates new business possibilities and innovations to solve concerns in medical and pharma practice, other difficulties associated with healthcare industry and creating value. But there are still healthcare professionals who are not able to accept it fully in their day-to-day life. There still exists a lag in accepting digital interactions. Therefore, it is important to understand the expectations and preferences of HCPs on digital modes of engagement so that they can fully adopt it.

Through the observations and results of this research study, it would be easier to gain in-depth insights into the medium to long-term changes in HCP expectations from digital interactions. The research intends to understand different personalities of doctors which exist across age groups, specialties and locations regarding the extent of digital adoption / tech savviness.

**Objective:** This study aims to assess the preferences and expectations of Consulting Practitioners/ General Practitioners and Specialists for digital modes of engagement with patients and pharma companies in the post-COVID era.

**Methodology:** A descriptive cross-sectional study was conducted using a structured questionnaire including questions on doctor profile attributes, technology adoption, future interactions, knowledge enhancement and distributed using a non-probability convenience sampling method through an online survey form among HCPs. Online survey was circulated among sample size of 1107 Healthcare Professionals including CPs/GPs and Specialists with more than 2 years clinical experience and moderate practice which was calculated using Cochran formula. HCPs across geographies and different practice settings (Private, Corporate, Govt. etc.) with high, moderate and non-usage of digital platforms were approached.

**Result:** The research study clearly shows that the usage of virtual or digital engagement among HCPs of varied specialties has significantly increased in post COVID-19 era. Near about 80% of HCPs fall under the category of “Digital users: either regular or selective users”. EMR / Telemedicine usage still under-utilized but 40% respondents believe they are fully ready to

embrace digital revolution. Digital engagement channels to be most preferred by the doctors and in-person visits by medical representatives to be ranked lower in the near future. Based on digital usage and interaction, it was concluded that four types of HCPs' personalities exists that are "Digital Pioneers", "Facilitators", "Adapting" and "Conventional".

**Conclusion:** Doctors favour digital interaction channels more, whereas in-person visits by medical personnel are ranked lower by them. The top 3 Digital health platforms which are used to access scientific video content are "Docplexus", "Lybrate" and "Ciplamed". Teleconsultations via "WhatsApp" and "Zoom" applications will be continue to evolve and be embraced in a variety of formats by more healthcare practitioners and patients. Doctors are increasingly looking to pharmaceutical companies to provide relevant educational content and customise offerings. In addition, half of the participating HCPs are interested in adopting One Stop platforms where multiple services can be offered to them. Pharma companies should assist doctors in EHR/diagnostic report management and telemedicine field in alignment with their expectations and preferences. Improving staff and patient digital literacy would help to develop digital leadership abilities among them. There should be a strong governance framework to support a digital transformation culture and robust health IT infrastructure for information exchange.

**Keywords:** Digital interaction, HCPs, COVID-19, Pharma, Patients, Digital platforms

## **ACKNOWLEDGEMENT**

The achievement of any mission will be incomplete without the reflection of gratitude to the people who made it possible. It is a good thing that I now have the chance to convey my appreciation to all of them. This is a modest endeavour in this regard.

The dissertation opportunity I had with THB - Technology HealthCare Bigdata, Gurugram, Haryana during March 22, 2021 to June 19, 2021 was a great chance for learning and professional development in the field of hospital and health management.

First and foremost, I would like to convey my heartfelt gratitude to my team leader, **Mr. Jatinder Singh Bedi**, for his unwavering support for my dissertation study and research, as well as his patience, inspiration, passion, and vast expertise. His advice was invaluable during the research and writing of this report. I couldn't have asked for a better adviser and supervisor for my dissertation.

I am highly grateful to the President of IIHMR University, Jaipur, **Dr. P.R. Sodani** for putting in all efforts possible towards the completion of dissertation.

I would like to express the deepest appreciation to my mentor **Dr. Susmit Jain, Associate Professor** for the vision and foresight which inspired me to conceive this report in this pandemic situation. I convey my sincere thanks to him for being helpful, supportive, encouraging and receptive all the time. Without his co-operation and warm attitude this report would have been a distant dream.

By extension, I would like to pay my gratitude towards THB - Technology HealthCare Bigdata, Gurugram, Haryana for providing me the opportunity to work from home in this pandemic situation. I will strive to use gained skills and knowledge in the best possible way and I will continue to work on their improvement.

With warm regards,  
Vinny

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### **Abbreviations**

| <b>Abbreviations</b> | <b>Meaning</b>                      |
|----------------------|-------------------------------------|
| COVID-19             | Coronavirus Infectious Disease 2019 |
| HCPs                 | Healthcare Professionals            |
| CPs                  | Consulting Practitioners            |
| GPs                  | General Practitioners               |
| E-Pharmacy           | Electronic Pharmacy                 |
| IT                   | Information Technology              |
| IoT                  | Internet of Things                  |
| VR                   | Virtual Reality                     |
| AI                   | Artificial Intelligence             |
| CMEs                 | Continuing Medical Education        |
| MR                   | Medical Representatives             |
| EMR                  | Electronic Medical Record           |
| EHR                  | Electronic Health Record            |
| SMS                  | Short Message Service               |
| Email                | Electronic Mail                     |
| RWE                  | Real World Economics                |
| Apps                 | Applications                        |

## **Digital Interactions: Healthcare Professionals' Expectations and Preferences in the Post-COVID era**

### **1. INTRODUCTION**

The worldwide outbreak of coronavirus pandemic (COVID-19) has triggered a move from physical to virtual work in several sectors in order to avoid the spread of the infectious disease and save the economy. As a result, the pandemic has aided in the acceleration of the development of digital infrastructure in a variety of sectors due to which consumers' purchasing habits have shifted swiftly to online media and face-to-face interactions have become less common.[\[1\]](#) Discussing about particularly in healthcare, it has affected the interactions among healthcare professionals, patients, pharma and insurance companies. Over the last years, technology has penetrated deep into the healthcare, enabling the implementation of services such as “telemedicine”, “e-pharmacy”, “personal health management”, “home healthcare”, and others at mass level. The digital healthcare interaction generates new business possibilities and new business innovations to solve concerns in medical and pharma practice, other difficulties associated with healthcare industry and creating value. [\[2\]](#) Telemedicine is one of the most crucial digital health platform and will undoubtedly play an important role even when healthcare systems recover to their pre-crisis state. Apart from controlling spread of infection, there are other numerous benefits of digital health for both providers and consumers. Some of the major advantages for healthcare professionals are that the digital health reduces unnecessary service utilization, enhance the results and knowledge, focus on prevention and encourages patient independence. It helps patients to communicate with HCPs, give information on the manifestation and the disease status and to save their medical or health records digitally. [\[3\]](#) Other users, like pharmaceutical firms, health insurers, and regulatory agencies, can benefit from the simplified and streamlined procedures of digital engagement platforms. According to a report published by McKinsey and Company, it is widely acknowledged in the industry that digital health has an influence on every stage of the pharmaceutical value chain, from research to clinical trials to commercialization. It helps in sustaining communication among Pharma companies and HCPs. It provides significant benefit like cheaper costs, and more access to high-quality, data-driven care. [\[4\]](#)

COVID-19 has pushed both providers and consumers into widespread acceptance of these services. But there are still HCPs who are not able to accept it fully in their day-to-day life. There exists a lag in accepting digital interactions. Therefore, it is important to understand the expectations and preferences of HCPs on digital modes of engagement so that they can fully adopt it.

Through the observations and results of this research study, it would be easier to gain in-depth insights into the medium to long-term changes in HCP expectations from patients and pharma w.r.t the use of conventional vis-à-vis digital/Phygital initiatives. In addition, it would help in understanding the variation in such expectations/preferences by HCPs demographics, specialty, years of experience, practice setting, etc. The research intends to understand different personalities of doctors which exist across age groups, specialities and locations regarding the extent of digital adoption / tech savviness.

## 2. REVIEW OF LITERATURE

During the early stages of the research, a preliminary literature review was also carried out.

**Table 1 : Literature Review**

| Authors and Year                         | Title                                                                                                                     | Study location | Type of Study/<br>Sample size and<br>Sampling<br>techniques                                                                                                                                                                                                                          | Salient features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sermo,<br>April 2020 <a href="#">[5]</a> | “COVID-19 HCP<br>Sentiment Surveys<br>- Physician<br>Engagement with<br>Patients and<br>Remote/Telehealth<br>Experiences” | Worldwide      | Primary Study<br>Sermo contacted<br>doctors from a<br>list of eight<br>disciplines and<br>from nine<br>countries which<br>includes -<br>“United States,<br>Italy, Spain,<br>France,<br>Germany, Great<br>Britain, China,<br>Japan and<br>Switzerland”<br>Total Sample<br>Size: 1,392 | Remote and<br>telehealth<br>therapy has<br>increased, with<br>over 90% of<br>practitioners<br>treating patients<br>virtually.<br>Telemedicine<br>technologies are<br>frequently<br>utilized for<br>remote<br>treatment,<br>notably in the<br>United States,<br>where 63 percent<br>of HCPs<br>employed them<br>during the<br>COVID19<br>epidemic. Nearly<br>half (48 percent)<br>of physicians<br>utilizing<br>telemedicine for<br>consultation<br>during the<br>COVID-19<br>pandemic are<br>doing so for the<br>first time. When<br>the pandemic<br>subsides, one-<br>fifth of clinicians<br>using<br>teleconferencing<br>and telemedicine<br>technologies<br>anticipate to use |

|                                               |                                                                                                                    |           |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               |                                                                                                                    |           |                                                                                                                                                                                                                                            | them much more than previously.                                                                                                                                                                                                                                                                                                                                     |
| Sermo,<br>April 2020 <a href="#">[6]</a>      | “COVID-19 HCP Sentiment Surveys - Physician Interactions with Medical Technology and Pharmaceutical Manufacturers” | Worldwide | Primary Study<br>Sermo contacted doctors from a list of eight disciplines and from nine countries which includes - “United States, Italy, Spain, France, Germany, Great Britain, China, Japan and Switzerland”<br>Total Sample Size: 1,155 | The United States has experienced the greatest decrease in the percentage of representative meetings (-69%), while Europe (-59%) and Japan (-56%) have also seen dramatic reductions. Among the many forms of contacts with MedTech and Pharmaceutical, HCPs anticipate a faster move to digital training and virtual classes.                                      |
| Lee and Lee,<br>June 2021 <a href="#">[7]</a> | “Opportunities and challenges for contactless healthcare services in the post-COVID-19 Era”                        | U.S.A     | Narrative Review and Primary Study                                                                                                                                                                                                         | It is important to develop an intelligent health organization, using smart online and offline technologies and strengthening partnerships with organizations in various healthcare industries (e.g. pharmaceutical industries and insurance sector, health care and system development companies, and personal IT security firms)<br>Critical for preparing for the |

|                                                      |                                                                                                                          |              |                                                                                                |                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      |                                                                                                                          |              |                                                                                                | post-pandemic period.                                                                                                                                                                                                                                                                                                |
| Pérez-Escoda A et al., July 2020 <a href="#">[8]</a> | “Social Networks’ Engagement During the COVID-19 Pandemic in Spain: Health Media vs. Healthcare Professionals”           | Spain        | Comparative analysis<br><br>Infonómetro ranking and non-probabilistic snowball sampling method | It was reported that use of social network applications surged by 55% in Spain. The findings also suggest to a new communications model that creates a new arena for agents whose material has a level of engagement equivalent to, if not greater than, that of digital media specializing in health communication. |
| Anthony Jnr. Bokolo, June 2021 <a href="#">[9]</a>   | “Exploring the adoption of telemedicine and virtual software for care of outpatients during and after COVID-19 pandemic” | Norway       | Systematic Review based on PRISMA Guidlines 35 articles were included                          | The findings imply that by remotely treating patients during and after the COVID-19 pandemic, telemedicine and virtual software are capable of reducing emergency department visits, protecting healthcare resources, and slowing the spread of COVID-19.                                                            |
| Miner H et al., May 2021 <a href="#">[10]</a>        | “Clinician Telemedicine Perceptions During the COVID-19 Pandemic”                                                        | Texas, U.S.A | Primary Study 220 Physicians participated to fill an online survey based on perception of      | Higher levels of satisfaction with the service and quality of telemedicine treatment were                                                                                                                                                                                                                            |

|                                                         |                                                                                                                     |                  |                                                                                            |                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                         |                                                                                                                     |                  | using telemedicine                                                                         | linked to the idea that adaptability is a key aspect of being a physician. Clinicians identified patient and physician ease of use as the most significant aspect of telemedicine platforms.                                                                                                     |
| Abdel-Wahab M et al., October 2020 <a href="#">[11]</a> | “Opportunities in Telemedicine, Lessons Learned After COVID-19 and the Way Into the Future”                         | Austria          | Narrative Review                                                                           | Regular evaluations of newly adopted digital technologies should be carried out utilizing monitoring or surveillance and auditing tools, as well as input from all users. To achieve success in a multidimensional telemedicine program, the circumstances deployed should be carefully studied. |
| Fadlallah R et al., April 2018 <a href="#">[12]</a>     | “Extent of physician–pharmaceutical industry interactions in low- and middle-income countries: a systematic review” | Lebanon, America | Systematic Review<br>11 studies were included (4 qualitative type and 7 quantitative type) | In LMICs, a considerable number of physicians engage with pharmaceutical industries. Building personal ties, generating a sense of indebtedness, and emotional blackmailing were recognized as regularly                                                                                         |

|                                                                  |                                                                                                 |         |                  |                                                                                                                                                                                                                          |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                  |                                                                                                 |         |                  | employed tactics to persuade physicians.                                                                                                                                                                                 |
| Siriwardhana<br>Yushan et al.,<br>June 2021 <a href="#">[13]</a> | “The role of 5G for digital healthcare against COVID-19 pandemic: Opportunities and challenges” | Finland | Narrative Review | To prevent any “re-emergence” of the disease, each country's healthcare industry must be prepared with innovative ways to successfully address any developing difficulties. 5G technologies are critical in this regard. |

### 3. METHODOLOGY

A descriptive cross-sectional study was conducted out with the use of a structured questionnaire and distributed through an online survey form among HCPs of varied specialties. The study was carried out using a variety of approaches, including brainstorming talks to develop the study objectives and methodology. During the initial phase of the research, a preliminary literature review was also carried out.

**3.1 Key Research Question** – What are the preferences and expectations Healthcare Professionals including Consulting Practitioners/ General Practitioners and Specialists for digital modes of engagement with patients and pharma companies in the post-COVID era?

**3.2 Research Objectives** –

- To determine the extent of technology adoption and usage of digital platforms among HCPs
- To understand the HCPs' requirements and preferences primarily their preferred modes and means of digital interactions
- To understand the influence of COVID-19 on encounters and future interaction with patients and pharma companies and role of pharma companies to play to strengthen the HCPs digital adoption

**3.3 Research Design and Study Setting** - This Descriptive Cross- Sectional Study was done in all over India covering North, South, East and West region between time period 30<sup>th</sup> March,2021– 13<sup>th</sup> May, 2021. By covering the HCP network holistically, the knowledge, perception and beliefs of doctors would be covered adequately to draw meaningful insights.

**3.4 Sampling Size and Method** – Sample size of the study was being calculated using Cochran formula

**HCPs universe in India:** 9.25 lacs [\[14\]](#) (11.6 lacs allopathic doctors are registered with state medical councils and MCI; assuming 80% of them currently practices)

**Confidence Level:** 99.9% (*probability that true value being studies falls within the specified range of values*), therefore  $Z = 3.291$

**Margin of Error:** 5% (*sampling error in survey / research*)

**For statistically significant results –**

**Applying Cochran Formula:**

$$N_0 = Z^2 p(1-p)/e^2$$

Where  $Z = 3.291$  for 99% Confidence Interval,  $p = 0.5$ ,  $q = 1-p = 0.5$ ,  $e = 5\%$  (0.05)

$$N_0 = (3.291)^2 * 0.5 * 0.5 / (0.05)^2 = 1082$$

**Sample Size:** 1082 HCPs

The sample determined using the above-mentioned methodology was 1082. After accounting for the 10% non-response rate and rounding off the size, the final sample size for the study became 1190. 1118 HCPs responded out of 1190 that were approached. 11 were eliminated because they refused to participate in the survey; hence, the actual sample size was 1107, with a response rate of 98.7 percent.

**3.5 Data Collection** - The mixed method technique was employed for data collection and analysis in order to meet the research objectives. Both quantitative and qualitative Data was collected from respondents. Online survey was conducted among sample size of 1107 HCPs that were selected via non-probability convenience sampling to obtain the data. A systematic table comprises of all the responses was formed in MS Excel.

The questionnaire was designed to assess HCPs' Expectations and Preferences from digital interactions in the post-COVID era. The questionnaire was evaluated and was adopted in English only. It contained mainly 5 parts:

(1) **Doctor Profile Attributes** – The following variables were assessed to determine the HCPs' socio-demographic status: Gender, age, qualification, current residence, specialization, work experience and usage of digital platform.

(2) **Technology Adoption by the Practitioner** – To understand their OPD consultations, the platform they are using to stay in touch with patients, anticipation after COVID-19 subsides and the challenges faced by them in adopting virtual tools.

(3) **Future Interaction with Patients and Pharma – Channel and Frequency** – To assess the stickiness of digital engagement and preference of digital vis-à-vis physical channel in the post COVID-19 era

(4) **Knowledge Enhancement Requirements** – To know the HCPs’ preferred modes for knowledge building and websites or applications used by them to consume educational content

(5) **Service Requirements** – To understand the support HCPs’ require from pharmaceutical firms and their preference for One Stop platform.

Questionnaire attached as Annexure 1 with the report.

**3.6 Type of Analysis** - Descriptive Statistics was done in MS EXCEL and SPSS to analyse the data collected from HCPs.

### Research Sample Design

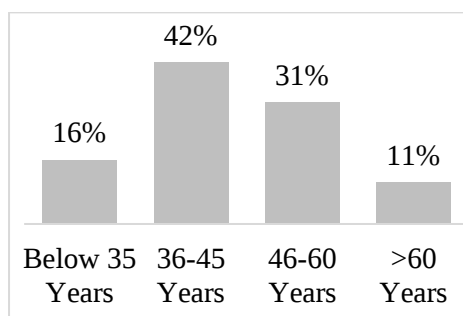
| Respondent Category          | Respondent Profile                                                    | Sample Selection Parameters                                                                                                                                                          | Sample Size                   |
|------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| HCPs from varied specialties | HCPs with >2 years clinical experience<br>HCPs with moderate practice | <b>Geographies</b> (Metro cities, Tier-1, Tier-2 cities)<br><b>Practice Settings</b> (Private, Corporate, Govt. etc.)<br>HCPs with high, moderate and non-usage of digital platforms | Primary survey with 1107 HCPs |

## 4. RESULTS

The data collection was done and a total of 1107 responses were collected and then the data was entered into the excel sheet followed by which descriptive analysis was done according to given parameters -

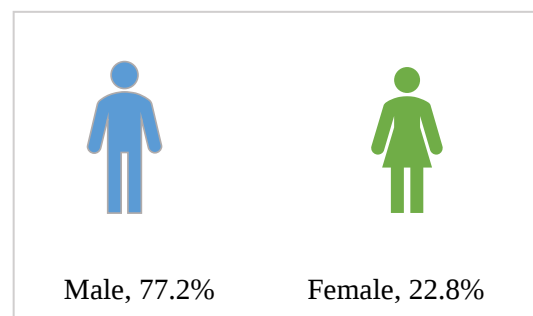
- Socio-Demographic characteristics of the respondents
- OPD consultations: F2F vs. Virtual interactions with patients, key platforms used
- Adoption / Usage of Digital Platform by HCPs
- Future Interaction with Patients and Pharma Companies
- Key sources and channels of information for knowledge enhancement and consuming content
- Content preferences: Format, Types, Timing
- Need for One Stop platform
- Major challenges which HCPs are facing in adopting virtual tools etc.
- Important services expected from Pharma companies in space of digital adoption / enablement

### 1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS



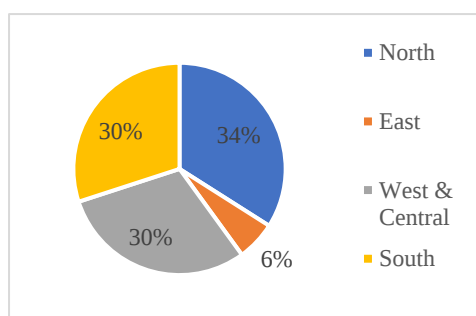
**Figure 1 - Age-wise Split**

*Figure 1 depicts that almost half of the respondents lie in the age of 36-45 Years*



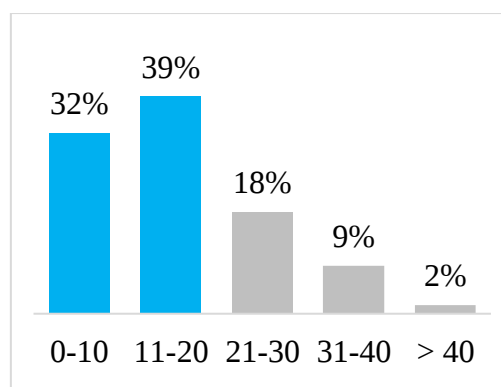
**Figure 2 - Gender-wise Split**

*Figure 2 depicts that data comprises of total (n=855), 77.2% males and (n=252), 22.8% females.*



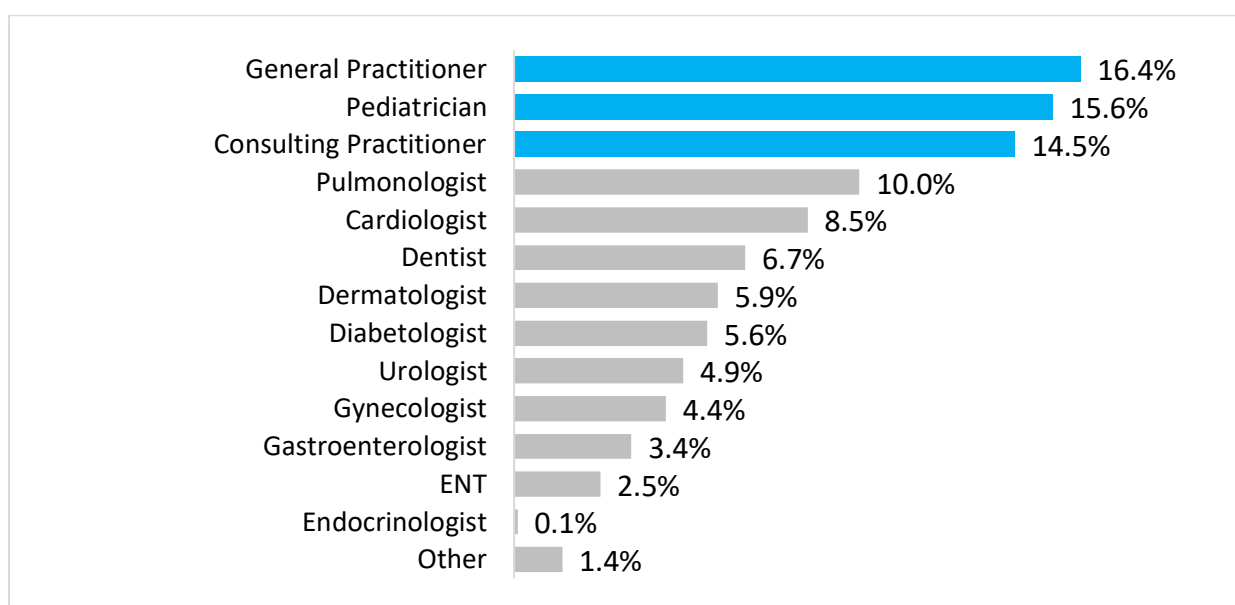
**Figure 3 - Region-wise Split**

*Figure 3 depicts the region wise split of HCPs which clearly shows that HCP network is covered holistically, to draw meaningful insights*



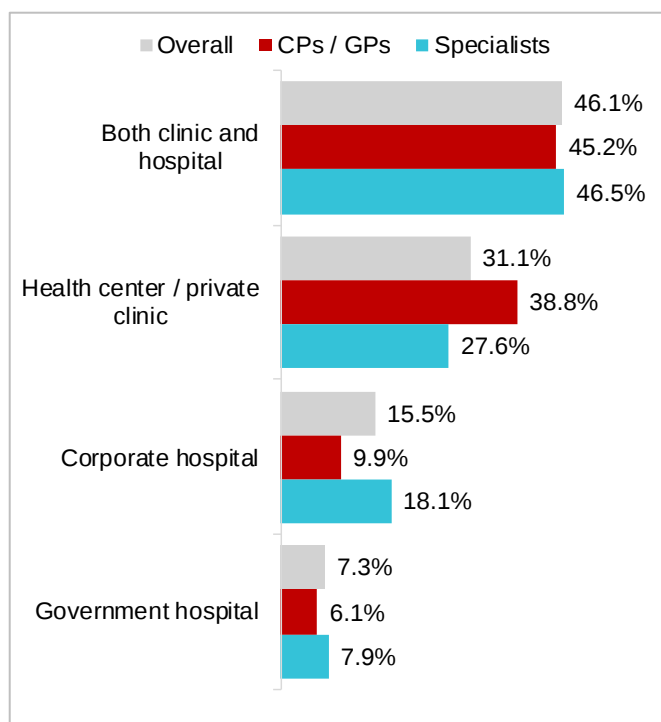
**Figure 4 - Years of Experience**

*Figure 4 shows that most of the participants(n=432) have 11-20 years of experience followed by 0-10 years (n=354)*



**Figure 5 - Specialty-wise Split**

*Figure 5 represents HCPs from wide range of specialties across the country (Majorly GPs, Paediatricians and CPs) Others include Psychiatrist, Cardiothoracic Surgeon, Nutritionist and Community Health Physician*



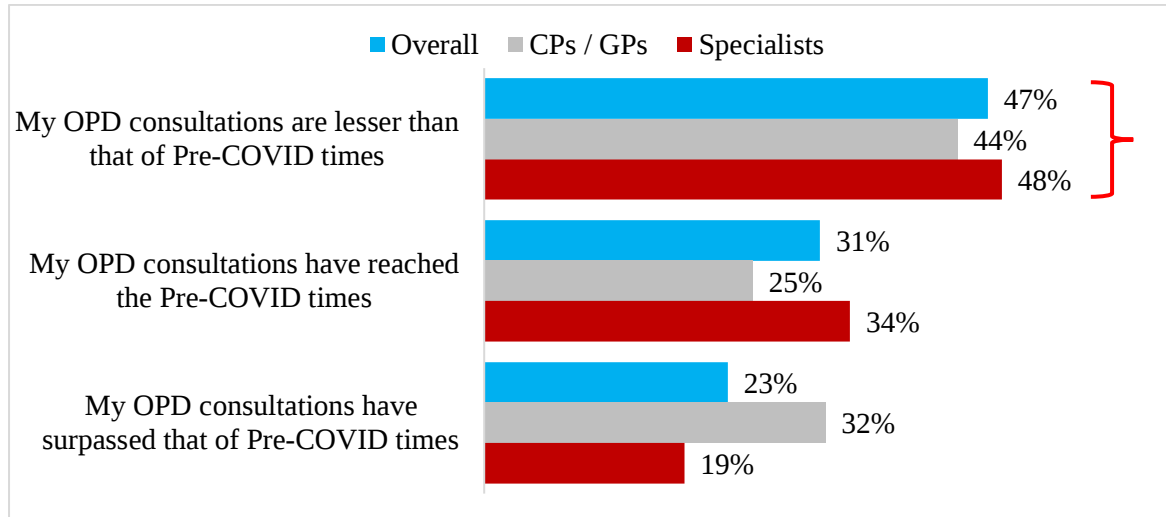
**Figure 6 - Practice Setting**

| Fees Range  | Overall | CPs / GPs | Specialists |
|-------------|---------|-----------|-------------|
| <= 300      | 25.0%   | 29.4%     | 23.0%       |
| 300 – 500   | 27.6%   | 36.7%     | 23.6%       |
| 500 – 750   | 27.1%   | 20.4%     | 30.1%       |
| 750 – 1000  | 10.4%   | 7.6%      | 11.6%       |
| 1000 – 1500 | 7.5%    | 5.0%      | 8.6%        |
| >= 1500     | 2.3%    | 0.9%      | 3.0%        |

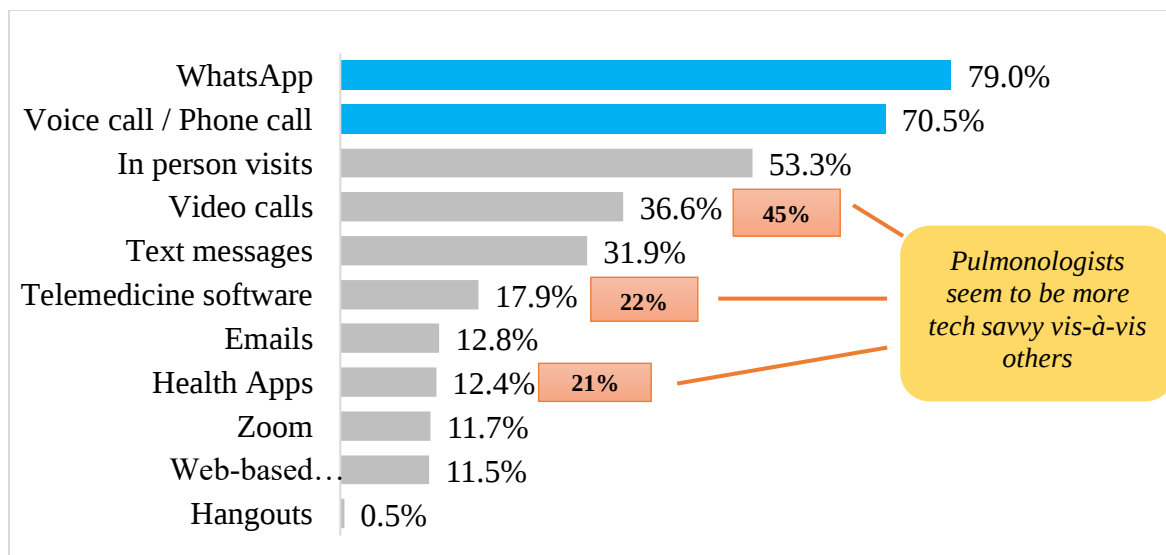
**Table 2 - Out-Patient Consultation Fees**

*Figure 6 and Table 2 displays that sample includes respondents from different practice setups; >50% of the respondents have consultation fee in the range of INR 300-750*

## 2. OPD CONSULTATIONS: KEY PLATFORMS USED, F2F VS. VIRTUAL INTERACTIONS WITH PATIENTS



**Figure 7 – Current OPD Consultation Load**



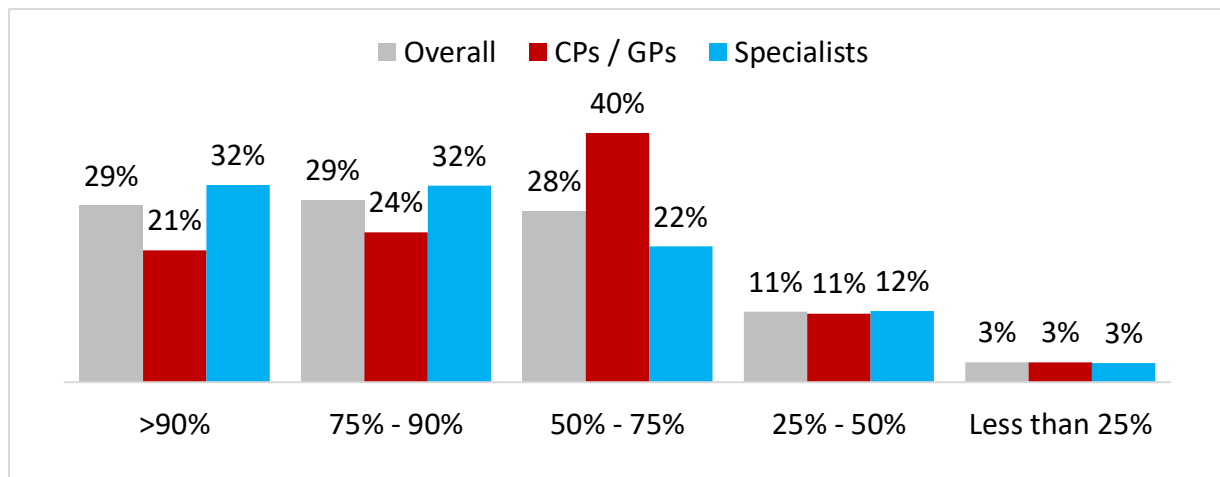
**Figure 8 – Medium used to Interact during COVID-19**

*Figure 7 and 8 above shows that for nearly half of the respondents, OPD load is still lesser than that of pre-COVID times; WhatsApp and Phone calls are the key mediums which are used to stay in touch with patients*

|                       | Overall | CPs / GPs | Specialist | Pulmonologists |
|-----------------------|---------|-----------|------------|----------------|
| Will further increase | 59.3%   | 66.8%     | 56.0%      | 44.1%          |
| Will remain the same  | 28.3%   | 23.0%     | 30.6%      | 33.3%          |
| Will decrease         | 12.4%   | 10.2%     | 13.4%      | 22.5%          |

**Table 3 – Anticipation of change Post COVID-19: F2F Consultations**

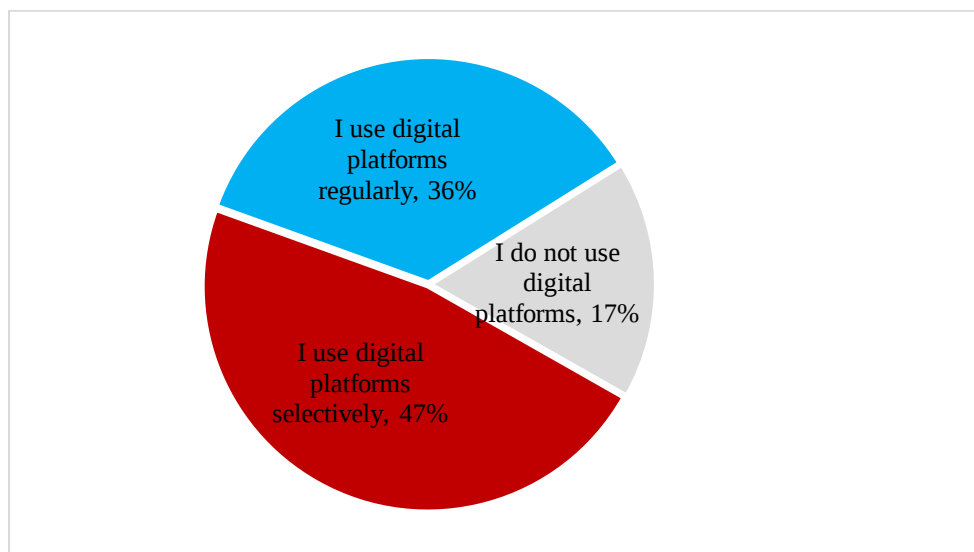
Table 3 above depicts that majority of HCPs expect an increase in F2F post-COVID, Pulmonologists being the major anticipator



**Figure 9 – Current Practice Scenario for Face-to-Face Consultations**

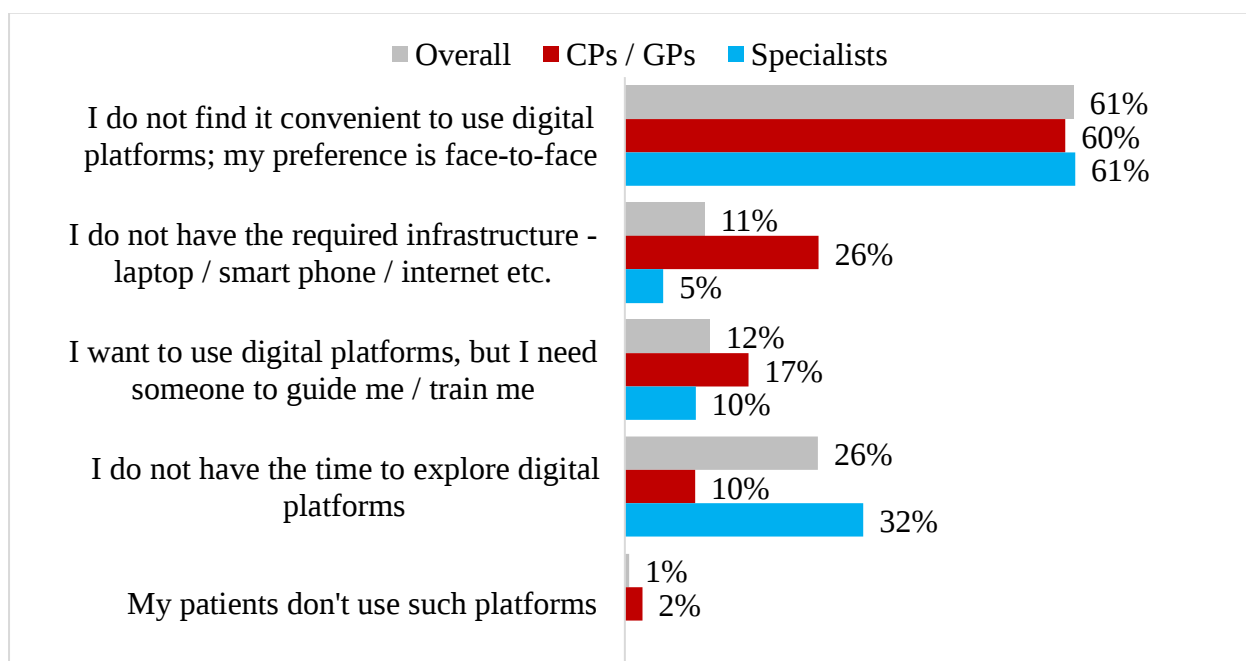
Figure 9 above presents that combination of F2F and virtual consultations seem to be the current practice for HCPs

### 3. ADOPTION / USAGE OF DIGITAL PLATFORM BY HCPs



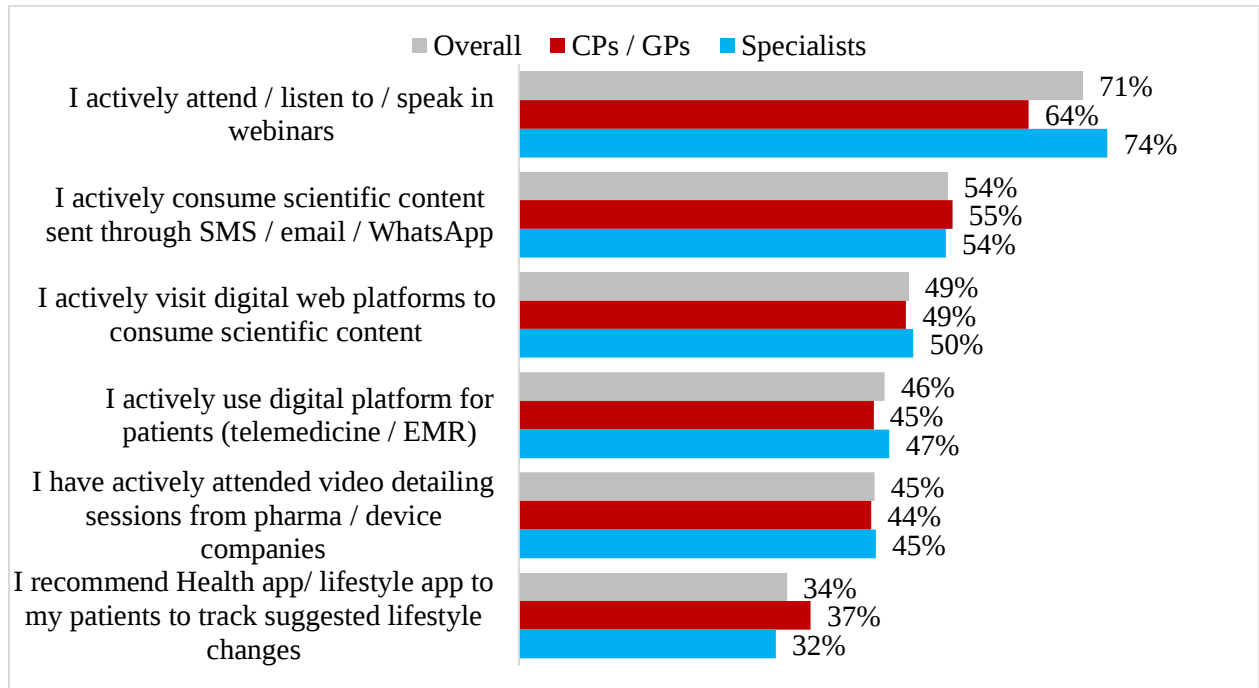
**Figure 10 – Overall Usage of Digital Platforms**

*Figure 10 shows that 8 out of 10 respondents fall under the category of Digital users: either regular or selective users*

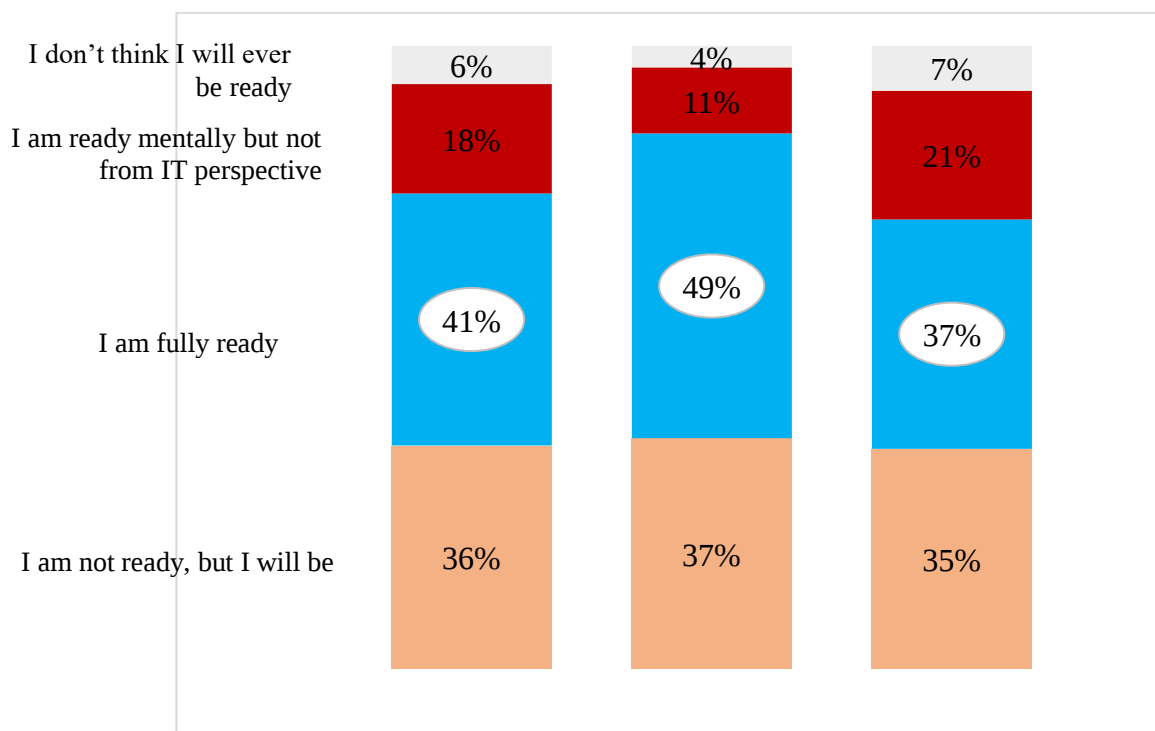


**Figure 11 – Reasons for Not Using Digital Platforms**

Figure 11 above depicts that “Inconvenience” is the key reason that is being highlighted by non-users and some need infrastructure support like – Laptop, Printer, Internet connectivity or Unified Payments Interface (UPI)

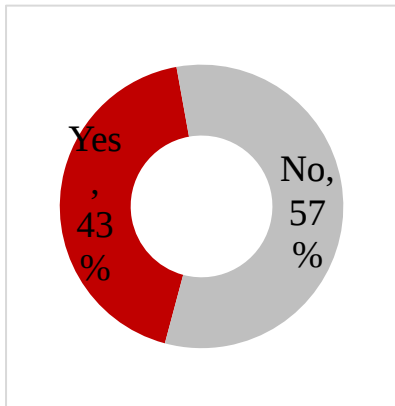


**Figure 12 – Acceptance Level across Digital Modes**

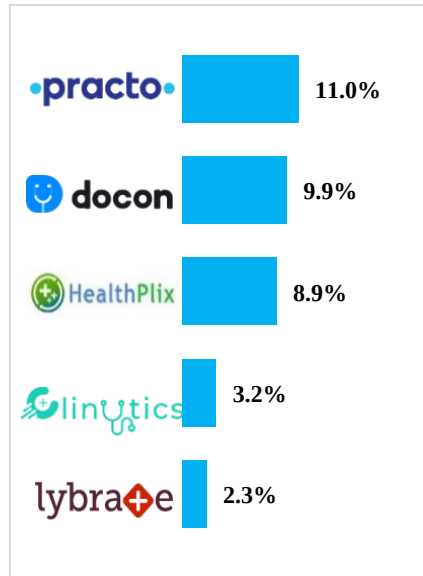


**Figure 13 – Readiness to Adopt Upcoming Digital Technologies**

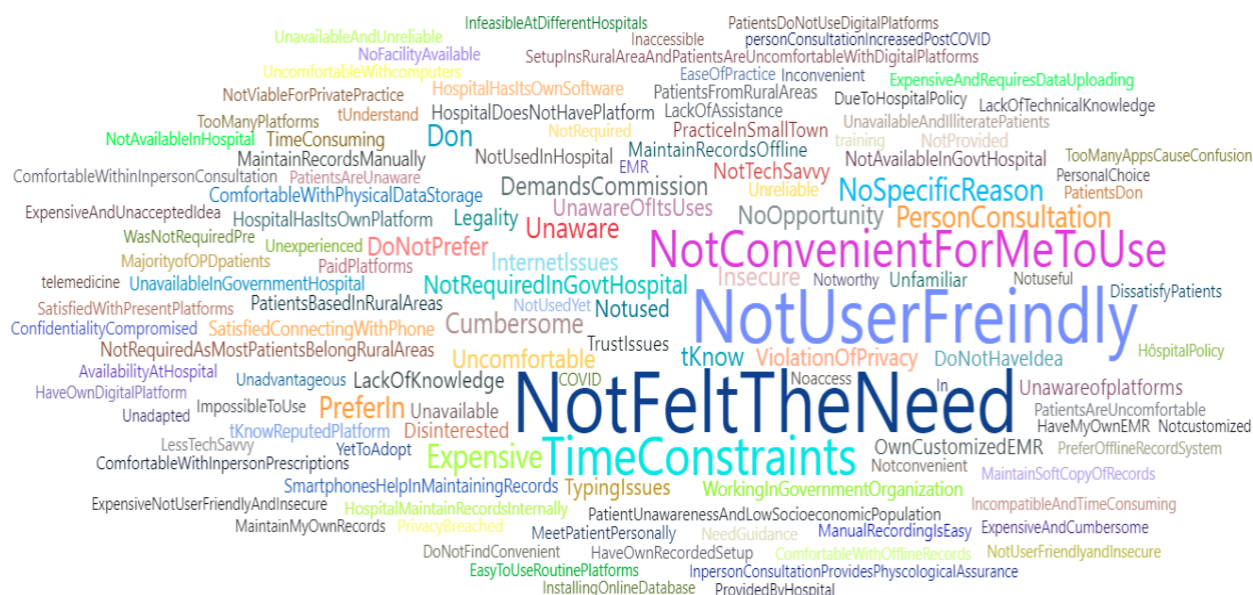
Figure 12 and 13 above displays that overall highest acceptance level is seen for Webinars, EMR/Telemedicine software are still under-utilized; About 40% of respondents believe that they are fully ready to embrace the digital revolution



### Figure 14 – Access to Specialized Platforms to Manage Health Records



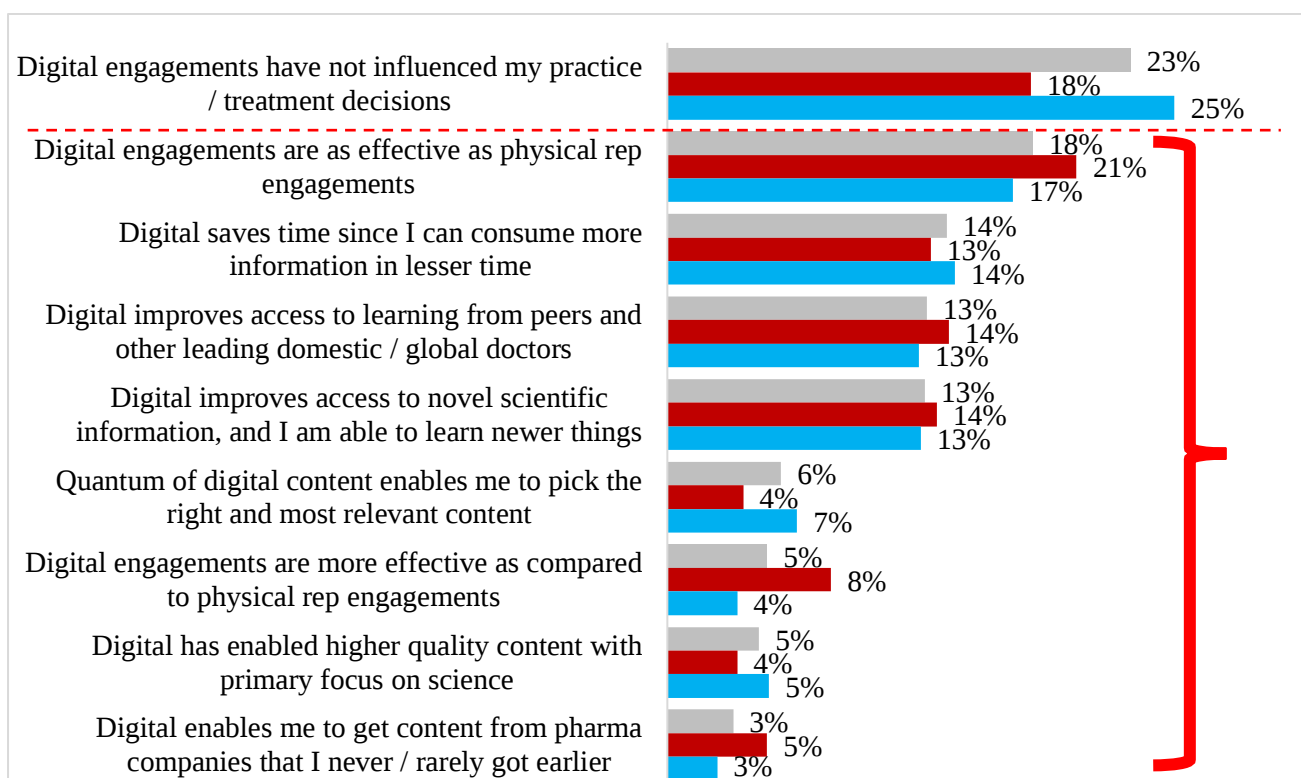
### Figure 15 – Top Platforms Used



### Figure 16 – Reasons for Not Using Platforms

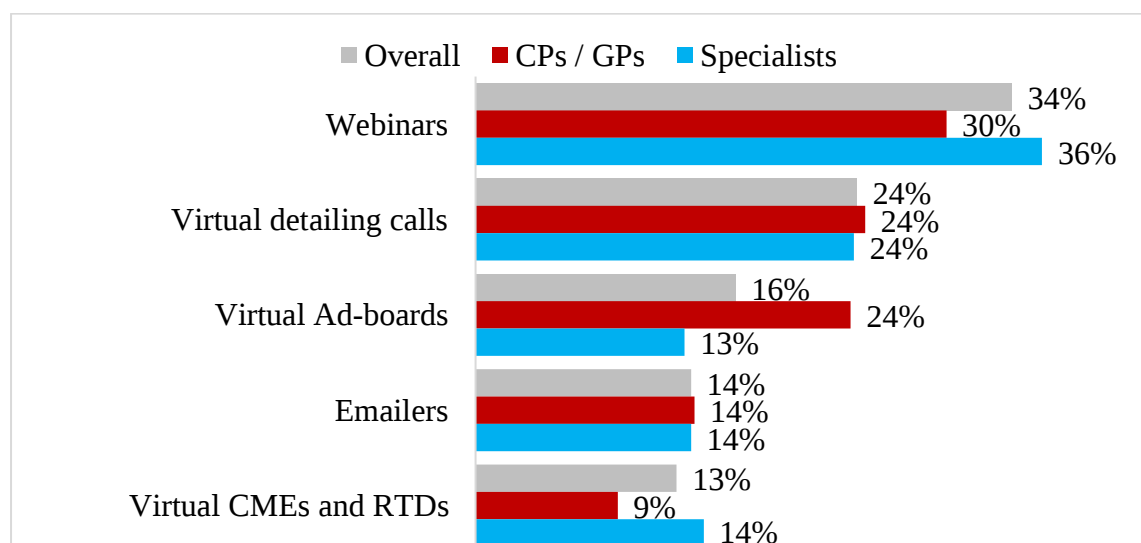
Figure 14, 15 and 16 above represents that ~4 out of 10 respondents have access to specialized platform to manage digital health records; Practo, Docon and HealthPlix are the top 3 commonly used platforms; Inconvenient, Not User-friendly, not felt the need and time consuming are the top factors for using the platform for 57% of the respondents

Overall GPs / CPs Specialists



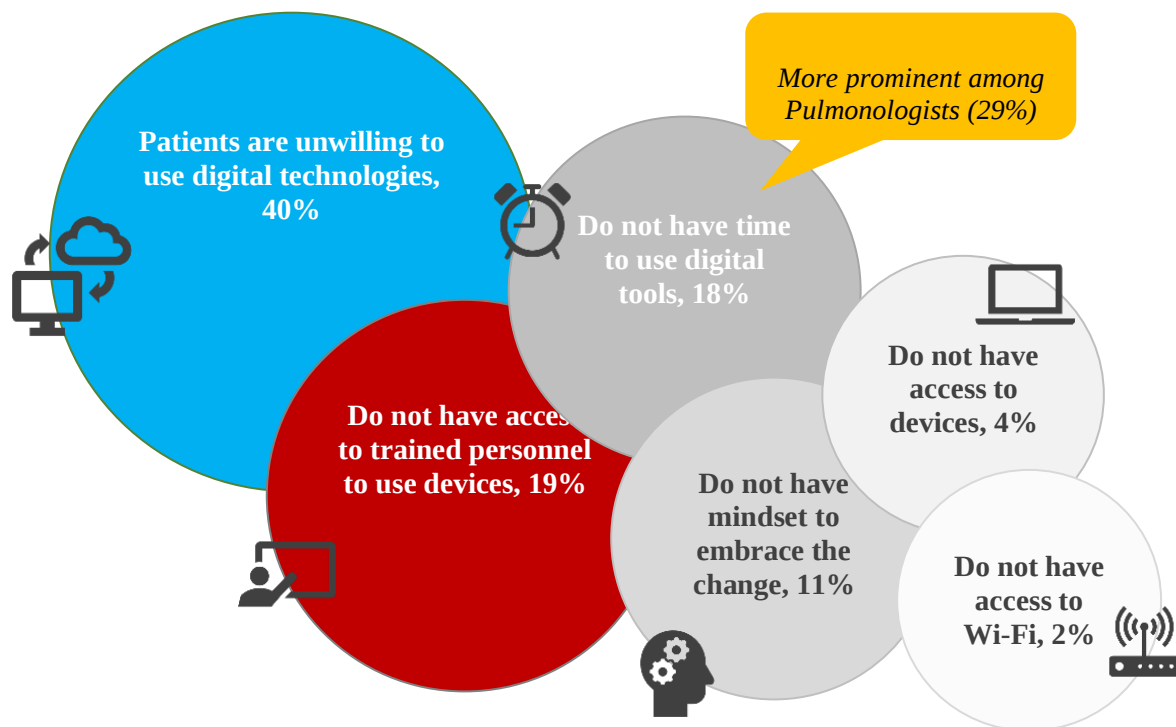
**Figure 17 – Key Advantages of using Digital Engagements**

Figure 17 depicts that overall Majority of respondents (n=852, 77%) believe that Digital Engagements improves their learnings, quality of interaction and saves time



**Figure 18 – Mediums causing Digital Fatigue and Overload to Doctors**

Figure 18 shows that over attending of Webinars cause fatigue, overload and undue stress among Doctors



**Figure 19 – Challenges in Adopting Digital Technologies by Doctors**

*Figure 19 represents that unwillingness of patients to use digital technologies is one of the key barrier limiting to digital adoption*

#### 4. FUTURE INTERACTIONS WITH PATIENTS AND PHARMA COMPANIES

|                           |   | Overall | CPs/GPs | Specialists |
|---------------------------|---|---------|---------|-------------|
| Will not change at all    | 1 | 21.8%   | 18.5%   | 23.3%       |
|                           | 2 | 19.3%   | 12.6%   | 22.3%       |
|                           | 3 | 26.7%   | 34.3%   | 23.3%       |
| Will change significantly | 4 | 16.2%   | 19.4%   | 14.8%       |
|                           | 5 | 16.0%   | 15.2%   | 16.4%       |

**Table 4 – After COVID-19, Doctors' interaction with Pharma companies and Patients**

*Table 4 shows that 3 out of 10 respondents expect their interactions with pharma companies and Patients to change significantly over time*

|                           |   | Overall | CPs/GPs | Specialists |
|---------------------------|---|---------|---------|-------------|
| Will not change at all    | 1 | 16.3%   | 15.8%   | 16.5%       |
|                           | 2 | 16.6%   | 11.4%   | 18.9%       |
|                           | 3 | 28.2%   | 31.1%   | 26.9%       |
| Will change significantly | 4 | 18.9%   | 22.6%   | 17.3%       |
|                           | 5 | 20.0%   | 19.1%   | 20.4%       |

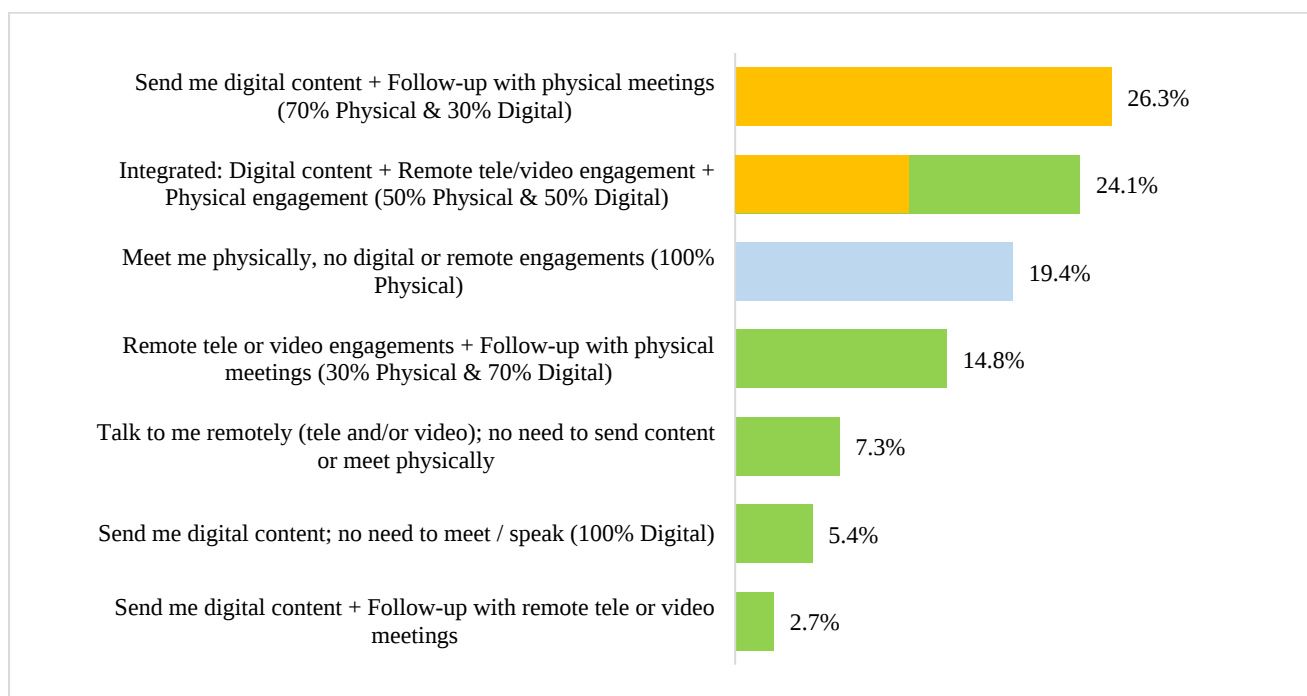
**Table 5 – Addition to digital interactions, F2F interactions with pharma companies .... (in terms of visit frequency, content, meeting etc.) .... And patients (in terms of visits or consultations)**

*Table 5 depicts that nature of F2F interactions is expected to change significantly; 4 out of 10 believe that significant change will happen in F2F interactions*

**Mix with physical heavy**

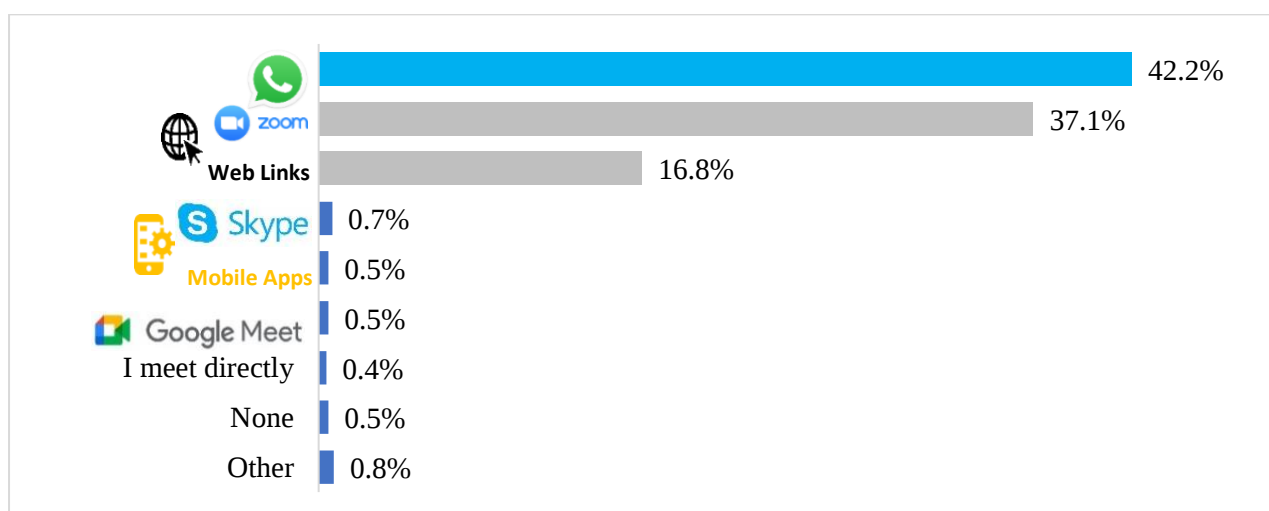
**Only Physical**

**Mix with Digital heavy**



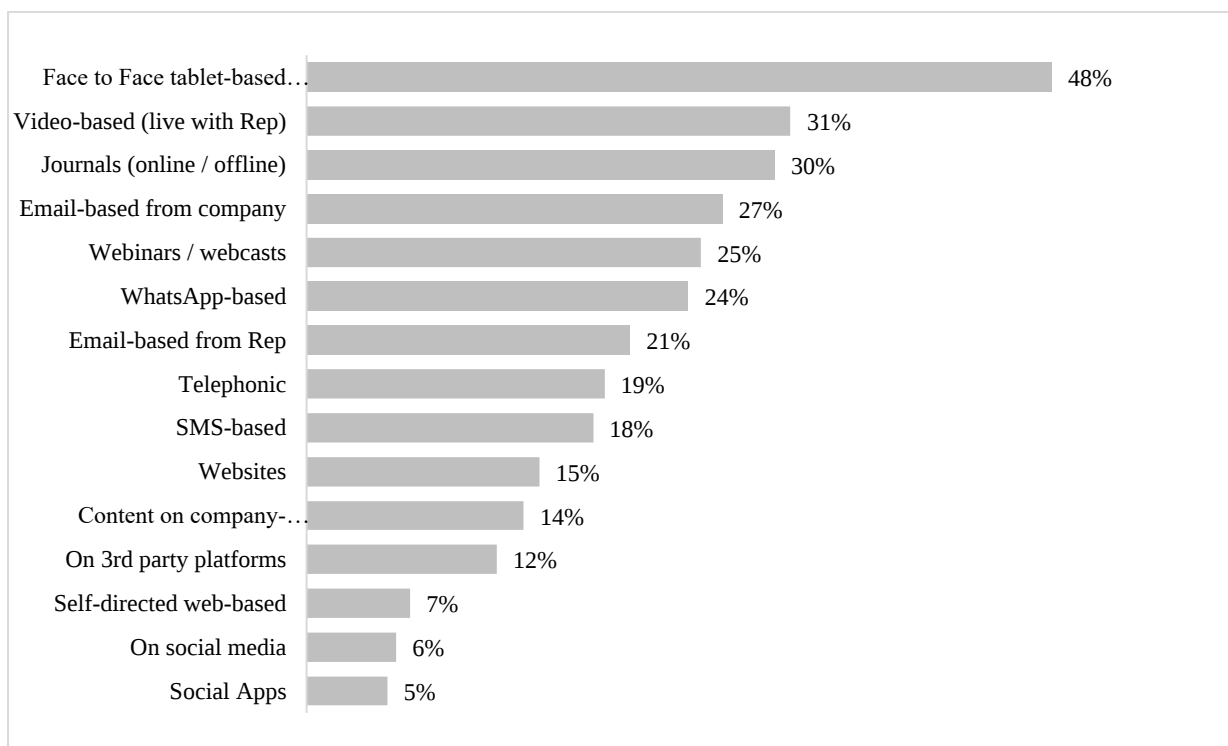
**Figure 20 – Preferred mode of interaction with Pharma Post-COVID**

*Figure 20 explains that 3/4<sup>th</sup> of the respondents expect digital to be a part of pharma communication strategy going ahead*



**Figure 21 – Preferred Apps to Interact with Patients and Pharmaceutical Companies**

*Figure 21 represents that WhatsApp (n=467, 42.2%) and Zoom (n=411, 37.1%) are the two most preferred platforms being used by Doctors to interact with Patients and Pharma*

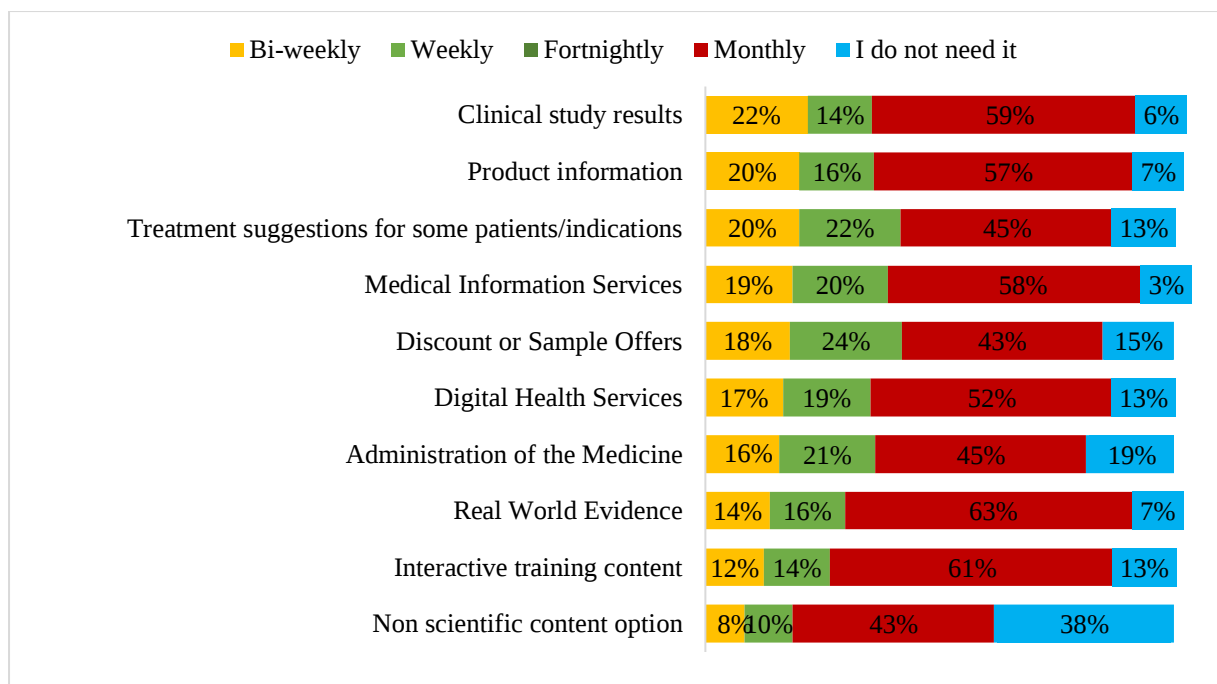


**Figure 22– Preferred Engagement Channels with Pharma**

*Figure 22 depicts that F2F Tablet based and Video-based detailing ranked the highest within the preferred engagement channels*

|             | Overall | CPs/GPs | Specialists |
|-------------|---------|---------|-------------|
| Bi-weekly   | 23%     | 27%     | 21%         |
| Weekly      | 18%     | 19%     | 17%         |
| Fortnightly | 10%     | 8%      | 11%         |
| Monthly     | 49%     | 46%     | 51%         |

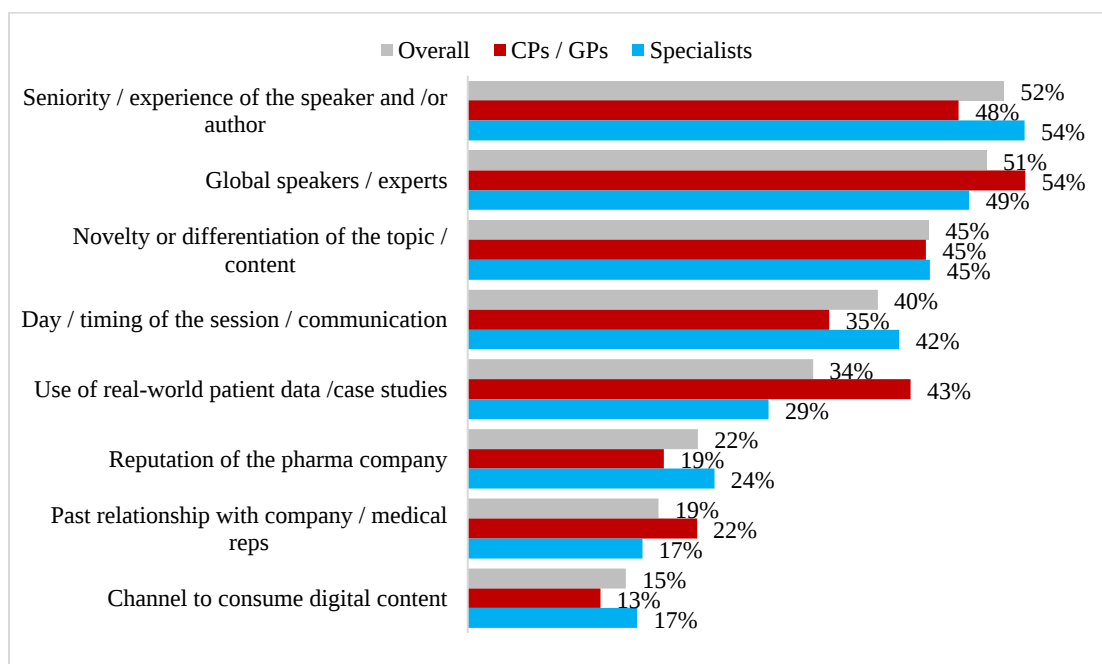
**Table 6 – Preference for Appointment-based F2F Interaction with Pharma**



**Figure 23– Overall-Optimal Virtual Visit in Terms of Content and Frequency**

*Table 6 and Figure 23 above shows that monthly visits are being preferred by doctors for both, appointment-based F2F and Virtual interactions; Monthly visits are preferred by most irrespective of specialty*

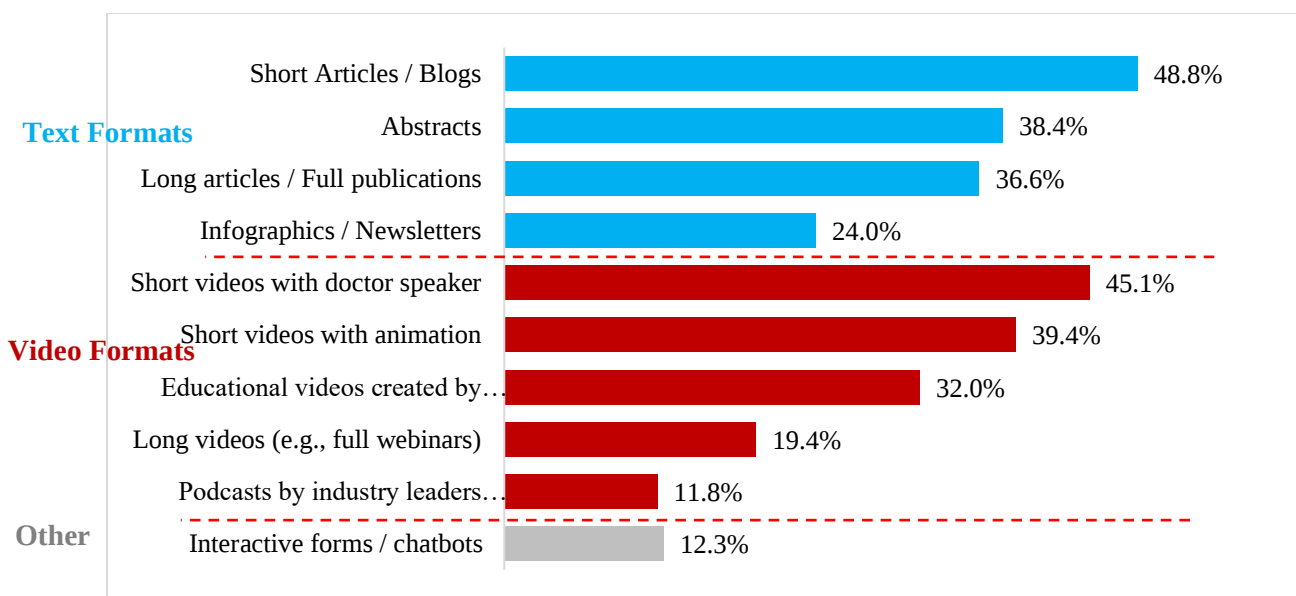
## 5. CONTENT PREFERENCES: FORMAT, TYPES, TIMING



**Figure 24 – Important Factors while Consuming Digital Content**

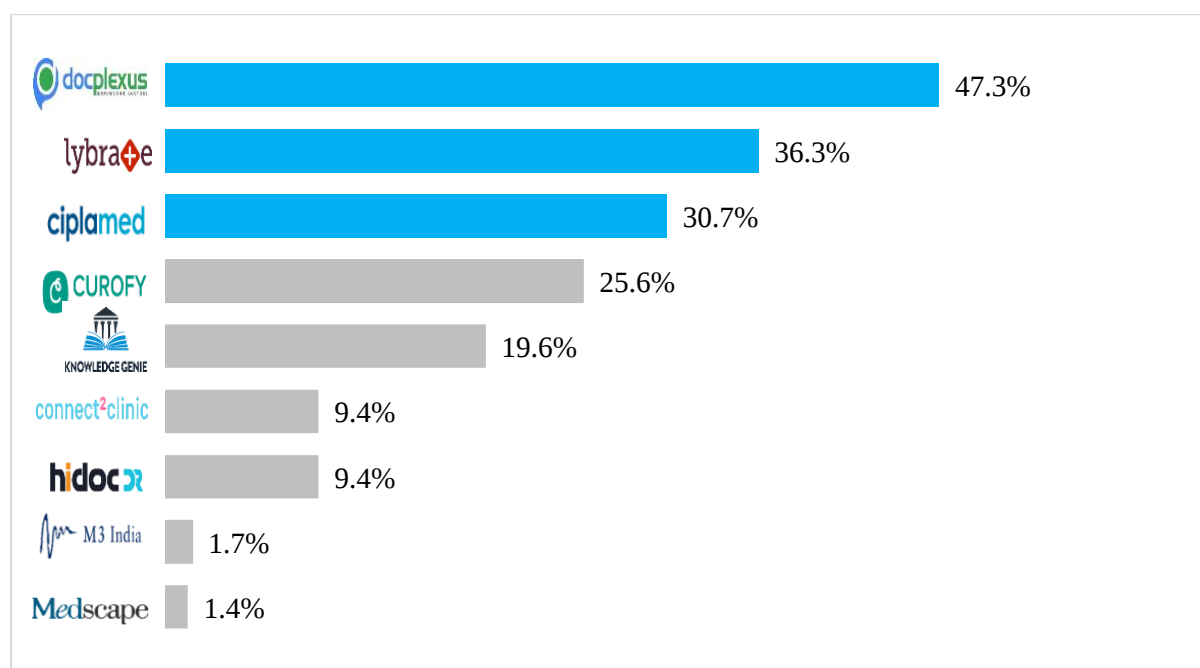
*Figure 24 presents that speaker profile (Seniority, experience, native) followed by novelty of content and timing of session matters the most while consuming digital content*





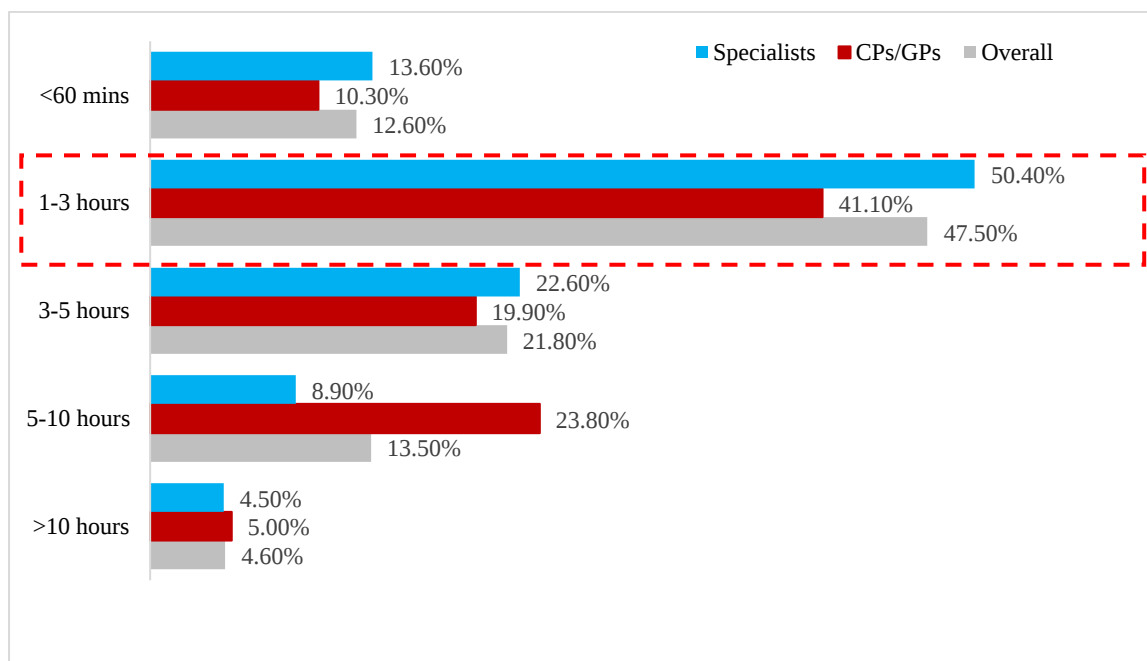
**Figure 27 – Preferred Formats of Medical Content**

Figure 27 shows that short articles/blogs are preferred the most followed by short videos with doctor speakers

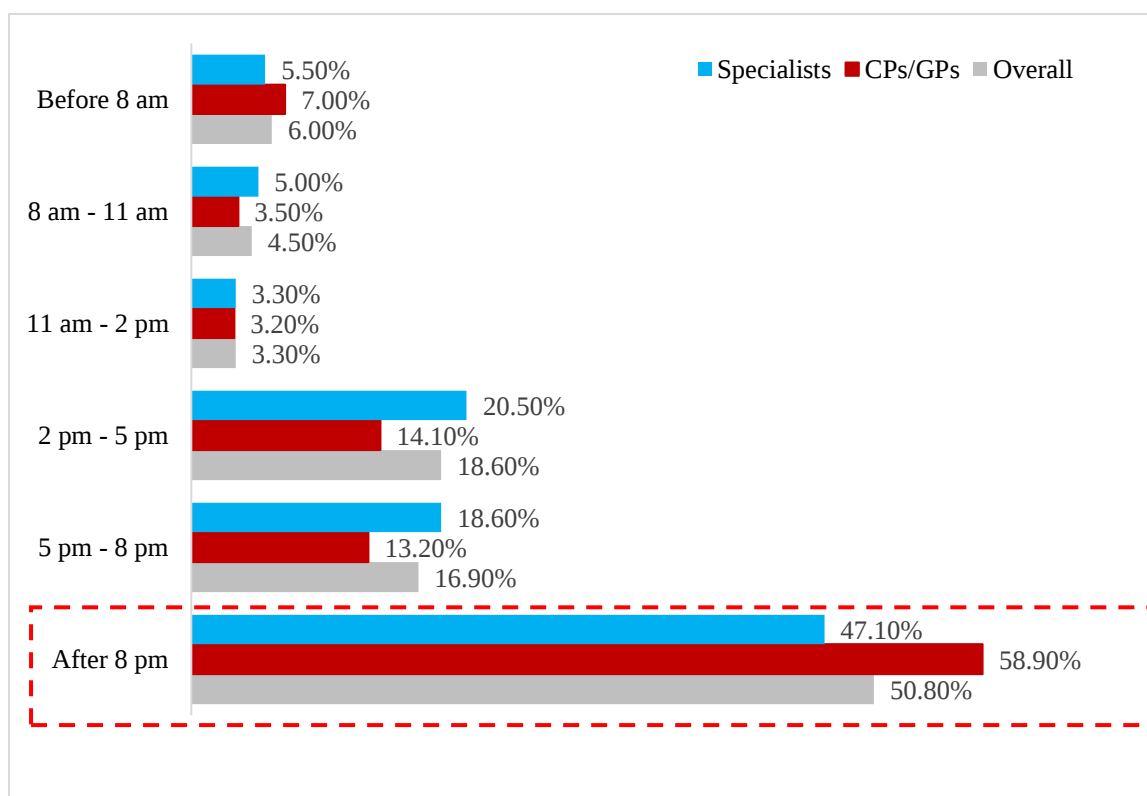


**Figure 28 – Top Platforms Used to Access Scientific Video Content**

Figure 28 represents that “Docplexus”, “Lybrate” and “Ciplamed” are the top 3 platforms used to access scientific video content

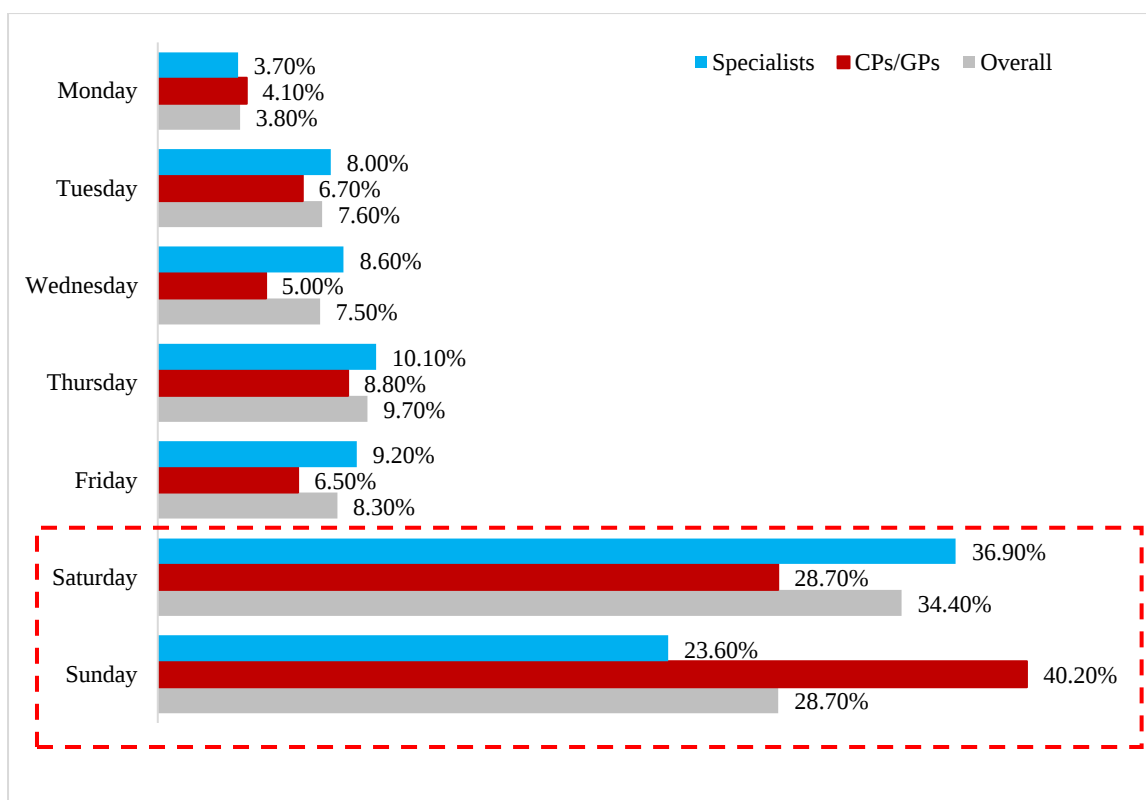


**Figure 29 – Time Spent Online Every Week for Self-Education**

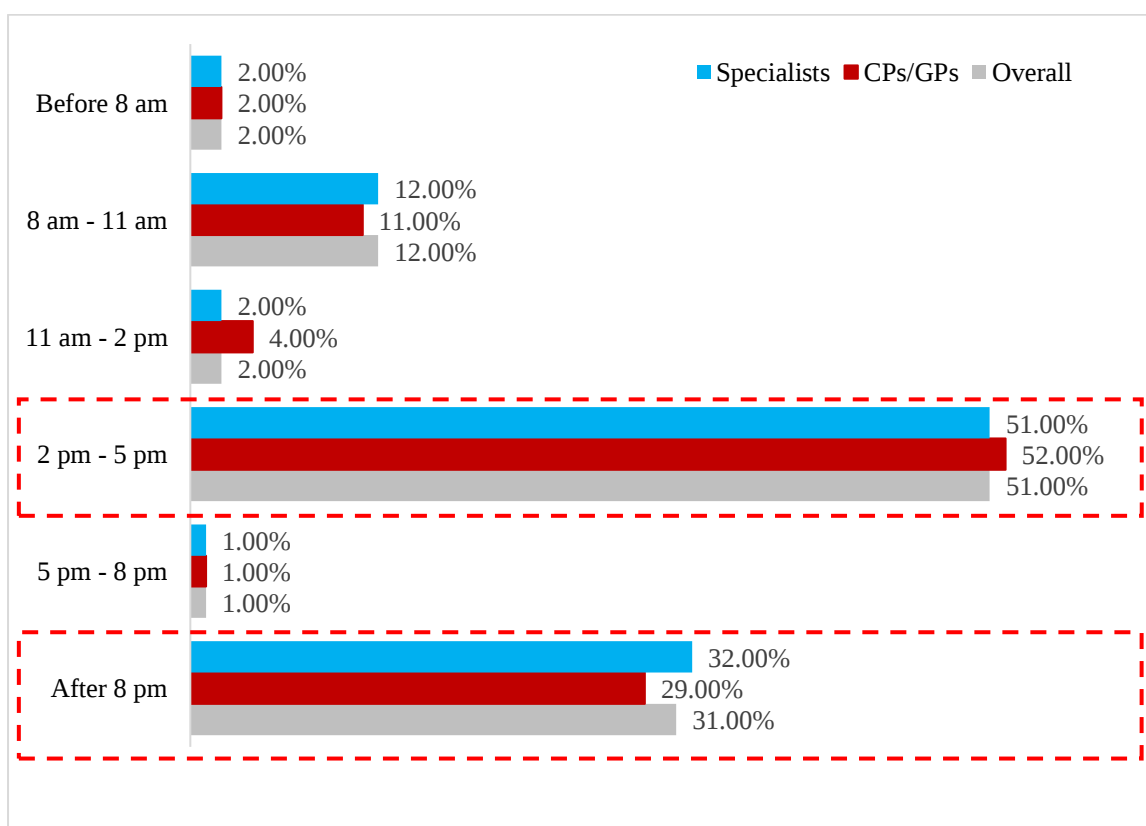


**Figure 30 – Preferred Time Slot to Self-Educate Online**

*Figure 29 and 30 gives information that maximum Doctors generally spend 1-3 hours every week on self-education; Post 8 pm is the preferred time slot to access digital media for knowledge building and enhancement*

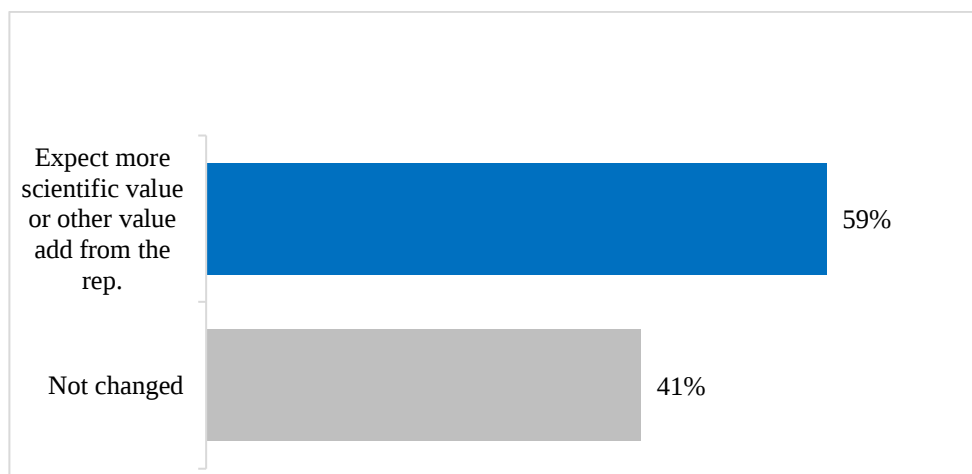


**Figure 31 – Preferred Day of the Week for Knowledge Building**

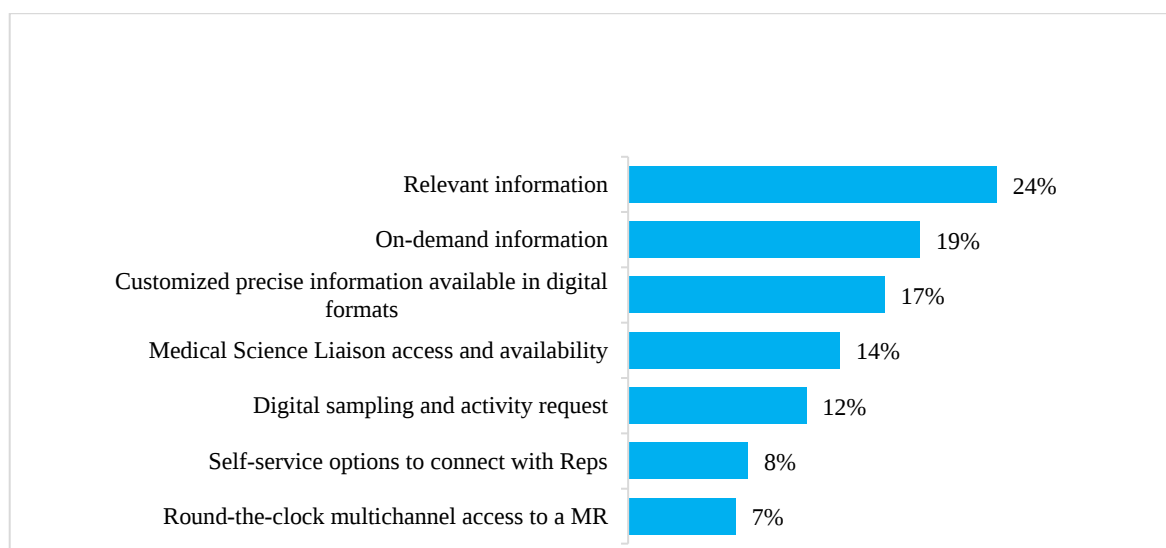


**Figure 32 – Preferred Time Slot to Engage with Pharma Companies**

*Figure 31 and 32 further explains that Weekends are favoured by HCPs to spend time on knowledge building and enhancement; also afternoons and late evenings are preferable time slots to interact with Pharma*



**Figure 33 – Expectations of Engagement with MRs in post COVID environment**



**Figure 34 – Expectations of Type of Engagement with MRs in post COVID**

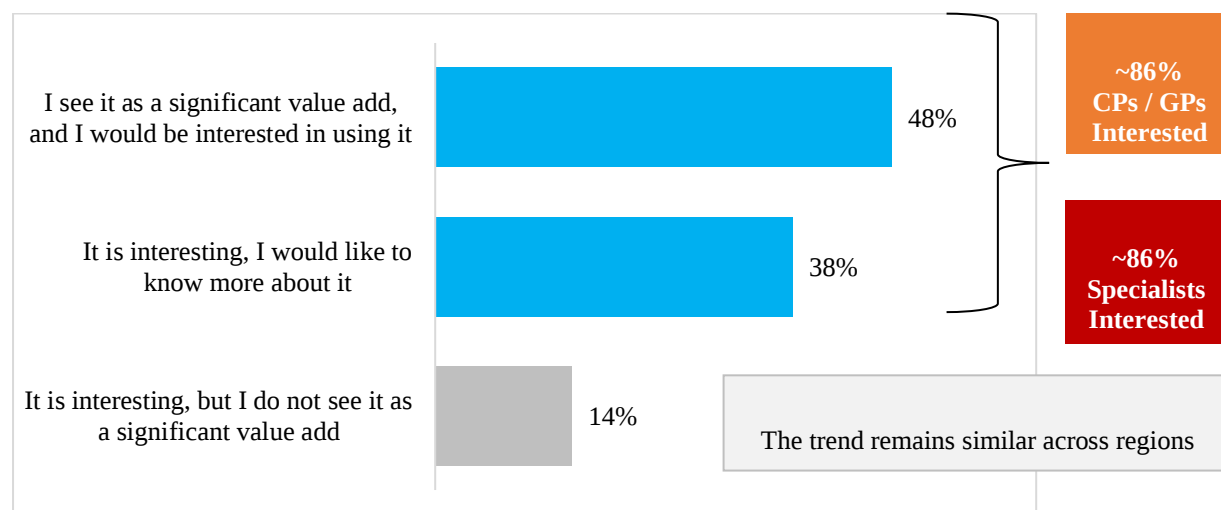
*Figure 33 and 34 shows that a majority of HCPs expect more value addition from MRs in the form of delivering relevant and customized information*

|                               | Medical Conferences |           |             | RTDs / CMEs / Advisory Boards |           |             |
|-------------------------------|---------------------|-----------|-------------|-------------------------------|-----------|-------------|
|                               | Overall             | CPs / GPs | Specialists | Overall                       | CPs / GPs | Specialists |
| 100% Virtual                  | 9.0%                | 10.9%     | 8.2%        | 11.2%                         | 13.5%     | 10.2%       |
| 75% Virtual<br>25% Physically | 26.1%               | 23.5%     | 27.2%       | 25.4%                         | 19.9%     | 27.9%       |
| 50% Virtual<br>50% Physically | 38.4%               | 38.4%     | 38.4%       | 37.6%                         | 40.8%     | 36.1%       |
| 25% Virtual<br>75% Physically | 10.9%               | 10.0%     | 11.3%       | 11.5%                         | 11.4%     | 11.5%       |
| 100% Physically               | 15.7%               | 17.3%     | 14.9%       | 14.3%                         | 14.4%     | 14.3%       |

**Table 7 – Preferred Modes to Attend Medical Conferences and RTDs / CMEs / Advisory Boards Now Onwards**

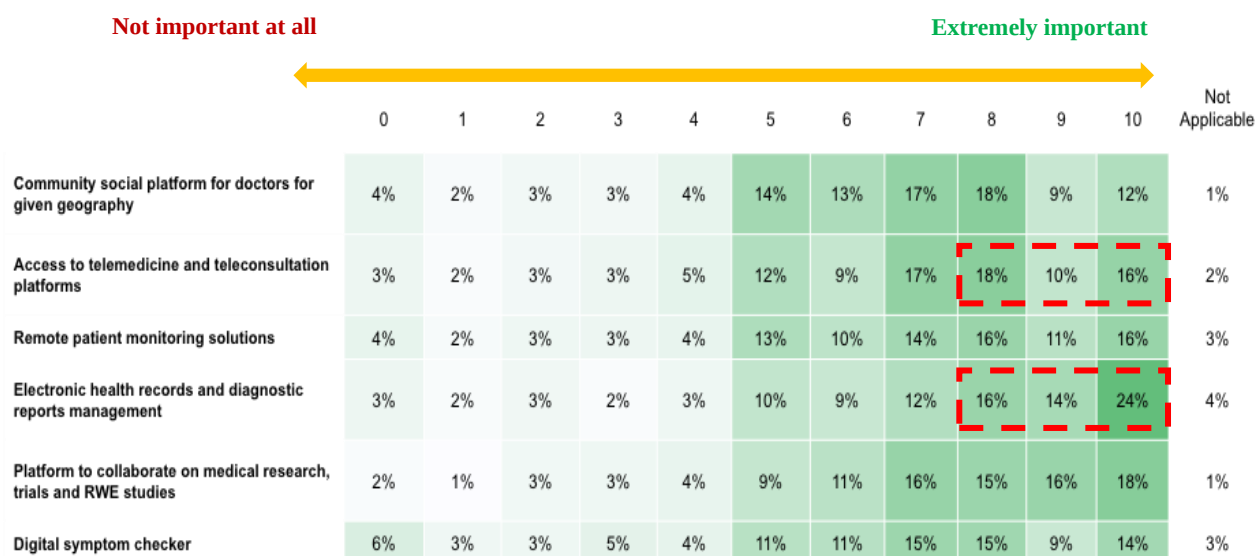
*Table 7 depicts that combination of virtual and physical modes for conferences and CMEs/advisory boards will be preferred going forward*

## 6. NEED FOR ONE STOP PLATFORM



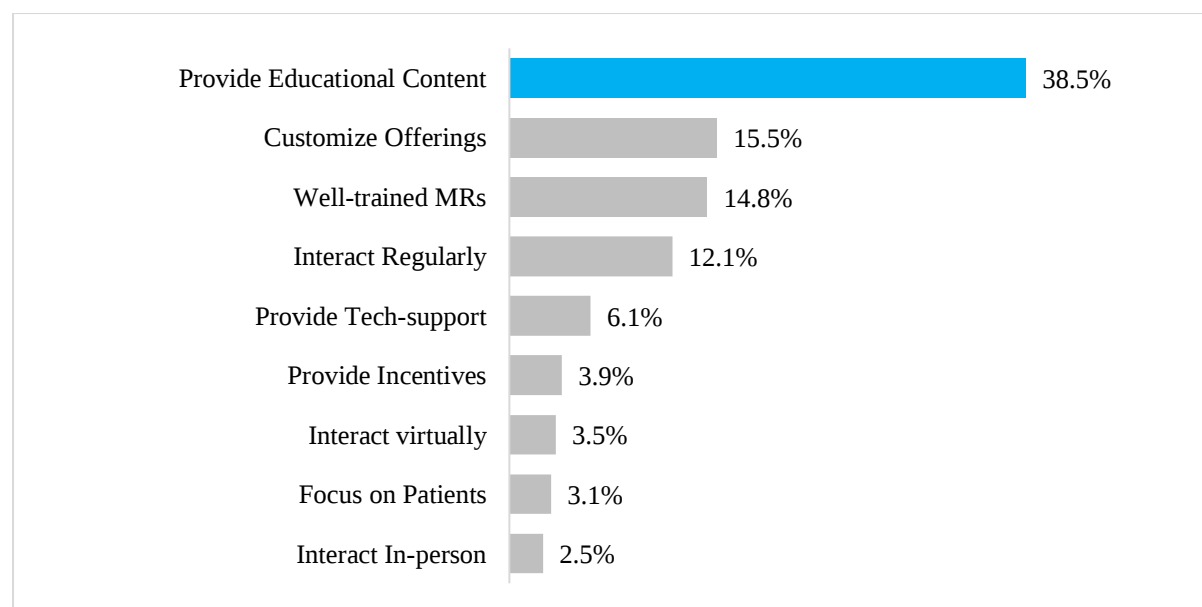
**Figure 35 – Likelihood of using One Stop Platform**

*Figure 35 shows that half of the participating HCPs believe that One Stop platforms to be of significant value and are interested in using them*



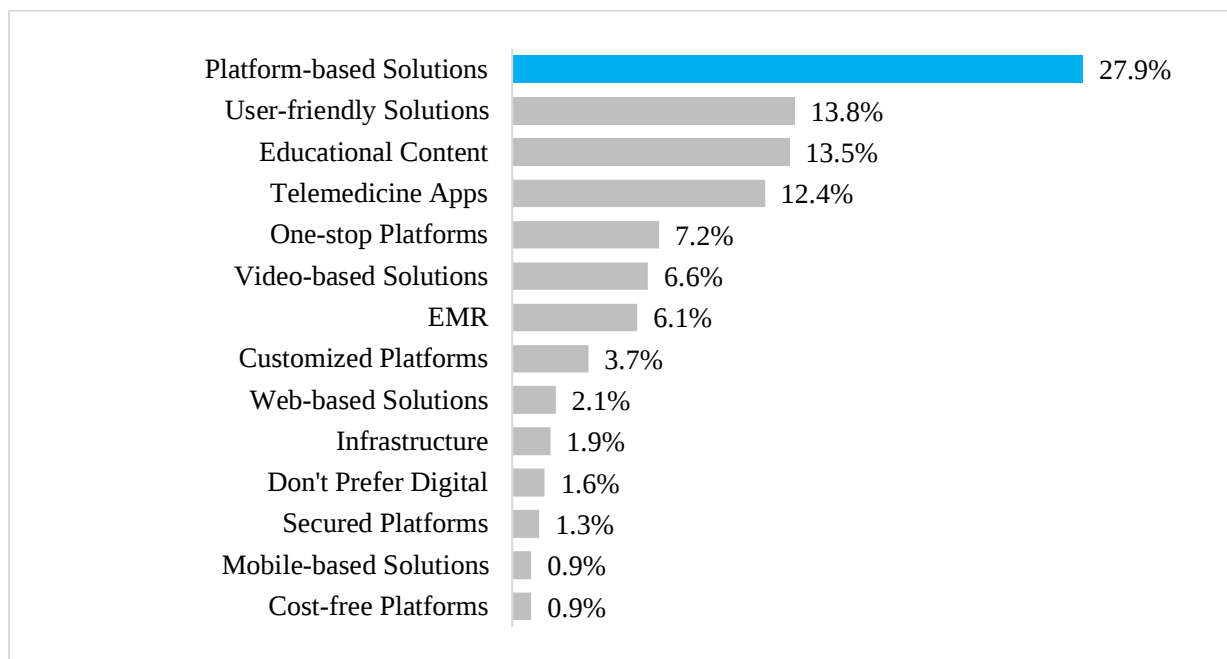
**Table 8 – Ways to Support Doctors Patients During and Post COVID-19 Crisis**

*Table 8 depicts that EHR/diagnostic reports management (54%) and Telemedicine (44%) are the key support elements where HCPs expect support from pharma companies*



**Figure 36 – Improving Doctors' Adoption of Engagement Programs**

*Figure 36 represents that access to educational content will help in increasing doctor's adoption of engagement programs*

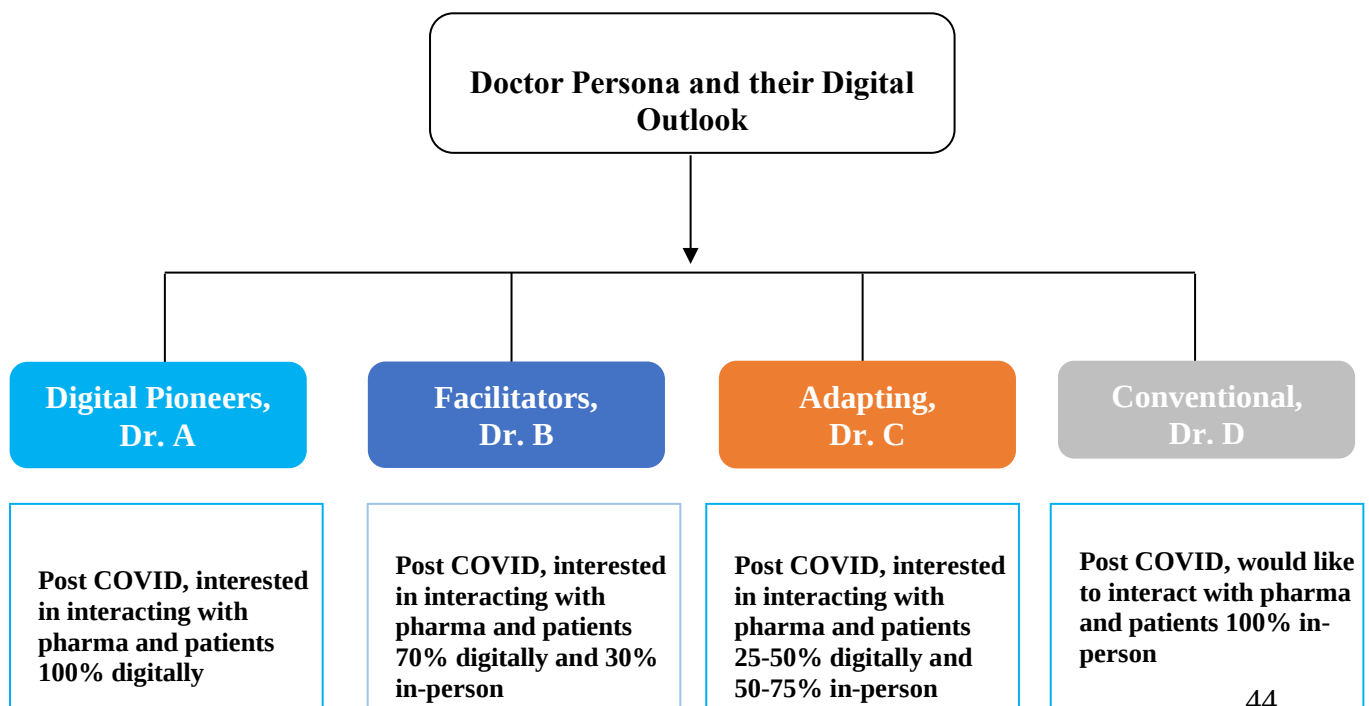


**Figure 37 – Types of Digital Solutions to be developed**

*Figure 37 depicts that platform-based solutions can assist doctors in the best possible way*

## KEY HCPs PERSONALITIES -

**Figure 38** - Based on above analysis, it was interpreted that four types of major HCPs Personalities (Personas) exists as per their digital outlook



## **1. DIGITAL PIONEERS, Dr. A**

(n=171, 15.4%)

### **Profile -**

Qualification: CP / GP

Age Group: 32-45 years

Work Experience: <12 years

Practice Setting: Consults in clinic as well as at hospital

### **Digital Usage -**

- Make active use of digital platforms for patients (telemedicine / EMR)
- Open to adopt new technology and trends like “The Internet of Things (IoT)”, “virtual reality (VR)”, and “artificial intelligence (AI)”

### **Interests and Preferences -**

- Desire access to telemedicine and teleconsultation platforms;
- Prefer digital content provided by professional speakers/authors and worldwide experts; and
- One-Stop Platforms that will cater to information as well as practice management (telemedicine / virtual consultation, payment) requirements

### **Unmet Needs and Challenges –**

- Staff members have not been taught or informed on how to operate devices
- Webinars are the least liked since they create digital fatigue

## **2. FACILITATORS, Dr. B**

(n=163, 14.7%)

### **Profile -**

Qualification: Specialist

Age Group: 36-45 years

Work Experience: 11-20 years

Practice Setting: Consults in clinic as well as at hospital

### **Digital Usage -**

- Used health-apps and video calls to advise patients during the pandemic;
- Regularly participates in video detailed sessions from pharmaceutical and device firms; and
- Ready to go virtual for majority of the conferences / CMEs

#### **Interests and Preferences -**

- Collaboration platforms for medical research, trials, and RWE studies
- Preference for user-friendly digital solutions
- Preference for phone-based apps

#### **Unmet Needs and Challenges –**

- Virtual Ad-boards are disliked because they create digital tiredness

### **3. ADAPTING, Dr. C** (n= 557, 50.3%)

#### **Profile -**

Qualification: CP / GP

Age Group: 36-45 years

Work Experience: 11-20 years

Practice Setting: Consults in clinic as well as at hospital

#### **Digital Usage -**

- Provided web-based consultation to patients throughout the pandemic
- Actively consumes scientific material delivered via SMS/Email/WhatsApp
- Is patient-centric - Recommends Health / Lifestyle Apps to patients

#### **Interests and Preferences -**

- Do not need applications for virtual pharma visits; a web link is usually suffice
- Interested in using Telemedicine apps, EHR, and diagnostic report management solutions
- Interested in acquiring information and ideas from peers and professionals across the world

**Unmet Needs and Challenges –**

- The staff is not being taught or informed on how to utilise the devices.
- Because of digital fatigue, they prefer webinars the least.

**4. CONVENTIONAL, Dr. D**  
(n= 214, 19.3%)**Profile -**

Qualification: CP / GP

Age Group: 46-60 years

Work Experience: 11-20 years

Practice Setting: Consults in clinic as well as at hospital

**Digital Usage -**

- Do not utilize digital platforms; use them sparingly when necessary.
- Are not ready or prepared to accept new technology.

**Interests and Preferences -**

- Interested in educational digital material
- Interested in a community networking platform for physicians based on area
- Will be at ease with in-person conferences/CMEs and MR visits after COVID
- Prefer to examine patients physically

**Unmet Needs and Challenges –**

- Inadequate infrastructure
- Lack of time to use digital platforms
- The staff is not being taught or informed on how to use the devices.

## 7. DISCUSSION

The COVID-19 epidemic has caused a feeling of unease and urgency for healthcare services both in India and throughout the world. The nationwide lockdown has resulted in restricted mobility, restriction to indoor life, and social distancing problems. The patients suffering from other chronic diseases were not able to consult doctors in-person. This created a lot of unease and tensed situation for patients, families and doctors. This has triggered a move from physical to virtual consultations in several regions in order to avoid the spread of the infectious disease and save the patients. This comprehensive cross-sectional descriptive study enrolled 1107 respondents and reported a significant prevalence of digital technology adoption by HCPs to consult patients in COVID-19. Based on HCPs' preferences and expectation for digital interactions, four personas have been resulted. According to a previous study done, it was found that by virtually treating patients during and after the COVID-19 pandemic, telemedicine and virtual software are able to reduce emergency department visits, protecting healthcare resources, and slowing the spread of COVID-19.[\[15\]](#) During the COVID-19 pandemic, telemedicine also assisted to reduce the strain on tertiary hospitals by offering diagnosis and treatment to patients in their own geographical region, as well as lowering the possibilities of patient exposure owing to hospital visits. But still there is a lag in expecting digital technologies or softwares by HCPs. Therefore, there is a need to understand the HCPs expectations and preference in terms of digital technology usage and changing dynamics of 'physician patients and pharma relations', and the support expected from pharma companies during and post-COVID era. It was demonstrated that for over half of the HCPs, OPD load is still lower than it was pre-COVID. "WhatsApp" and "phone calls" are the primary mediums utilized to communicate with patients. It is consistent as per the study conducted in tertiary care hospital at Pathankot, Punjab which also stated that in year 2020, fewer patients reported OPD services, especially during the pandemic period, compared to prior years. Also in comparison to prior years, the delivery rate is just slightly lower in 2020, including throughout the outbreak period under study. [\[16\]](#) As per the Times of India news article it is found that over 60% of doctors in the country now embrace digital connection with their patients over conventional face-to-face interaction, reflecting a trend wherein WhatsApp, text messages, and emails are constantly being utilized for consultations. [\[17\]](#) This is in somewhat consistent with our findings where 8 out of 10 respondents fall under the category of Digital users: either regular or selective users. And among users, whatsApp (n=467, 42.2%) and zoom (n=411, 37.1%) are the two most popular platforms for HCPs to communicate with Patients. The major barriers limiting digital

adoption is inconvenience among HCPs, expensive nature and inadequacy of infrastructure, patients' unwillingness and less staff trainings. According to Deloitte's poll respondents that took place in U.K., the top three adjectives that best define the current status of digitalization are 'slow,' 'expensive,' and 'inefficient.' Furthermore, they highlighted the five most significant hurdles to the adoption of digital solutions as follows: the expense of the technology; identifying the proper digital solutions; the complexity of the technology; bureaucracy; and training.[\[18\]](#) A blog post published in 2020 states that in-person interactions, such as visits to clinics and offices, lunches or conferences, and other venues, used to drive the connection between medical representatives and physicians. That paradigm is now being challenged by a "perfect storm" of systemic changes and fast digital transformation.[\[19\]](#) As per this study 75% of respondents anticipate that digital will play a role in pharma communication strategy in the future and they expect relevant information from medical representatives to save their time. Official/medical body updates are the primary source of reading medical news/updates, followed by websites of standard news publishers since they are the most credible source of information. Short articles/blogs are preferable, followed by short films with medical speakers. Pulmonologists like university-produced educational films. EHR / diagnostic reports management and Telemedicine key support elements where HCPs expect support from pharma companies. Another survey report published by BCG in July 2020 revealed that HCPs are seeking for innovative practices and collaboration models with the pharma sector. [\[20\]](#) Physicians' interest in clinical data remains strong, and more are keen to learn how pharma firms can assist patient care and healthcare delivery through digital tools and interaction. One Stop platform is significant preference for half of the participating HCPs. Digital technologies, including teleconsultations, virtual call technologies, webinars, and HCP support platforms, are critical to making these digital interactions possible. Based on above analysis, it was interpreted that four major types of HCPs Personalities (Personas) exists as per their digital outlook named as "Digital Pioneers", "Facilitators", "Adapting" and "Conventional". "Digital Pioneers" are HCPs who are interested in interacting with pharma and patients 100% digitally post COVID, "Facilitators" are HCPs who are interested in interacting with pharma and patients 70% digitally and 30% in-person post COVID, "Adapting" are HCPs who are interested in interacting with pharma and patients 30% digitally and 70% in-person post COVID, "Conventional" are HCPs who are interested in interacting with pharma and patients and 100% in-person post COVID.

Some limitations still remain in the present analysis. One drawback of the present study was that face-to-face sampling procedures and information gathering were not possible due to huge sample size and COVID-19. Additionally, a pilot research could not be undertaken. Further sample size from East region (n=73) was comparatively very less as compared to other regions. Covering North, South, East and West regions and across geographies (Metro cities, Tier-1, Tier-2 cities) holistically would ensure that the knowledge, perception and beliefs of doctors covered adequately to draw meaningful insights.

## 8. CONCLUSION AND RECOMMENDATIONS

This study is a deliberate effort to emphasize the fact that a pandemic of this magnitude will have an impact on the interactions of HCPs with patients and the pharmaceutical sector. HCPs expect long-term changes in their relationship and communication with patients and pharmaceutical firms post COVID-19. Four categories of HCPs personalities have been identified based on digital usage and engagement. Majority of the participating HCPs are classified as "digital users: either frequent or selective users." Despite the fact that EMR and telemedicine are currently underutilized, almost half of the respondents feel that they are completely prepared to embrace the digital revolution. Doctors favour digital interaction channels more, whereas in-person visits by medical personnel are ranked lower by them. The top 3 Digital health platforms which are used to access scientific video content are "Docplexus", "Lybrate" and "Ciplamed". Teleconsultations via "WhatsApp" and "Zoom" applications will be continue to evolve and be embraced in a variety of formats by more healthcare practitioners and patients. Doctors are increasingly looking to pharmaceutical companies to act as health educators, and to provide relevant educational content and customise offerings. In addition, half of the participating HCPs are interested in adopting One Stop platforms where multiple services can be offered to them.

But there still exists barrier in adopting digital technologies by HCPs. The main constraints in digital transformation should be addressed. Doctors want support from patients and pharma companies to overcome this gap. There should be a strong governance framework to support a digital transformation culture and robust health IT infrastructure for information exchange. Implement electronic health records and invest in the fundamental technologies required for digital transformation. Patients should not be reluctant in using digital technology. Doctors should highlight the strengths and advantages to patients and give them the chance to ask questions. There is a necessity to provide employees with the knowledge and training they need to properly implement digital technology. Improving staff and patient digital literacy would help to develop digital leadership abilities among them. Pharma companies should assist doctors in EHR/diagnostic report management and telemedicine field in alignment with their expectations and preferences. Pharmaceutical industries should work on One Stop platforms where multiple services can be offered to HCPs and as well as provide them with relevant educational content in form of short blogs or videos that will help in increasing doctor's adoption of engagement programs.

## 9. REFERENCES

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**ANNEXURE 1 – SURVEY**  
**QUESTIONNAIRE**

**DOCTOR SURVEY – DIGITAL  
INTERACTIONS**

**DOCTOR PROFILE ATTRIBUTES**

1. Your name (optional)
2. Your age groups.
  - o Below 35 Years
  - o 36-45 Years
  - o 46-60 Years
  - o >60 Years
3. Your gender
  - o Male
  - o Female
  - o Others
4. Your city
  - o Drop down.
5. Your qualification
  - o MBBS
  - o MD/MS
  - o MCH with DM
  - o DM
  - o BDS
  - o BAMS
  - o Others (*please specify*)
6. Your specialization
  - GPs
  - CPs
  - Anesthesia
  - Cardiology
  - Dentistry
  - Dermatology
  - Emergency medicine
  - Endocrinology
  - Family medicine
  - Gastroenterology
  - Geriatrics
  - Gynecology
  - Hematology
  - Hepatology
  - Immunology
  - Infectious diseases
  - Intensive care
  - Nephrology
  - Neurology
  - Neurosurgery
  - Obstetrics

- Oncology
- Ophthalmology
- Orthopedics
- Pathology
- Family medicine
- Gastroenterology
- Geriatrics
- Gynecology
- Hematology
- Hepatology
- Immunology
- Infectious diseases
- Pediatrics
- Pulmonology
- Radiology
- Rheumatology
- Sexual health
- Sleep medicine
- Surgery (add details below) \_\_\_\_\_
- Toxicology
- Urology
- Others\_\_ (please specify)

7. Your work experience (years of clinical practice)  
\_\_\_\_\_years

8. Your practice setting  
g..
- Corporate Hospital
  - Clinic Based
  - Govt. Hospital
  - Both clinic and hospital

9. Your out-patient consultation fee
- o <INR 300
  - o INR 300-500
  - o INR 500-750
  - o INR 750-1000
  - o INR 1000-1500
  - o > INR 1500

10. Your average out-patient load per day  
\_\_\_\_\_patients

**11. Which out of the following statements you agree with the most? (Select one)**

- 1) I do not use digital platforms. Etc. for patient consultation, prescription generation, telemedicine, knowledge enhancement
- 2) I use digital platforms very selectively for patient consultation, prescription

generation, telemedicine, knowledge enhancement usually on an Adhoc basis.

- 3) I regularly use digital platforms for patient consultation, prescription generation, telemedicine, knowledge enhancement.

**12. Can you please let us know reason for not using digital platforms?**

- 1) I do not have the required infrastructure – laptop / smart phone / internet etc.
- 2) I do not find it convenient to use digital platforms; my preference is face-to-face.
- 3) I want to use digital platforms, but I need someone to guide me / train me.
- 4) I do not have the time to explore digital platforms.
- 5) Other Comments \_\_\_\_\_

In case of option 1 in above, what infrastructure support can be provided to welcome the digital transformation \_\_\_\_\_

**13. How much time you spend on devices for certain purposes (blanks with time in minutes)**

- o Rx
- o Medical viewing
- o Emails
- o Patient support platforms
- o Company platforms
- o Videos on surgery or scientific sessions

**14. Which is top of the Mind recall of the pharma company whom you would rate best in terms of providing relevant support in pandemic times?**

Top 1:

Top 2:

Top 3:

**UNDERSTANDING TECHNOLOGY ADOPTION BY THE PRACTITIONER**

**15. Which of the following statements you agree with the most? (Select one)**

- My monthly patient load (OPD consultations) has reached the pre Covid times.
- My monthly patient load (OPD consultations) has increased / surpassed that of precovid times.
- My monthly patient load (OPD consultations) continues to be lesser than that of precovid times.

**16. How have you remained in touch with your existing patients in last couple of months? (Select all that apply)**

- WhatsApp
- Voice call / Phone call
- In person visits
- Emails
- Text messages
- Health apps
- Video calls
- Zoom
- Hangouts
- Telemedicine software
- Web based consultation platforms

**17. Assuming 100 OPD consultations in a month, which out of the following describe your current practice scenario the best? (Select one)**

- >90% of my consultations are done in person i.e., Face to Face in my clinic.
- 75% - 90% of my consultations are done in person i.e., Face to Face in my clinic.
- 50% - 75% of my consultations are done in person i.e., Face to Face in my clinic.
- 25% - 50% of my consultations are done in person i.e., Face to Face in my clinic.
- Less than 25% of my consultations are done in person i.e., Face to Face in my clinic.

**18. {Pipe in response from Q3.} how do you anticipate this to change in post Covid (once things go back to normal) environment? (Select one)**

- Increase
- Decrease
- Remained the same.
- In case of increase / decrease, please mention the %age change expected?

\_\_\_\_\_

\_\_\_\_\_

**19. What is your acceptance level across digital? Select All applicable.**

- I actively use digital platform for patients (telemedicine / EMR)
- I actively attend / listen to / speak in webinars.
- I actively consume scientific content sent through SMS / email / WhatsApp
- I have actively attended video detailing sessions from pharma / device companies.
- I actively visit digital web platforms to consume scientific content.
- I recommend Health app/ lifestyle app to my patients to track suggested lifestyle changes

**20. Do you have access to any specialized platform for managing digital health records of patients?**

- Yes
- No

If No, please specify the reason for not using such a platform

\_\_\_\_\_ If  
yes, please specify the name of the platform. \_\_\_\_\_

21. **The 4th Industrial Revolution – The current and developing environment in which disruptive technologies and trends such as the Internet of Things (IoT), virtual reality (VR) and artificial intelligence (AI) are changing the way we live and work. Where are you currently in your journey towards fully embracing and being ready for the 4th Industrial revolution.**

- I am fully ready.
- I am not ready, but I will be.
- I do not think I will ever be ready; I prefer things as they were before.
- I am ready mentally but not from a platform/IT perspective.

22. **What according to you is the single biggest challenge in adopting virtual tools and mobile applications in your everyday practice? (Single response)**

- Do not have the time to use digital tools.
- Do not have access to devices.
- Do not have access to Wi-Fi.
- Do not have access to trained personnel to use devices.
- Does not have a Mindset to embrace the change
- Patients are unwilling to use digital technology
- Others\_\_\_\_\_

23. **Digital fatigue & overload – What is one thing you do not like which pharma companies are deploying?**

*(Select all that apply)*

- Emailers
- Webinars
- Virtual detailing calls
- Virtual CMEs and RTDs
- Virtual Ad-boards
- Others\_\_\_\_\_ (please specify)

## UNDERSTANDING FUTURE INTERACTION WITH PATIENTS AND PHARMA – CHANNEL & FREQUENCY

*Assessing the “stickiness” of digital engagement in the post COVID19 era*

24. **Could you please answer following questions imagining about your post-COVID interactions with Patients and Pharma companies? (Single**

*response per row)*

|          |   |   |   |                   |
|----------|---|---|---|-------------------|
| will not | 1 |   |   | 5                 |
| change   |   |   |   | will              |
| at       |   |   |   | change            |
| all      | 2 | 3 | 4 | significa<br>ntly |

*After COVID-19, my interaction with pharma companies...*



Addition to digital interactions, face-to-face interactions with pharma companies... (in terms of visit frequency & content, meetings, and other organizations etc.)



25. When things stabilize and we find ourselves in a POST COVID-19 reality, of the following statement, which one is more relevant to you for meeting to pharma. Please select the most preferred option: *(Select one)*

- Meet me physically no digital or remote engagements **(100% Physical / Face to face)**
- Talk to me remotely (tele and/or video); no need to send content or meet physically.
- Send me digital content; no need to meet / speak **(100% Digital)**
- Send me digital content + Follow-up with physical meetings **(70% Physical & 30% Digital)**
- Send me digital content + Follow-up with remote tele or video meetings.
- Remote tele or video engagements + Follow-up with physical meetings **30% Physical & 70% Digital**
- Integrated: Digital content + Remote tele/video engagement + Physical engagement **(50% Physical & 50% Digital)**

26. Which online application do you prefer most for virtual visits with patients and pharmaceutical companies? *(Single response)*



Zoom



Hangouts



WhatsApp



Skype



No App required, just a web link to join

virtual visit. ☐ Other (please

specify)

27. If the Pharma industry has to engage with you through digital / remote channels, how would you rank the following engagement channels in order of priority: (Please rank your preferred mode on a scale of 1 to 8, where 1 is the highest rank, and 8 is the lowest rank)

- Face to Face tablet-based detailing
- Tele-detailing (phone only)
- Video-detailing (live online Rep)
- SMS-based scientific and promotional material
- Direct Email-based scientific and promotional material from Rep

- Email-based scientific and promotional material from Pharma company
- Websites
- Webinars / webcasts
- Self-directed web detailing (without Rep)
- Journals (online / offline)
- Social Apps
- WhatsApp-based scientific and promotional material
- Content / Updates on Pharma's owned Online platforms (e.g., Ciplamed, Knowledge Genie)
- Scientific and Promotional material on 3rd party platforms (e.g., Docplexus, M3 etc.)
- Scientific and Promotional material on social media (e.g., Facebook, LinkedIn etc.)

**28. For an appointment-based face to face interaction with pharma in the future, what would be the frequency at which you would prefer an interface? (Select one)**

|          | Once a week | Twice a week | Fortnightly | Monthly |
|----------|-------------|--------------|-------------|---------|
| Response |             |              |             |         |

**29. What should be the optimal virtual visits in terms of content preference and frequency?**

*(Single response per row)*

Weekly    Bi-Weekly    Monthly    I do not need it.

|                                                                                     |                          |                          |                          |                          |
|-------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Clinical study results                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Treatment suggestions for some patients/indications                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Product information (dosing, safety, efficacy etc.)                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Interactive training content                                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
| <input type="checkbox"/> Real World Evidence                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
| <input type="checkbox"/> Medical Information Services – Review Articles             | <input type="checkbox"/> |                          | <input type="checkbox"/> |                          |
| <input type="checkbox"/> Medical Information Services – Treatment Guidelines        | <input type="checkbox"/> |                          | <input type="checkbox"/> |                          |
| <input type="checkbox"/> Medical Information Services – Disease Information         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
| <input type="checkbox"/> Medical Information Services – Conference Reports and News | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |

**Discount or Sample Offers**



☐ **Administration of the Medicine**

☐ **Product Availability**

☐ **Non scientific content**

☐ **Digital Health Services**

☐ **Adherence Programs**

30. What nonscientific content you will prefer and would want pharma companies to drive?

- Telemedicine usage / Medicolegal guidelines
- Patient education material (digital format)
- Others, please specify \_\_\_\_\_

31. **Which of the following statements do you agree with the most?** (Single response)

- Digital engagements have not influenced my practice / treatment decisions.
- Digital engagements are as effective as physical rep engagements – I am able to take newer decisions basis what I have learnt through digital channels.
- Digital engagements are more effective as compared to physical rep engagements – and have significantly influenced my practice / treatment decisions.

If #3 above is selected, what would you say are the top 3 advantages of digital: (Note to coder: Allow multiple punches)

- Digital saves time since I can consume more information in lesser time.
- Digital has enabled higher quality content with primary focus on science.
- Digital improves access to novel scientific information, and I am able to learn newer things.
- Digital enables me to get content from pharma companies that I never / rarely met earlier.
- Digital improves access to learning from peers and other leading domestic/global doctors.
- Quantum of digital content enables me to pick the right and most relevant content.
- Others \_\_\_\_\_

32. How has your expectation of the nature of an engagement with a pharma rep changed as we move into a post COVID environment?

- Not changed
- Expect more scientific value or other value add from the rep.
  - i. Relevant information
  - ii. On-demand information
  - iii. Customized Precise Information Available in Digital Formats

- iv. Medical Science Liaison Access and Availability
- v. Self-service Options to Connect with Reps
- vi. Round-the-clock Multichannel Access to a Medical Rep
- vii. Digital sampling
- and activity request viii.
- Others\_\_\_\_(Specify)

### **KNOWLEDGE ENHANCEMENT REQUIREMENTS**

#### **33. What are the top 3 websites / app where you consume content? (Open ended)**

---

#### **34. What is(are) your preferred source(s) of reading current medical news updates?** Please rank the 5 most preferred modes on a scale of 1 to 5, where 1 is the highest rank, and 5 is the lowest rank.

- Websites of standard news publishers
- Updates from official/medical bodies that you are associated with
- Through the content shared by your peers on social networking platforms
- Niche medical content platforms <If chosen, a new text box to fill the name of the application>
- Subscription to periodic newsletters
- Print media through newspapers and journals.
- Therapy specific magazines or publications
- Other(s) <text box to fill the answer>

#### **35. What shall be your preferred mode of knowledge enhancement henceforth?** Please rank the 5 most preferred modes on a scale of 1 to 5, where 1 is the highest rank, and 5 is the lowest rank.

- Video library of rich scientific content
- Connect with peers
- Online CMEs / RTDs / Webinars
- Online Advisory Boards
- Online certified courses
- Online journal and e-book subscriptions
- Online conferences
- Access medical content in your specialty
- Accreditations / Certifications for your discipline
- Customized news for your practice
- Information on medical events
- Official announcements and guidelines from medical bodies
- If there are other content requirements, please specify: <text box to fill the answer>

#### **36. Which are the platforms do you visit in order to access scientific video content?**

- Lybrate
- Curofy
- HiDoc
- Docplexus
- Ciplamed

- Knowledge Genie
- Connect 2 Clinic
- Others (text box to fill the answer)

**37. Which of the following will be your most preferred format of medical content? Please rank the 5 most preferred modes on a scale of 1 to 5, where 1 is the highest rank, and 5 is the lowest rank.**

- Infographics / Newsletters
- Abstracts (Summarized synopsis from various trending articles and news events in your domain)
- Short Articles / Blogs
- Interactive forms / chatbots (e.g., interactive case study quizzes)
- Long articles / Full publications
- Long videos (e.g., full webinars)
- Short videos with animation
- Short videos with doctor speaker
- Educational videos created by universities.
- Podcasts by industry leaders and KOLs

**38. What matters to you the most when consuming digital content? (Each option to be rated on a scale of 1 to 5, 1 being the highest rated)**

- Novelty or differentiation of the topic / content
- Seniority / Experience of the Speaker and/or Author
- Global speakers / experts
- Reputation of the pharma company
- Past relationship with the pharma company/medical reps
- Channel to consume digital content – e.g., webinars or WhatsApp or video detailing.
- Day / Timing of the session / communication
- Use of real-world patient data/case studies.
- Virtual CME credits / certifications
- Others \_\_\_\_\_

**39. How much time, on an average, do you spend online in each week to educate yourself and improve your practice? (*Select one*)**

- <60 min
- 1 – 3 hours
- 3 – 5 hours
- 5 – 10 hours
- > 10 hours

**40. What is the preferred time of the day when you access digital media to enhance your knowledge? *Please rank the below options on a scale of 1 to 6, where 1 is the most preferred and 6 is the least preferred option***

- Before 8 am
- 8 am -11 am
- 11 am – 2 pm
- 2 pm – 5 pm
- 5 pm- 8 pm
- After 8 pm

**41. Which day of the week do you prefer the most for knowledge building?**

*Please rank the below options on a scale of 1 to 6, where 1 is the most preferred and 6 is the least preferred option*

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

**42. Post vaccination, which of the following modes would you prefer to attend medical conferences going forward? (Select one)**

- 100% in-person conferences
- 75% virtual & 25% in-person
- 50% virtual & 50% in-person
- 25% virtual & 75% in-person
- 100% virtual conferences

**43. Which of the following modes would you prefer to attend RTDs / CMEs / Advisory boards going forward? (Select one)**

- 100% in-person
- 75% virtual & 25% in-person
- 50% virtual & 50% in-person
- 25% virtual & 75% in-person
- 100% virtual

**44. What is the preferred time of the day for engagement with pharma companies? (Select one)**

- Early morning (7 am – 9 am)
- Morning (10 am – 12:00 noon)
- Afternoon (12:00 noon – 4:00 PM)
- After practice hours in the evening (7 pm to 9 pm)
- Just before sleeping (10 pm to 12 midnight)
- Any other time slot (please specify) \_\_\_\_

### **SERVICES REQUIREMENTS**

**45. How would you rate following ways in which pharmaceutical companies can support you, your practice, and your patients during and post COVID-19 crisis? (Single response per row)**

Please use a scale of 0 to 10, where 0 = Not at all important 10 = Extremely important

|                                                                              | 0                        | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        | 10                       | Not Applicable           |
|------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Community social platform for doctors for given geography / <del>splty</del> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Access to telemedicine and teleconsultations platforms                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Remote patient monitoring solutions                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic Health Records & diagnostic reports management                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Platform to collaborate on medical research, Trials and RWE studies          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Knowledge enhancement initiatives<br>Digital symptom checkers                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

If there are other content requirements, please specify: <text box to fill the answer>

**46. What is your likelihood to use One Stop platform which combines all the above knowledge and services requirements? (Select one)**

- 1 – It is interesting, but I do not see it as a significant value add.
- 2 – I see it as a significant value add, and I would be interested in using it.
- 3 - it is interesting, I would like to know more about it

**47. Are you willing to provide further inputs if necessary, on the above responses in our endeavor to create a holistic digital platform for the doctor community? (Select one)**

- Yes <if selected, a follow up question asking the preferred mode of communication and the email ID/mobile number details will be collected from the survey participants>
- No
- \_\_\_\_\_

**48. In your opinion, how can pharma companies improve adoption and stickiness of doctors to engagement programs? Please elaborate**

**49. What type of digital solutions do you recommend pharma companies to build so that physicians like you can connect or provide care to your**

**patients outside of your clinic/hospital setting? Please elaborate**