A system of advanced, patient-centric healthcare
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The US healthcare market, one of the largest in the world, has led the way in innovation, with the discovery of new drugs and innovative delivery systems, as well as the development of high-precision procedures for diagnosis and effective treatment.

The progress made, however, has come at a cost: a widening gulf between the medical system at large and the principal actor it is supposed to benefit the patient, who is faced with soaring costs and limited access to medical resources at both a doctor and hospital level. In response, we at Infinite are seeing a transformation chipping at this imbalance toward a more patient-centered care model, which promises to reinstate the patient at the core of its endeavors by drastically redrawing the parameters and control of care.

Fueled by the proliferation of technology across industries, and empowered by its possibilities, patients are increasingly demanding a change in the way care is structured and administered. This, in turn, is playing its part in compelling medical science to undergo a transformation from being a discipline that has so far been concerned primarily with treating diseases to a science focused on enabling, promoting and maintaining health and preventing sickness/medical conditions. The transition also marks a shift in the kinds of questions the healthcare system considers as its central tenets so that “what’s the matter with the patient?” is slowly giving way to “what matters to the patient”.

At Infinite, we have been keenly watching technology developments and how these are influencing the shift to Patient-Centric Care.
State of healthcare tech 2015-Telemedicine - its scope and prospects

The growth of technology
One of the most dominant factors driving the transition to a more patient-centric approach to care is the growing availability, reach, and use of technology. Equally crucial have been policy changes, including the American Recovery and Reinvestment Act (ARRA) of 2009 and the Affordable Care Act (ACA) of 2010, also known as Obamacare. Both have helped substantially increase government spending on healthcare IT as well as telemedicine. Further, the ACA gives incentives to providers to deliver improved patient outcomes by using ‘pay for performance’ strategies that link reimbursement to patient satisfaction surveys and other quality—rather than quantity—measurements. A large part of a patient’s satisfaction, apart from better personal health outcomes, is driven by her/his perception of the ease of being able to reach out and consult a healthcare provider. Developments in telemedicine and remote consulting are catering to this perception.

According to the American
Telemedicine Association (ATA), there are around 200 telemedicine networks, with 3,500 service sites currently operational in the US. The Association says about one million Americans are using remote cardiac monitors, and in 2011, the Veterans Health Administration is said to have enabled over 300,000 remote consultations, by using telemedicine. The ATA also says, over half of all US hospitals are using some form of telemedicine. 1

There is no doubt then that technology has increasingly been able to provide a more customized experience. The Mobile Video on Demand service is an example where viewers choose what kind of content they want to watch on what screen and at what time. Although healthcare is incomparable in that it is concerned not with entertainment, but with the health, well-being, and quality of life of a person, the driving force behind the changes in both industries is comparable.

Empowered by the extensive changes that have come about in the field of technology over the last few decades, patients are pushing for healthcare that responds to their particular needs/location/routine.

**Patient engagement**

While most of the reasons that make telemedicine an attractive proposition have to do with the benefits it accrues to the patient regarding hassle-free, convenient, and cost-effective care, one reason has to do with better patient outcomes from the physician’s standpoint: ‘patient compliance’. Some statistics suggest that after an organ transplant, only a third of patients adhere completely to prescribed regimes. Only 40 percent of heart-attack patients adhere to prescribed medication and treatment. In fact, one estimate – from the Becker Hospital Review – states that a high majority, approaching 70 percent, would rather turn their care completely over to their physicians.

Patient engagement, as well as the increasing use of technology, is an answer to that challenge, given that preventative care will pave the way for a more efficient use of resources.

The growth of technology that will impact healthcare five years from now we fully anticipate that the healthcare market will continue to move in this direction. There have been some incredible innovations in this regard.

For example, these include smart sensing technologies that help monitor a patient’s glucose levels remotely and cardiac monitors that allow patients to both check and relay their symptoms to their doctors irrespective of where they are located.

These trends are set to continue to influence the way healthcare evolves in the coming years. Not only will disruptive technological solutions continue to grow, but they will diversify to meet the need for cost-effective, accurate, convenient, and reliable medical advice, diagnosis, and treatment.

1http://www.americantelemed.org/about-telemedicine/faq#.V1ouAdJ95dh
While forecasts by various experts about healthcare in 2025 diverge in the detail of future scenarios, all agree that technology will play a leading role in transforming patient-doctor relationships and health-care delivery systems from how they are today.

At Infinite we take this to be a given, and predict that technology and its innovative applications will enable a plethora of advanced possibilities. We believe, not only will virtual care become the norm; patients will also be able to leverage the convenience, cost-effectiveness and extensive choice of virtual consulting by picking specialists from across the country. Doctors will respond to this opportunity by making their availability visible via publicly accessible schedules.

We believe that no matter how advanced medical technology becomes, the core of healthcare and the expectations from the patient-doctor relationship will remain unchanged. Patients will continue to look for transparency, access and the reassurance of a qualified human being when digital options don’t meet their needs.

This is corroborated by McKinsey’s report on
healthcare’s digital future that states that despite a projected growth in reliance on digital tools, and far greater use of telemedicine, the core features that consumers will continue to expect from their healthcare system will be surprisingly ‘mundane’. “Efficiency, better access to information, integration with other channels, and the availability of a real person if the digital service doesn’t give them what they need…”

Regarding future trends, we foresee a growing reliance on wearable devices that monitor, record and relay patients’ health indicators. These we believe will play a leading role in fulfilling some important patient expectations, including a real integration of all medical providers. Such integration will ensure that no matter whom a patient turns to – whether a primary care provider or a super specialist, a lab pathologist or a nurse, an ambulance staff member or a dental surgeon—the patient can do so knowing each is up to date with her history and current medical condition.

But most of all, the really powerful way in which healthcare will evolve in the future, will lie in how much of it will be truly led by patients. Take, for example, diagnosis. As smartphones and smart computers grow more sophisticated and multi-functional, a range of clinical procedures such as blood tests, physical examinations, and even CT scans can and will begin to be carried out by devices already owned by patients. These will be relayed to patients’ physicians and other medical providers for quick, specialized, and cost-effective diagnosis.

Patients will also have tools at hand to maintain a healthy lifestyle and direct their own

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1http://www.mckinsey.com/insights/health_systems_and_services/healthcares_digital_future
care. The growing digitization of products and services will enable remote recording and remote sharing of medical records.

At the same time, the expansion of mobile healthcare applications will go niche to meet the public’s propensity for lifestyle apps. Additionally, analytics will suitably accompany digitization and mobility to provide patients with the kind of precise and up-to-date information about healthcare alternatives that ensure they choose what is best suited to their individual history, location, and income.

Patients will also be able to take their care one step further. In keeping with a scenario projected by a futurist institute, “well-informed consumers will use advanced technologies including non-invasive bio-monitors” and other wearable devices in order to keep a regular check on their health. We think patients will be compelled to consider such options to take up responsibility for their own health outcomes due to a projected continuation of the currently high cost of healthcare.

Additionally, as a senior futurist from the Institute is quoted saying, “a small persistent group of the very wealthy” will also be in a position to receive great fee-for-service ‘concierge’ care.

In our view, this could possibly include exploring the currently rare opportunity of gene mapping to tailor-make drugs, treatment plans, and maintenance of health in the long term according to an individual’s precise genetic make-up.

McKinsey’s report corroborates our vision of future trends in healthcare. It states that one of the most powerful changes that will take place in the sector in the coming years will be the growing adoption of digital products and processes by all major healthcare players.

The report, which is based on interviews conducted with thousands of patients across countries and age groups to find outpatient preparedness in adopting digital channels, says that if healthcare organizations actually pay attention to what patients need, the journey toward

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2. [http://www.altfutures.org/primarycare2025/IAF-PrimaryCare2025Scenarios.pdf](http://www.altfutures.org/primarycare2025/IAF-PrimaryCare2025Scenarios.pdf)
digital patient enablement will start with small steps.

These would include fulfilling relatively simple needs such as helping patients “find and schedule physician appointments” or help in “selecting the right specialist” whether by email, through mobile apps or via websites and social media.

But as familiarity with these services grows, McKinsey foresees organizations being able to offer “more complex, high-value services, such as integrated-care companion apps or mobile health records”.

Technology is also expected to radically transform the scope and reach of medical research and practice.

In a special series by Forbes, Healthcare 2025⁸, experts share their insights on a range of subjects from the prospective use of alcohol aromatherapy to cure nausea in the ER, precision medicine for the brain to stall and eventually uproot the incidence of Alzheimer’s dementia, the growth of immunotherapy for cancer treatment and the growth of regenerative medicine.

The current physician-driven model has the patient relying on doctors for their time, diagnosis, and advice. The future patient-centric scenario we believe will have the entire healthcare system depending on the patient for virtual meetings, test results, and other health records. Such immersive patient involvement will play a significant role in reducing diagnostic errors, thereby democratizing to the extent feasible the practice of medicine.

Taken together these changes will have an effect on the way patients and doctors think about and function in the transformed healthcare ecosystem.

While patients will become far more proactive than they are now, providers will be incentivized to provide ‘accountable’ care and payers will incentivize both patients and providers to deliver far improved patient results.

The coming transformation in healthcare is going to undoubtedly bring a host of benefits to patients. Not only will they be the ones being in charge of the demands they place on providers, but they will also indirectly influence which doctors and medical institutions gain greater visibility and widespread acceptance.

Equally powerful will be the effect on payers. A far more connected and interconnected care ecosystem will mean payers will be able to preempt spiraling patient costs by suggesting a change in care or corrections in prescriptions. Additionally, they will also be enabled to better meet their objective of minimizing avoidable patient expenditure by linking payments to adherence and outcomes.

The most “hard hit” of the three key players will be the providers. Not only will they feel the heat from patients who will be empowered to rate the quality and efficacy of the care they tender, but also from payers for similar reasons.

In their preface to the special series of features on Healthcare 2025 Forbes corroborates our forecast. It stating, “We’re entering an era in which more medical data will be recorded each year than was tabulated in
“We’re entering an era in which more medical data will be recorded each year than was tabulated in the history of the world.”
And if not, suggest corrective measures, and alternative drugs to improve patient health.

Another way in which payers will be in the driving seat will be in their making payments conditional on achievement of outcomes/milestones by patients and providers. Both will be held stringently accountable by payers in an industry expected to be centered on maximizing patients’ health and well-being.

Further, given the payer’s interest in risk-profiling patients, they will find reasons to push for greater support of medical research in areas such as gene therapy. Having information about the potential a patient may have to develop cancer due to his or her family’s genetic history will empower not only providers but also payers. Being assured of early prevention or timely intervention will help the latter from having to make astronomical payments for advanced stage cancer treatment for instance.

In summary, while a patient-centric healthcare system will, of course, deliver the greatest benefits to patients as well as payers, it will place the greatest pressure on care providers in the way they are currently used to functioning.

Despite the value they bring to maintaining close patient relations, community doctors, and hospitals will feel the need to become far more structured, answerable, and efficient. In the new model of care, their job will not be considered done because they have close ties with their patients. They will be watched, measured, and paid according to patient satisfaction scores.

Academic medical institutions will feel the pressure to: to be more ‘business-minded’. They will pursue research and achieve set targets in order to grow and be ‘competitively compensated’.

And integrated delivery systems, no matter how efficient and quality-focused in their offering, will feel the need to achieve ‘customer intimacy’.

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13http://www.mckinsey.com/insights/pharmaceuticals_and_medical_products/the_role_of_big_data_in_medicine
How we at Infinite are proactively positioning ourselves for this shift.

**The Infinite approach**

At Infinite, we view the coming transformation in the medical ecosystem as an incredible opportunity. Our Patient Centric Connected Care platform is conceptualized to address the projected increase in focus on patient outcomes by placing the care receiver at the center of all care-related stakeholders.

It also strives to provide equal opportunity to every major player to either use the platform as a standalone solution or as a fully integrated system in which a client can collaborate with other stakeholders to maximize benefits to all. By situating all the major healthcare stakeholders around the patient and in close proximity to each other, our solution enables meeting a widely shared and crucial ‘care’ goal: patient adherence to prescribed medication/treatment.

**The steep cost of patient non-adherence.**

According to an article on adherence and healthcare costs, “Medication nonadherence is widespread and varied by disease, patient characteristics, and insurance coverage, with nonadherence rates ranging from 25% to 50%.” Available medical cost due to non-adherence was estimated to cost payers $300B in 2013 alone. Pharmaceuticals are estimated to have lost tens of billions in revenue per year for the same reason.
Infinite’s Patient Centric Connected Care platform delivers immediate adherence benefits to not only patients, but also payers, and pharmaceutical industries. While patients are reminded remotely via digital services of what to take or do, payers make settlement of claims conditional on patient adherence and pharmaceuticals companies benefit from the reliable revenue that adherence brings.

Providers too feeling the pinch
Even providers are feeling the impact. The ACA “requires Centers for Medicare and Medicaid Services to impose penalties on hospitals with readmission rates which are worse than the national average for heart failure, heart attacks, and pneumonia”19. This puts pressure on providers to ensure not only that their advice and prescription are the best possible for the patient concerned, but also that, the patient adheres to the provider’s advice. Additionally, the Accountable Care Organization regime is ‘beginning to bite’ with its various rating methods. The Physician Quality Reporting System measures, for instance, bank heavily on patient adherence, which can best be demonstrated through systems such as Infinite’s integrated

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17http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3934668/
However, patient adherence can only be achieved only by involving and educating the patient – something that our platform is primed to do and in an unobtrusive manner. For example, if a provider believes a patient has diabetes, pharmaceutical companies can jump in and use that information to educate, guide, and suggest effective treatment. Access to “Integrated Centers Information” enabled by our platform increased the reliability of findings and optimized benefits reaped from the use of analytics for claims settlement.

**Great growth, greater responsibility**

Built on the premise that healthcare will be driven increasingly by patients as a service and as an industry, Infinite’s platform takes for granted the projection that home health technologies globally will grow from $14.3 million in 2014 to $78.5 million by 2020.

Projections of such phenomenal growth make grounds for great responsibility. Among the healthcare platforms currently available, ours is the only one to have Zyter™ to enable secure data exchange between patients, physicians, payers, and pharmaceutical companies. With up to 50% of physicians expected to use cell phones to check on patient health by 2025, we find it imperative to ensure the Personal Secure Information (PSI) that it will bring in and store, is done with the highest levels of security.

**Sophisticated and cost-effective**

While keeping cost effectiveness in mind, our platform can be rolled out one module at a time. This gives them the opportunity to evaluate the solution, section by section, thereby minimizing their risk. Our platform also comes with the expertise to blend it into the existing medical architecture. This reduces the time and effort that could have been otherwise spent by clients in doing the same.

As a $322 million-plus worth tech solutions leader that drives healthcare solutions for some of the largest healthcare organizations worldwide, we believe our platform is uniquely placed to meet the evolving needs of patients, payers, providers, and pharmaceutical companies alike.