



Indian healthcare start-ups

An inside look into funding

August 2016

KPMG.com/in







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FICCI Foreword

The Indian Healthcare sector has grown manifold in recent years to become one of India's largest sectors contributing to 6% of the country's GDP. Nevertheless, making quality healthcare accessible to a billion plus population in a country that accounts for 21% of world's disease burden, where the doctor patient ratio is as bad as 1:1700, and out of pocket expenditure as high as ~62% of total healthcare spending, is definitely a tremendous task.

What we need today is a unified approach for long term solutions that would help in optimizing disease-care to preventive and promotive care as well as patient centricity through data - driven, efficient technologies. Fostering Start-ups and Entrepreneurship will provide the requisite innovative approach for achieving these reforms.

Start-ups are already disrupting the way healthcare is delivered in India. According to the NASSCOM Start-up Ecosystem Report 2015, India serves as the fastest growing startup-base worldwide and 6-8% of the recent B2C Start-ups in India have been in the Health-tech sector. This means that the sector has already secured ample traction from investors owing to its huge potential. The changing patterns and fast emergence of PE and VC funding coupled with Social and Impact funding

is bound to give a further boost to the booming industry. Further, with the government's focus through campaigns like 'Start-up India, Stand-up India' and 'Digital India', we perceive a bright future for the entrepreneurs as well as investors.

Federation of Indian Chambers of Commerce and Industry (FICCI)

as a change agent has been working diligently with the government to bring about requisite policy change that can provide impetus to the growth of health services sector in reaching out to the masses. This joint study by **FICCI** and **KPMG** evaluates the role and need for healthcare start-ups in India, their evolution in the sector and the funding scenario. The report also assesses the future for healthcare start-ups, highlights some challenges being faced by them and suggests a way forward to overcome those challenges.

We are grateful to **Ministry of Health and Family Welfare, Government of India** for supporting **FICCI HEAL 2016** on the theme **"Re-engineering Indian Healthcare"** on August 31 & September 1, 2016 at FICCI, New Delhi. We are sure that the deliberations in the conference will help us in developing concrete recommendations that will be submitted to the Government at the highest level for consideration.



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KPMG Foreword

Healthcare, one of the largest sectors in India, has historically struggled with long-standing structural and fundamental challenges. From simple service-delivery to path-breaking innovations, blind spots have existed for decades in our country. While continuous efforts are underway from all participants to address these concerns, a new breed of stakeholders —start-ups—promise to take these challenges head on.

Although young, start-ups are gradually establishing their credentials and have carved out a niche for themselves through their innovative approach and agility. Online appointment booking to internet-based purchase of medicines, never before has the Indian healthcare sector witnessed such a shift in the operating model. In fact, start-ups have also upped the ante in the more critical areas of drug discovery and medical device inventions.

In more ways than one, start-ups are being heralded as the torchbearers of the future in healthcare. However, it has not been all smooth sailing for entrepreneurs. Indian healthcare start-ups merely attracted USD27 million in the first four months of 2016; the cumulative figure during

the period 2009–16 (till April) was just about USD338 million.

When compared with global funding levels and that in other sectors domestically, healthcare start-ups fare poorly. Lack of capital is holding back many ideas, concepts and approaches from taking off.

Start-ups need to identify consumer-focussed solutions, sought after by investors globally. Their focus has to be on extensive innovation, differentiated product offerings and sustainable business models. Recognising the need and role of start-ups in the Indian healthcare sector, this publication by KPMG in India and FICCI, investigates the challenges they face and puts forth suitable measures to boost fund flow. The report highlights the various opportunities for both start-ups and investors, wherein they can complement each other to create a flourishing healthcare start-up ecosystem in India.



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Context

The healthcare sector in India is a large contributor towards employment and revenue generation. A lot has been achieved over the past few decades with respect to healthcare delivery. Yet, given the diverse geography of India, its challenges are equally varied, such that they escalate with each passing year. For example, the limited availability of medical professionals is currently seen as a major concern. Likewise, penetration of healthcare is another area where the government is focussing heavily, and trying to bridge the gap between healthcare professionals and patients. Upon analysis of the data provided by the Medical Council of India (MCI), the situation does not seem to be ideal. The doctor-patient ratio in India is 1:1,674 against the World Health Organization (WHO) norm of 1:1,000¹. Further, India observes 253 deaths per 100,000 people every year on account of communicable diseases, which is higher than the global average of 178². Besides the lack of overall healthcare infrastructure, another major concern is the low medically insured population coupled with the high out-of-pocket expenditure³. Due to low insurance penetration, over 60 per cent of the total medical costs are by and large paid by people from their own reserves⁴.

The government cannot tread this path alone. While the private sector has been playing its part for some time, a new wave of change is desired to give healthcare the much needed boost. It is believed that start-ups may emerge as the desired channel of change. Healthcare start-ups can help to bring leading technologies to the sector. They also have the potential to emerge as a key member in the healthcare ecosystem through their innovations to promote accessibility and affordability of healthcare services.

A sound healthcare scenario leads to healthier citizens, which would eventually help to build a progressive nation. Keeping this goal in mind, there is a need to augment the scope of healthcare start-ups in India, which is still not at par with the global healthcare landscape.

The following are a few areas where the healthcare sector stands to gain through participation by healthcare start-ups:

- **Innovation, R&D**
Innovations can help hospitals and healthcare set-ups to practice better processes, positively impacting the sector. Research and Development (R&D) at start-ups could help save bigger organisations the burden to invest their time and effort in imparting services. Start-ups could also engage in drug delivery and medical device inventions to boost Indian production.
- **Accessibility to healthcare and medicines**
Innovations towards easing medical needs through mobile applications, telemedicine, etc. aim to bridge the gap between patients and doctors.
- **Employment generation**
Start-ups not only help patients access better treatments, but also create job opportunities – serving a dual role. With a conducive ecosystem for start-ups in India, there is greater scope for them to generate employment and help solve the present day healthcare delivery challenges.
- **Organised healthcare sector**
Healthcare start-ups could help streamline and organise the sector. It is expected to bring about transparency in accessing information about medicines,

healthcare processes and services, reducing the scope of fraudulence in healthcare delivery throughout the country.

Even though multiple advantages are provided by healthcare start-ups, they have not yet received a steady stream of funding to support their ventures. This publication investigates the scope of healthcare start-ups in India and identifies the challenges it faces along with suitable measures which could be deployed to overcome them. The report outlines a road map that start-ups could adopt to attract investors' attention and collaborate with them for sustainable growth.

1. "Grim picture of doctor-patient ratio, 1 doctor for 2,000 people", India Today, 29 April 2016
2. "Healthcare: Another Chapter In Indian Start Up Success Story", Businessworld, 11 January 2016

3. "Budget 2016: Healthcare cannot wait, Mr Jaitley; healthy India can hasten wealthy India", First Post, 26 February 2016
4. "For healthcare start-ups, the future is rosy", Live Mint, 1 July 2016



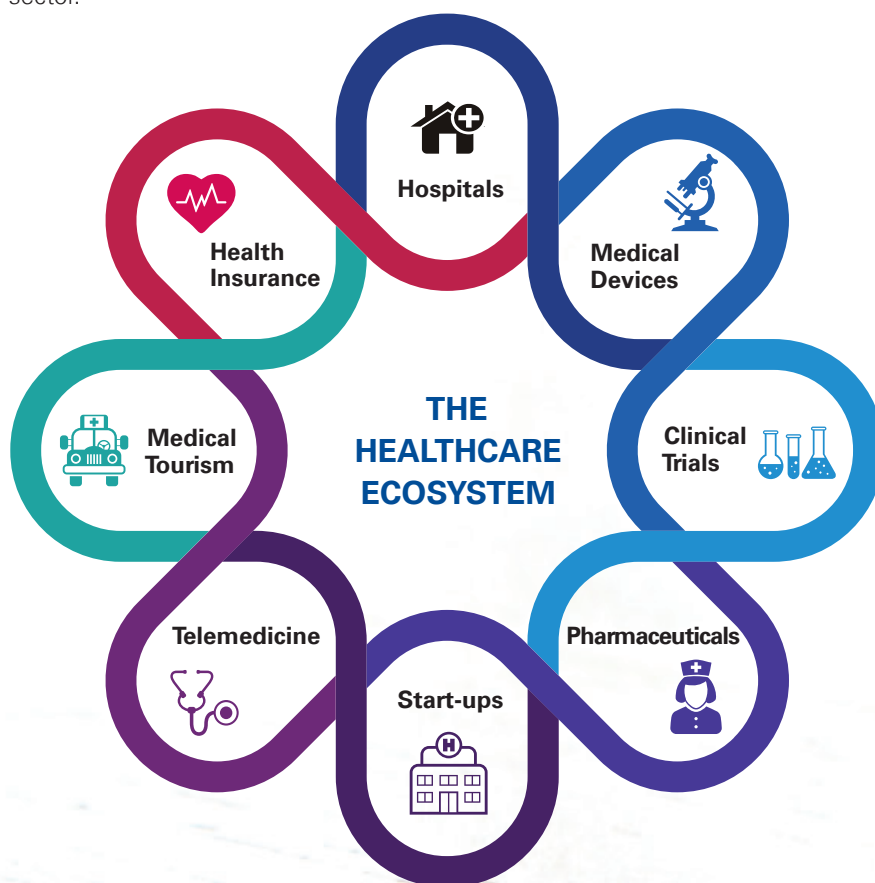
Introduction

Healthcare is one of the largest sectors in India, both in terms of employment generated and revenue earned. It is expected to be worth USD280 billion by 2020 and has been growing at a Compound Annual Growth Rate (CAGR) of 16 per cent since 2011⁵. The healthcare workforce required in India is likely to double to 7.4 million by 2022 from 3.6 million in 2013.¹ The importance of this sector goes far beyond its economic value; it is pivotal for the well-being and progress of the nation.

Growth in the sector is attracting interest from all quarters of the globe. India received USD288,634.1 million aggregate Foreign Direct Investment (FDI) between April 2000 and March 2016. During this period, the drug and pharmaceuticals sector received USD13,849.6 million, hospitals and diagnostic centres were recipients to an FDI of USD3,592.1 million, and medical and surgical appliances received USD1,097.1 million (constituting 4.8 per cent, 1.3 per cent and 0.4 per cent of the total FDI into India, respectively).⁶

Although the healthcare sector in India is growing rapidly, accessibility to affordable healthcare remains a distant dream for a majority of the population. The number of healthcare personnel along with the infrastructure required is significant, to satisfy the needs of the growing population amidst the voluminous disease burden in the country. To put things in perspective, India requires about 600,000–700,000 additional beds over the next five – six years — indicative of an investment opportunity of USD25–30 billion.⁷

Much scope exists for enhancing healthcare services as India presently spends only 4.7 per cent of its GDP on healthcare and has one of the least public healthcare expenditures globally (1.4 per cent of its GDP)⁸. A majority of India's population lives in rural areas with no or limited access to hospitals and clinics. On the other hand, in urban areas, lifestyle diseases and ailments associated with urban environments, such as pollution, are increasing. The existing gap between the demand and supply of quality healthcare services, coupled with growing operational costs and the need for technology acquisitions have opened new opportunities for investments in this sector.



Source: KPMG in India's analysis, 2016 Please provide the primary resource based on which this analysis was conducted. This information needs to be provided across relevant sources.

5. "Healthcare: The neglected GDP driver", September 2015, KPMG in India

6. Fact sheet on foreign direct investment (FDI), DIPP, Government of India, http://dipp.nic.in/English/Publications/FDI_Statistics/

FDI_Statistics.aspx, accessed on 05 July 2016 (Please insert the entire URL along with 'accessed as on')

7. 'Health: Infrastructure Sectors', India in Business, Ministry of External Affairs, Government of India, http://indiaibusiness.nic.in/newdesign/index.php?param=industryservices_landing/373/2,

accessed on 12 July 2016 (Please insert the entire URL along with 'accessed as on')

8. World Bank, <http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS>, accessed as on 9 July 2016 (Please insert the entire URL)

Emergence and role of healthcare start-ups in India



Taking up the challenge to make healthcare services affordable and accessible to the common man, entrepreneurs are using technology and digitalisation to disrupt the healthcare services space. Simultaneously, the rising demand for better care along with technological advancement have aided the emergence of start-ups in the Indian healthcare sector. New innovations have been introduced that are majorly centred around improving and enhancing connectivity between doctors and patients and easy delivery of medicines. With on-demand home healthcare and diagnostic lab tests gaining grounds, healthcare start-ups are becoming popular in India. In 2015, approximately 300 start-ups in the healthcare sector emerged in the country⁹.

The need for start-ups

A widening gap between the needs of patients and the offerings of traditional models of healthcare services has emerged as a major challenge. It adds to the inaccessibility and unaffordability of healthcare services for majority of the population. Further, there is an urgent need to accommodate the growing healthcare requirements of the country. All these factors, collectively, have motivated start-ups to innovate and identify better healthcare solutions.

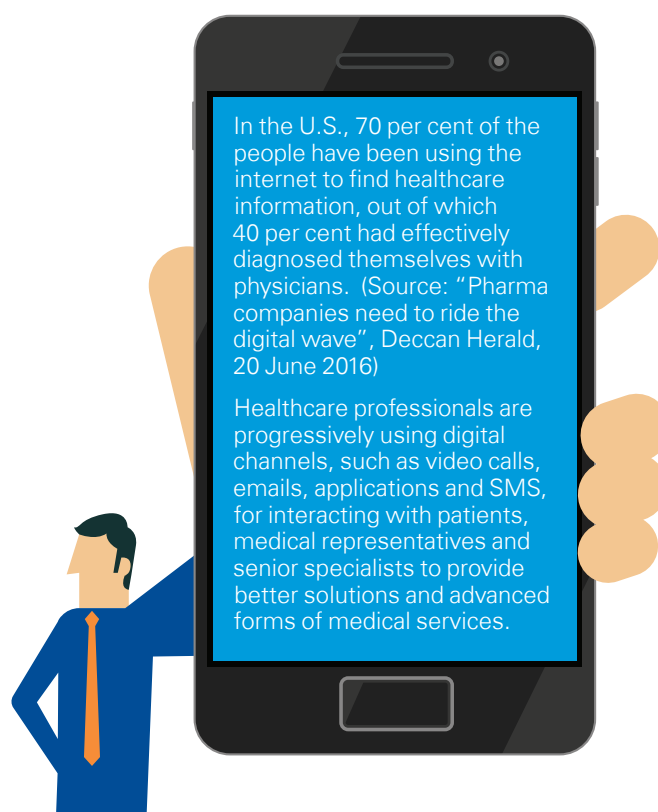
Start-ups can help bring leading technologies to the healthcare sector. They have the potential to emerge as a key member in the healthcare ecosystem through their innovations. Start-ups could help India move beyond its existing capabilities — from being a manufacturer of generic drugs to drug discovery.

The convenience of managing day-to-day healthcare and wellness needs is also being identified as a major challenge. People find it difficult to take time out from their daily routines for health and wellness-related activities. New models of aggregators have emerged that are targeting these aspects to enhance the society's health.

The role of start-ups

Start-ups are revolutionising the delivery of healthcare in India. They are bridging the gap between healthcare service providers and end-users through applications and social networks, robots and complex simulators.

Healthcare on your fingertips



Source: "Pharma companies need to ride the digital wave", Deccan Herald, 20 June 2016, KPMG in India's analysis, 2016

Example: A drug discovery and development company was established in 2011, with an aim to synthesise newer anti-bacterial molecules and drugs that can fight certain drug-resistant strains of bacteria. It is involved in identifying and developing next-generation antibiotics to treat multi-drug resistant hospital acquired infections.

Start-ups not only help patients' gain access to better treatments, but also create job opportunities. Thus, they play a dual role. With a conducive ecosystem for start-ups in India, there exists a greater possibility for them to generate employment for many more people and help to solve the current healthcare delivery challenges.

Healthcare start-ups have also helped in the reduction of travel expenditure for patients, long hours of waiting for their appointments and follow-ups with doctors. Start-ups have also offered people the ease of access to their medical history in a digital format, as well as finding healthcare professionals in proximity to them.

Apart from the operational aspects of healthcare, start-ups are participating in drug discovery, an area wherein a significant opportunity exists for new and the existing players. Diseases that are resistant to antibiotics have become a major challenge. Start-ups have taken up the challenge to develop the next-generation antibiotics to treat multi-drug resistant diseases.

9. "Indian startups in 2016: 5 predictions", The Times of India, 22 December 2015 (Please insert the entire URL along with 'accessed as on') ignored this as URLs are not required for newspaper articles

Areas that healthcare start-ups have targeted



E-commerce

Online platforms for health devices and other healthcare products



Connect patients with service providers

Help users find a doctor and book an appointment

Help users get a diagnosis done from a remote location and get treatment for minor health problems

Telemedicine

Provide quick and easy access to doctors and hospital facilities via telephonic services



Manage chronic conditions

Help manage conditions like asthma and Chronic Obstructive Pulmonary



Disease (COPD)

Include applications that help a user manage skin-related problems



Treatment-focussed solutions

Include social media-based applications that connect potential blood donors and recipients



Healthcare delivery

Provide primary healthcare services in sub-urban areas via mobile clinics and telehealth



Home healthcare services

Provide home-based healthcare services



Enable better medical research

Connect patients having serious medical conditions with the world's leading researchers to conduct personalised medical research



Self-care services

Help people track nutrition, fitness and weight; provide insights about their lifestyle and suggestions for improvement



Diagnostic services

Include urine testing to diagnose a range of conditions

Source: "Healthcare: The neglected GDP driver", September 2015, KPMG in India

Healthcare services could be made easily accessible and affordable for the general masses. For affordability, insurance alone cannot address the challenges associated with expenses, such as consultation with doctors, diagnostic tests and medicines. Hence, healthcare start-ups are trying to innovate and creatively think of ways to lower healthcare costs. They are

leveraging technology and digital systems to offer advanced treatments (accessible at home) at a much lower cost than that charged by private players. Cumulative efforts and positive changes in consumer behaviour are helping start-ups in the Indian healthcare sector to make the transition from remedial care to a more holistic, preventive healthcare.

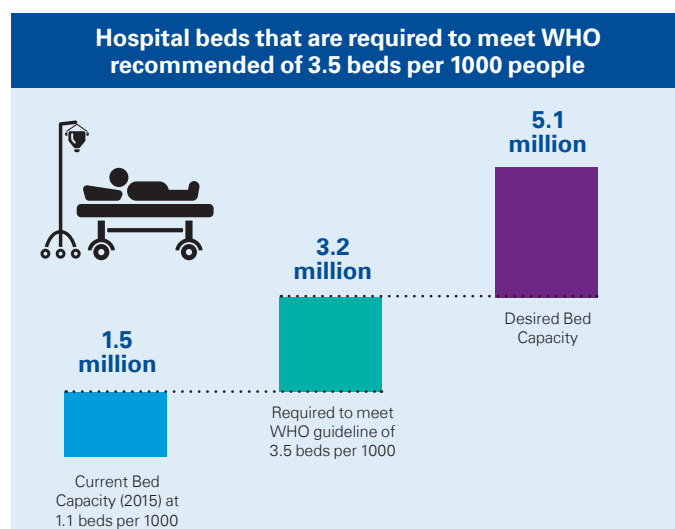
Opportunities ahead

The healthcare market in India is vast and disorganised, offering ample opportunities for innovative start-ups to establish a niche for themselves. Healthcare start-ups stand to gain by facilitating accessible and affordable services. For example, an affordable medical device that

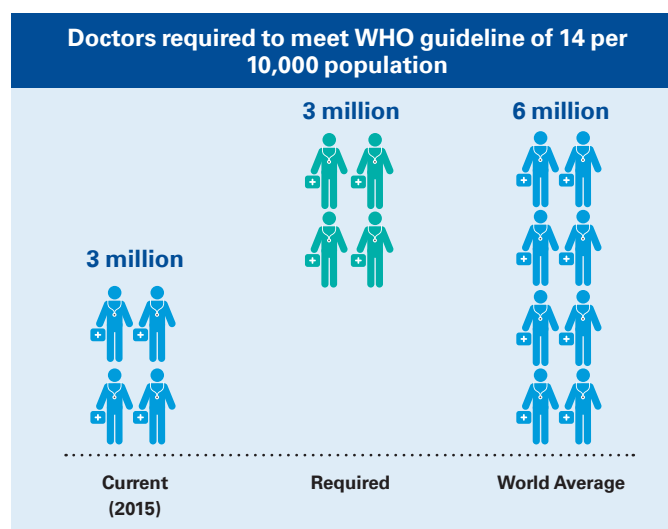
prevents communicable diseases or a platform connecting diagnostic centres and hospitals worldwide can make identification of a common ailment much easier. This could save valuable time in diagnosis and also help build a thorough database of treatments.

However, currently, the availability of doctors and nurses in India is low

due to the limited number of medical professionals in the country. According to the Medical Council of India (MCI), the doctor–patient ratio in India is 1:1,674 against the World Health Organization (WHO) norm of 1:1,000¹⁰. The country observes 253 deaths per 100,000 people every year due to communicable diseases, which is higher than the global average of 178¹¹.



Source: KPMG in India's analysis, 2016



Besides the lack of overall healthcare infrastructure, another major concern for India's healthcare sector is the low level of medically insured population and high out-of-pocket expenditure¹². In India, only 20 per cent of the population has medical insurance. Due to low insurance penetration, over 60 per cent of the total medical costs are by and large paid by people from their own reserves¹³. Start-ups may target this identified challenge and come up with innovative models to help people get insured on a large scale.

The success of start-ups in India has been due to their acceptance and support from all the sections of the society. They have emerged as enablers, accelerators and incubators,

providing growth and decision-making tools to individuals as well as to the business ecosystem. From advising on government policies to acting as market catalysts, they help define the growth of young ventures. The Indian start-up ecosystem, hence, is expected to flourish having outgrown its immaturity and inexperience — driven by factors such as, substantial funding, increased Mergers and Acquisitions (M&A) and consolidation activities, evolving technology and a rapidly increasing domestic market.

However, to tap this opportunity successfully, challenges pertaining to logistics, payments and infrastructure need to be tackled aptly. Start-ups in India may possibly become an integral

part of the economy, only if people other than the urban population of the country derive benefits from them. Further, approximately 70 per cent of the population living in rural areas — having no or limited access to hospitals and clinics — offer space for experimental business models and help start-ups with a growth platform. This is an area where start-ups can act as a much needed facilitator to help people reach hospitals. Given the opportunities, the future of healthcare start-ups is expected to be positive.

10. "Grim picture of doctor-patient ratio, 1 doctor for 2,000 people", India Today, 29 April 2016

11. "Healthcare: Another Chapter In Indian Start Up Success Story", Businessworld, 11 January 2016

12. "Budget 2016: Healthcare cannot wait, Mr Jaitley; healthy India can hasten wealthy India", First Post, 26 February 2016

13. "For healthcare start-ups, the future is rosy", Live Mint, 01 July 2016

Funding scenario in the Indian healthcare sector

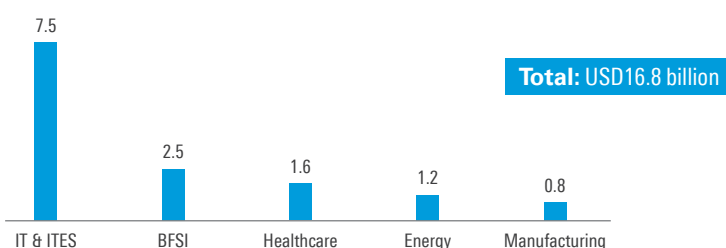


Funding in the Healthcare and Life Sciences (HCLS) sector

India is the fastest growing and the third-largest start-up ecosystem in the world¹⁴. The exponential growth in the number of start-ups has attracted investments from a large number of Private Equity (PE) and Venture Capitalist (VC) firms.

In 2015, PE investments in the country reached record levels of USD16.8 billion across 661 deals. The HCLS sector witnessed high levels of deal activity during 2015 and emerged as one of the top-five recipients of PE and VC investments in India¹⁵.

Industry-wise PE investments in India, 2015 (top five, in USD billion)

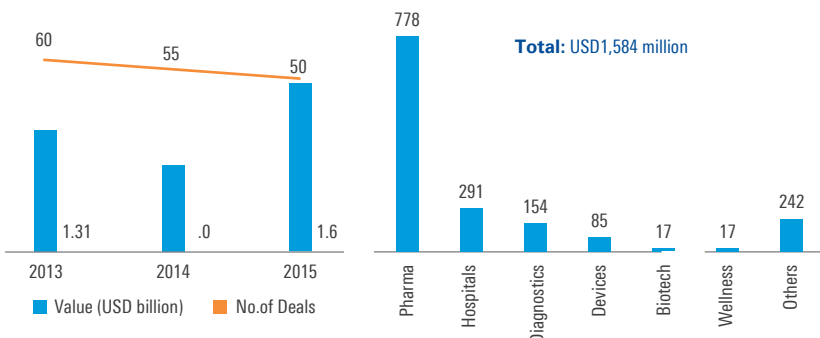


Source: "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016; KPMG in India's analysis, 2016

The sector established a new record by garnering investments worth USD1,584 million in 2015, an increase of approximately 22.5 per cent over the previous high of USD1,293 million in 2013¹⁶. The surge in funding is primarily

driven by an increased interest of PE firms in pharmaceutical companies, which attracted a total investment of USD778 million in 2015¹⁷.

PE investments in HCLS



Source: "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016; KPMG in India's analysis, 2016

Healthcare sector funding 2015

- HCLS became the third-most sought after sector amongst investors.
- The sector witnessed a 65.6 per cent y-o-y rise in total deal value, despite a 9 per cent decline in the deal volume.
- Pharma companies, hospitals and diagnostic services, altogether, accounted for more than 80 per cent of the total PE investments.

Source: "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016; KPMG in India's analysis, 2016

14. "India ranks third in global start-up ecosystem: Nasscom", The Economic Times, 13 October 2015

15. "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016

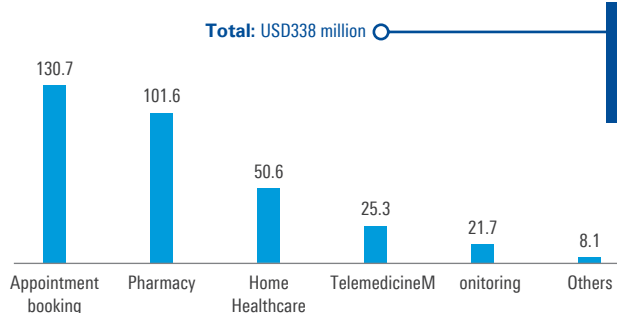
16. "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016

17. "Indian Private Equity Trend Report 2016", Venture Intelligence, accessed as on 16 June 2016

Indian healthcare start-ups funding

Healthcare start-ups in India are characterised by low levels of funding. In fact, they received a sum of only USD27 million in the first four months of 2016. During the period 2009–16 (till April), the sector received a cumulative investment of more than USD338 million.¹⁸ Start-ups, with the potential to bridge the significant demand–supply gap in the Indian healthcare system, were able to attract only a small fraction of the overall investments in the healthcare sector.

Funding in start-up types (2009–16*, USD million)



Total investment in healthcare start-ups over the last eight years is only one-fifth that of PE and VC funding received in the HCLS sector in 2015, highlighting the lack of funding.
(Source: KPMG in India's analysis, 2016)

Investment in healthcare start-ups is gaining traction; it witnessed 84 per cent of the total funding during 2015–16, since 2009.





Source: "How healthcare tech start-ups will secure your future", The Financial Express, 04 July 2016

Source: "How healthcare tech start-ups will secure your future", The Financial Express, 04 July 2016

Note*: Data till April 2016

Based on an analysis of India's highest funded healthcare start-ups of 2015, funding activity is mainly concentrated in the following areas of operations^{19,20}:

Healthcare start-up funding activity in India

Domain	Description
 Information management systems	Digitisation and integration of a patient's medical records, cloud-based patient record keeping systems, etc.
 Healthcare discovery	Platforms that connect customers to doctors and hospitals, help them book appointments, expert advice, etc.
 Pharmaceutical delivery	Start-ups offering online ordering of medicines and healthcare equipment
 Home healthcare services	Start-ups offering homecare services in the form of doctors, nurses, care attendants, home ICU services, home chemotherapy, etc.

In India, several healthcare tech start-ups operating in the above-mentioned categories are engaged in bridging the various gaps present in the healthcare delivery model. The perception of the long-term sustainability of these business models and the potential to extract returns from investments at the point of maturity, has helped these start-ups attract investors' attention.

Healthcare discovery platforms help increase the reach and accessibility of doctors and other medical practitioners, essential to bridge the significant gap existing in the doctor–patient ratio in the country. Medical e-commerce is expected to witness high growth in India as it assists in reducing the inefficiencies in the pharmaceutical supply chain, which is plagued by the non-availability of medicines and the prevalence of counterfeit drugs. A huge chunk of the medical infrastructure is concentrated in urban areas while a large part of the population lives in rural India; telemedicine is attempting to bridge this divide in the country. Information management systems aid doctors in better diagnosis by making complete history of patients available on cloud platforms. Mobile and internet platforms are perceived as means to address India's deficient healthcare facilities, via innovation in technology and telemedicine.

Apart from the above, a few start-ups — engaged in diagnostic and genomics research — also received funding from investors.¹⁵

18. "How healthcare tech start-ups will secure your future", The Financial Express, 04 July 2016

19. "10 Indian Healthcare Start-ups You Should Know About", NDTV Gadgets, 20 January 2016;

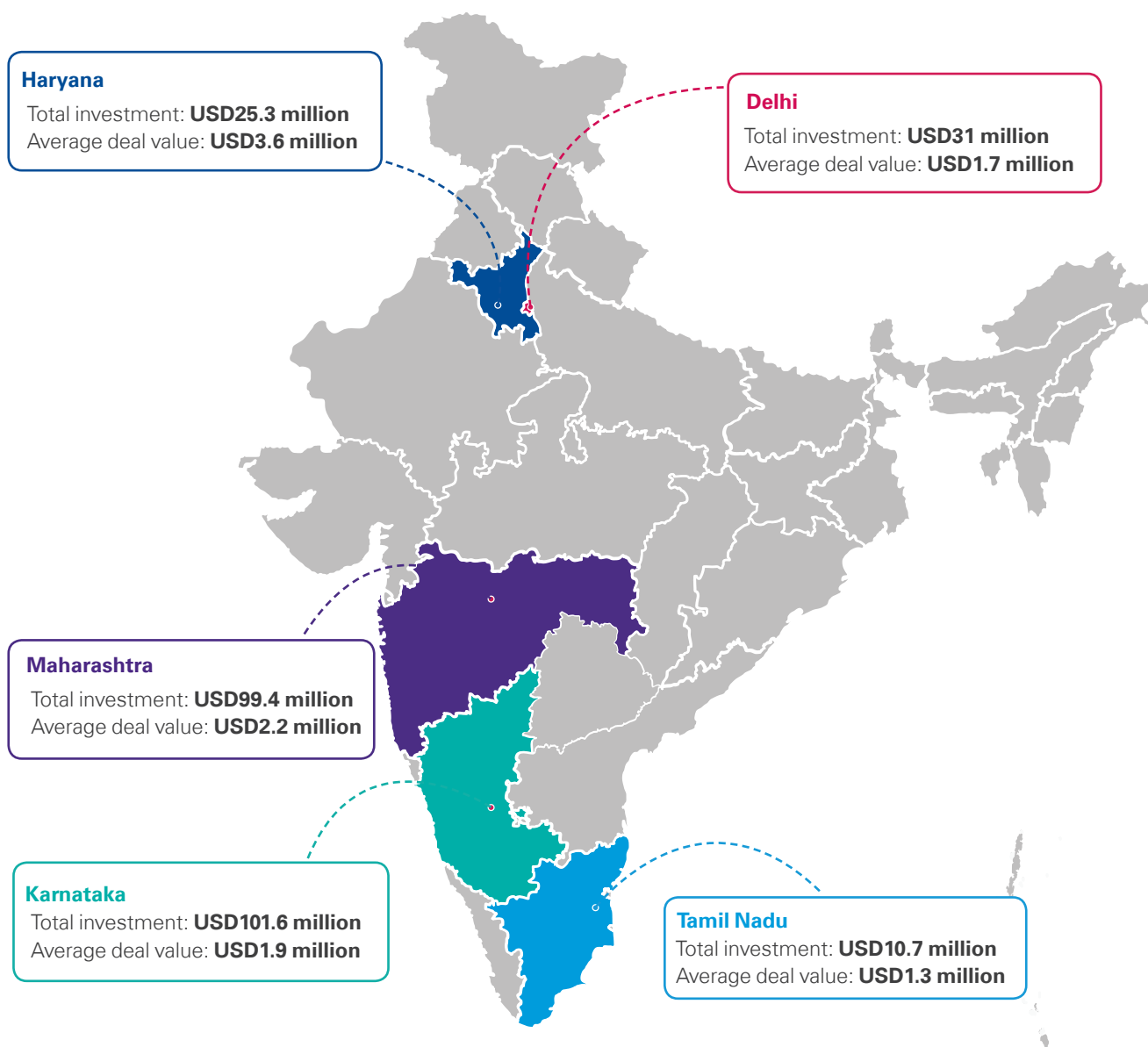
20. KPMG in India's analysis, 2016



State-wise healthcare start-ups funding

Factors such as availability of adequate healthcare and IT infrastructure have led to the concentration of investments in only a few Indian states. During 2012-16 (till July), the top three states—Karnataka, Maharashtra and Delhi, witnessed over 78 per cent of the total investments of USD295.9 million in healthcare start-ups²¹.

Top five funded states for healthcare start-ups, 2012-16



Source: VCC Edge database, accessed as on 03 August 2016

Note*: Data till 31 July 2016; Deal value of some deals were not available

21. Source: VCC Edge database, accessed as on 03 August 2016

Challenges in procuring funds^{22,23,24,25,26}

The healthcare sector in India provides numerous opportunities for budding entrepreneurs to bring to the fore new ideas and innovations to the market. The need for affordable and quality medical care, along with increasing penetration of smartphones and internet in the country, has facilitated a noteworthy rise in the number of healthcare start-ups over the last

three years. IT hubs in India, such as Bengaluru, Pune, Hyderabad and Gurgaon, are emerging as primary growth centres for healthcare start-ups in India.^{27,28}

However, one of the biggest challenges faced by entrepreneurs in the healthcare start-up domain is to rope in the right investors and arrange adequate funding. VC funding in the Indian start-up ecosystem has dried up since the last quarter of 2015.^{29,30}



Challenges in raising funds

Low returns

- Start-ups are characterised by low profitability, with a large number of healthcare start-ups struggling to break even
- There are fewer prevalent business models in the healthcare start-up space that can act as a reference; start-ups in the healthcare domain find it hard to develop a sustainable monetisation blueprint as a result
- The slow pace of growth in the sector drives investors to other sectors

Finding the right investors

- Prospective investors generally lack awareness and expertise in healthcare, which is a highly specialised field. It becomes difficult for entrepreneurs to connect with the right investors and convince them about the viability of business propositions at hand
- Additionally, the Indian healthcare system has traditionally been disconnected with the digital world, which could be one of the reasons for investors hesitating to fund healthcare tech start-ups

Lack of innovation

- Healthcare start-ups in India largely target service-based platforms, whereas globally, the top-three unicorn healthcare start-ups are engaged in developing new vaccines and methods to deal with critical illnesses
- Domestic start-ups currently lag behind their global peers in terms of innovation and business offerings, which could be one of the reasons for muted investors' interest within the domain

Long lead times

- In the medical field, it takes anywhere between 10 to 15 years to introduce a new product in the market
- PE and VC firms are heavily inclined towards start-ups that generate faster returns i.e. within five – seven years
- Long lead times pose a significant challenge for medical research start-ups in attracting investors

Source: "5 Biggest Challenges All Healthcare Tech Start-ups are Facing in India", iamwire, 24 December 2015; "Why India's core healthcare start-ups haven't received much funding", Business Insider, 23 May 2016; "When India will get a Unicorn HealthCare Start-up", Start-up BUZZ, 29 May 2016; "Funding a challenge in online healthcare start-up space", Indian Retailer, 14 March 2016; "The Resilient Health-Tech Start-ups (Part I): Immune To Challenges", Inc42, 19 February 2016

A collaborated effort by both — the start-ups and investors, is essential towards improving funding in the Indian healthcare start-up domain. Start-ups could re-focus attention on innovation,

differentiated product offerings and building a sustainable business model. At the same time, investors could benefit significantly from a change in their mindset and adopt a patient

approach, by remaining invested for a long period of time and emerge as active participants in the growth of healthcare start-ups.

22. "5 Biggest Challenges All Healthcare Tech Start-ups are Facing in India", iamwire, 24 December 2015

23. "Why India's core healthcare start-ups haven't received much funding", Business Insider, 23 May 2016

24. "When India will get a Unicorn HealthCare Start-up", Start-up BUZZ, 29 May 2016

25. "Start-up India action plan: This is what healthcare sector expects from PM Modi", DNA India, 15 January 2016

26. "Funding a challenge in online healthcare start-up space", Indian Retailer, 14 March 2016

27. "Pune emerging as favourite hub for health tech start-ups in India", Pharmabiz, 26 March 2016

28. "Healthcare start-ups in India- Hyderabad is the next big hub", Start-up Times, October 2015

29. "Slowdown in Funding Takes Bite Out of India's Start-ups", The Wall Street Journal, 07 February 2016

30. "Start-ups shut down and pivot as funding slowdown persists", Tech Circle, 25 June 2016

Healthcare start-up shutting operations: A service-oriented healthcare firm^{33,34}

Company overview

- A Delhi-based healthcare start-up, founded in 2013 developed a service platform aimed at empowering patients to make choices about their hospitalisation needs
- The start-up enabled patients to share their medical records with hospitals, based on which the hospitals advised customised treatment packages to patients through a bidding process
- The platform enabled patients to make informed decisions about their treatments, and helped them choose the most suitable treatment/hospital.

Reasons for no takers

- In healthcare, decision making for selecting In-Patient (IP) care services is highly technical. Patients in India are far more comfortable and reliant on their family/treating doctors to help them make this decision for them. In such an environment, this firm could not garner patients' interest.
- Also, this firm aimed to provide multiple In-Patient (IP) care options for patients across hospitals, thereby helping patients to choose cost-effective IP care services. However, specifically in IP care, price-sensitivity is far lower than for any other consumer services category. While this firm could garner some interest, it fell short of reading the consumer behavior in entirety, which led to lower than expected customer acquisition

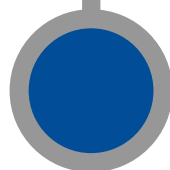
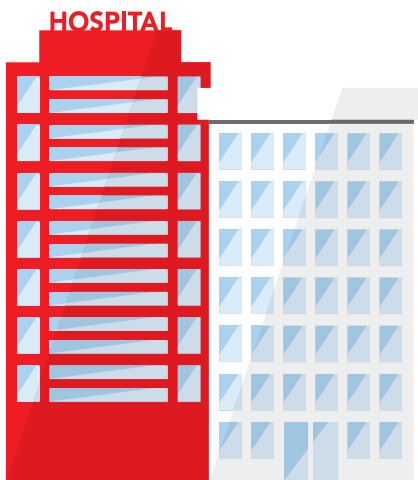
Struggle with raising funds: A Stem Cell research firm^{35,36,37}

Company overview

- The company was founded in 2013 and is headquartered in Noida, Uttar Pradesh.
- The research-oriented company is focussed on therapeutic applications of regenerative medicine and provides leading Stem Cell Therapies for patients with life-threatening diseases
- The company also has its representative offices in Bangladesh and Australia

Struggle for funds

- Since its inception, the company has been bootstrapping to fund its operations, as it was not able to secure capital from investors to ensure a smooth kick-off
- Long lead times of 10-15 years in producing a research based healthcare product results in the lack of interest from VCs, usually interested to fund companies that can offer returns in five-seven years



33. "Medeal website", accessed on 04 August 2016

34. Primary interviews

35. "Advancells website", accessed as on 04 August 2016

36. "Noida-based Advancells, a research and tech focused Stem Cell therapy solution provider", Your Story, 29 April 2016

37. "Why India's core healthcare startups haven't received much funding", Business Insider, 23 May 2016

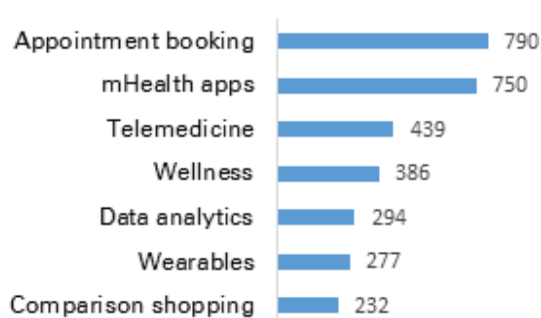
Global funding trends analysed for healthcare start-ups

Globally, 2015 was a noteworthy year for health technology start-ups, when they raised investments worth USD4.6 billion through 570 PE and VC deals. However, a slowdown in the early stage of investments in 2015 indicated that the sector is moving towards the maturity stage.^{31,32}

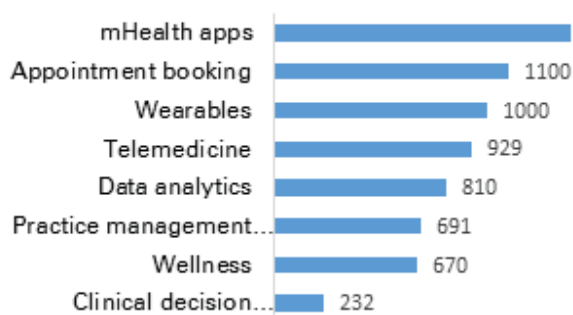
The global funding trends in healthcare tech start-ups are shifting from practice-focussed companies, which

include data analytics, clinical decision support and practice management solution firms, to consumer-focussed technologies and products, such as mHealth, wearables, comparison shopping and telehealth companies. Schedule/appointment bookings and mHealth applications have emerged as the most sought after segments for investors in 2015.^{27,28}

Health technology areas with highest funding, 2015 (USD million)



Most funded health technologies, 2010–15 (USD million)



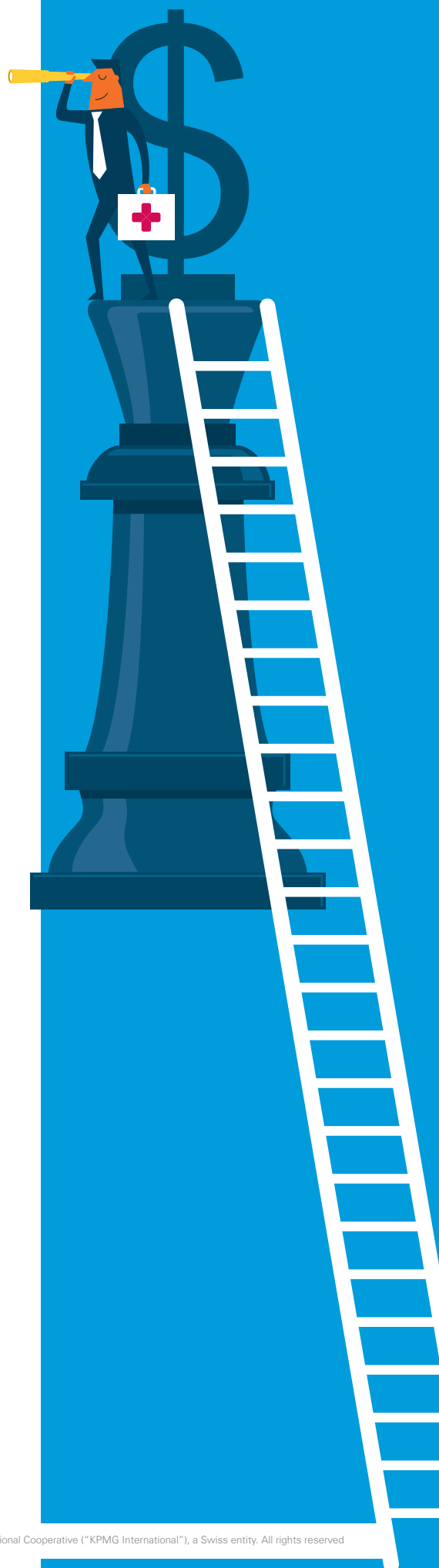
Source: "Healthcare IT VC funding in 2015 plateaus at \$4.6 billion, reports Mercom Capital Group", Mercom Capital website, accessed as on 21 June 2016 (Please stick to sentence case)

On comparing the funding pattern of global and Indian health tech start-ups, it seems that services of appointment booking, telemedicine and practice management have been the focus areas for investors. However, start-ups involved in other healthcare-related segments, such as mHealth apps,

wearables and data analytics, are gaining traction amongst global investors. Indian healthcare tech start-ups can take advantage of this trend by entering these segments to attract more investments from PE and VC companies around the globe.

31. "Digital healthcare start-ups wooed investors worth \$4.6 billion in 2015", The Economic Times, 18 January 2016

32. "Healthcare IT VC funding in 2015 plateaus at \$4.6 billion, reports Mercom Capital Group", Mercom Capital website, accessed on 21 June 2016



Measures to boost fund flow to healthcare start-ups



Concerns around the lack of innovative options for investments, inflated valuations in the Indian start-up ecosystem and regulatory hurdles have led to muted investors' interest in Indian healthcare start-ups. There is a need to boost the flow of funds in healthcare start-ups, which can help them to attain their true potential and effectively address the challenges that are indigenous to the Indian healthcare system. A collective effort from all stakeholders, including the government, private sector, PE and VC firms and the start-ups themselves, is required to build a conducive investment environment, essential for healthcare start-ups to prosper.

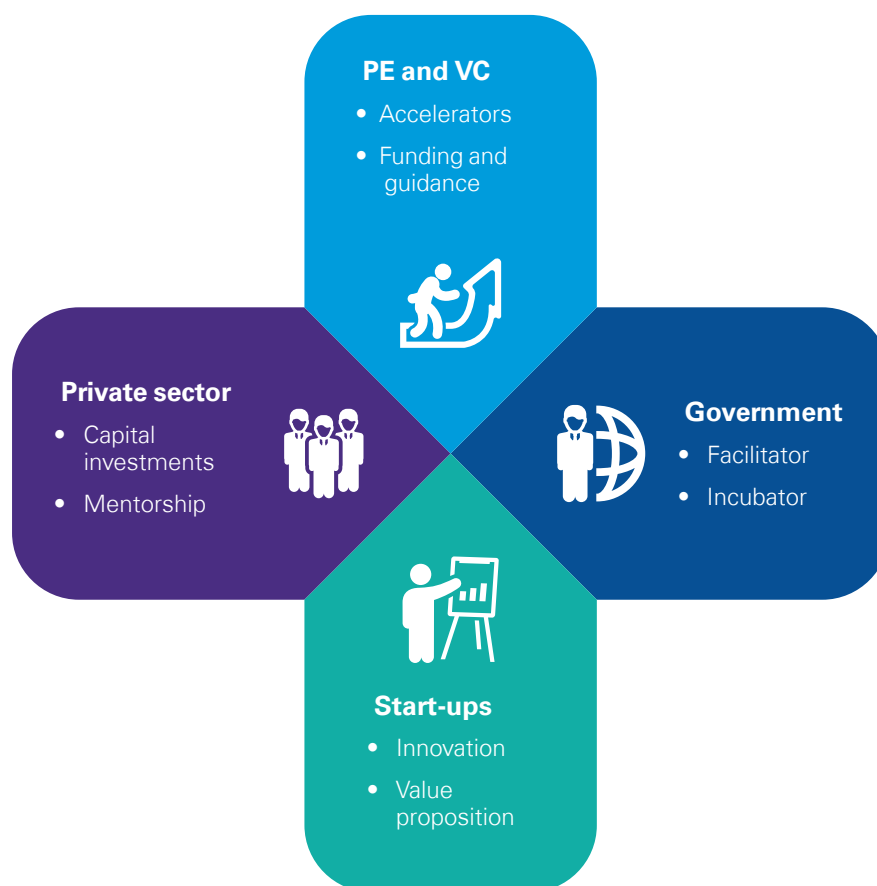
Role of the Indian government

Healthcare has emerged as one of the largest sectors in India, both in terms of revenue and employment generation. However, the government's expenditure on healthcare is amongst the lowest in the world.³⁸ India's public spending on healthcare stands at 1.4 per cent of its GDP, as compared to 3 per cent in China and 8 per cent in the U.K.³⁹ The government has taken several steps to rejuvenate the healthcare sector. In the 2016–17 Union Budget, it announced a health coverage of INR1 lakh (USD1,459) per family; a National Dialysis Service Programme was also launched by the government apart from increasing the budget allocation for the healthcare sector by 13 per cent over the 2015-16 budget allocation.⁴⁰

Government initiatives

The Government of India understands that start-ups could play a crucial role in fostering the growth of the healthcare sector, by amalgamating innovation with technology. Hence, it launched initiatives, such as 'Start-up India, Stand-up India', to promote start-ups. Under the Start-up India Action Plan 2016, the government has made provisions, such as a single-day registration process for start-ups; tax and capital gains exemption for three years; and setting up of 35 new incubators, which would provide the much needed support in the initial stages of a start-up's journey.

Key roles of stakeholders



In addition, the Government of India introduced a 'fund of funds' with a corpus of INR10,000 crore (approximately USD1,459 million) over four years, to provide a helping hand to budding entrepreneurs.⁴¹

38. "Healthcare: The neglected GDP driver", KPMG in India, accessed as on 28 June 2016

39. "India's health woes: Budget for the National Health Mission remains stagnated at Rs 19,000 crore", India Today, 2 March 2016

40. "Healthcare Union Budget 2016", KPMG in India, accessed as on 11 July 2016

41. "Start-up India Will It Lead To Stand Up India", Financial Express, 07 March 2016

The government established the Biotechnology Industry Research Assistance Council (BIRAC), a Public Sector Undertaking (PSU) under the Department of Biotechnology, Ministry of Science and Technology, in March 2012⁴². The not-for-profit organisation was instituted to foster innovation research in biotech industries with the primary focus on start-ups and Small and Medium Enterprises (SMEs). Since its inception in 2012, BIRAC has facilitated funding support of INR700 crore (USD102 million) to more than 300 companies and 150 start-ups. The grant provided by BIRAC is mostly intended for 18 months, to enable the product or technology to reach the Proof of Concept (PoC) stage. Further, the government launched the BIRAC AcE Fund in March 2015, with an aim to accelerate the growth of entrepreneurs in the biotechnology sector in India. BIRAC plans to devote a sum of INR100–200 crore for three – five years, based on the apportionment of funds from the central government's Start-up India corpus.⁴³

Steps to boost healthcare start-ups

The Government of India needs to follow a focussed approach to develop a supporting ecosystem to stimulate the growth of healthcare start-ups in the country. In the initial stages, regulatory hurdles could be eased and special privileges, such as custom duty exemption, tax exemption for a period beyond the existing three year cap and loans at concessional rates, could be provided to start-ups engaged in medical innovation and research. To lure more investments, special tax rebates to both foreign and Indian investors interested in funding healthcare start-ups could be offered.

Additionally, granting an 'infrastructure status' to the healthcare sector could mobilise substantial resources required for quality healthcare delivery penetration beyond the metros. This could not only strengthen India's position as a preferred destination for healthcare but also provide a further push to investments into start-ups that aim to provide quality healthcare across India.

Steps the government can adopt to boost fund flow to healthcare start-ups⁴⁴



Healthcare innovation fund

A dedicated healthcare start-up fund could be established for supporting entrepreneurs engaged in research, drug discovery, medical devices, telemedicine, wearables and other health-related innovation. The fund could cater to the financial needs of healthcare start-ups throughout their life cycle and not just till the POC stage.



Nodal agency for healthcare start-ups

A nodal agency, comprising of members from various fields could be established. Such an agency could provide support to healthcare start-ups with company registration, compliance with regulations, patent filings, mentoring, networking with the right investors, etc



Healthcare start-up hubs

The central and state governments could collaborate to build healthcare start-up hubs in various Indian cities, where necessary infrastructure facilities are available. Such hubs can help to create a close-knit ecosystem linking the start-up community, governments and corporate and academic establishments. These hubs could act as platforms for entrepreneurs, mentors, investors and industry experts, to network and collaborate.



Start-up fairs/ events

Fairs and events organised by the Government in India and abroad could help promote the growth of Indian healthcare start-ups. These platforms can enable Indian healthcare start-ups to make their mark on the global stage by showcasing their products and capabilities to relevant organisations and individuals. These events also provide entrepreneurs with opportunities of geographic expansion via international collaborations, partnerships and joint ventures.

42. "BIRAC AcE Fund launched by Union Government to accelerate growth of entrepreneurs in Biotechnology in India", India Today, 20 March 2015

43. "BIRAC plans to set up corpus fund to invest in biotech start-ups", Live Mint, 12 February 2016

44. KPMG in India's analysis, 2016

Start-ups: Enhancing the proposition

The e-commerce market in India experienced rapid expansion in the last four-five years on the back of strong funding from PE and VC firms. However, over the last six – eight months, valuations of e-commerce companies have declined. Entrepreneurs are finding it difficult to raise capital as investors have become more watchful and conservative of their investments, owing to the lack of adequate returns⁴⁵. Investors are expected to positively react to uniquely positioned start-ups that showcase their strengths to remain sustainable in the future.

Offering innovation

Indian healthcare start-ups are generally service-based platforms. However, innovation in the areas of drug discovery and healthcare delivery models may help in attracting more funding. Having said this, start-ups can concentrate on solving acute health problems. Using technology to develop expertise in critical areas may help attract more investments.

Example

A Jodhpur-based surgery centre, founded in 2010, provides robotic surgery procedures for surgical specialties, including cardiac, urology, thoracic, gynecology, orthopedics, head, neck and general surgery.

It signed a definitive agreement with a leading venture capital firm to raise an undisclosed amount in 2011.⁴⁶

Bridging the infrastructural gaps

To attract a continuous flow of funds from venture capitalists, it is necessary to concentrate on those business models that simplify the way healthcare services are delivered. Building more robust and reliable systems to address healthcare needs may help healthcare start-ups to raise more capital. Creating a thorough platform to manage the medical history of users, which can evolve into a self-sustaining business in the long run. A gap exists between high-end tertiary hospitals, government hospitals and single-doctor-managed private nursing homes. Start-ups could bridge this gap by using new business models.

Example

A leading hospital network founded in 2005 by Dr. Naik and Dr. Veerendra Hiremath, is bridging this gap by building primary and secondary care hospitals in semi-urban and rural areas.⁴⁷ It runs a low-cost primary and secondary care hospital chain in Tier-II and III towns. The company operates 17 multispecialty hospitals in rural and semi-urban regions across Karnataka and Andhra Pradesh, including Hubli, Gadag and Karwar.

The company raised funding in October 2014 from its existing investors and some new PE firms.⁴⁸

Exploring new funding sources: Doctorpreneurs

Owing to the emergence of corporatisation in the healthcare sector and latest technological tools for running the business, there has been an increase in number of doctors becoming entrepreneurs — termed as 'doctorpreneurs'.⁴⁹ Healthcare start-ups may also reach out and partner with doctorpreneurs who are involved in seed funding of start-ups.

Example

Dr. Deepu Sebin, a Master's in internal medicine from the Government Medical College, Kottayam, developed a mobile application in March 2015, that acts as a social forum to doctors providing free clinical cases, quizzes, news and other medical contents, without subscribing to paid medical journals. The company raised a seed round USD0.5 million from a VC firm, a Japanese e-commerce firm's founder Teruhide Sato, and start-up accelerator.⁵⁰

Building a strong team

An association with reputed investors and industry specialists brings along several added advantages to start-ups. It helps get validation for their businesses, gain recognition and generate contacts. The mentoring that industry experts can offer is invaluable for the growth of start-ups. This also helps in scaling their business ideas and solving complex business problems. Hence, apart from the aforementioned ways to receive better funds, start-ups also need to concentrate on building a broad team comprising of medical professionals, healthcare technology experts and mentors, which could help attract more funds.

Example

An online fashion retail start-up, which was launched by Nidhi Agarwal in September 2013, received funding from Ratan Tata in June 2015⁵¹. This brought significant reputation due to the name of Ratan Tata and association with the brand of Tata Group. The company subsequently raised an undisclosed amount in a pre-series; funding from Mr. TV Mohandas Pai, and India's leading women's VC fund in December 2015⁵².

45. "Indian e-commerce industry's growth comes to a halt, Snapdeal worst hit", The Times of India, 27 June 2016

46. "Seedfund Invests \$2.2M In Jeevanti Healthcare", VC Circle, 25 May 2011

47. Vaatsalya website, accessed as on 30 June 2016

48. "Hospital chain Vaatsalya raises funding from existing investors Aavishkaar, Bamboo Finance", VC Circle, 30 October 2014

49. "A new source of startup funding: 'Doctorpreneurs'", Modern Healthcare, 20 February 2016

50. "Doctor's mobile app Daily Rounds raises Rs 3 crore in seed funding", The Economic Times, 13 March 2015

51. "Ratan Tata acquires stake in fashion portal Kaaryah", The Economic Times, 13 March 2015

52. "Ratan Tata-backed KAARYAH gets pre-series A funds from Mohandas Pai, Saha Fund", The Economic Times, 13 March 2015

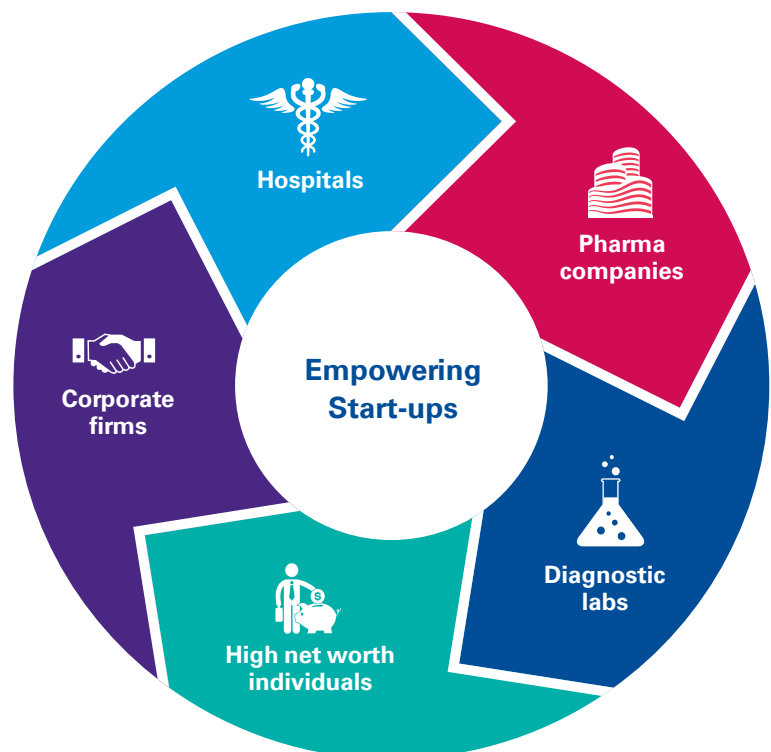


Role of the private sector

Start-ups have become a driving force for innovation and new ideas in many sectors. Mobile application development, business analytics, cloud computing, social media analytics, etc. have found usage across sectors and are transforming them in more ways than one. A number of companies and large corporate houses are engaging with start-ups to either acquire new technologies, talent or both.

Many Indian firms are following the lead of their global counterparts, by setting aside funds to invest in high-risk, early-stage start-ups. This trend is not just restricted to companies. Several distinguished high net worth individuals, such as Azim Premji, NR Narayana Murthy and Ratan Tata, have invested their personal wealth in the start-up ecosystem in India, to help promote budding entrepreneurs and to capitalise on the profit-generating potential of these young turks. Private sector stakeholders could play a crucial hand in the growth and development of healthcare start-ups in India.

Key private sector stakeholders for healthcare start-ups



Source: KPMG in India's analysis, 2016



Hospitals, pharmaceutical companies and diagnostic chains

The private sector needs to shoulder the dual responsibility of a guide and an investor, for the development of healthcare start-ups in India. It is essential that the major hospital chains, pharmaceutical companies and diagnostic labs, take charge as mentors to the healthcare start-ups. Being experts in the field, they would be able to share their extensive industry knowledge and steer the budding entrepreneurs through the difficult times of their journey. A conducive ecosystem could be developed via formulating partnerships with start-ups, to find innovative solutions to the various challenges faced by the medical community, in following the traditional practices. In addition, launch of accelerator or mentorship programmes by hospitals and pharmaceutical companies could be valuable for entrepreneurs interested in taking advantage of the diverse

opportunities in the healthcare domain. Recently, a renowned pharmaceutical company launched an incubation and accelerator initiative in collaboration with IIT-Delhi. This programme is aimed at facilitating Indian entrepreneurs with incubation space, mentoring support, access to infrastructure and labs, initial funding, IP attorneys and services, developing industry linkages and networking with VC firms.⁵³

Employing start-ups could provide the much needed boost to major healthcare players, in widening their reach in rural areas through telemedicine or mobile applications. Engaging start-ups in projects like digitisation of operations and medical records, rural operations, medical research and technology development, could not only help tackle the various challenges faced by the healthcare community, but could also assist entrepreneurs in generating revenues.

Corporates and high net worth individuals

Funding research undertaken by start-ups with a focus on leading technologies and products, could enable entrepreneurs to bring medical advancements and generate high returns for corporate investors. For example, a leading consumer electronics and healthcare devices company, is planning to set up a venture fund to invest in Indian healthcare technology start-ups. In addition to infusion of funds, mentoring start-ups⁵⁴ to manoeuvre myriad obstacles is a pivotal role that corporates can play.

53. "Pfizer, IIT Delhi set up incubation centre for healthcare innovations", The Times of India, 24 November 2015

54. "Phillips may invest in Indian healthcare technology start-ups; looks to join other global Fortune 500 companies", The Economic Times, 07 April 2016

Role of PE and VC firms

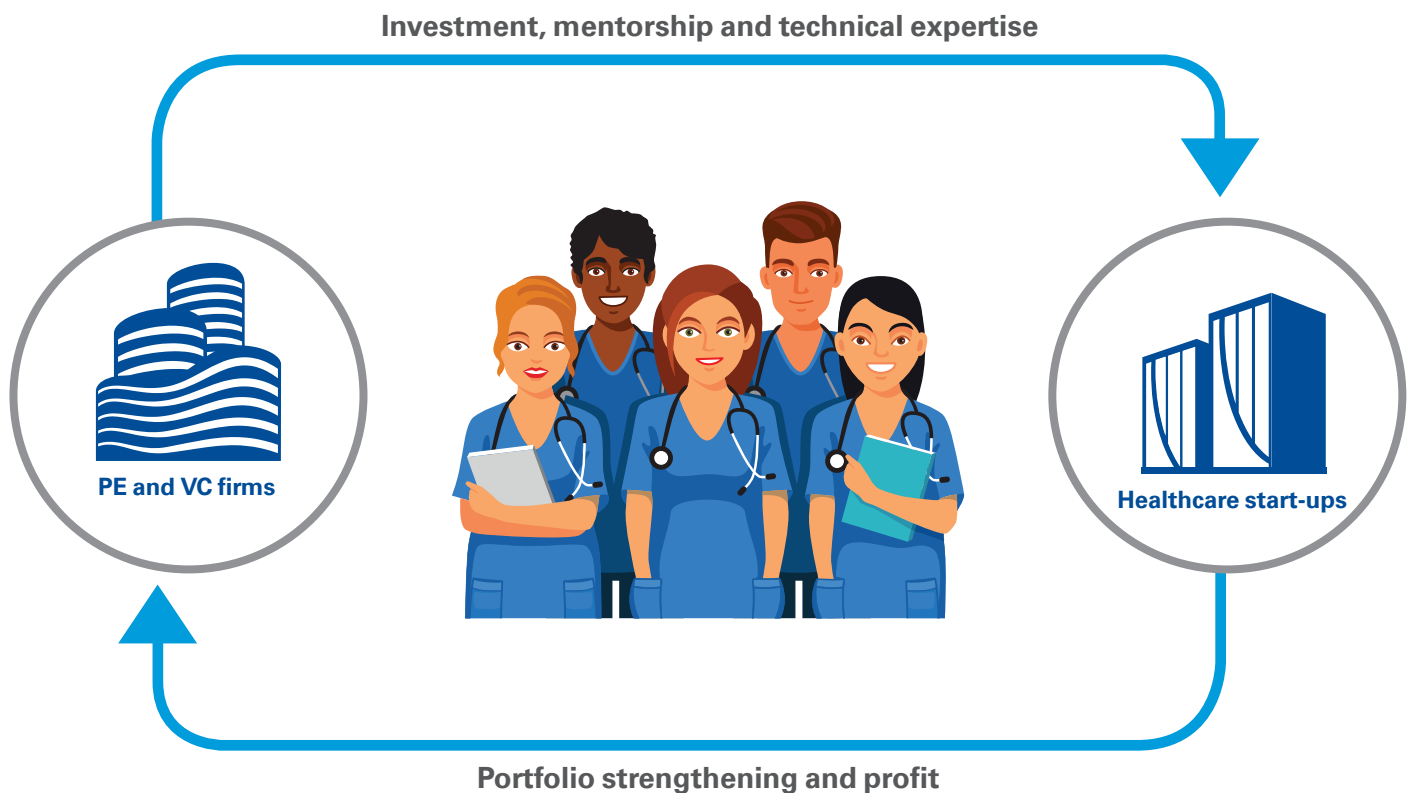
PE and VC firms are two of the most important stakeholders for healthcare start-ups, acting as business partners to them. They share both the risk and rewards of the business, by acquiring equity in return for their investments.

They are a key source of funding at the inception of any new venture. These firms provide capital to healthcare start-ups at various stages of a start-up life cycle, including seed funding, early expansion and growth, buyout and turnaround stages. VC firms primarily invest in start-ups whereas PE investments are generally received by companies who have gone through the initial grind of POC, selecting the business model, regulatory

compliances, increasing market visibility, acquiring customers, etc. and have reached maturity in their life cycle.

Apart from investing capital, PE and VC firms bring vast knowledge and technical expertise gained through their experience in working with healthcare start-ups, hospital chains, medical device manufacturers and pharmaceutical companies, not just in India but globally as well. Their advice could benefit entrepreneurs in learning global best practices, managing operations, regulatory compliance and bridging the skill gaps. PE and VC firms have a consortium of companies under their ambit, which could facilitate healthcare start-ups in sourcing quality vendors or obtaining new clients.

PE and VC firms need to adopt a patient approach towards incubating start-ups, as healthcare start-ups have a longer gestation period before returns can be expected. As per industry experts, PE and VC firms could gain returns of up to 20–25 per cent from healthcare firms over 7–10 years, as against a 16–18 per cent expected internal rate of return from other domains over a period of five years.⁵⁵



55. "India's hottest healthcare start-ups", Live Mint, 05 May 2013

Learnings from other countries

Globally, health tech start-ups raised investments worth USD4.6 billion during 2015²⁸ and successfully managed to deliver affordable and accessible healthcare services using technology.

As start-ups not only create new jobs but also have a long-term impact on the economy⁵⁶, several countries have introduced special programmes and implemented policies to support them.

To reduce the funding gap of healthcare start-ups, new or alternative funding techniques are needed. Equity crowdfunding enables start-ups to raise their initial capital from a large base of private investors rather than from a venture capitalist. The advantage is that healthcare start-ups not only attract smart capital, but also involve the stakeholders from an early stage.

Example

An Israel-based firm which makes wearable robotic exoskeletons for people with spinal cord injuries allowing them to walk again, is an equity crowdfunded company. Launched in 2001, ReWalk is the first and only device approved by the Food and Drug Administration (FDA) for use at home⁵⁷. It has raised USD3.3 million capital in two separate funding rounds from an equity crowdfunding website, in 2013.⁵³ The company filed an IPO in the U.S. in 2014, and sold three million shares for USD12 each, at a company value of USD136 million.⁵⁸

Angels, or groups of individual investors, have played an essential role in boosting the start-up activity in many regions. Doctorpreneurs have emerged as a new source of funding and mentorship for healthcare start-ups. They are more comfortable in investing in healthcare start-ups than in other sectors. Doctorpreneurs also bring with them their substantial experience and knowledge to tackle regulatory hurdles and can provide valuable advice on demand.

Example

U.S.-based Dr. Jay Joshi formed a healthcare-focussed angel group of about 30 physicians in 2015, to fund healthcare start-ups in their early stages. MD Angels currently makes investments ranging from USD100,000 to USD150,000 per deal, and from USD10,000 to USD15,000 per physician. He has also raised about USD1 million for his start-up, that makes a device which automates the monitoring and recording of a patient's urine output.⁵⁹

A U.S.-based group of doctorpreneurs, which has 10 physicians as its group members, concluded 15 deals since 2013.⁵⁵

Dr. Joshua Landy, a Canadian critical care specialist, co-founded a venture capital funded mobile health start-up, in 2013. The company connects healthcare professionals around the world to view, discuss and share medical cases. As on September 2015, it recorded 500,000 users and has a presence in 175 countries.⁶⁰

National level programmes that are driven by the government, hold a lot of potential to have a lasting impact on the society and the economy of a country. Nations worldwide have recognised the effect of entrepreneurship and its contribution towards job creation and its ability to revive the economy. Several countries are now engaged in attracting more entrepreneurs and new businesses to come and operate in their country, offering significant financial and operational benefits.

Example

Chile launched Start-Up Chile (SUP) in 2010, a government-funded accelerator programme, to revitalise its economy by attracting new tech start-ups. The selected start-ups are provided USD40,000 in equity-free funding, a one-year temporary visa, office space and opportunities for mentoring and coaching. The participants of the six-month programme must stay in Chile and take part in activities that promote entrepreneurship to Chileans. SUP formulated a scoring system, Return Value Agenda (RVA), which measures the social impact of each entrepreneur. In May 2015, SUP announced a new initiative, SCALE, that would offer USD100,000 in follow-on funding, if a start-up stayed in Chile for a year and mentored other entrepreneurs.

Over 1,200 start-ups from 72 countries have participated in the programme till date and 200,000 Chileans have benefited from it. Participants of the programme have raised over USD100 million, creating more than 1,500 jobs.⁶¹

55. "Jobs created by startup companies have long-lasting economic impact", Reliable Plant, accessed as on 30 June 2016

55. "OurCrowd's Portfolio Company ReWalk Launches IPO On NASDAQ", The Street, 30 September 2014

55. "ReWalk Robotics prices IPO at \$12, below the range", Nasdaq, 12 September 2014

55. "A new source of startup funding: 'Doctorpreneurs'", Modern Healthcare, 20 February 2016; "Digital Doctors: The Rise Of The Doctorpreneur", Forbes, 27 April 2016

55. "Instagram for doctors: how Figure 1 is crowdsourcing diagnoses", The Guardian, 27 April

55. Startup Chile website, accessed on 30 June 2016; "What can we learn from the successful Start-Up Chile accelerator?", Venture Burn, 6 August 2015; "Chile Keeps Nurturing Seeds for 'Chilecon Valley'", The Wall Street Journal, 23 August 2015

Several countries have outlined special frameworks, formulated specific policies and have taken the necessary steps to boost entrepreneurial activities and stimulate the growth of start-ups.

Example

Japan

A government-affiliated Japanese financial institution, extended loans to 41,565 businesses in FY11 that had been in business for five years or less⁶²

About 7,128 businesses received loans under the New Start-up Loan Programme in FY11 led by JFC To guide and support start-ups, 152 branches of 'Business Start-up Support Desks' were established across Japan in April 2012

In December 2015, the Japanese Government announced that it would come up with a plan to provide entrepreneurial lessons in the educational curriculum at some schools⁶³

The government has planned to work with a leading venture capital association of Japan, to come up with more organised data on new industries⁶⁹

The government has been organising relevant and matching events involving large and new firms in the past few years, to increase collaboration between large established firms and start-ups.⁶⁹

China

The Chinese Government, in 2015, announced incentives to promote start-ups and small businesses in rural areas. The policies framed encouraged college graduates, discharged soldiers and migrant workers to work in their rural native place and invest in their own communities

Incentives include waived or reduced taxes, and administrative fees to be paid for starting a business, government funding for selective businesses, etc.⁶⁴

The U.K.

Tax incentives⁶⁵ - The U.K. Government launched the Enterprise Investment Scheme (EIS) in 1994 to boost investments in smaller companies. An EIS comes with a number of tax benefits, including relief from income tax, inheritance tax and capital gains tax. It offers tax relief of 30 per cent of an investment made into an EIS-registered business.

In 2012, the U.K. Government launched the Seed Enterprise Investment Scheme (SEIS), a tax relief for start-ups. SEIS offers income tax relief of 50 per cent for eligible companies⁶⁶.

Government initiatives⁶⁷

The U.K. Government launched a campaign and a website — Business in You, in 2012, to help people start and run their own businesses

The 'Business Support Helpline' acts as a single point of contact for any queries regarding starting or running a business

'Business Growth Service' is a Department for Business funded service, which advises and supports entrepreneurs to progress and grow

Mentorsme, the national web portal to find a mentor, connects small businesses with mentoring organisations across the U.K., to support and advise them on various subjects regarding business and operations.

The U.S.

Barak Obama, President of the United States, brought the Affordable Care Act (ACA) in 2010, known as ObamaCare, a U.S. law that reforms both the healthcare and health insurance industries in the country. The guaranteed healthcare coverage has encouraged new entrepreneurs to launch their start-ups to tap into the opportunities created by ObamaCare. Entrepreneurs have come up with businesses that target employers, health insurers, hospitals, doctors and consumers. Over 90 new healthcare companies, employing 6,200 people, have been launched in the U.S. after ObamaCare was implemented.⁶⁸

Considering the success stories of healthcare start-up programmes across countries, it could be gauged that there is an immense potential for strong growth of this sector in India too. Establishing a conducive ecosystem could help healthcare start-ups in India to flourish till they become self-sustaining.

69. "Supporting Business Start-ups", Japan Finance Corporation, accessed on 4 July 2016

69. "Japan pushes new policies to reboot startup sector", Japan Times, 07 December 2015

69. "China's Start-Up Boom: Beijing Promotes Rural Entrepreneurship To Boost Economy", International Business Times, 22 June 2015

69. "EIS: Enterprise Investment Scheme", Rossmartin, 16 June 2016

69. "SEIS: Seed Enterprise Investment Scheme", Rossmartin, 28 June 2016

69. "2010 to 2015 government policy: business enterprise", Department for Business Innovation & Skills, Government of U.K.

69. "Obamacare Is Spurring Startups and Creating Jobs", Bloomberg, 21 March 2015

Case study: India’s leading appointment booking start-up ^{69,70,71,72}



Company overview

- Founded by Shashank ND and Abhinav Lal in 2008
- The Bengaluru-based health tech company, provides software and mobile application solutions which interlinks patients, doctors and hospital systems
- It enables doctors and hospitals to manage appointments, billing and inventory, while helping patients find physicians and access their digital medical records



Idea

- The idea of the start-up emerged from a personal experience of the company’s co-founder, Shashank. The company’s story started with his struggle to acquire a second medical opinion for his father, who was undergoing a knee surgery. It took him about 15 days to gather all the reports related to his father’s medical history, scan them and send them to a surgeon in the U.S. He felt the need of a system that could help increase the accessibility of healthcare records and services, which led to the inception of the firm.

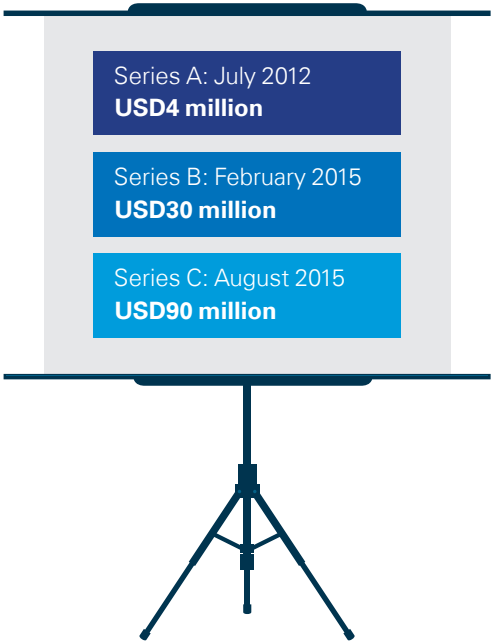
Growth ^{66,73,74,75,76}

The firm has ramped up its operations across 50 cities in 15 countries around the world. The company plans to add 65 new cities in India in 2016.

Since the launch of its first product, the Bengaluru-based company has expanded its network to about 60 million users, 200,000 doctors and 10,000 hospitals.

The company launched its first product — Practo Ray, in May 2009. The software was developed for doctors, clinics and ambulatory care providers, to manage their practices using the cloud

Funding ^{77,78}



69. Company Overview of Practo Technologies Private Limited”, Bloomberg, 04 July 2016

70. “Practo plans to take digital healthcare success abroad”, Live Mint, 27 May 2016

71. “PRACTO”, NEN online, July 2012

72. “How 2 friends in their final year of engineering put the base for a healthcare startup Practo”, DSIM, 18 August 2015

73. “How Shashank ND’s Practo, a services marketplace, is trying to cater to healthcare needs”, The Economic Times, 03 October 2015

74. “Practo Online Healthcare Platform Enters the Brazilian Market”, NDTV Gadgets, 17 March 2016

75. “Practo plans to take digital healthcare success abroad”, Live Mint, 27 May 2016

76. “Practo to add 65 cities in India, expand overseas in 2016”, The Economic Times, 12 June 2016

77. “Practo eyes developing countries in bid to expand global footprint”, Live Mint, 24 July 2015

78. “Practo”, CrunchBase, accessed on 04 July 2016



Case study: A leading online doctor consultation start-up^{79,80,81}

Company overview

- The company was founded by Saurabh Arora and Rahul Narang in 2013
- The New Delhi-based healthcare communication and delivery start-up provides an online and app-based doctor consultation platform to connect people with healthcare specialists from different disciplines, including ayurveda and homeopathy
- The platform allows anyone to consult a doctor of his/her choice without having to physically visit the doctor — providing comfort and convenience



Idea

- The start-up was conceptualised to transform the way healthcare has been delivered in India by addressing the issue of inaccessibility of quality healthcare professionals. The business model of the firm is to connect patients to doctors in a way that they can communicate with each other from anywhere, anytime.

Revenue model

- Usage of the app is free. It charges 5 – 15 per cent as 'internet handling fee' on the total amount from patients while they ask a one-on-one question to any doctor
- The doctor consultation fee goes entirely to the doctor, while the internet handling fee makes for the primary revenue of the company
- Doctors have the prerogative to set their own consultation fee.

Growth^{72, 82}

Large network — users can interact with doctors for free and can have a private consultation for a fixed fee from over 100,000 doctors, saving about 70 per cent time and other costs



It has emerged as the largest mobile healthcare communication and delivery platform in India



In just five months after the launch of its mobile-app in January 2015, the company witnessed over 700,000 downloads; it registers 150,000 user visits on the platform every day



Funding⁸³

Funding in August 2014
USD 1.2 million

Funding in July 2015
USD 10.2 million

Investors
Ratan Tata and leading global VC firms

Achievements^{84,85}

- Recognised by a prominent U.S.-based business magazine, as one of the Top-10 Most Innovative Companies in Healthcare for 2016. It is the only healthcare start-up from India that made it to the prestigious list.
- Featured as "The App Store Best of 2015" by a leading global consumer electronics firm
- Forbes India featured the start-up's co-founder, Rahul Narang, in its 30 'under 30' 2016 list (an annual list of 30 entrepreneurs under the age of 30 published by the Forbes India magazine)
- Partnered with a Mumbai-based pathology lab, to offer free blood sugar tests for three days in April 2016, in Delhi, Mumbai, Bengaluru and Chennai

79. Company Overview of Practo Technologies Private Limited", Bloomberg, 04 July 2016

80. "Practo plans to take digital healthcare success abroad", Live Mint, 27 May 2016

81. "PRACTO", NEN online, July 2012

82. "How 2 friends in their final year of engineering put the base for a healthcare startup Practo", DSIM, 18 August 2015

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Way forward

India has a shortage of medical professionals, having only one doctor for every 1,674 patients, as against the WHO prescribed ratio of 1:1,000. This clearly is a challenge for a country with a population of over 1.2 billion people.

Technology convergence in healthcare, is therefore expected play a key role in improving accessibility, and meeting the challenges of infrastructure and manpower shortage. Smartphone-led mobile technology and digitisation of healthcare practices together are trying to bridge the supply-demand gap of healthcare professionals. Due to the emergence of new healthcare delivery models, the sector is able to offer a number of opportunities to various entrepreneurs across the country. Digitalisation and technology are also likely to bring in transparency and increased awareness amongst patients and could result in better quality treatments.

Entrepreneurs have the potential to positively impact the GDP as well as redefine the way in which healthcare is delivered. Healthcare start-ups have transformed the sector by offering hospital management systems, doctor discovery, delivery of medicines and home healthcare services. They have been successful in making healthcare services affordable and accessible to people through innovative usage of technology.

Procuring funds becomes one of the biggest obstacles for healthcare start-ups. Overvaluation and reduced scope of early stage funding are adding to the sufferings of entrepreneurs. A strong value proposition, backed by product and technology innovations, could assist healthcare start-ups in attracting investors. Healthcare start-ups now need to take a step beyond the discovery and aggregation platforms, to emerging technologies, such as 'Internet of Medical Things', which could help connect primary medical centres in Tier-II and III cities to specialists in metro cities using cloud computing. Start-ups may also benefit from a shift of focus towards innovation in areas, including low-cost medical devices, preventive care, lifesaving equipment or drugs and analytics.

All the concerned stakeholders need to play an active role towards developing a support system for start-ups. A collaborative effort on the part of doctors, entrepreneurs and techies, could help develop innovative offerings for tackling various challenges faced by the medical community. Setting up of dedicated programmes for funding and mentoring young entrepreneurs by the private sector, including large healthcare firms, can prove to be helpful. Foreign investors can play a significant role in the development of the healthcare sector. PE and VC firms could form dedicated teams to identify healthcare start-ups that possess significant growth potential and become their angels in the true sense, by

hand-holding from an early stage until maturity.

Healthcare start-ups may also explore new sources of funding, such as venture debt and crowdfunding to secure financial support for their ideas. India could learn from the practices in Chile, the U.S., the U.K., China, Japan, etc. which have recognised the role and importance of the availability of quality healthcare in the overall growth of a nation. These countries have boosted the growth of healthcare start-ups in their regions by formulating specific policies and programmes, and launching initiatives that resulted in various innovations in healthcare services. Start-ups may emerge as one of the best bets towards better healthcare for the nation

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