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mHealth Brazil end-user research: Beliefs, barriers, success factors and recommendations

Prepared for the GSMA by Ipsos Healthcare
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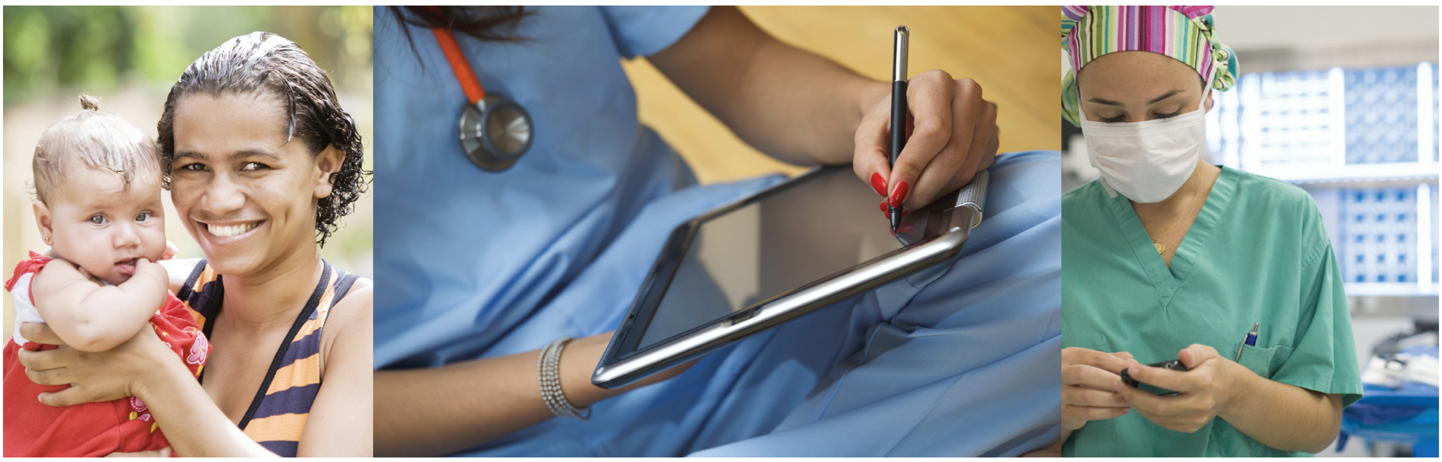
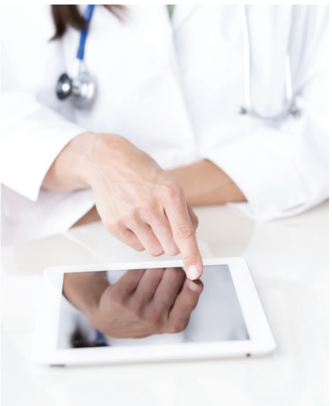




Executive Summary

Objectives and Methodology

The purpose of this paper is to provide an understanding of the needs of potential users of mobile health solutions (mHealth) in Brazil and their beliefs in the benefits of mHealth, barriers to greater usage and assessment of key success factors. In order to address these objectives, GSMA commissioned Ipsos MORI to conduct focus groups and online interviews with three end-user groups: healthcare providers (HCPs), patients with chronic conditions and general wellness consumers.

Key Findings

End users in Brazil strongly believe that mHealth has the potential to deliver significant benefits. This is particularly so for HCPs, with near universal belief in the benefits of mHealth. HCPs believe the main benefits of mHealth are the ability to drive behavioural change in patients and improvements in patient outcomes driven by closer monitoring and better information. Patients and consumers also believe the primary benefit of mHealth to be the potential to monitor progress towards health goals more consistently as well as making the management of health information easier.

Although HCPs are the most receptive to the benefits of mHealth, they are also more likely to perceive barriers to increased usage. In particular, HCPs believe that mHealth may not be suitable for all patients (particularly those with low educational / literacy levels). HCPs are also concerned that mHealth may add complexity to their practice and that mHealth solutions will be too costly. For patients, the main issues that prevent further adoption of mHealth solutions is lack of recommendation from their HCP and a lack of information about potential options. As with HCPs, there is also a perception that mHealth solutions are expensive.

All respondent groups agree on three key factors that would lead to greater adoption of mHealth. Firstly, mHealth solutions must be affordable. Secondly, mHealth solutions must gain HCP buy-in by demonstrating how it can support better quality of care, and thirdly, more information needs to be made available about mHealth solutions.

Implications

Overall, the study highlights the need for partnerships and cross-stakeholder engagement. For HCPs, patients and consumers to derive the maximum benefits from mHealth will require mobile operators and solution developers, the healthcare industry and regulatory bodies / insurers to work together to create an environment in which mHealth is readily accessible and meets end users' needs.

In addition, the study reveals that awareness of mHealth is key. Although HCPs, patients and consumers have a reasonable understanding of mHealth, there remains a lack of specific information around the potential benefits and how to recognise optimal mHealth solutions for particular patients. There is a role for all stakeholders to play in enhancing overall knowledge of mHealth benefits and options.

Background

There is considerable excitement around the potential for mHealth to have a significant impact on the management of health across the world. It has been estimated that the mHealth industry may be worth up to $30bn by 2015.

In order to maximise the potential of mHealth, it is imperative that solutions are developed and mobilised with the needs of the end users at the forefront. Solution design should start with an understanding of the current challenges facing HCPs, patients and consumers.

The purpose of this paper is to provide an understanding of the needs of HCPs, patients and consumers in Brazil and their beliefs in the benefits of mHealth, barriers to greater usage and assessment of key success factors.

Research Objectives

The GSMA wished to address the following objectives:

- Understand the challenges that HCPs, patients and consumers currently face regarding the management of chronic conditions / their overall health
- Discover whether these end users believe in the benefits of mHealth and understand the nature of these benefits
- Understand barriers to end-user adoption of mHealth and ways to overcome them
- Identify critical success factors for developing mHealth solutions

The GSMA commissioned Ipsos MORI to conduct research amongst end users of mHealth to address these objectives.

Research Approach

Respondents:

The research incorporated 7 end-user groups:

- **Secondary Care HCPs:**
  - Cardiologists
  - Diabetes specialists
- **Primary Care HCPs**:
  - Primary care practitioners (PCPs)
  - Community nurses
- **Chronic patients with:**
  - Cardiovascular conditions
  - Diabetes
- **General wellness consumers:**
  - Adults with a high level of interest in health and wellness who do not suffer from a chronic health issue

Methodology and Entry Criteria:

Qualitative Phase:

Ipsos conducted 1 focus group interview (6 respondents) with each of the 7 end-user groups (7 groups in total), providing in-depth exploration of the perceptions and usages of mHealth.

The interviews were conducted face-to-face between 28th March and 26th April 2012 in **São Paulo.**

- Respondents were screened to encompass a broad range of ages (chronic patients/consumers) and professional experience (HCPs)
- Respondents were provided with a definition of mHealth and exposed to examples of potential applications and solutions

Quantitative Phase:

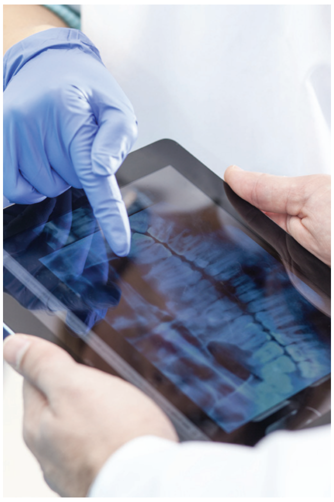
Ipsos conducted online surveys with the 7 end-user groups, providing quantitative validation of themes uncovered during the qualitative phase.

Sample sizes were as follows:

- 50 Cardiologists
- 50 Diabetes Specialists
- 50 PCPs
- 50 Community Nurses
- 100 Diabetes Patients
- 100 Cardiology Patients
- 100 General Wellness Consumers

The interviews were conducted between 1st and 21st June 2012

- Respondents were screened to encompass a broad range of ages (patients/consumers) and professional experience (HCPs)
- Respondents were provided with a definition of mHealth and exposed to examples of potential applications and solutions



Current Challenges

HCPs and Patients:

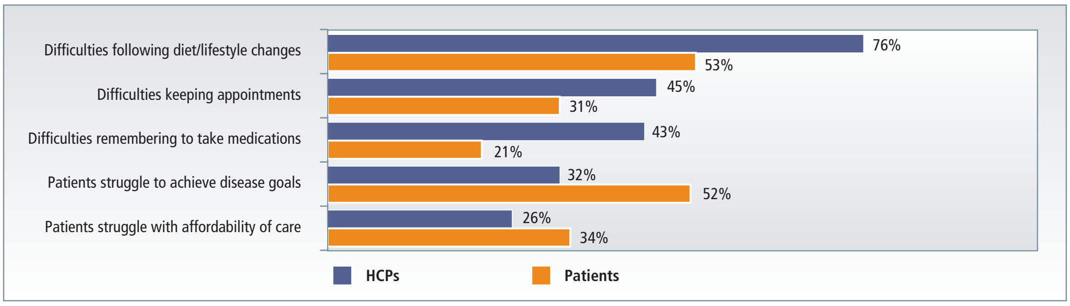
HCPs perceive there to be more current challenges related to the management of chronic conditions than patients. There is broad agreement on the primary challenges in the management of chronic health.

The top three challenges for HCPs when managing chronic conditions all relate to **patient behaviours,** with over three-quarters noting difficulties getting patients to follow diet/lifestyle changes and over 40% indicating patient non-compliance with medications and appointments. Patients also recognise these challenges, with over half also citing difficulties following lifestyle modifications. This demonstrates that there is a considerable need for solutions that will help patients to adhere to their treatment and disease management plans.

The majority of patients identify that they currently **struggle with achieving their disease goals,** a challenge which is also acknowledged by one in three HCPs. There is a need for solutions that can lead to better health outcomes for patients with chronic conditions.

Affordability of care is a common challenge for both HCPs and patients. More than one in three patients state they struggle with affordability of care, an issue also recognised by more than one in four HCPs. Both HCPs and patients need solutions that will allow care to be delivered more affordably.

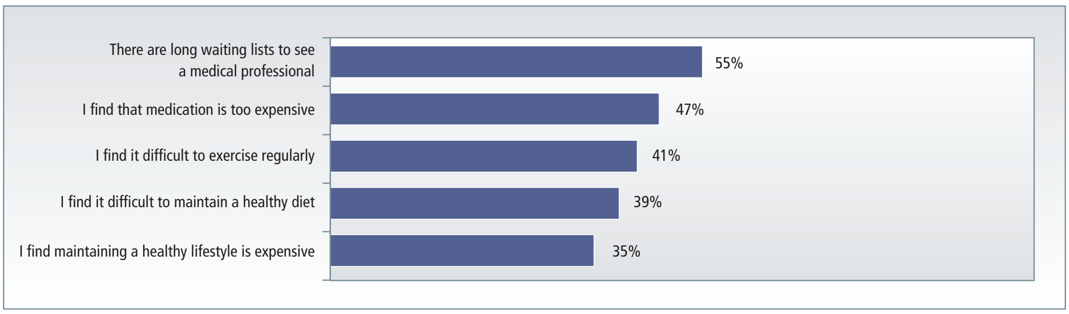
Fig. 1: Top current challenges for HCPs and patients in managing chronic conditions

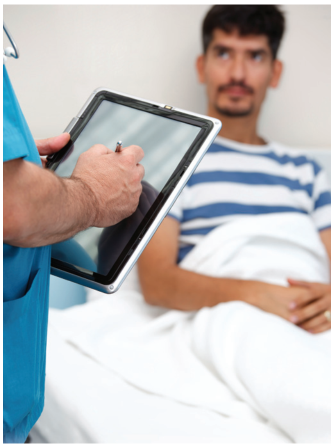


Consumers:

In contrast to patients, general wellness consumers state **long waiting lists to see a medical professional** as their primary challenge. The question of **affordability** is also important, both in terms of **maintaining a healthy lifestyle** and for **medications** (agreement at 35% and 47% respectively). In common with patients, general wellness consumers state they find it difficult to exercise regularly and maintain a healthy diet, reinforcing the need for solutions that assist with maintaining a healthy lifestyle.

Fig. 2: Top current challenges for general wellness consumers in maintaining their overall health



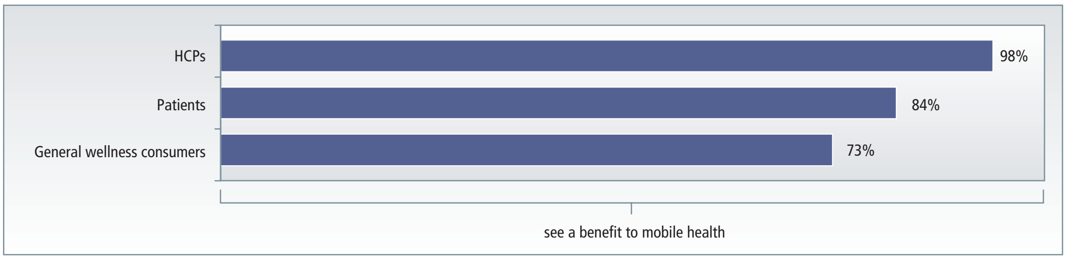


Benefits of mHealth

Overall Benefits to mHealth:

All end-user groups strongly believe that mHealth has the potential to deliver significant benefits. This is especially true for HCPs, with almost universal (98%) belief in the benefits of mHealth.

Fig. 3: Belief in the benefits of mHealth

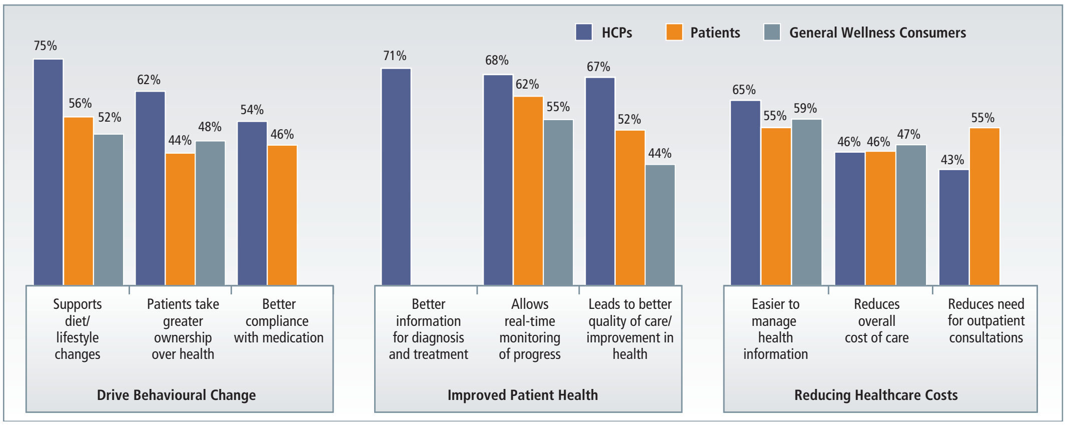


There are, however, some key differences between the end-user groups in how they believe mHealth will be of most benefit. HCPs in Brazil strongly believe that mHealth can **drive behavioural change,** with three in four seeing the potential to support diet/lifestyle changes, and more than 60% believing it will lead to patients taking greater ownership of their health. The majority of patients and consumers also see the benefits with regard to following healthy living regimes, but to a lesser extent.

Overall, HCPs are more convinced than patients and consumers that mHealth can lead to **better quality of care** (two in three HCPs and more than 50% of patients believe that mHealth can lead to improved patient health, compared to 44% of general wellness consumers). All three groups note the potential for mHealth to allow more consistent monitoring of progress, and HCPs strongly believe that mHealth will deliver better information to help them **manage their patients more effectively.**

It is believed mHealth can also lead to cost efficiencies. HCPs, patients and general wellness consumers agree that mHealth will allow **easier management of health information.** The majority of patients also foresee that mHealth could reduce the need for them to consult face-to-face with their HCP. Almost half of HCPs, patients and consumers also believe that mHealth could **reduce overall cost of care.**

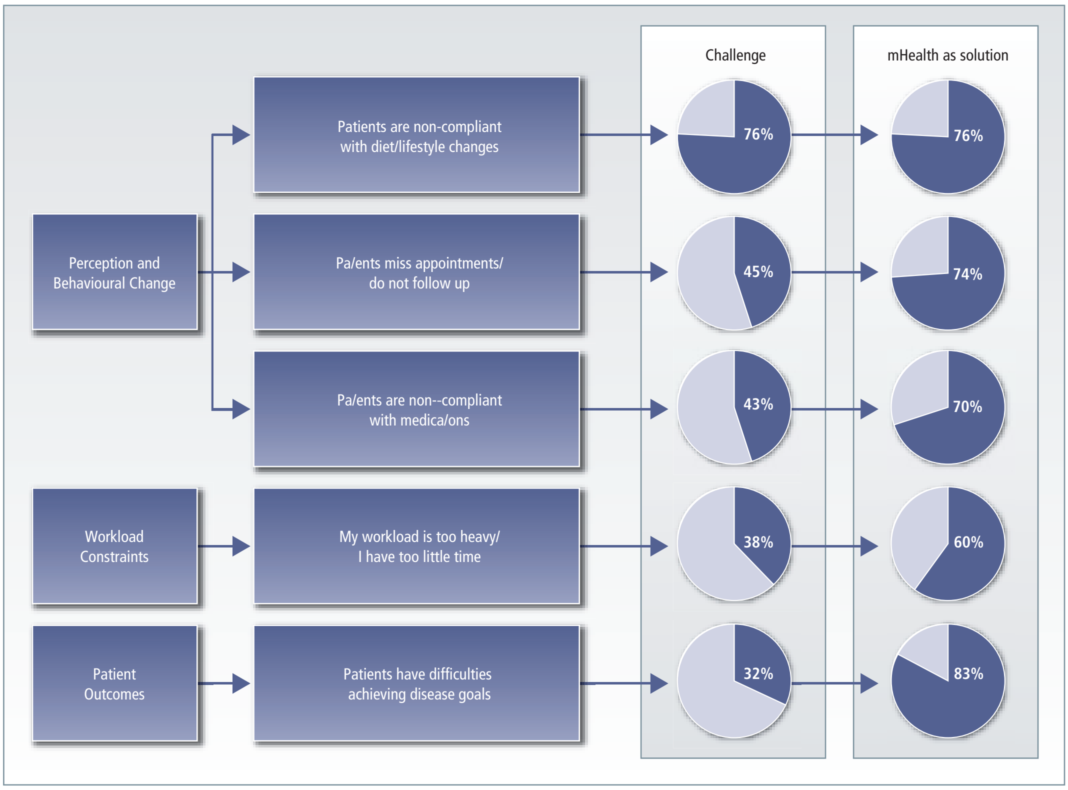
Fig. 4: Top benefits of mHealth by end user group



Mapping mHealth Benefits to Current Challenges:

HCPs believe that mHealth can address key challenges in the management of chronic conditions and can be a key support in achieving improved patient health through better disease management and behavioural change. Around three in four of HCPs believe mHealth can directly address patient non-compliance with diet/lifestyle changes, medications and appointments. Nearly two in three also believe that mHealth can have a positive effect on their workload burden.

Fig. 5: Challenges with management of chronic conditions and potential for mHealth to address: HCPs



Patients are as confident as HCPs that mHealth can address their key challenges. 72% of patients believe that mHealth can support and motivate them to follow diet/lifestyle changes, and 81% believe that mHealth can be an ally to help them achieve health goals. 64% of patients are also confident that mHealth can also be a tool to reduce the cost of treatment and management.

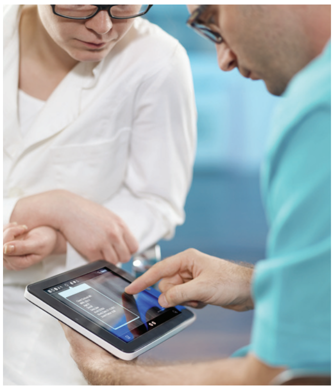
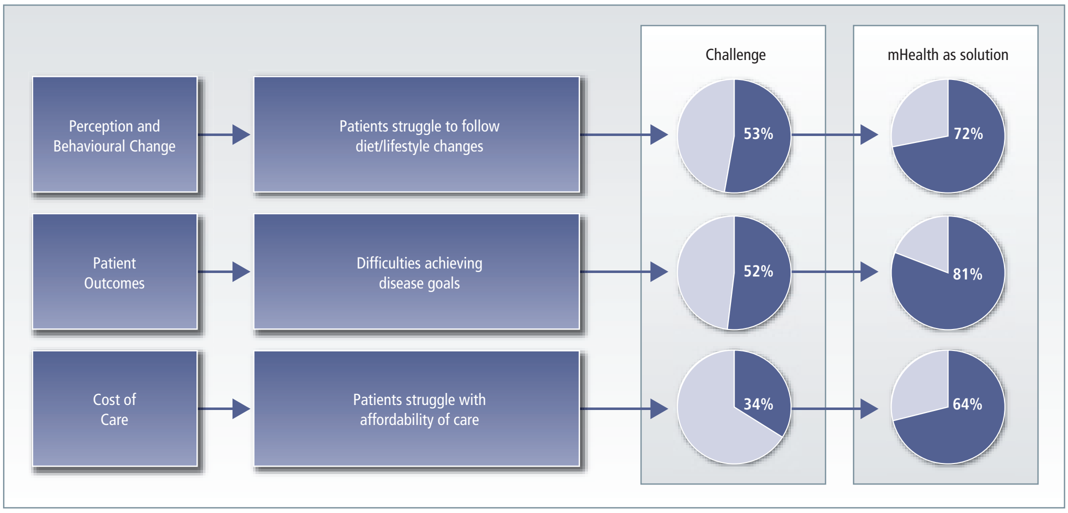


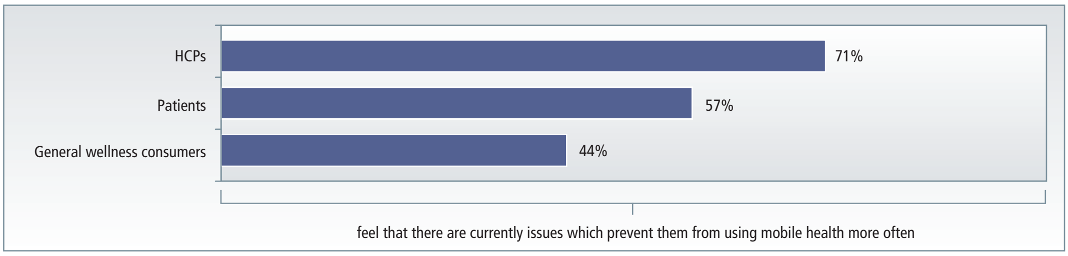
Fig. 6: Challenges with management of chronic conditions and potential for mHealth to address: chronic patients



Barriers to mHealth

Whilst HCPs are the most positive towards the potential benefits of mHealth, they are also more likely than other end users to note barriers to greater usage. HCPs have the potential to be strong advocates for mHealth solutions, but they identify several areas that the mHealth industry must address in order to expand their adoption of these technologies. 71% of HCPs believe there are issues preventing greater usage of mHealth versus 57% of patients and 44% of general wellness consumers.

Fig.7: Belief in barriers to greater usage of mhealth by end user group



HCPs note a range of barriers to increased usage of mHealth and need convincing that **mHealth is for everyone.** Uncertainty over whether mHealth is suitable for all patients is by far the biggest barrier to increased usage in Brazil, with 60% of HCPs seeing this as an issue.

Two in five HCPs believe that mHealth will not be interoperable with their current systems, whilst a similar number are worried about mHealth being too expensive or that they would not receive remuneration for mHealth solutions (38% and 36% respectively).

With one in three stating they have a lack of knowledge / insufficient information, or are concerned about potential liability associated with use of mHealth solutions, further evidence and education is also important to encourage uptake.

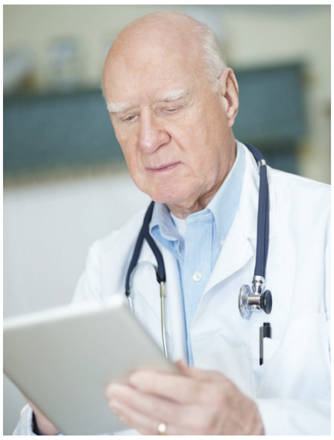
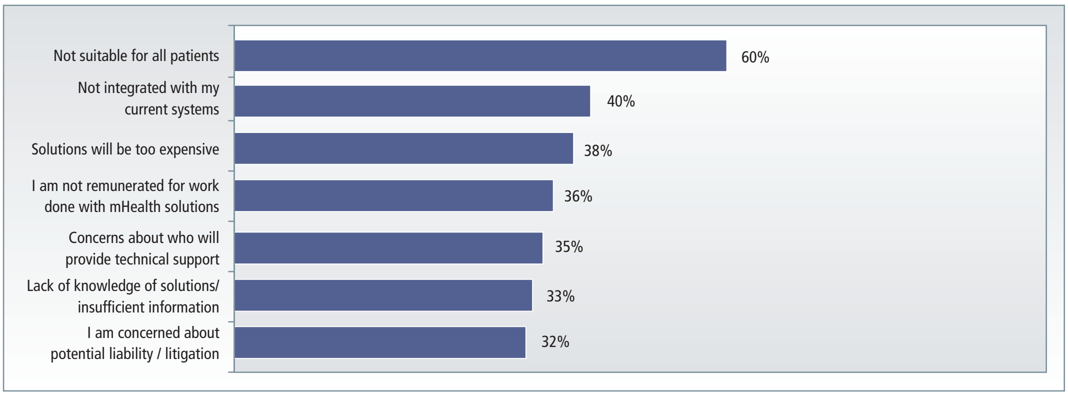


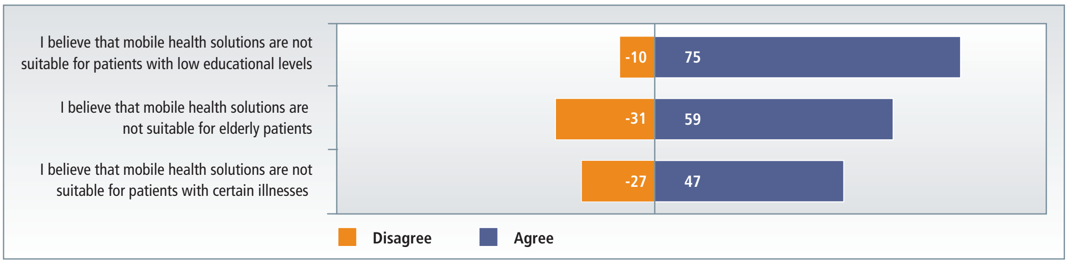
Fig.8: Barriers to greater usage of mHealth: HCPs



There is a degree of consensus as to why HCPs believe that solutions are not appropriate for all patients. **Three in four HCPs believe mHealth is not suitable for patients with low education levels,** whilst only one in ten would refute this.

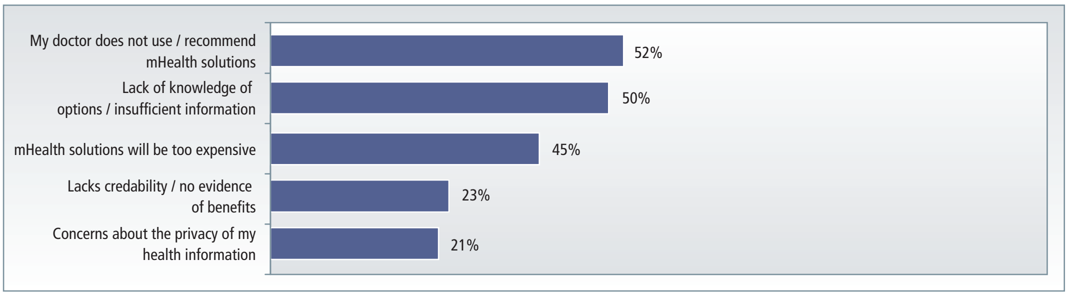
On other points there is less agreement; more than half (59%) of HCPs believe mHealth solutions are not suitable for elderly patients, yet another 31% would disagree with this statement. When thinking about suitability for patients with specific illnesses, the picture is similar. Whilst almost half agree that mHealth solutions are not suitable for specific illnesses, a further 27% would disagree. Ultimately, ensuring that mHealth solutions are presented in a way which reassures HCPs that all patients, particularly those with low educational levels, can benefit from them will be an important factor for growth. HCPs need mHealth solutions that are customizable and/or sufficiently intuitive for all patient types.

Fig.9: HCP barriers to greater usage of mHealth: not suitable for all patients



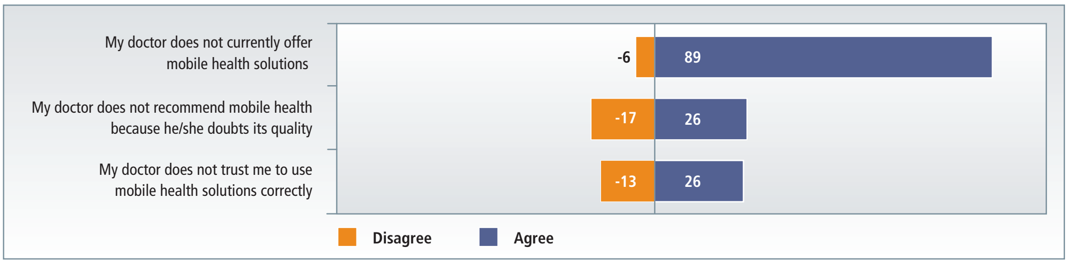
Patients perceive three primary barriers to increased usage of mHealth, with **lack of HCP advocacy** being the biggest barrier. HCPs need to be encouraged to start conversations with their patients about how mHealth could benefit them. Lack of information about mHealth and a perception that mHealth will be expensive are also highly important for the Brazilian market. There is a need for awareness campaigns to promote the benefits of mHealth, plus mHealth solutions must ensure they do not come with high upfront costs.

Fig.10: Barriers to greater usage of mHealth: chronic patients



The primary factor preventing patients using more mHealth solutions is that HCPs do not offer them. Patients appear to be relatively open to HCPs prescribing mHealth solutions. 50% more patients believe that HCPs do not doubt the quality of mHealth solutions than do doubt the quality. Similarly, for every one patient who feels their doctor does not trust their own ability to use the solution correctly, another two patients believe the doctor does trust in their ability.

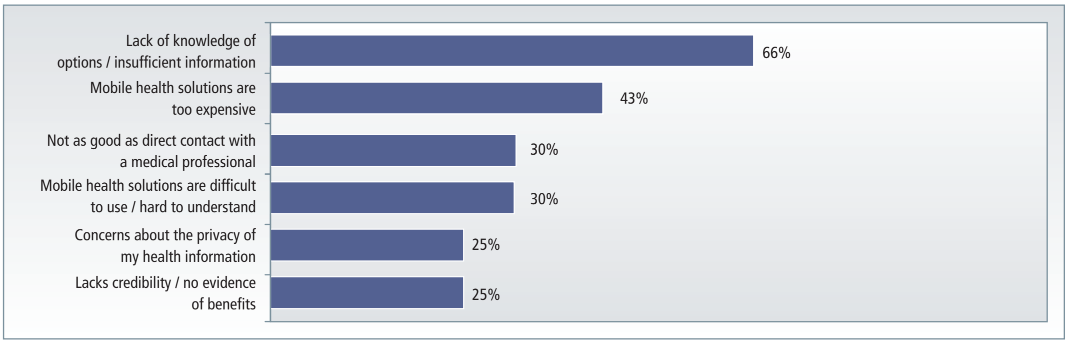
Fig.11: Chronic patients: barriers to greater usage of mHealth: not recommended by HCP



A lack of knowledge and information is clearly the largest barrier to mHealth usage amongst consumers, with two in three citing this as an issue currently preventing them from using mHealth more often. Coupled with this, nearly one third believe mHealth solutions are not user-friendly / understandable, highlighting the need to raise the profile of mHealth amongst consumers.

Secondary to this is the belief that mHealth solutions are too expensive (43% overall). Almost one in three also believes that mHealth is not equal to more traditional contact channels with their doctor.

Fig.12: Barriers to greater usage of mHealth: general wellness consumers



Factors for Success

HCPs, patients and consumers agree on key success factors for increased usage of mHealth.

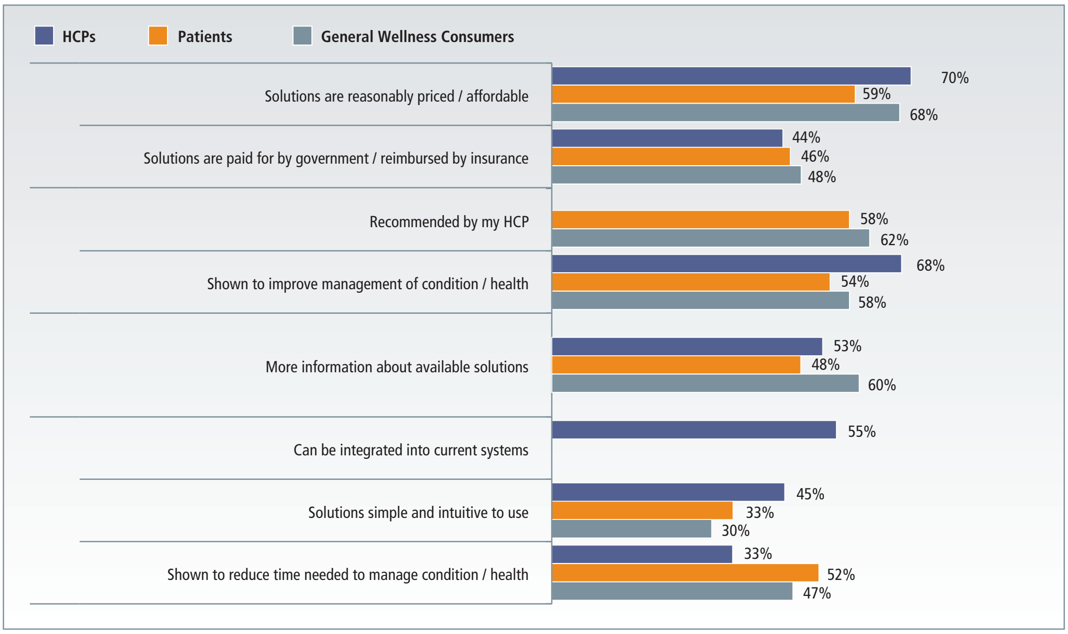
mHealth solutions should be affordable. Affordability is the key factor that will lead to greater usage for all three respondent types, reinforcing the need for mHealth solutions to have minimal start-up costs. There is also strong support for mHealth to be paid for by government / insurance.

mHealth solutions should gain HCP buy-in. Patients and general wellness consumers are looking to their HCP to advise them on mHealth solutions. Both respondent types are also keen to see mHealth **demonstrate improved health outcomes.**

The profile of mHealth needs to be raised. Around half of all respondents note that they require more information about mHealth solutions.

mHealth solutions should simplify health management. Reassuring HCPs that **mHealth will not add complexity to their current practice** will be critical. Patients and consumers also require mHealth to demonstrate how it can **simplify management of their condition / health.**

Fig.13: Factors leading to greater mhealth usage by respondent group

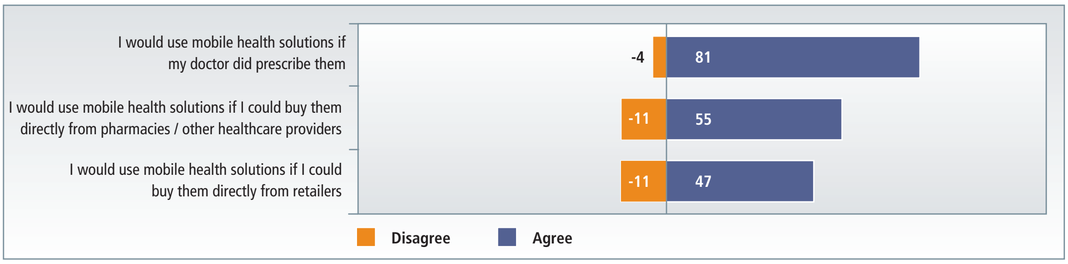


mHealth services need to have the flexibility to be tailored for individual patients, especially regarding literacy levels. This would lead to increased mHealth usage from the vast majority (88%) of HCPs who currently limit their usage due to patient suitability questions. These HCPs would also be happy to offer patients either specific devices or devices that connect to their mobile phones. The solution therefore lies in both the complexity of the offering itself as well as, to a lesser extent, the mode of delivery.

Fig.14: Overcoming HCP barriers to greater usage of mhealth: not suitable for all patients

The vast majority of patients would use mHealth if they were offered by their HCP. Patients believe and trust their HCP is the expert and as such advocacy should be built amongst this group. This advocacy can then be mobilised to ensure the benefits are promoted to patients, who then have the opportunity to access mHealth.

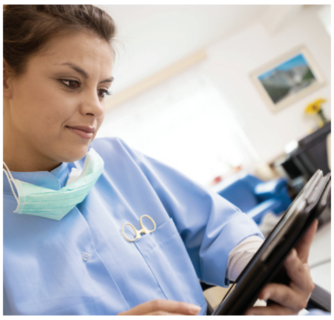
Fig.15: Overcoming patient barriers to greater usage of mhealth: not recommended by HCP



Implications and Recommendations

Overall, the study highlights the need for partnerships and cross-stakeholder engagement in order for HCPs, patients and consumers to derive the maximum benefits from mHealth. This will require mobile operators and solution developers, the healthcare industry and regulatory bodies / insurers to work together to create an environment where mHealth is readily accessible and meets end users' needs.

In addition, the study reveals that awareness of mHealth is paramount. Although end users have a reasonable understanding of mHealth, awareness of the potential benefits and how to recognise optimal mHealth solutions for particular situations is inconsistent. There is a role for all stakeholders to play in enhancing overall knowledge of mHealth benefits and options.



This study informs a number of recommendations for each stakeholder.

Mobile Operators

- Develop simple, customisable solutions that will fit all patient types
- Provide a full service model, offering not only the mHealth solution but also education and technical support
- Promote mHealth solutions' ability to meet the big challenges of behavioural change, including diet/lifestyle support and medication compliance
- Seek partnerships with key medical associations / patient groups to promote wider adoption of mHealth solutions
- Ensure mHealth solutions adopt varying price structures, including fee-for-service models

Healthcare Industry

- Partner with mobile operators to tap into the expertise in designing solutions that are customisable and flexible to fit all end-user groups and needs
- Support mobile operators in designing solutions that are interoperable with current healthcare systems

Patient and Consumer Groups

- Patients should seek advice from their HCP on how mHealth could benefit them and which solutions might be appropriate
- Patient associations should lobby for mHealth to be made available by government, regulators and insurers to allow maximum access

Healthcare Practitioners

- Open the conversation with patients about mHealth and discuss whether and how it could benefit them
- Recommend mHealth solutions that are appropriate to individual patient circumstances

Governments, Regulators and Insurers

- Develop awareness campaigns for mHealth with HCPs and patients
- Ensure mHealth solutions that deliver patient and system benefits that are reimbursed
- Work with mobile operators to develop solutions best suited to the needs of the population

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