

# Transformation in healthcare

A prescription to address the rapidly changing health ecosystem



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## Introduction

Healthcare is fundamentally changing around the world. Health startups are sprouting up across Singapore. Mobile health initiatives are helping India leapfrog over traditional healthcare systems into tech-based care. In Mexico, the government is tackling diabetes with a holistic approach, including instituting community glucose monitoring centres and soda taxes. Saudi Arabia is modernising its entire health system, rethinking where and how care is delivered (see Country spotlights, page 5).

These efforts are a response to a global shift in the healthcare landscape, which has been accelerated by advances in technology. The ways healthcare can be delivered are changing. Consumers' desires and needs for care, and the level of trust they have in the organisations delivering care, are also disrupting the industry. Adding to the list of changes and challenges, chronic diseases continue to harm populations and spread to previously unaffected regions, and resources are limited.



## New models, new opportunities

The powerful forces at play in healthcare today are pushing traditional models of delivering care — siloed and static — into new models that can do a better job of anticipating people’s healthcare needs and addressing them in ways that are efficient, affordable, convenient and highly valuable. Consumers worldwide have consistently told PwC’s Health Research Institute that these are the priorities when it comes to their care.<sup>1</sup> Yet despite the high stakes, healthcare is lagging far behind other industries in transformation.

The urgency for healthcare companies to transform themselves is amplified by newer, nonindustry entrants into this economy, which represents 10% to almost 20% of GDP in developed countries.<sup>2</sup> Technology companies have a role to play, as do telecommunications companies, retailers and financial-services companies. Government institutions, including local municipalities and universities, also likely will serve expanded roles in addressing, in particular, the social determinants of health that play a role in prevention and treatment. But traditional healthcare organisations can also emerge as leaders in this new world of virtual care, individualised healthcare and data management.

Indeed, transformations in this new health economy are already emerging around the world.

# Country spotlights

## Mexico

### Focused on an epidemic

Diabetes is the leading cause of death in Mexico, and to combat it, the country has launched the National Strategy for Prevention and Control of Overweight, Obesity and Diabetes initiative.

It tackles prevention with public awareness campaigns and a tax on sugar-sweetened drinks, which generates about US\$2bn annually that is put toward the initiative. The program also mandates nutrition labels on the front of all food packaging. Education and better early detection of diabetes are two more elements.

A key priority of the program is to find ways to get patients to test their glucose daily, to slow the disease's progression and reduce its side effects. With personal blood glucose monitors being prohibitively expensive, the government, in partnership with healthcare providers and nonprofit organisations, is providing glucose testing stations in places people visit daily, such as local shops.

# US\$2bn

The amount the Mexican government collects in taxes on sugar-sweetened beverages annually

## Saudi Arabia

### Total transformation

A government-led reform process is well underway in Saudi Arabia. The mission: build a model of care focused on disease prevention and population management. This Keeping Well transformation is made up of 70 individual initiatives.

For decades, the government funded hospital infrastructure but underinvested in primary care. Recently, spiraling costs and the perception of low quality have left a broken system that struggles to address obesity, heart disease, diabetes and other chronic illnesses in its population of 35m. The system's redesign aims to move the demand from hospital and specialist settings to primary outpatient settings and home care, and requires encouraging patients to be responsible for their own wellness. Moving people into these systems at this scale doesn't happen all at once, but total system reform may be easier in Saudi Arabia than elsewhere, given its more centrally controlled government and its young, digitally aware population.

# 70

The number of individual initiatives Saudi Arabia has identified for its healthcare transformation

## India

### Leapfrogging technology

Much in the way less developed countries have skipped over a traditional power grid to rely on solar energy, India may leapfrog a traditional healthcare system and form a mobile, tech-based one. According to PwC's *Global Entertainment & Media Outlook 2019–2023*, the number of smartphones in India has risen by more than 280% in the past five years, to 600m in 2018.<sup>3</sup> What's more, the country's patient base is growing quickly as lifestyle changes are leading to an increase in chronic disease.

Moving to a mobile-health-based system makes sense in an emerging market like India, where millions of consumers are connecting to the ecosystem for the first time. With high mobile penetration and patients bearing a heavy share of the healthcare costs, the Indian population is readily adopting technology such as virtual medicine and health services apps for ease of access and cost savings. At least 450 startups have already emerged in the rush to offer digitized health solutions for the 500 million people who previously could not afford care.

# 600m

Number of smartphones in India in 2018

## Singapore

### Full steam ahead

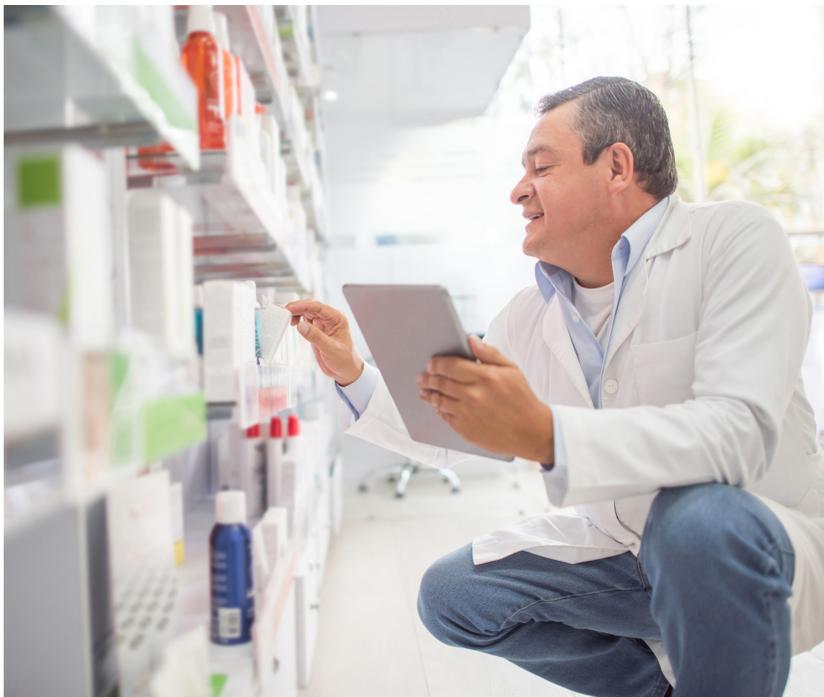
Startup technology players and more established healthcare providers in Singapore are investing in medically oriented digital services and mobile apps. The city-state drives innovation through its Smart Nation initiative, which encourages citizens to find solutions to problems.

With the country's mobile Internet penetration at 83%, according to PwC's *Global Entertainment & Media Outlook 2019–2023*, many companies are taking advantage of Singaporeans' access to and comfort with the Internet.<sup>4</sup> RingMD provides 'healthcare at the touch of a button,' with a service that allows patients to use a secure, cloud-based smartphone app to connect with a medical professional through video or phone. Medical technology startup DocDoc uses AI to deliver services in Singapore and other Asian countries and has developed a consumer health portal that provides information and an appointment booking service. And Klinify uses cloud-based technology and data analytics to make it easier to manage and share patients' medical records electronically.

# 83%

Singapore's mobile Internet penetration

## Meeting the challenge



As the healthcare landscape continues to shift, companies face a choice: transform or risk being left behind. Those seeking to stay competitive must begin the journey of transformation by creating a strategic identity, focusing on a single future goal rather than taking a scattershot approach. They must also design the new organisation for trust, a commodity that is shrinking among consumers in relation to all institutions, including healthcare institutions. Companies must next master the pivot from sprint to scale, gaining the capabilities to take an idea from formulation to significant size and impact. And finally, they must identify which parts of their legacy are worth keeping, which should be jettisoned, and what new legacy they should be creating.

Companies that use these **four building blocks of transformation** will be prepared to thrive in the changing healthcare environment.<sup>5</sup> They will be able to take advantage of fast-changing technology as it becomes more adept at addressing some of the globe's most pressing health problems. Consumers will reward those companies' ingenuity. And governments that succeed in embracing the future of care will experience less strain on their resources and have healthier, happier populations.

A transformation, in this context, is a major shift in an organisation's capabilities and identity, undertaken to deliver valuable results that are relevant to its purpose. It doesn't necessarily involve a single major initiative, though it could, as the organisation works to develop an ongoing mastery of change in which adaptability feels natural to leaders and employees.

# The four building blocks of a healthcare transformation

**There is no single blueprint that applies to every corporate transformation. The specific steps, stages and organisational designs will vary from one enterprise to the next. But four basic building blocks do appear in any successful transformation, including those in healthcare.**



## Create a strategic identity

Articulate a single desirable future for your enterprise and focus all your efforts on achieving it.

## Design for trust

Develop ways to attract and deserve the commitment of everyone related to your enterprise — particularly customers and employees.

## Master the pivot from sprint to scale

Test new practices in an intensive, experimental, startup-style manner. Pick the approaches that work, and rapidly implement them throughout the larger system.

## Treat your legacy as an asset

Save the best of your past, divest the rest for advantage and use the income to fund the future.

Even an industry as vast and fragmented as healthcare can apply these four building blocks to produce transformation on a significant scale. At any scale, companies should reimagine their culture with highly engaged leaders willing to take radical steps, whether in the form of partnering with entities outside of the healthcare industry or administering care beyond the traditional settings.

1



## Create a strategic identity

Consumers have grown accustomed to receiving services and goods with a few keystrokes, so why shouldn't they expect to make a clinic appointment or refill their prescriptions through a user-friendly app? Healthcare companies would do well to keep today's higher customer expectations in mind as they work on this first building block.

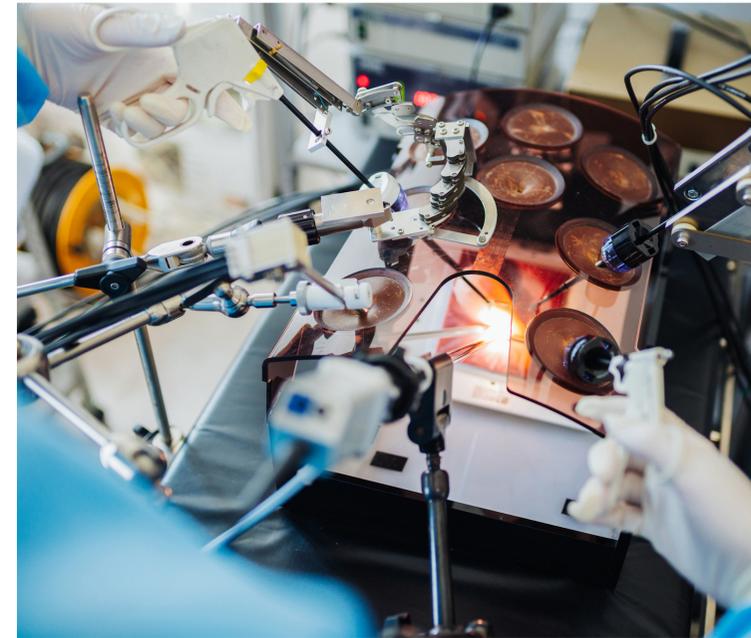
Those that have branded themselves successfully aren't just attempting to adjust their business model. These organizations are looking to 'bionic' leaders such as Apple and Google to see how they, too, can make the transition to a world of platforms, integrated technology, virtual medicine and AI to put consumers and their preferences at the centre of the experience.<sup>6</sup>

Making such leaps in identity and purpose requires the following:

**Buy-in from all stakeholders.** Active support and participation from across the industry, including support from nurse practitioners, clinicians, executives and patients, is necessary to successfully create a new strategic identity. This is particularly relevant in England, where the National Health Service is undergoing a historic ten-year transformation to integrate and modernise 44 individual healthcare systems offering all levels of care, including social services, into one streamlined whole. The mission: to provide a system-wide approach to prevention, treatment and rehabilitation in the most appropriate setting, not necessarily a hospital. But this undertaking will require some unpopular decisions, such as closing and downsizing of local hospitals, requiring ongoing education about the benefits of these decisions.

**Consistent messaging.** Transformations need full alignment from the C-suite on down. In the US, CVS Health, in the wake of its 2018 US\$69bn acquisition of Aetna, has been among the most successful companies in building its identity with healthcare consumers. No longer just a retail and pharmacy company, CVS has rebranded itself as the 'front door' to the system and expanded the services of its retail clinics. Its locations promote overall wellness, and its mission is to meet the consumers where they are and improve access to quality community-based care. And it has eliminated cognitive dissonance between its mission and day-to-day business with its decision to stop selling tobacco and start offering more health-focused products. Its newly designed HealthHUB stores even offer dietitians and wellness rooms for yoga.

**A careful, consumer-centric rollout.** Australian senior-care provider Silver Chain listened to patient preferences and shifted its model of palliative care from the hospital to people's homes. Giving people broader end-of-life options necessitated a series of difficult conversations. Silver Chain leaders first had to persuade the government to reorient funding away from hospitals and into the community. They also had to bring on board community members and clinicians, making the case for the appropriateness of dying at home. Having built a business around fulfilling this need, Silver Chain has been gradually expanding home care for the elderly and disabled. It's also taking telemedicine to the next level, developing new examination technology in the form of a hologram, so that the individual receiving the care feels like they are in the presence of a clinician. In the UK, Surrey Heartlands has been successful in its transformation precisely because of a careful and deliberate approach that's focused on demonstrating the need to integrate healthcare and social services to its clinicians and patients before taking any steps forward. Then they implement changes in increments. Its Surrey Care Record — a digital health and social care repository — also gives patients an opportunity to opt out of participating. Healthcare technology, including shared records and apps, must keep consumer ease in mind. Currently, more than 165,000 mobile health apps are [available worldwide](#), but 40% have had fewer than 5,000 downloads.<sup>7</sup> Apps must be relevant and easy to use if they are to have any impact.



2

Design for trust

Technologies and institutions that are part of the healthcare industry are among the many entities in which public trust is declining. Sceptical consumers are demanding more information about their treatment options and expecting more from providers, which are multiplying from one or two systems to hundreds, including those in nontraditional settings. Technology could answer this call for better choices, and the sharing and mining of data could result in more targeted treatments and improved outcomes. How personal health information is handled in an era of data breaches affects the entire global healthcare ecosystem.

Trust is paramount for healthcare organisations. The need to protect a patient's privacy has in some ways slowed digitisation's pace. According to PwC Health Research Institute analysis, healthcare companies say they are taking steps to make technologies more secure. Yet in a [2018 survey](#) of healthcare payers and providers, only 63% of respondents reported that they performed risk assessment for medical devices and only 55% said they had implemented security controls.<sup>8</sup> One instance of an unauthorised release of patient data can easily damage the public's trust in a healthcare system.

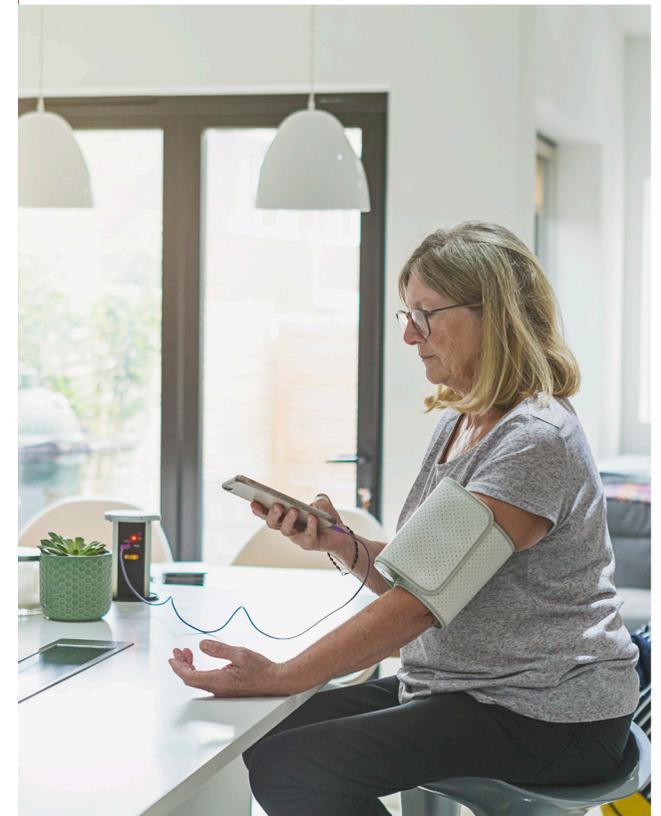
One solution may be to partner with a nonindustry company like Amazon, Apple or Google, which have already established brand trust and could handle the consumer-facing part of the business. Another option is to develop blockchain capabilities in-house, or partner with a firm that is proficient with the technology. The more traditional healthcare partner, meanwhile, could ensure the company was meeting compliance needs and providing checks and balances on the use of patient data behind the scenes.

Other key components of the trust building block:

**Transparency.** San Francisco-based healthcare navigation company Castlight Health provides data-crunching analytic tools that allow users to see the prices of surgeries and other medical services at different providers, as well as doctors' rankings. It's an add-on, subscription-based service that works with employers such as Honeywell, Walmart and other self-insured companies looking to cut through the clutter and empower employees to make more informed healthcare decisions that can trim costs. It has also created a comprehensive healthcare app that tailors care and outreach to the user's individual preferences and needs. The initiative is promising, but transparency in pricing is one of the hardest transformations to achieve, as evidenced by the US pharmaceutical industry. Pricing models for drugs globally have become more segmented and nuanced, rather than simpler. PwC [survey data](#) shows that the use of mortgage models, subscription models and indication-specific pricing is beginning to spread.<sup>9</sup>

**Personalisation.** Providers can also build more trust within the patient population by interacting with patients via technology, beyond the physical clinical setting. Florida-based AdventHealth is making sure that no one who has been discharged from one of its hospitals is ever considered discharged from its care. It recently launched HelloWell, a personalised platform that allows patients to communicate directly with care providers, have virtual visits with clinicians, schedule appointments, track their health histories and generally avail themselves of the health system's services no matter what their condition or location.

**Empirical evidence.** Empirical evidence is especially necessary when leaders are attempting to bring doctors, clinicians and nurse practitioners — groups with scientific backgrounds — along with the transformation. Closing hospital wards, shifting to more community-based care or sharing patient care records simply can't happen until these internal stakeholders have been convinced of the benefits and safety of these measures through careful analysis and empirical evidence.



3



### Master the pivot from sprint to scale

Learning through experimentation and innovation in any field naturally leads to both success and failure. And in healthcare, scaling successful pilots or trials presents unique challenges amid the highest possible stakes — a situation further complicated by the industry's current fragmented ecosystem. Healthcare companies undergoing a transformation must use data to scale up, but be vigilant in balancing access and security, and the data needs of caregivers and patients. There is an inherent tension between tech culture, which embraces fast failure, and healthcare culture, which prizes patient safety. Patient data must be able to travel safely and securely among health vendors, hospital systems, payer plans and community support providers. Those same players need access to all the methods, practices and cost-saving tools that make up the transformation. Enabling this access is no small feat in an industry with such a complex and often localized ecosystem where information is highly regulated to protect patient privacy. But the benefits of improved outcomes, quality and lower cost far outweigh the obstacles.

**Trial with technology.** One way healthcare players are able to master the pivot from sprint to scale and avoid patient risk is through new technology platforms and advanced data analytics. For example, a 'digital twin' of the human body can model outcomes based on real-world habits and accelerate the pace of drug research and personalised medicine.<sup>10</sup>

**Drive scale through culture.** US provider system Ascension has created an innovation arm that works separately from day-to-day operations, although the new ideas it generates are slowly and carefully being looped into the business. Ascension Indiana's St. Vincent's Hospital developed TriMedx, a biomedical engineering firm, to extend the useful life of its medical equipment. The pilot proved its value within the system by decreasing the waste and downtime of equipment and bringing in about US\$400m a year in savings. It has since grown into an independent business owned by Ascension and TowerBrook Capital Partners that services providers outside the system.

Proving the model, then cascading it through the system at an appropriate pace — often over several years — is the formula for most mature markets. But in emerging markets such as India, where millions of consumers are connecting to the ecosystem for the first time every year, scale can and should happen more quickly. The fact that mobile penetration is high and 70% of healthcare payments are made out of pocket encourages ready adoption of technologies such as virtual medicine and health services apps for ease of access and cost savings. At least 450 startups have already emerged in the rush to offer digitised health solutions for the 500m people who previously could not afford care.

Bangalore, India-based Practo, which began in 2008 as a local medical appointment app, has evolved into a more comprehensive platform that helps users in 15 countries assess health issues, find appropriate doctors, book diagnostic tests, obtain prescriptions and store health records.

**Overcome obstacles.** In the pharmaceutical and medical-devices industry, companies are adopting digital tools and patient-centric approaches to increase the number of clinical trial participants.<sup>11</sup> Only a small percentage of eligible patients participate in clinical trials, and full and rigorous trials are necessary to bring the best drugs and devices to market. Some companies are using social media to identify potential trial subjects. Once patients are enrolled, companies are beginning to use mobile apps to communicate with them during trials, allowing for better information transfer, improved data collection, and fewer trips and less work for the patient. These methods can begin on a small-scale trial and then broaden as a trial ramps up. Eventually, these methods can be used across trials large and small.

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# 70%

Share of healthcare costs Indian patients pay out of pocket

4

## Treat your legacy as an asset

Successful transformation requires a balance between leveraging existing strengths and embracing bold new strategies. Healthcare organisations that build off what they do well and establish partnerships to supplement their expertise are best positioned to succeed. Organisations that stray too far from their core identity, such as insurers that have tried and failed to make consumer-friendly apps, risk losing their identity and customers, and will fall further behind.

Quest Diagnostics recognises the value of transformation in the marketplace. The pathology lab, which operates in the US, Brazil, Mexico and the UK, leveraged its legacy to meet consumers where they are: at nontraditional collection sites such as retail partners, including 180 Safeway and Walmart stores in the US, and via its MyQuest app, which delivers test results directly to patients. The outcome is a more convenient experience for time-stretched, cash-strapped patients, who now pay significantly less than they used to for a hospital to perform the same tests.

Recognise what you are good at within the context of this complex ecosystem. An insurer that efficiently administers claims and thus collects volumes of customer data would be wise to use that expertise and information to perform predictive analytics, for example. A hospital with a strong record in cardiac care or cancer treatment might want to consider developing into a specialised centre. Once you have identified your strengths, find the brand experts who can best deliver the message about the care you are providing. Again, look outside the industry for partners that can help with this, but make sure they have the following characteristics:

**A long-term commitment to change.** Sustainable transformation requires partners that share a vision and a set of values, and are prepared to stick to promoting those values. Take CVS Health and Aetna's merger. The combined company, aiming to make healthcare more accessible and affordable, began a pilot programme to establish retail health centres. The handful of centres focus on managing chronic conditions, such as asthma, kidney disease and cardiovascular disease. The company plans to expand the centres across the country, while at the same time leveraging CVS stores with clinical programmes from Aetna to help patients after hospital discharge, and expanding the services it offers at its MinuteClinics.

**Value-adding innovation.** Stanford Medicine has partnered with Apple to conduct a study to determine whether wearable technology can detect irregular heart rhythms. More than 400,000 participants have enrolled in the study using an Apple Watch app with a special sensor to analyse pulse-rate data that could screen for atrial fibrillation. Thanks to the vast reach of Apple's brand, the Apple Heart Study is the largest atrial fibrillation study of its kind (the next largest had about 25,000 participants), and the size of the research population will likely yield invaluable insights for cardiologists beyond whether a smartwatch can be a useful diagnostic tool.

When a partnership to further transformation isn't feasible, healthcare organisations can bring in expertise from outside the industry to apply to the unique conditions of the sector. Intermountain Healthcare, for example, recently hired an executive from Disney to be its chief consumer officer. As the title suggests, he'll be leading efforts to transform the hospital system's culture to be more consumer-centric.





## Conclusion

**Of course, the size of the healthcare economy — whether it's government payer, private or multitiered — and the maturity of the market may determine how quickly an organisation can transform. In the UK, for example, which is in the process of centralising and streamlining its hospital systems, transformation comes more slowly, much like turning a massive ocean liner. But in emerging markets such as India, transformation may come relatively quickly, with hundreds of startups leveraging technology to bridge the gap in access to care for the millions of customers living outside urban centres.**

One thing is clear: consumers are driving this change, and most traditional healthcare businesses will have to transform in significant ways to meet them where they are. Ultimately, the winners of this transformation — the agile and customer-centric Amazons or Googles of healthcare — may surprise us all.

The four building blocks of transformation offer healthcare leaders the means to adapt, grow and overcome hurdles. No matter how they are assembled, the building blocks ensure that the vision for healthcare is ambitious, is aspirational and delivers on its promises to patients. If you have these factors on your side, you are far more likely to succeed.

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