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Mobile health can be a break through: Patient perspective

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Abstract
Healthcare Management at beneficiaries' level has great chance for development and its progress likened to the other sectors of India is limited. The impartial of this study is to understand the need of m-health and its establishment challenges and blockages in India. I had surveyed Patient to appreciate their view, need, acceptance and readiness for m-health through a multiple structured questionnaire including 1) need of m-health towards patients, 2) support by Government for m-health, 3) Readiness of investment from patient towards the cost in the field, 4) issues related educational problems for the implementation of mHealth, 5) Policies in vocabulary and availability & understanding of infrastructure along with scope of expansion. The accused answered positively in these scopes where 100 % agreed on the fact the m-health is the need of the hour. The survey has also highlighted the operational problems of m-health employment in India due to its wide variety of demographic, cultural and instructive, economic properties, long term policies around that.

Keywords: healthcare, m-health, public health, preventive healthcare

Introduction
The infrastructure and system for delivering healthcare are changing very fast in the modern world. An abbreviation for mobile health, m-health is an increasing and expanding phenomenon in India's health sector. In the age of artificial intelligence, m health has emerged as a sub-sector of e health, which is used for the practice of medicine and public health supported by mobile communication devices. Generally, mhealth is used for denoting the use of mobile devices, tablets, computers, smart watches and other wearable devices for health services. India has moved far ahead in health sector following the Millennium Development Goals. The area of mHealth is universal in nature for delivering health care from the most developed to the least developed economies of the world**.** The use of mobile technology in health sector in the developing world is rapidly expanding to include chronic, and communicable diseases. Technology like m-health can be useful to address the challenges of health sector in the developing countries like India. "M-health is a service or application that involves voice or data communication for health purposes between a central point and remote locations. M-Health is consumer focused because almost all customer uses mobile and they can manage their health through this. One of the key stakeholder is Doctor who is diagnosing the patient on day to day basis and I met these doctors and consolidated their opinion and their awareness, acceptability, efficiency and effectiveness of the m-health based systems in health services. The paper attempts to analyze the role of different stakeholders and make a suggestion for the improvement of health service delivery
The number of mobile user is increasing day by day in all over the world. On the other side, most of the mobile users do not have knowledge about its health applications. The present situation is worse in the developing and the undeveloped countries because of the lack of proper education. The other side of coin is positive in the developing countries. The mobile use in health sector in the developing world is rapidly expanding to include severe and contagious diseases. M Health and other technologies such as wireless system can be useful to address the challenges of health sector. According to Ian Leslie Freng, Simon Sherrington and Danny Dicks (2011) "mHealth is an application that involves voice or data communication for health purposes between a central point and remote locations, which includes eHealth applications (if delivery over a mobile network adds utility to the application), the use of mobile phones and other devices as platforms for local health-related purposes as long as there is some use of a network." India ranks second among developing countries in the adoption of m Health. Increased adoption of mobile technology or m Health is supposed to be essential by more than half of doctors and healthcare providers in developed and emerging markets around the world including 60% in India. At this time, m Health applications in the maternal and newborn health field are in the formative stage, but rapidly evolving. The United Nations Foundation in its studies entitled "m Health for Development: The Opportunity of Mobile Technology for Healthcare in the Developing" has shown the immense potential of mobile technology in the developing countries like India. William C. Philbrick has published his report entitled "m Health and MNCH: State of the Evidence Trends, Gaps, Stakeholder Needs, and Opportunities for Future Research on the Use of Mobile Technology to Improve Maternal, Newborn, and Child Health" in 2013 showing problem in mission and strategy of the current mHealth projects.

Research methodology
A detailed survey questionnaires was used to collect data.

Data was collected on various data variables such as Mobile Health uses, missed does and prescription, key challenges, solutions and Geographic Location. Data collection was done using automated data capture software on smart phone

Data collection

Data was collected on Coolpad Android using Comm Care mobile application software, which facilitates online data collection through an online software comm Care. The survey tool was uploaded on software and downloaded on phone. Data was sent to the online database server by cellular, Wi Fi, or cable internet connection from the mobile device.

Manual for data collection

Field guide/manual was prepared before the field start and keep updating the manuals on the learning obtained from field.

Study Limitations

There are few limitations of the survey and should be considered at the time of interpretation of results:

- Non-Response Bias: Survey findings are based on available data.
- Interview Bias: Respondents self-reported actions related to smart phone, Patient load experience, which were not confirmed by further document review.

Key challenges during data collection

There are few challenges while conducting the survey that includes

- The physical in-convenience of transport
- The doctors or Chemist most of the time were apprehensive in sharing the information
- Due to non- availability and prior commitment, needed to conducts many revisits.
- Many times the respondent denied for conducting the interview.
- Many time the respondent was not present at the location and I have wait for him untile he comes because he or she was being the important stakeholders.
- Even sometimes the interview with them things was not smooth. In the beginning, the respondents did not co-operate properly and created problem. But we managed to established close rapport with the respondents and eventually succeeded in knowing their views and attitudes in depth.
- The interview schedule was the main tool used for collecting primary data, supplemented by field notes based on observation. Although some structured questions were included to get specific background data. The quantitative data collected through interviews was supplemented and cross-checked by qualitative data obtained though observation. Contacting the respondents and visiting their households posed serious problems.

Setting up field

Gujarat a Western Indian state covering 75,685 sq mi and its population is 60 million. The State encompasses of 33 districts and the State is doing well in Health parameters. A comparative study indicate that the State has 12th ranking on health indicator performance and lagging behind from many states including Kerala, Goa, Himachal, Punjab, Tamil Nadu, Maharashtra and Haryana.

Table 1

Possesstion of Mobile Phone	Count
Yes	40
No	0
Grand Total	40

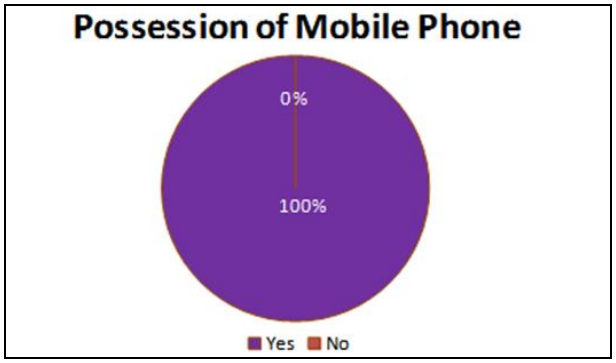

Fig 1

Data gathered has indicated that 100% of patients are in the possession of mobile phones. The basic inference drawn from this is that it may be the first positive step which will encourage further to probe on usage of M-Health application.

Table 2

Possession of Smart Phone	Count
Basic Phone	11
Smart Phone	29
Grand Total	40

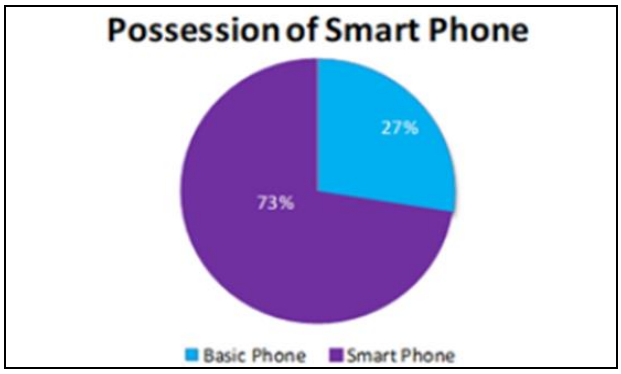

Fig 2

It was noticed that although 100% of the patients were using mobile phones but only 73% were in the possession of smart phones and 27% were still using basic phones. This shows a strong case of pushing for M-Health application and the rest 23% may also fall in line after witnessing the positive usage of this application

Table 3

Usages of Online Application	Count
Yes	29
No	11
Grand Total	30

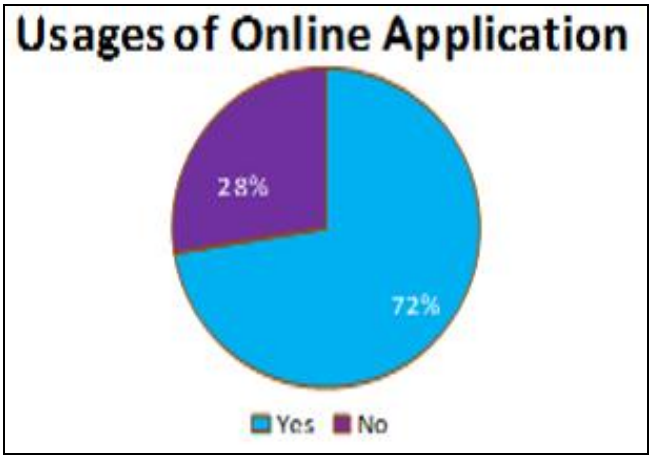

Fig 3

Table 4

Usages of Applications	E- Health & Other App	Not E-Health but other APP	Only E-Health
Yes	10	19	0
No	10	0	1
Grand Total			

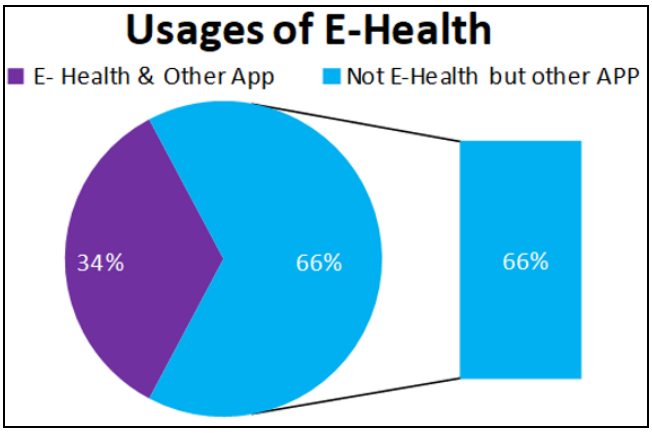

Fig 4

It was also found that all the smart phone users were using one or the other form of online application. 66% of the patients were using some online application, excluding the e-health application and 34% were using e-health along with other application. There was not a single patient who was using only E-health application.

Table 5

Missed dose	Patient Percentage of missed dose
Yes	10
No	29
Grand Total	40

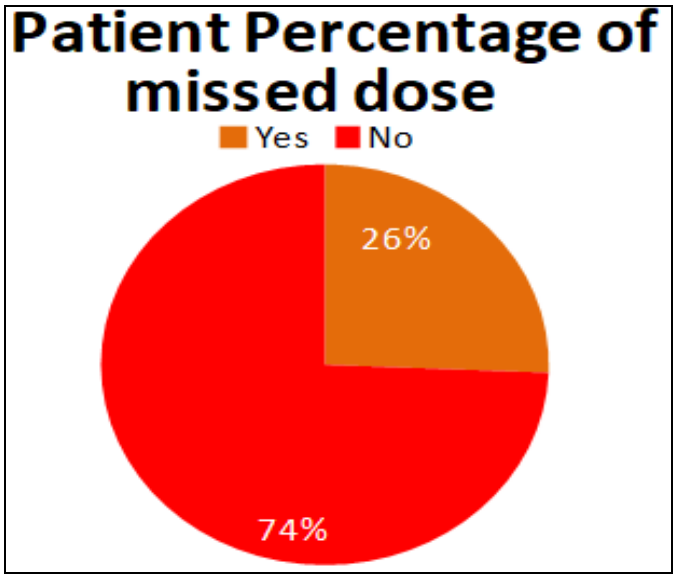

Fig 5

26% of patients admitted of missing a dose of medicine in spite of being serious in getting the treatment. This is almost ¼ th of the sick population and not adhering to proper treatment schedule may have serious implications.

Table 6

Lost Perscription	Patient Percentage of lost prescription slips
Yes	7
No	33
Grand Total	30

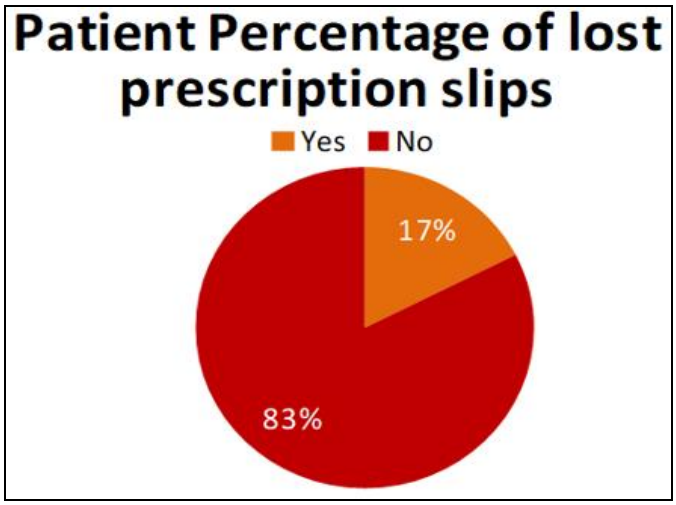

Fig 6

Although 26% of the patients were missing at least one dose of medicine but 83% of the patients retained their prescriptions slips and only 17% lost it. Since majority of the patients are retaining their prescription slips, this shows that they are serious towards the treatment but are not able to maintain discipline in dosage cycle, but given the support in some form will like to be disciplined in their treatment. This again indicates a positive sign towards usage of M-Health Application.

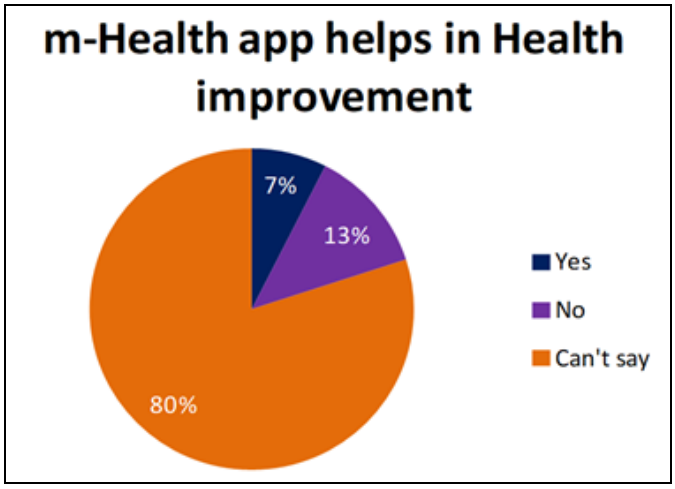

Fig 7

Table 7

Health Improvement Response	m-Health app helps in Health improvement
Yes	3
No	5
Can't say	32
Grand Total	30

On the question of utility of M-Health application, only 7% patients responded with yes and 13% responded with No. There was a big chunk of 80% patients who were undecided and the reason may be that they have no knowledge of the utility of such application but since they are in neutral zone hence there is a big possibility of converting them for a positive response.

Table 8

Row Labels	Count of Would patient/care taker pay for such application?
No	40
Yes	0
Grand Total	40

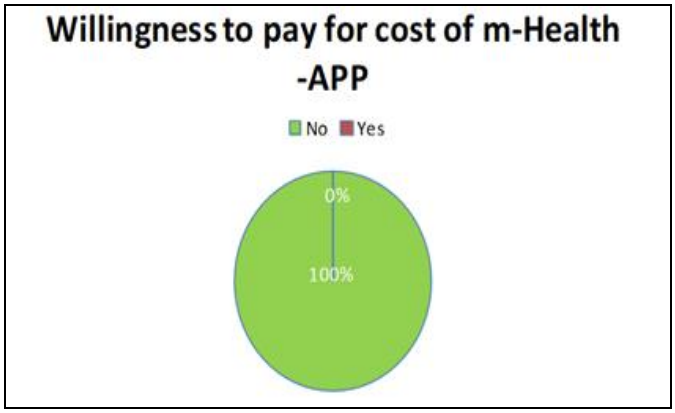

Fig 8

Who is going to incur the cost of M-Health application is a pertinent question and 100% of the patients denied to take up the cost to the application

Table 9

Medium of Communication	Count
Regional Language	37
Hindi	2
English	1
Grand Total	40

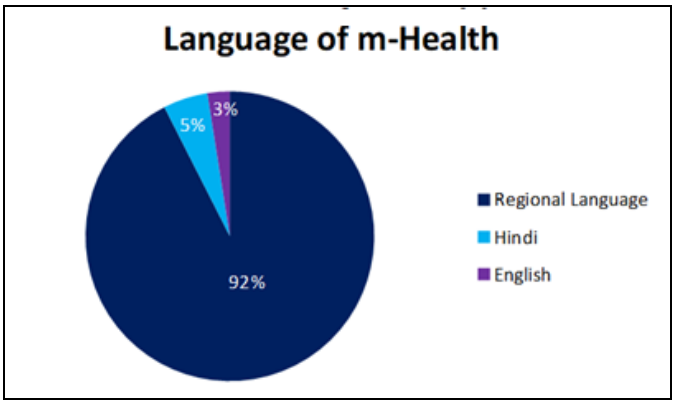

Fig 9

92% of the patients preferred regional language for this application, 5% preferred Hindi language and 1% were in favor of English as language of communication.

Health can play a significant role in empowering patients, giving them the tools to manage their condition and any associated side effects themselves, in their own home and without the need for direct supervision by health care personnel.

Conclusion

To implement the mobile health technology in public health care programme it is imperative to have a specific policy/ regulatory guideline, processes and approaches for the programme. Engaging the Government will ensure the necessary formulations and amendments in the policy and the ear mark fund allotted for the implementation of the programme. Similarly, the engagement of service provider eco system to determine the various cost structure during the implementing of the programme. Here it is important to understand the need and education requirement of the key beneficiaries of the programme who is the patient in this case.

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