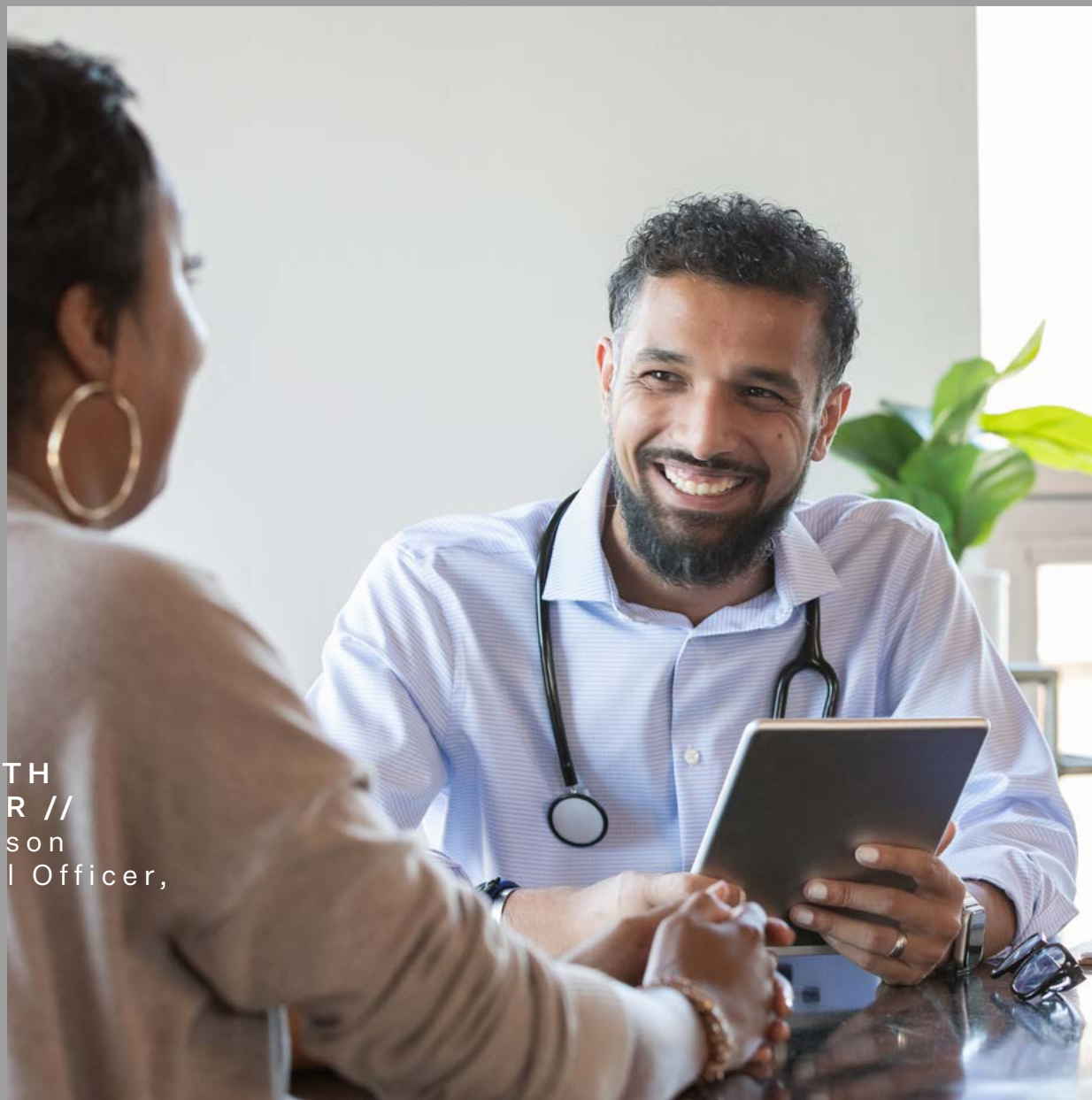


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# Addressing the harsh realities of healthcare with a digital front door



ORION HEALTH  
WHITE PAPER //  
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# Summary

In the year 2023, global health systems are facing harsh realities that include clinical exhaustion, helpless patients and caregivers, skyrocketing costs, too many barriers to accessing care and vastly inequitable health outcomes.

To remain sustainable, healthcare needs significant transformation. We need to find a way to achieve the Quintuple Aim: improving health outcomes and health equity, reducing healthcare costs and enhancing the patient and provider experience.

Extending traditional medicine by taking a digital first strategy that encompasses digital front door technology to enable people to self-manage their health and wellbeing will help to ease the total load on overburdened clinicians. This approach coupled with ensuring the right data is available for better decision-making will help to address these challenges and ultimately ensure patients receive the best care possible.



<sup>1</sup> <https://www.medscape.com/slideshow/2023-lifestyle-burnout-6014664?reg=1#2>

<sup>2</sup> <https://www.beckershospitalreview.com/healthcare-information-technology/71-of-patients-are-frustrated-with-healthcare-experience-report.html>

<sup>3</sup> <https://www.medscape.com/slideshow/2023-lifestyle-burnout-6014664?reg=1#4>

<sup>4</sup> Conference Paper: Hyojun Park, A., Roubal A., Roubal, B., Rudolph R., Booske C November 2013 Relative contributions of health determinants on health outcomes at the county level Conference: 141st APHA Annual Meeting and Exposition 2013.

<sup>5</sup> [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1)

# Drivers for change in healthcare

## THE HEALTH SYSTEM



**60%** of clinicians attribute burnout to bureaucratic tasks such as paperwork<sup>3</sup>

**47%** of clinicians report feeling symptoms of burnout<sup>1</sup>

**71%** of patients are frustrated with their healthcare experience<sup>2</sup>

**30–55%** of health outcomes are determined by social determinants of health<sup>5</sup>

**60%** of healthcare spend is focused on inpatient & outpatient care<sup>4</sup>

# The harsh reality of health systems in 2023



Clinical exhaustion, helpless patients and caregivers, skyrocketing costs, too many barriers to accessing care and vastly inequitable health outcomes. These are the realities of global health systems. In the year 2023.

For decades, global healthcare spending has focused on impressive-looking bricks-and-mortar hospitals and hospital-centric technology systems. Traditional health systems have focused on the diagnosis and treatment of illness rather than helping to prevent the onset of disease or building more resilient health systems. According to the OECD, funding continues to be centered around inpatient and outpatient services - accounting for around 60% of healthcare spending.<sup>1</sup>

To remain sustainable, healthcare needs significant transformation. Of course, this isn't a new idea, and the COVID-19 pandemic has been a stark wake-up call for the real need for change. To address the fundamental issues in today's health system, we need to find a way to achieve the Quintuple Aim: improving health outcomes and health equity, reducing healthcare costs and enhancing the patient and provider experience.

The Quintuple Aim stems from a paper published in 2008 that laid out three main objectives to improve healthcare for all, including 'improving the experience of care, improving the health of populations, and reducing per capita costs of health care', known as the Triple Aim.<sup>2</sup> It has since been well-recognized that to achieve marked improvements in health systems performance, we need to expand the Triple Aim to address the seriousness of clinical burnout and the huge deficit in population health equity.<sup>3</sup>

Pressure on the current inefficient systems and processes negatively impacts our ability to achieve these aims. Some of the drivers behind this failure include the following:



## Clinician burnout

All healthcare stakeholders, including nurses, doctors, and even managers, experience varying levels of burnout today. Burnout frequently stems from the pressure to ‘do more with less’ while constantly running into obstacles, including technology that is difficult to use and bureaucracy that doesn’t contribute to the care of patients. Nurses and other clinicians must adjust to a world with too many patients, unhelpful technology, too much administration and too few resources available to meet patients’ needs.

Burnout also comes from ethical or moral distress related to the realization that many patients will not receive the highest standards of care their clinicians believe they deserve. Clinicians struggle daily with trying their best, knowing that the system isn’t working for them. For example, knowing their patient needs to go to ICU but cannot because there are no beds available or not enough staff on shift to look after them.

<sup>1</sup> OECD. (2021, November 9). COVID-19 pandemic underlines need to strengthen resilience of health systems. Organisation for Economic Co-Operation and Development. Retrieved May 17, 2023, from <https://www.oecd.org/health/covid-19-pandemic-underlines-need-to-strengthen-resilience-of-health-systems-says-oecd.html>

<sup>2</sup> Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs (Project Hope)*, 27(3), 759–769. <https://doi.org/10.1377/hlthaff.27.3.759>

<sup>3</sup> Mate, K. (2023, February 4). On the Quintuple Aim: Why Expand Beyond the Triple Aim? Institute for Healthcare Improvement. Retrieved May 26, 2023, from <http://www.ihl.org/communities/blogs/on-the-quintuple-aim-why-expand-beyond-the-triple-aim>

<sup>4</sup> OECD. (2019, November 7). Health spending set to outpace GDP growth to 2030. Organisation for Economic Co-Operation and Development. Retrieved May 26, 2023, from <https://www.oecd.org/health/health-spending-set-to-outpace-gdp-growth-to-2030.html>

## Poor caregiver and patient experiences

Like their clinicians, caregivers and patients suffer from inefficient systems, long wait times and difficulty finding trustworthy information. Accessing the health system is often complicated and confusing.

Furthermore, patients' expectations are changing. Consumers base their expectations on the way they use digital services in other domains, which are generally far better - consider online banking, real estate and travel, for instance. The current limited healthcare digital services leave people feeling helpless, frustrated and dissatisfied.

## Major gaps in health equity

Inequity in healthcare access and delivery is a widely-recognized issue. Most health systems struggle to reach the so-called hard-to-reach populations such as migrants, ethnic minorities and homeless people. They also struggle to help patients living in rural or remote locations.

Clinicians are typically well aware that much of their patient's needs derive from their socioeconomic status or membership in a marginalized group with limited access to the necessities of life. However, clinicians have few tools to deal with these issues, even when they are the root cause of their patient's illnesses. Once again we can see that clinicians are in an unenviable position of knowing what needs to be done and being unable to do it.

## Poor health outcomes

Current health systems are struggling to meet the needs of the populations they serve. Evidence, for example, is the fact that US life expectancy has declined since 2017.

To access healthcare services, a person must make an appointment with their doctor, wait some time for that appointment, then wait again for any referrals to other healthcare providers. The process is fragmented, slow, opaque and fraught with the risk of errors. Access and navigation issues provide barriers to people getting the care they need.

This system inefficiency is leaving emergency departments overwhelmed, with huge backlogs of patients waiting to see a clinician and patients not knowing where to turn when they need help, creating a vicious cycle.

## Escalating healthcare costs

According to the OECD, healthcare spending will outpace GDP growth for the next 15 years.<sup>4</sup> But is this money being spent to maximize healthcare value and outcomes? System inefficiencies are apparent across the spectrum of healthcare. Healthcare spending is still focusing on treatment rather than prevention. Taking a population health approach and shifting to a more value-based care model that focuses on quality of care provided over quantity would enable investment in the right places and help maintain sustainable health systems in the long term.

In addition to the problems already discussed, clinicians have to deal with a number of clinical challenges. The COVID-19 pandemic continues to be a challenge for health systems. Others include the rise in mental health issues and a lack of skilled mental health workers; the opioid crisis continues unabated, and unhealthy lifestyles and behaviors are fueling an increase in chronic disease.

# Redesigning health systems to empower people

Easing the total load on overburdened clinicians will have a marked effect on overall system performance. Ensuring the right data is available for better decision-making at the clinician and the system level will also have a huge impact. Achieving both goals requires investment in smart technology solutions that continue to add value to the system and set health systems up for a more sustainable future.

Another key goal is enabling providers and patients to interact more effectively. Is there a way we can appropriately triage patients from home so that only the patients who really need to be in the emergency department (ED) or primary care physician (PCPs) office are there? Can we send patients home from the hospital earlier knowing they've got the tools they need to manage at home?

The aim of the digital front door in healthcare is to provide answers to these questions and more. A digital front door is a technology platform that

will evolve and increase in its scope over time to empower people to actively manage more of their healthcare journey at a time and place convenient to them.

By leveraging existing patient engagement technologies and integrating them into a unified user-friendly hub for people to access 24/7, the healthcare digital front door is poised to support a system redesign for population health management - by providing people with end-to-end access to the health system. An effective population engagement strategy will equip health systems to meet the Quintuple Aim.

*So, how can patient engagement technologies like a digital front door help make this a reality?*

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**NEW TECHNOLOGIES**  
to support patient centric care

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**IMPROVE HEALTH EQUITY**  
through better access to services

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**LESS CLINICIAN TIME**  
spent on administration

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**TREAT THE PATIENT**  
at the right time and place

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**STREAMLINE PATIENT ACCESS**  
to health services and systems

## Relieving the burden on exhausted clinical staff

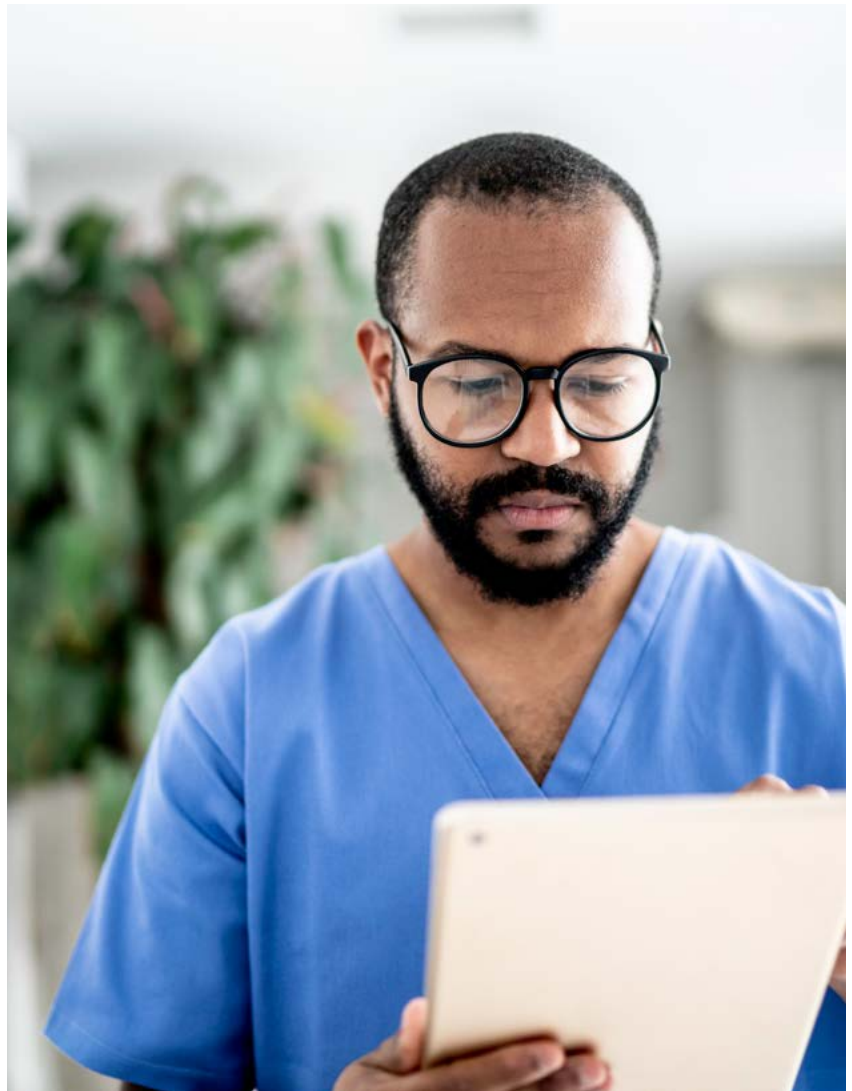
One of the reasons clinicians give most often for entering their profession, and their greatest source of professional satisfaction, is the clinician-patient relationship. Clinicians and caregivers want to do the right thing for their patients; they truly care and want to provide the right treatment while also being aware of the powerful benefits that come from empathetic human connections.

A key cause of clinician burnout is not being able to spend adequate time treating and supporting patients due to system inefficiencies and the time spent on menial administrative tasks. Engaging patients and their caregivers to play a more active role in their health and wellbeing can have a marked impact on relieving the burden on exhausted clinical teams by improving some of these inefficiencies.

Patient engagement technologies, such as digital front door, provide a one stop shop for everything a patient needs to have better interactions with the health system. This could be anything from the ability to directly make appointments, ask for repeat prescriptions or simply completing forms before an appointment. For example, automating surgical admission processes has been shown to deliver high patient satisfaction and high clinician approval.

Providing patients with the ability to self-manage these processes relieves clinicians from some of the administrative tasks in a way that can still be trusted.

<sup>5</sup> Person-Driven Outcome Measures Help Achieve Equitable Outcomes”, Health Affairs Forefront, June 13, 2023. DOI: 10.1377/forefront.20230609.309858





## Automating key processes

A digital front door can also help to automate key processes which further alleviates some of the pressures on clinicians. For example, if a patient has a telehealth consult with a physician via the digital front door, the interaction note made can automatically be shared with their primary care physician and anyone else involved in their care. Patients can also take and upload their vital signs including blood pressure and sugar levels into the digital front door so that clinicians can review and compare against their medical history ahead of any appointments. This means there is more time to talk about substantive issues, maximising the face time between physicians and patients.

Another key benefit of improving patient engagement technologies is that patients can be guided straight from the platform onto the correct care pathways that have been built into the system. Smoking cessation programs, support for chronic disease and medical assistance in dying are all examples of programs already delivering value.

In the longer run, a health system that has highly engaged patients with the tools to be able to become part of their care team will inevitably be able to better manage resources. If patients have a better overall understanding of the health system and understand where they need to be and when at each part of the care journey you can help to minimize no shows for clinical visits, minimize turn away at operating theater doors in turn helping to decrease common challenges like the length of waiting lists.

These improved interactions between clinicians and patients are incremental and will have a significant impact on the day-to-day operations for care teams. Improving the patient-clinician partnership also opens a world of opportunities when it comes to improving healthcare outcomes, which is ultimately what every member of a patient's clinical team desires.<sup>5</sup>

## Facilitating better clinician-patient partnerships

Patient-centered care recognizes the patient as a partner and as an individual, placing them at the center. By partnering with patients and allowing them to take an active role in their healthcare, clinicians can gain access to a wealth of information like personal circumstances, desires, values and background.

Incorporating digital front door technology extends and supplements this partnership by facilitating each party with improved healthcare interactions. It enables joint decision-making by being a referenceable tool that both parties can leverage to describe and understand the risks and benefits associated with a particular health issue. Clinicians can feel confident that patients have everything they need to understand their condition and patients can feel confident that they have a trusted source of information that empowers them to make the best possible decision for themselves.



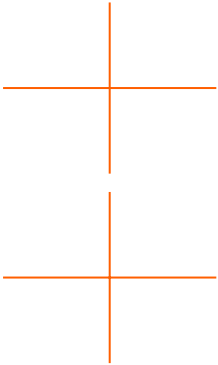
Examples of this include weighing up the pros and cons of taking the COVID-19 vaccine booster. The clinician can talk a patient through resources available via the digital front door, the patient can go away to consider and revert back to the information if necessary and then directly book their appointment via the platform or simply contact a nurse using a live chat to ask more questions.

### **Addressing healthcare's patient experience problem**

In a similar vein, patients and their caregivers suffer frustration and burnout from the difficulty inherent in navigating through a complex, fragmented healthcare system. It's widely recognized, especially in today's world with easy access to online resources, that people want to play a part in their journey and they want to help.

We have all become accustomed to self-managing many aspects of our lives. The majority of services we interact with on a daily basis happens online. We can apply for a loan online and manage our finances, we can upgrade our wifi plan, check our gas and electricity usage and book our next hair appointment all from our cell phones. Healthcare – which is probably the most important – is seriously lagging in this area.

A simple step to meeting one of the Quintuple Aims – improving healthcare's patient experience – is to significantly improve people's access and interactions with their health system. A digital first strategy that encompasses digital front door technology to connect all of the services and tools needed for people to self-manage their health and wellbeing can make this happen.



If patients are empowered to better navigate the health system and find the information they need, when they need it, this removes the current frustration of waiting for a response or working it out for themselves via Dr Facebook. This also alleviates some of the pressure on the system itself and on clinical teams in having to respond to more simple or common conditions that are generally straightforward to manage.

Integrating an AI-powered symptom checker in a digital front door is a key tool to help people to determine whether their condition may be serious, whether they need to see their primary care physician or whether there might be information available online via the system that can support them from home. For example a patient suffering with mild anxiety could be managed at home with cognitive behavior therapy courses that help them to manage their symptoms themselves. Or a patient suffering from heart failure or COPD can be managed remotely with straightforward interventions and a shared care plan that is accessible to both the clinicians and patients.

Having a more connected healthcare experience where patients are seamlessly guided from possible diagnosis of symptoms and triaged onto a suitable care plan with visibility over who they need to see, when they need to see them and what actions they need to take, empowers patients to play a more active role in their care. In conjunction, clinicians have oversight of their patient's status and can be alerted when intervention is necessary. This means the majority of clinical time is spent on those with more severe issues that need to be seen or require additional support.

## Knowledge is power

Supporting patients throughout their health and wellbeing journey with resources that enable them to easily find information to help themselves is also key to improving the patient experience. Simply put, knowledge is power. Educating patients and their caregivers on their condition in depth, helps them to understand what it is, what it means and how it can be treated. Most importantly patients and caregivers learn how they can help.<sup>6</sup>

Integrating a centralized approved authoritative health library and services directory into a digital front door makes it much easier for people to educate themselves on a recent diagnosis, or on ways to improve their wellness. This gives people more confidence in their decision making so they are better equipped to weigh up pros and cons of treatment and combat misinformation. Looking back at the COVID-19 vaccine booster example, educated patients can better participate in shared decision making, especially when decisions aren't obvious.

Providing patients with this knowledge enables them to actively participate in their health journey and realize that they can also be part of the solution. Being equipped with this awareness, allows patients to make better decisions about their care, contribute to improving their outcomes and overall provide patients with a better experience as they navigate their health journey.

<sup>6</sup> DeBronkart, D., & Sands, D. Z. (2013). Let patients help!: A "patient engagement" handbook – how doctors, nurses, patients and caregivers can partner for better care. North Charleston: CreateSpace.com.

# What does all this mean for health outcomes?

## Making the right thing the easy thing to do.

Having a health system filled with clinicians who are less burnt out with a higher sense of job satisfaction and patients who are more empowered and having a better healthcare experience is one thing, but what does any of this actually mean when it comes to outcomes?

Simply put, ensuring the right patients are being seen at the right place and at the right time means clinicians are spending time with those who need it most.

Leveraging a digital front door that contains the tools for patients and their caregivers to better educate and treat themselves, interact with their care plan, engage with clinical teams when necessary and understand when an intervention is needed opens the door to many more positive possibilities.

For example, a patient who has visited their digital front door and input their symptoms into the symptom checker will receive a report about possible diagnosis. The report shared with both the clinician and the patient facilitates much better conversations about what the likely cause might be.<sup>7</sup> And in this instance, artificial intelligence becomes a member of the care team by bringing specific skills that are invaluable especially when it comes to diagnosing rare or serious disease. AI diagnostic tools have improved their accuracy, ease of use and breadth of coverage.

<sup>7</sup> Meyer, A. N. D., Giardina, T. D., Spitzmueller, C., Shahid, U., Scott, T. M. T., & Singh, H. (2020). Patient Perspectives on the Usefulness of an Artificial Intelligence–Assisted Symptom Checker: Cross-Sectional Survey Study. *Journal of Medical Internet Research*, 22(1), e14679. <https://doi.org/10.2196/14679>



## **RELIEVE THE BURDEN ON CLINICIANS**

by empowering patients to participate in their care



## **LEVERAGE AI TOOLS**

to improve accuracy and triage patients



## **AUTOMATE KEY PROCESSES**

to maximize patient-clinician facetime



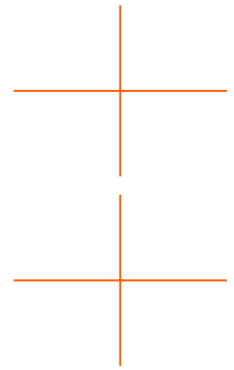
## **TAILOR SERVICES**

to the needs of individual populations with language preferences and more



## **INVEST IN SMART TECHNOLOGY**

that evolves over time and continues to add value



## Complete data sets are key

When patient engagement technologies are integrated with a health information exchange the result is better quality data and more collaborative care. Empowering patients to play an active role through technology such as an integrated digital front door that draws information from as many sources as possible provides further opportunities for patients to contribute self-generated data to their health record.

Often patients are better equipped to provide certain information, for example: what drugs they are actually taking or remotely taken blood pressure readings. Coupling better efficiency across the health system with better quality and more complete data sets can hugely improve the quality of care provided to patients thus resulting in better health outcomes.

## Closing gaps in health equity

It is widely recognized that the environment people live in, their socio-economic status, lifestyle and cultural background has a major impact on their health status. In fact, the World Health Organization specifies that according to numerous studies, social determinants of health accounts for between 30-55% of health outcomes.<sup>8</sup>

Population equity and system access for underserved populations continues to be an issue in traditional healthcare access models. Investing in technology that provides more ways for people to interact with the health system will help.

Whilst a digital front door can provide a digital first experience for those who want to interact with the system using their laptop or mobile device, it can also be coupled with a call center or made available for people to access in community centers or emergency departments via a kiosk.

## Meeting people where they are

A digital front door enables health systems to adapt services so that they are tailored to the needs of a particular population, for example by making it culturally appropriate or providing language and translation preferences. This helps to break down some of the traditional barriers to healthcare that many people face and make health systems much easier to navigate.

It also becomes a supportive tool for clinicians to leverage to make progress in supporting all patients. A common challenge is trying to treat someone with no fixed address who traditionally struggles to interact with the health system, often ending up in the ED due to not knowing where else to go. If we can make better use of well-designed apps and integrate social services through a single channel it becomes much easier for people to find the closest shelter or other resources. For example, drug addiction or mental health services.

Health equity and inclusion are key components of a digital front door solution's design to meet people where they are. Whilst it may not solve all the problems clinical teams face, making these significant changes is a huge expansion on what is currently available and a future where healthcare is easily accessible to all.

<sup>8</sup> World Health Organization. (2019, May 30). Social determinants of health. WHO. Retrieved June 28, 2023, from [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1)

## Creating more sustainable health systems

Patient engagement technology in itself won't drastically change healthcare. There would need to be upfront investment and training of clinicians to be more patient-centric in their caregiving. While this will require time and money to train clinicians and incorporate new processes into caregiving, the benefits easily outweigh the investment.

A good example of this in practice is symptom checking tools. This technology can help patients decide what potential diagnosis they have. Ensuring patients are being treated in the right place - for example at home, rather than in the ED - will ensure resources are being used more effectively and enable clinicians to focus their time on those patients who need them most.<sup>7</sup>

Improving patient education will improve patient engagement which will in turn help to streamline their healthcare journey. Engaging patients in their care is particularly important when treating chronic and complex disease, with repeated studies showing that patient education and participation can hugely decrease healthcare costs, the need for hospital admissions and improve the quality of care.<sup>9&10</sup>

Forming effective clinician-patient partnership supported by tools like a digital front door also has huge benefits when it comes to both personalising care plans and enabling clinicians to perform their job more efficiently and effectively.

Taking an iterative design approach to patient engagement technology that leverages broad public consultation to add features and functionality most requested by consumers will drive system-wide efficiencies and ultimately make life better for all of those involved in health care.

<sup>7</sup> Meyer, A. N. D., Giardina, T. D., Spitzmueller, C., Shahid, U., Scott, T. M. T., & Singh, H. (2020). Patient Perspectives on the Usefulness of an Artificial Intelligence-Assisted Symptom Checker: Cross-Sectional Survey Study. *Journal of Medical Internet Research*, 22(1), e14679. <https://doi.org/10.2196/14679>

<sup>9</sup> Rau-Murthy, R., BA, Bristol, L., RRT, AE-C, & Pratt, D., MD, MPH. (2017). Community-Based Asthma Education. *Community-Based Asthma Education*, 23(2), E67-E69. Retrieved September 11, 2020, from <https://www.ajmc.com/view/community-based-asthma-education>

<sup>10</sup> Giardina, T. D., Modi, V., Parrish, D. E., & Singh, H. (2015). The patient portal and abnormal test results: An exploratory study of patient experiences. *Patient experience journal*, 2(1), 148–154. Retrieved September 11, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5363705/>

# Providing the best possible care



To ensure health systems are set up for a more sustainable future, we must take steps towards meeting the Quintuple Aim: improving health outcomes and health equity, reducing healthcare costs and enhancing the patient and provider experience.

Extending traditional medicine by taking a digital first strategy that encompasses digital front door technology to enable people to self-manage their health and wellbeing will help to ease the total load on overburdened clinicians. This approach coupled with ensuring

the right data is available for better decision-making at the clinician and the system level will have a marked effect on overall system performance.

Leveraging smart technology solutions that continue to add value to the system over time by automating key processes, improving patient-clinician relationships and ensuring patients are being treated in the right place and at the right time will enable clinicians to focus their time on where it matters most and ultimately ensure patients receive the best possible care.



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