



Healthcare: available, affordable, and accepted

Best practices from three continents

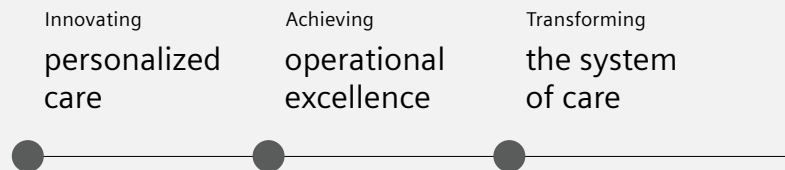
A thought leadership paper on "Transforming the system of care"

Preface

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Executive summary

The essential healthcare services that many of us take for granted are unavailable to about half the world's population. The situation is particularly bad in poorer and less developed countries. This stark fact presents a troubling counterpoint to the satisfaction we take from the remarkable advances in medical technology, the innovative new treatments being developed, and the astonishingly effective cures that were unimaginable just a few decades ago. The challenge facing everyone who truly cares about the future of healthcare is finding ways to bring care to all those who need it, when they need it, wherever they may be.

There are no quick fixes. Technology alone cannot solve the problem, nor can money. Even the most well-intentioned public policy decisions taken at the highest levels cannot instantly provide a solution. Instead, a more systematic and comprehensive approach is required; an approach built on knowledge, realistic goals, creativity, and dedication.

As a first step, it is essential to break down the problem: to understand precisely what barriers stand between people and their care, and why these barriers continue to exist. The three most fundamental barriers to care can be defined as availability, affordability, and acceptability.

Availability can be defined as people's ability to obtain health services when they need them. Affordability refers to people's capacity to pay for services. Acceptability relates to people's perception of a given health service, and their willingness to seek it out or undergo it. Any one of these alone can create a formidable obstacle. In many parts of the world, all three exist side by side. Any long-term, sustainable solution must address all three and must be grounded in a fundamental transformation of how care is delivered.

The encouraging news is that solutions to overcoming these barriers do exist. In many parts of the world, passionate caregivers and innovative health policy experts are successfully finding new ways to bring care to those who need it—practical, manageable solutions rooted in compassion, common sense and science. This paper examines some of these solutions, with a focus on three real-world examples from three different continents.

Introduction

For many years, the criterion by which a healthcare system was judged was the quality of care it delivered. And “quality of care” was, for the most part, evaluated on the basis of an organization’s most sophisticated medical services, delivered by its top physicians using their newest and most complex equipment. Medical breakthroughs, advances in research, patents, and new discoveries served to further enhance an organization’s reputation and status. Excellent care of course remains an essential hallmark of any good healthcare system. But a meaningful evaluation of a system’s success must look at more than just the top of the deck—just as the strength of a university faculty should not be judged by its one star professor or a football team by its lone superstar.

Today, we know that we must judge the success of healthcare systems by broader and more comprehensive criteria. Healthcare systems today are not only expected to deliver high-quality care, treating the most complex medical cases with the most sophisticated tools and expertise. They are also expected to deliver care in an equitable manner—to everyone, wherever they live, whatever their income, regardless of determinants of health such as age, disability, ethnicity, gender, citizenship status, religion, or sexual orientation. A healthcare system must exist to serve all, and if it cannot do so it is failing to do its most basic job.

Today, half the world’s population still does not have basic healthcare.¹ The problem is more pronounced in poorer, less developed countries, but even many of the world’s wealthiest nations struggle to find ways to ensure high-quality care for those who need it, when they need it. The challenge is global, as are the barriers that stand between people and the care they need. These barriers can be characterized as availability, affordability, and acceptability—what we call the “Three A’s.”

Improved availability depends on bringing medical care closer to people, removing sources of friction, and providing patients with an experience that is easier for them to understand and navigate. Affordability depends on issues like health insurance, but also requires efforts to reduce the cost of care per case and steps to transform care delivery to make it more efficient. Acceptability is an issue even in the wealthiest countries where some citizens refuse to accept vaccinations that would offer protection against the current coronavirus pandemic.

Best practice examples from three continents

Austria & Switzerland

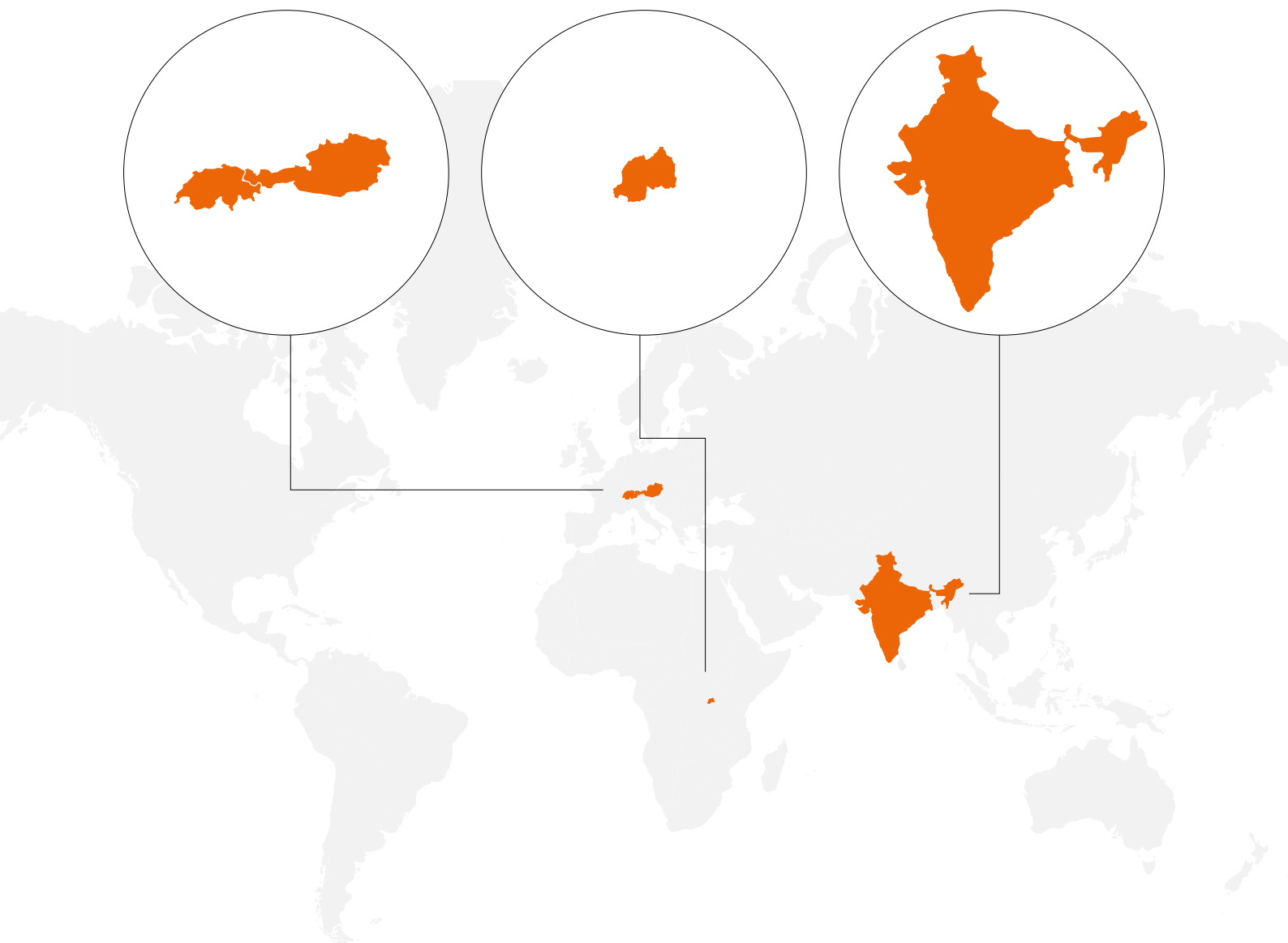
Acceptable data sharing to involve patients in their care

Rwanda

Affordable technology through innovative financing

India

Available cancer care for the world's second largest population



The challenge

The Three A's

A belief that all healthcare systems should offer high-quality care to those who need it, when and where they need it, serves as the starting point for this paper. The most significant obstacles to this care are the barriers availability, affordability, and acceptability, the “Three A’s”. Efforts to transform care delivery to overcome these obstacles must begin with a clear understanding of what these hurdles are and why they exist.

Availability can be defined as people’s ability to obtain health services when needed. Those services need to be within reasonable reach, they need to be open for an adequate amount of time each day, and they need to offer efficient service organization and delivery with minimal waiting times. Location is clearly a central factor in helping determine whether people can receive the care they need. Leaving aside the basic fact that people living in remote areas have to travel further to get to doctors or hospitals, the actual availability of doctors in rural and remote areas is also an issue. In the U.S. today, by way of example, there are only 1.3 physicians for every 1,000 people in rural areas.² Compare that to the number of physicians in urban areas, which is 3.1 for every 1,000 people. In China, this discrepancy is even higher, with 1.8 physicians for every 1,000 people in rural areas, versus 4.0 in urban areas.³ It is easy to understand why some people, in some areas, experience challenges to physical and timely availability of care.

Affordability can be defined as people’s capacity to pay for services—health services themselves as well as indirect costs such as travel, needing to take time-off at work, or being accompanied by someone—without incurring financial hardship. On average, people around the world pay 18% of their health expenditure out of their own pocket.⁴ The lower the income in a country, the higher this proportion will be (13% in high income countries versus 43% in low income countries).⁴ Studies show that lower income is associated with poorer population health and greater difficulties in obtaining health-care.⁵ Moreover, low income negatively effects life expectancy.⁶ This can be observed not only between countries, but also within countries. One example: Americans aged 25 at the highest income level^a can expect to live more than six years longer than 25-year-olds at the lowest income level^b.⁷ Affordability of healthcare is a factor, and that lower income people suffer is a fact.

Acceptability is perhaps less easily understood but is a crucial element. It relates to people’s perception of a given health service, and their willingness to seek it out or undergo it. Acceptability is low when patients perceive services to be ineffective, or believe that side-effects outweigh the value of health services. Only 2% of eligible American patients are getting themselves screened for lung cancer.⁸ In Germany, only half the women invited accepted an offer to receive a mammography examination, even though it was free of charge.⁹ Those statistics make a convincing case that many people have some kind of hesitation when it comes to seeking out treatments and procedures that could improve or save their lives.

^a Highest income level: $\geq 400\%$ of Federal Poverty Level

^b Lowest income level: $< 100\%$ of Federal Poverty Level



Affordability



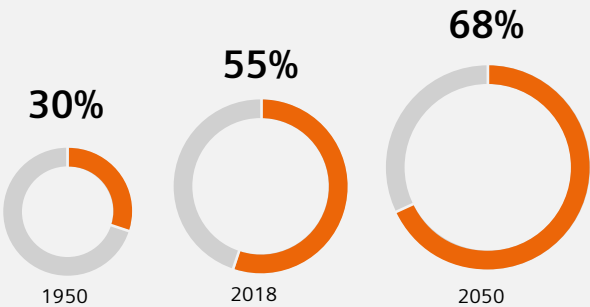
Availability



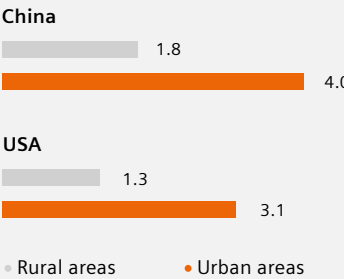
Acceptability

Availability

Percentage of global population living in cities¹⁰

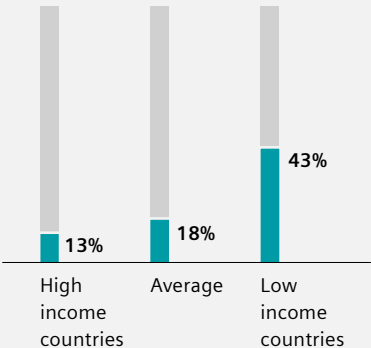


Physicians per 1,000 people^{2,3}

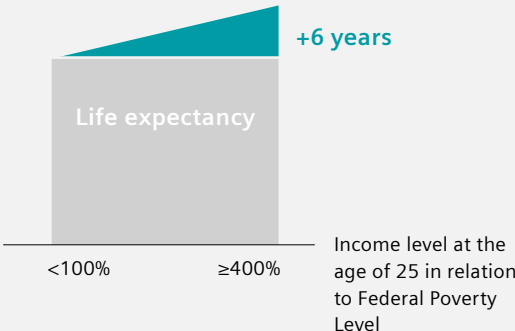


Affordability

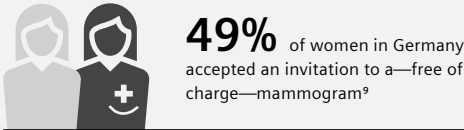
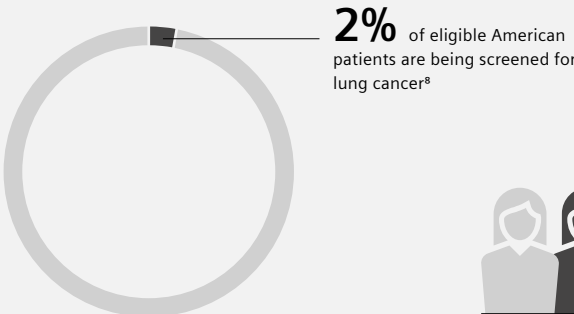
Out-of-pocket healthcare expenditure in %⁴



Income at a young age in relation to life expectancy in the U.S.⁷



Acceptability



Solution

Overcoming the “Three A’s”

In order to overcome the barriers that for many people stand in the way of high-quality healthcare, concrete measures can be taken. They differ according to the perspective—for patients and health providers, respectively.

Patient perspective

A

Availability

People’s ability to obtain health services when needed—health services within reasonable reach, with adequate opening hours, and offering efficient service organization and delivery

A

Affordability

People’s capacity to pay for services—health services themselves as well as indirect costs—without incurring financial hardship

A

Acceptability

People’s willingness to seek services; acceptability is low when patients perceive services to be ineffective or that side effects outweigh the value of health services



Health provider perspective



Close patient care gaps

Provide health services to all populations with footprint and capacity expansion



Reduce costs of care per case

Systematically drive down expenses with predictable costs and minimal financial risks



Address people’s concerns about care

Provide high quality patient experience and appropriate health services



Availability

Close patient care gaps

The effect of urbanization on healthcare has been dramatic. In 1950, 30% of the world's population lived in cities. Today, that figure is upwards of 55%.¹⁰ By 2050, it is expected to be 68%.¹⁰ What that means, inevitably, is that healthcare and healthcare providers are increasingly concentrated in cities, leaving care gaps for those who live outside them.

Moreover, up to 40% of patients today delay seeking care because it takes too long to see a doctor.¹¹ Increasingly, the attitude of healthcare consumers is that they don't want, and should not have, to wait for care. Providers are now being held responsible for the timely availability of the care they deliver, in addition to its quality. The younger generation, in particular, has little patience with long wait or travel times for care. 24% of generation Z patients are dissatisfied with the care they are receiving.¹²

Today, technology exists to move care closer to patients. Many different types of testing centers can now be set up in remote areas, meaning patients don't have to travel long distances to get tested. Examples include diabetes testing kits located in clinicians' offices, which can help monitor and manage diabetes patients in medically underserved areas. In addition, medical devices such as mammograms, x-rays, CTs and MRIs can nowadays even be installed in smaller practices or literally be loaded onto trucks and taken on the road to the places where patients live. The data and images generated can then be transmitted to experts for analysis, and the patient never has to leave home.

Telehealth, of course, provides many convenient alternatives for obtaining care, reducing wait times and avoiding travel. Much has been written about the benefits of this technology, which essentially allows for a great many of the consultations between physician and patient, that formerly had to take place face-to-face, to now be conducted remotely. For obvious reasons, these benefits became top-of-mind during the COVID-19 pandemic. Moving past the pandemic, another clear benefit will be economic. Visits to emergency departments and urgent care clinics are a long-standing drain on healthcare system resources. Patients may well become less reliant on these. A McKinsey survey has found that 20% of emergency department visits could be virtually enabled.¹³

Finally, for healthcare providers located in more remote areas, there is technical support to make expertise from other healthcare providers available to them. Healthcare professionals can reach out to the appropriate specialists for help in operating medical devices, answering questions, or tackling new or challenging clinical cases. Technology makes such consultation far more comprehensive and precise than a simple telephone call, enabling remotely connected colleagues to not only offer an educated opinion but also providing them with all of the patient's information (e.g., data, scanned images, etc.) in real time.

“Our hub-and-spoke model is a very efficient model that makes cancer service not only available but also affordable.”

Dr. BS Ajaikumar, Executive Chairman, HealthCare Global Enterprises Limited

Best practice | India

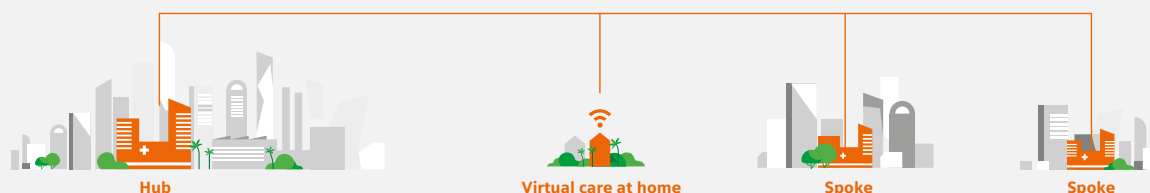
Available cancer care for the world's second largest population

Supply and demand are flip sides of the same problem. When almost one in every five people on planet Earth lives in your country, you know you are going to have to provide the whole range of health services. This applies to more advanced services such as cancer care as well. And so supply and availability will invariably become an issue. Sixty-five percent of Indians live in rural areas.¹⁴ However, only 41% of doctors and 37% of hospital beds are in rural areas.^{15,16} The rest are in cities. For most people who live in India's rural and sparsely populated areas, the only way to obtain healthcare services is to travel long distances, which can be expensive and burdensome.

In the context of cancer, this means that many people go undiagnosed because they have not visited a doctor for screening, or cannot obtain care because the nearest hospital or cancer specialist is too far away. One study has shown that the rate of early detection for cervical cancer—stage I or stage II—sits at just 10% in India, versus 91% in China, 71% in the US, and 70% in the UK.¹⁷

HealthCare Global Enterprises (HCG) Ltd. is one of the largest providers of cancer care in India, with 22 comprehensive cancer centers^c helping more than 200,000 patients per year. Regardless of their financial situation or geographical location, HCG can offer available and affordable cancer care to its patients.

HCG's model for addressing availability relies on a hub-and-spoke model, as well as employing digital tools. The hub is in Bengaluru, and 20 spokes span Tier 2 and 3 cities across the country. In this way, patients can visit the spokes without traveling long distances for diagnosis, routine treatment, and follow-up. Only when they require more intensive care are they sent to the hub in Bengaluru. Thus, by decentralizing care through the spokes, the model makes basic cancer services available to a great many patients who would not normally be able to access care. And by centralizing more intensive and expensive care in one hub, HCG leverages high utilization while reducing the cost of care per patient. In addition to visiting the spokes, patients can consult remotely via telemedicine at home. Moreover, HCG employs telephysics and teleradiology to support the spokes, and virtual tumor boards ensure appropriate high-quality treatment for all patients across the system.



^c 21 comprehensive cancer centers in India, 1 center in Kenya

Affordability

Reduce cost of care

Far too many people undergo financial hardship as a consequence of seeing a doctor or buying medication. And so for patients, day-to-day concerns over making ends meet often restricts their ability to seek care. In a survey conducted by the Feeding America Network, 66% of U.S. respondents reported having had to choose in the previous year between paying for food or for medical care.¹⁸

A 2019 Accenture survey found that the cost of seeking care is the most important factor driving consumers when they face a decision about when and where to seek medical treatment.¹² 38% of respondents said the single most important factor for them was that they were covered by insurance. 24% cited “low costs to me” as most important.¹² A 2020 McKinsey survey confirms those findings, reporting information about those two factors as most influential when deciding on where to receive care.¹⁹

If providers want to ensure that they are offering equitable care to everyone, it is imperative that they find ways of reducing the cost of care per case. This can only be done by systematically driving down their own expenses with predictable costs, and by incurring minimal financial risks.

This all begins with measures to contain costs without compromising quality of care. The expansion of telehealth is clearly important in this regard. Telehealth reduces travel costs for both patients and providers. As noted above, there is also a growing body of research that indicates that virtual care can reduce emergency department visits. It can also reduce hospital readmissions. This will result in both patients and providers benefiting from specialists, and increased productivity for hospitals and clinics.²⁰

Providers should also seek out technology and equipment that emphasizes user-friendliness. This reduces training time for staff, thereby improving workflow and allowing for more procedures to be delivered at a lower cost. It also makes it easier and less expensive to hire staff, as expertise is not required up front.

Healthcare is an industry that requires practitioners to make many significant investment decisions, and it is extremely important that they consider lifetime costs when making these decisions. Because, of course, either they or their patients will ultimately have to carry those costs. To that end, it makes good sense to explore refurbished technology for reliable high-quality performance at exceptional value.

Finally, providers and larger healthcare organizations should look, whenever possible, to capture opportunities through customized business and financing models. Providers are under pressure to make investments in expensive technology in order to attract patients and remain competitive. These investments pay off over time as they improve care, but in the short term they can be a budget challenge.

“Healthcare in Rwanda is excellently positioned and we are proud that we can deliver state-of-the-art interventions to all Rwandese and beyond.”

Prof. Miliard Derbew, CEO, King Faisal Hospital

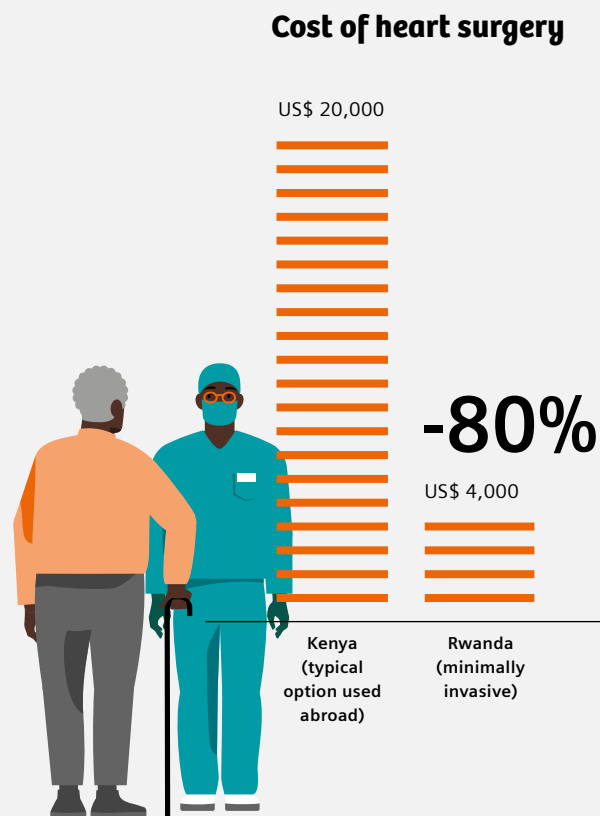
Best Practice | Rwanda

Affordable technology through innovative financing

An innovative approach to financing has allowed for a significant and extremely positive step forward in making state-of-the-art healthcare affordable in Rwanda. Residents of that country who once would have had to travel abroad to receive certain kinds of heart surgeries and interventions are now able to receive those procedures in their home country, thanks to the first ever catheterization lab in Rwanda installed in 2020 at King Faisal Hospital in the capital city Kigali.

The new facility in Kigali provides coronary angioplasty, coronary stenting, as well as other interventions, at a fraction of the cost—80% less—than Rwandans were previously paying for these services abroad. In the process, it is reducing the need for open-heart surgeries in Rwanda. Moreover, it is enabling care for patients from other neighboring countries where no such facilities exist.

None of this would have been possible without a customized financing model involving three banks, Rwanda’s Ministry of Finance, and an export credit agency. A deal was struck under which the hospital would have three years to repay the cost of the catheterization lab equipment, while the financing solution consisted of a deferred letter of credit backed by an export credit agency, assuring that the seller would get paid. The financing was made available quickly, making it easy for the hospital and seller to agree.



Acceptability

Address concerns about healthcare

Acceptability is the final piece. Even when care is affordable and available, one of the most confounding challenges faced by healthcare providers and systems is the hesitation of many patients to seek out care.

Creating awareness that healthcare services are available, effective and safe is a necessary first step in achieving the necessary level of acceptability. In this regard, providers should work to publicize their superior outcomes in order to reduce patients' fears and anxieties about medical treatments, and they should do so on communication channels patients know and understand. They should also work to publicize their willingness and ability to adapt treatment to patients' specific needs and desires. In addition, it is extremely important that patients be reassured about potential adverse side effects, and how hard providers are working to reduce them.

In all interactions patients have with healthcare, they should feel supported. Care managers can be extraordinarily useful in making the healthcare system seem manageable to patients. Care managers report that educating and building relationships with patients are among their most important tasks, as they can help to increase patients trust in the healthcare system and acceptance of care.²¹

In addition, engaging with patients and helping them integrate care management into their lifestyles and routines is crucial to overcoming any hesitation they

have to seeking out medical services. Electronic patient records and telehealth solutions are both important tools in engaging with patients. Electronic health records allow patients to see and control their health data and decide for themselves when and with whom it should be shared. E-health solutions offer real potential for supporting patients in the active tracking and management of their own care.

Because of its clear and obvious benefits, most consumers are willing to use telehealth. But not all. 34% of U.S. respondents said they are not willing to use the technology due to a preference for in-person care, concerns about privacy, or uncertainty about reimbursement, concerns about technology, uncertainty about how to use it.¹¹ A stronger engagement and education effort especially on how to use those technologies may be required to overcome their hesitation.

Overall, it is extremely clear that providers must deploy data as a tool to not only increase the quality of care they can provide, but to increase the acceptability of that care. The sharing of personal and especially health data is often viewed critically, but we are learning that patients will share it if they experience a benefit. Research indicates that 60% of patients are prepared to share all their data with physicians to help them to provide better care, and for patients with chronic disease, it is 66%.²² And the very act of sharing data with physicians engages the patient with his or her care.



Side effect fears and vaccine acceptability

The widespread fear of side effects that exists was apparent during the vaccination phase of the COVID-19 pandemic. Despite the devastation wrought by COVID-19, and despite the fact that the extraordinary effectiveness of the various vaccines has been scientifically proven and well publicized, many people still hesitate to take the vaccination. The numbers vary significantly from country to country.^{23,24} Although studies have shown that acceptance has increased over the course of the pandemic,²⁵ the proportion of people ready to vaccinate does not come close to the proportion that would lead to herd immunity in all countries.

“Easy access to their own health data combined with transparency and control of who can do what with their data, are key to improving patient acceptance of sharing personal health data electronically.”

Rajesh Nair, Head of Digital Health, Swiss Post

Best practice | Austria and Switzerland

Acceptable data sharing to involve patients in their care

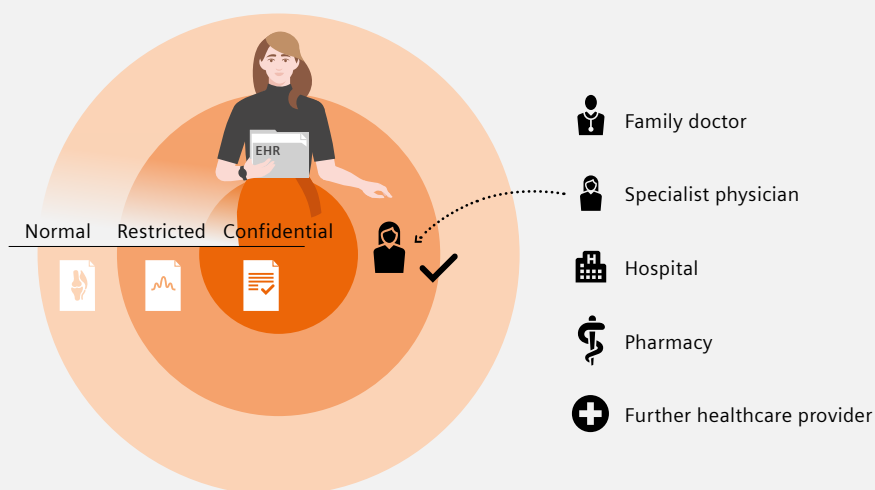
Two central European countries are making a strong digitalization push, expanding their data infrastructure and implementing nationwide electronic health records (EHRs). Austria and Switzerland have developed EHRs that provide relevant patient health records to healthcare providers, while also allowing patients to review and manage their own health records. Both countries aim to increase usage and acceptance in the process.

In Switzerland, citizens have to actively opt-in to the EHR. Acceptance of the EHR is being increased by empowering patients to configure their own access rights, which let them decide who can see and use their personal data. In medical emergencies, where immediate data availability is critical, health information can be retrieved regardless of the patient's privacy settings, but every use is automatically recorded and patients are notified afterwards.

In Austria, the EHR works on an opt-out subscription model, meaning that every citizen is automatically enrolled and needs to actively opt-out. 97% of the insured population is enrolled.²⁶ Physicians are allowed to see and use the data for 28 days from the beginning of a treatment, and hospitals are given the data for an additional 28 days after discharge.

Based on the Austrian EHR, further digital tools can be integrated by healthcare providers. The Salzburger Landeskliniken (SALK) are exactly doing this. The hospital association with its five locations in the Northern part of Austria leverage the advantages of the platform where all relevant medical data are at hand for online consultation. Physicians and patients benefit from this platform integration. Physicians receive comprehensive patient data at the right time during the consultation. Patients save the time and expense associated with outpatient appointments and become more actively involved in the treatment process, that improves not only the availability but also acceptability of care.

EHR access rights and levels of confidentiality, Switzerland



Conclusion

The solutions proposed in this paper can result in the kind of system most people agree healthcare should be—one that extends its benefits to all who need them, regardless of where they live, how much money they have, or how hesitant they might be to take advantage of those benefits. These solutions are overwhelmingly technological in nature and are widely available, and as a result both provider and patient would benefit.

We have identified the “Three A’s”—availability, affordability, and acceptability—as the main barriers that exist to improving healthcare for all. What we really mean, of course, is that their absence is the barrier. We solve that problem if we can make them central principles that serve to guide a wide range of initiatives to transform care delivery.

While all three appear straightforward, perhaps even simple, applying them consistently can be challenging. For each of the “Three A’s”, therefore, we propose three clearly defined measures that will establish them as the tools by which we can build a fair and equitable healthcare system.

Availability is a challenge in every part of the world. Even in the wealthiest countries, there are segments of the population who, because of geographic location, wait times and alike, are underserved when it comes to healthcare. To close those gaps and make care available to all, we recommend:

- Moving care closer to patients by ensuring geographic availability
- Providing more convenient ways of obtaining care and reducing wait and travel times
- Maximizing productivity with user-friendly technology and remote support

Affordability is difficult to evaluate outside of a particular context; the definition of “affordable” varies greatly from country to country. At its core, however, affordability is not hard to understand. If a healthcare service costs more than a person can afford to pay, it is not affordable. To reduce the per-case cost of care, resulting in greater affordability, we recommend:

- Containing costs without compromising on quality
- Considering lifetime costs when making investment decisions
- Capturing opportunities through customized business and financing models

Acceptability is an elusive quality to instill, but it is critical. You can have the most affordable available care anywhere, but if patients are for whatever reason reluctant to take advantage of it, your system is failing in a very basic way. To address concerns and hesitation about healthcare, thereby increasing acceptability, we recommend:

- Raising awareness and convincing patients of the efficacy of care
- Reducing adverse side-effects and adapting treatment to patients
- Integrating care management into patients’ lifestyles and routines



Suggested follow-up on

[siemens-healthineers.com/insights/transforming-care-delivery](https://www.siemens-healthineers.com/insights/transforming-care-delivery)

- Insights Series, Issue 19: Unlocking the Digital Front Door: How healthcare can be made more accessible.
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- Insights Series, Issue 13: Sight to the world: How Aravind improves access to care for millions.
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- Insights Series, Issue 10: Remote work for health-care professionals: From a stop-gap measure to a lasting transformation. Available at: [siemens-healthineers.com/insights/news/five-steps-towards-more-remote-care-delivery.html](https://www.siemens-healthineers.com/insights/news/five-steps-towards-more-remote-care-delivery.html)



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Herbert Staehr serves as Global Head of Transforming Care Delivery for Siemens Healthineers, driving the company's activities and messaging around delivering high-value care. In this capacity, he develops and executes programs and outreach strategies aimed at healthcare providers around the world, as well as stakeholders in every branch of the healthcare industry. Before joining Siemens Healthineers, Herbert spent several years with one of Germany's leading private hospital groups, as head of the Corporate Development department and serving as Managing Director of an acute care and a post-acute care hospital in Germany. He also spent several years with McKinsey & Company with their healthcare practice, providing strategic advice to a wide range of international clients. Herbert holds a doctorate in Healthcare Economics from the University of Hohenheim.

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