

L.E.K.

Special Report

Unlocking the Benefits of Patient-Centric Healthcare



Contents

Introduction	2
Defining Patient-Centric Healthcare	3
Why does PCH matter?	6
Case studies	8
Roadmap: Introducing and implementing your PCH system	12
Parting Thoughts	14
Endnotes	15
About the Authors	16

About the L.E.K. APAC Life Sciences Centre of Excellence

The APAC Life Sciences Centre of Excellence is an initiative developed by L.E.K. and supported by Singapore's Economic Development Board to drive thought leadership and innovation to elevate the APAC life sciences ecosystem. The Centre is an important part of L.E.K.'s broader Healthcare Insights Center and is dedicated to advancing insights and cutting-edge thinking on topics of greatest relevance to life sciences leaders in the APAC region. The Centre leverages L.E.K.'s deep industry knowledge and proprietary tools, as well as Singapore's strong research ecosystem, to produce materials on a broad range of life sciences and healthcare topics. These range from the future of drug discovery and development to healthcare transformation and digitization.

For more information, visit www.lek.com/apaccocoe.

About L.E.K. Consulting

L.E.K. Consulting is a global management consulting firm that uses deep industry expertise and rigorous analysis to help business leaders achieve practical results with real impact. We are uncompromising in our approach to helping clients consistently make better decisions, deliver improved business performance and create greater shareholder returns. The firm advises and supports global companies that are leaders in their industries — including the largest private- and public sector organizations, private equity firms, and emerging entrepreneurial businesses. Founded in 1983, L.E.K. employs more than 1,600 professionals across the Americas, Asia-Pacific and Europe.

For more information, go to <http://www.lek.com>

Introduction

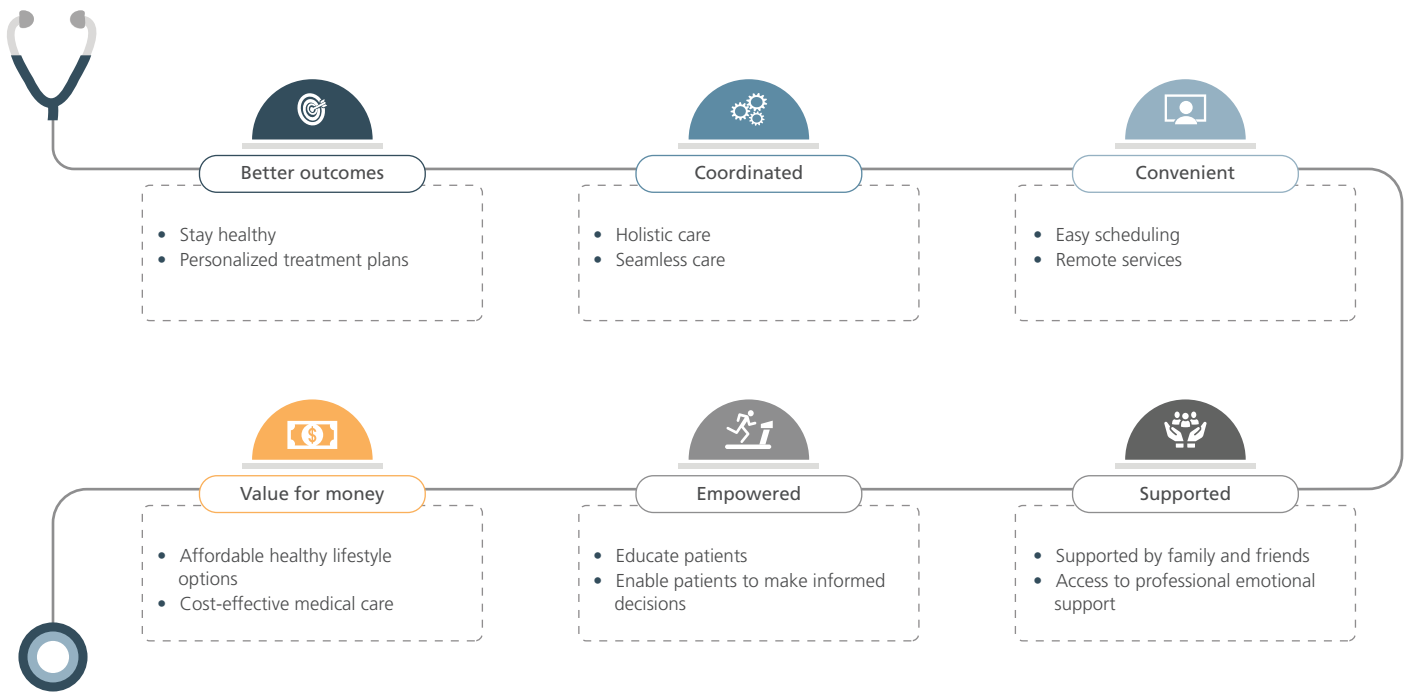
Many organizations have adopted patient-centric healthcare (PCH) over the years, although some have been challenged to deliver on the full potential of their aspiration. In this paper we highlight the best-practice uses of PCH and how benefits for the industry and patients emphasize the value this rapidly evolving healthcare sector approach provides.

While we explore the tangible outcomes PCH brings to different stakeholders in healthcare (e.g., hospitals, pharmaceutical

companies, medtech and payors), we also showcase some progressive approaches organizations around the world have taken to implement PCH, acting as “lighthouses” for what is not only possible but also already available. We will lastly share a roadmap on how to strategically approach the implementation of PCH, a powerful perspective change that will increase your organization’s efficiency, reputation and patient outcomes.

Defining Patient-Centric Healthcare

Figure 1
Six key patient-centric healthcare principles



Source: L.E.K. research and analysis

Our work in PCH has identified six principles that characterize PCH approaches and initiatives. While not all principles will be evident in every PCH initiative or service offering, combinations of these principles are commonly featured, remaining consistent despite emerging innovations in technology and availability and accessibility to different patient cohorts.

What has changed, though, is the way PCH is delivered, enabled by technological advances and spurred by the increase of the consumerization of healthcare.

Better outcomes

Earlier disease intervention and personalization leading to better short- and long-term outcomes

Early disease prevention and intervention are rising trends, as they have been shown to improve patient outcomes in contrast to later-stage intervention. Advances in the use of health technology for patient management, including medical devices for more frequent monitoring and use of predictive artificial intelligence (AI), allow both the patient and healthcare provider (HCP) to detect health risk events before deterioration occurs.

Podimetrics has launched *SmartMat*, which monitors foot temperature of diabetic patients. Rising temperature is an indication of inflammation and ulcer formation.

- Ulcer formation can lead to limb amputation, and after amputation, wound treatment is costly and the wound is likely to recur even after it heals. Monitoring of foot temperature has been shown to reduce diabetic foot ulcers by ~ 70%.¹
- Implementing a monitoring technology and supporting the patient with proactive disease management leads to greater adherence in patients because they understand this leads to better short- and long-term outcomes.

Coordinated care

Strengthened partnerships and collaborations using industry innovations improving coordination

Traditionally, diseases are treated in a single target format such as the use of pharmaceuticals to treat individual symptoms. However, there is an increasing shift to more holistic and integrated disease care.

This approach is embodied by the trend of pharmaceutical companies partnering with technology firms to provide connectivity and seamless integration with electronic health record systems on the back end to drive a data-driven patient treatment approach.

AstraZeneca partnered with **Voluntis** to develop a solution called **eCO** to help women undergoing ovarian cancer treatment.

- The *eCO Study* app allows patients to report side effects from their treatment and provides personalized self-help suggestions in managing symptoms from the treatment; it also connects patients to their HCPs
- The recording of side effects helps HCPs in adjusting care protocols
- Patients using the app reported feeling more connected to the care team²

Convenient access

Rise of at-home solutions providing convenience and ease of access

Increased connectivity and digital health services have created a new era of accessibility and convenience. In addition to technology use, expansion of care beyond hospitals to other care centers that are more convenient and closer to home also brings greater benefit to both the patient and the HCP through remote consultation, taking measurements, remote testing and prescription fulfillment.

Remote consultation, also known as teleconsultation, telemedicine or telehealth, removes the need for a patient to travel or access a physical medical practice. The growing number of regulatory-

approved at-home monitoring devices has also increased convenience, allowing vital measurements to be taken at home, and can aid HCPs with making diagnostic decisions during remote consultations.

During 2020 and early 2021, the HCP community has increased its adoption of digital at-home solutions, reflecting the challenges that COVID-19 has placed around face-to-face consultation.

This market continues to grow substantially, with its market size forecast to grow from US\$80 billion in 2020 to US\$400 billion in 2027, representing a compound annual growth rate of almost 26%.³

- Devices like *KardiaMobile 6L* from **AliveCor**, along with specific versions of *Fitbit* and *Apple Watch*, allow electrocardiograph (ECG) measurements to be done at home
- Further, devices like **Baxter's Sharesource** — a two-way, cloud-based platform — help manage peritoneal dialysis (PD) patients' therapy remotely and make prescription changes
- Remote testing and prescription fulfillment have also become more convenient through the click of a button, with sample collection kits and medicines shipped directly to users
- Both services have seen significant growth following the COVID-19 pandemic

Increased support

Increasing focus on holistic health provides multidisciplinary support benefits

In healthcare, emotional or mental well-being has traditionally been a secondary consideration, after physical symptoms.

However, mental health aspects are increasingly being prioritized as critical treatment plan components in conjunction with physical symptoms during disease management, as studies consistently show a relationship between improved mental well-being and a significant increase in the patient's quality of recovery, rehabilitation and longevity.

For cancer patients, side effects from treatment can be physically and mentally draining, causing patients to drop out of treatments.

- Initiatives such as **Hopelab's Re-Mission 2**, designed for children undergoing cancer treatments, use gamification platforms to simulate the patient's fight against cancer progression using weapons such as chemotherapy and radiation
- The game educates pediatric patients in an easy-to-understand way
- As a result, pediatric patients have a better understanding of the treatment procedures they are going through, which increases patient compliance and adherence to treatment

Empowered consumers

The use of education and information to support patient-driven decision-making

Empowering patients is giving patients the option to be more actively involved in decision-making in managing their condition.

The role of the HCP in communicating a treatment or rehabilitation plan with patients has long existed; however, there are now more ways to empower patients through the use of online platforms, websites and downloadable apps.

In a recent survey using participants in the United States, 41% of consumers told us they are more likely to consider preventive care,⁴ including adopting nontraditional solutions such as fitness wearables, breathing exercises and genetic sequencing.⁵

Empowered consumers are increasingly common, as patients and their support networks adopt more technology-driven, personalized health insights to support proactive and manageable lifestyle and health decisions.

- **M-sense** has developed a first-of-its-kind app for managing migraines: As each patient is triggered by different stimuli and responds to different treatments, the app provides headache and trigger analyses and personalizes solutions accordingly
- In addition to educating the user about their individual headache pattern, the app empowers users with a tool that tracks their condition to help them manage migraines better
- The app also provides an acute aid selection for users to explore non-pharmaceutical methods such as imagination, relaxation techniques and physiotherapy exercises to soothe their pain during attacks
- This allows patients and HCPs to better manage symptoms with medication and lifestyle changes
- The app achieved reimbursement status in Germany — an endorsement of the health and economic benefits of “digital therapies”

Value for money

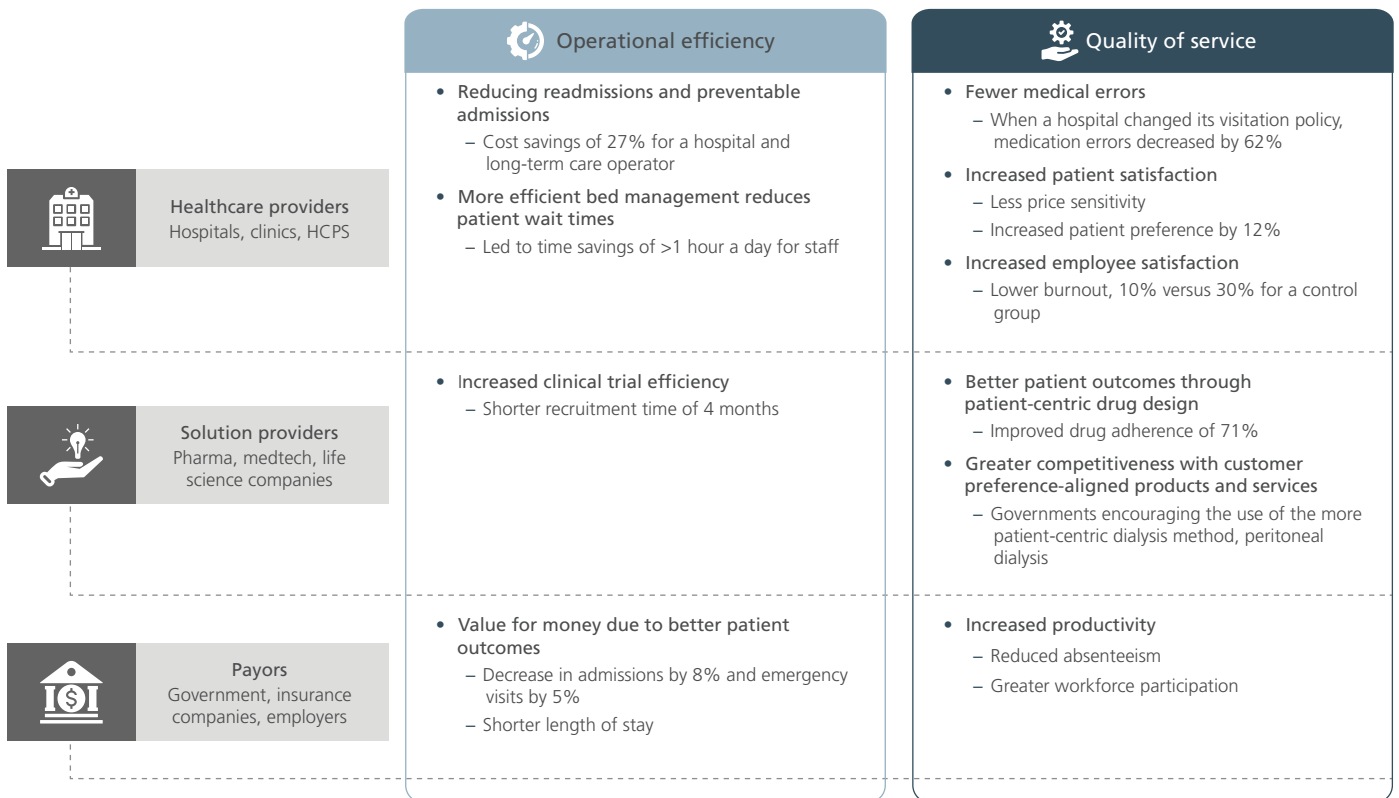
Providing a cycle of profits that benefits the patients

Underpinning the successful implementation of any PCH solution is evidence of its value for money — not only for patients, but also for other stakeholders involved, such as HCPs, solution providers and payors.

Reducing overhead costs through the integration of remote and digital health solutions has played a major role in delivering cost benefits across the healthcare system. Further, these breakthroughs have enhanced the overall patient journey, providing people with access to healthy but affordable lifestyle options and enabling patients to receive cost-effective medical care.

Why does PCH matter?

Figure 2
Benefits of patient-centric healthcare beyond the patient



Source: L.E.K. research and analysis, PubMed, EIU

Adopting PCH not only benefits patients but also provides stakeholders such as HCPs and payors with proven tangible benefits. These benefits often include quality of service and operational efficiency for HCPs.

- Quality of service:** Improving the standard of care received by patients, such as increased workforce productivity or better drug adherence
- Operational efficiency:** Better resource allocation and cost-effectiveness

Healthcare providers

PCH can help HCPs achieve significant cost savings and has been shown in multiple studies to improve patient outcomes. Adoption of PCH is also associated with fewer medical errors. By further involving patients and their families, HCPs can gain access to valuable inputs regarding safety, drug adherence and self-monitoring, which has been observed to result in a 62% decrease in medication errors.⁶

Further, we see both increased patient satisfaction and increased employee satisfaction, resulting in higher patient preference and less burnout, respectively.⁷

By coordinating and individualizing the care path for hip fracture patients, studies have seen a 40% reduction in cost of care, a 20% increase in successful rehabilitations⁸ and over 60% fewer disease complications in patients.⁹

Solution providers

Solution providers such as pharmaceutical companies are more likely to succeed using patient-centric models in their clinical trials. Overall, it was found that 87% of clinical trials that focused on improving patient experience had positive results, compared with 68% for traditional clinical trials.¹⁰ The higher success rate can be

attributed to an improved patient experience, which drives higher retention and recruitment rates.

For medical device companies, customers are increasingly seeking products and services that cater to their needs. Companies can drive growth and value creation by developing solutions that capture the needs of customers. Catering to patients' needs also drives up patient compliance and adherence, resulting in better patient outcomes.

A clinical trial that adopted a patient-centric approach was able to conclude five months earlier with a 100% retention rate.¹¹ In a separate clinical trial by **Eli Lilly** following a patient-centric approach found that its enrollment duration decreased from four to three years.¹²

Healthcare company **Baxter**, which pioneered the use of PD, now offers a service that allows patients to receive this critical dialysis treatment from home. Not only did **Baxter's** connected PD solution offering, *Sharesource*, boost

investors' confidence in the company's growth, but, importantly, the increased benefits and accessibility for PD patients also led to increased PD usage.^{13, 14}

Payors

Adoption of PCH allows patients to be more comfortable with their multidisciplinary care teams and strengthens trust between patient and physician. Overall, this has been shown to lower healthcare costs and improve patient outcomes, as much as ~50% reduction in cost of care¹⁵ and 29% decrease in emergency room visits.¹⁶

Better patient outcomes also increase staff productivity. Healthier employees are more productive, are more engaged at work and have reduced absenteeism.¹⁷

A simulation study in Australia found that if overall population health in the community improved, labor force participation could potentially increase by 34%, which would contribute a further AU\$8.5 billion to the economy.¹⁸

Case studies

In this section, we provide a closer look at organizations that have successfully implemented and managed their PCH solutions. We explore the gaps they were experiencing in patient healthcare and how their implementation of PCH provided a sustainable solution.

Biofourmis



Source: L.E.K. research and analysis, Biofourmis interview

Background

Biofourmis is a data-driven predictive company that offers end-to-end solutions that “seamlessly merge with existing operational workflows to equip care teams with the tools required to remotely manage complex clinical protocols and automate provision of personalized remote care.”

Solution overview

One of the company's offerings is the *Hospital@Home* solution, which aims to provide hospital-level care in the comfort of a patient's home. This is targeted at patients who would be admitted to a hospital's emergency department, specifically patients with acute conditions such as worsening of existing cardiovascular (exacerbated heart failure or atrial fibrillation) and respiratory (exacerbated chronic obstructive pulmonary disease or asthma) conditions.

Hospital@Home was co-developed with **Brigham and Women's Hospital** in Boston and integrates the analytics and infrastructure component of care to ensure round-the-clock patient monitoring.

The infrastructure component is made up of the home hospital team, support services (infusion, medication, laboratory, imaging) and emergency room evaluation.

The analytics component consists of FDA (Food and Drug Administration)-cleared biosensors and analytics engine. The biosensor, *Everion*, which can measure more than 25 physiological indicators, collects real-time patient physiological indicators and uploads the information into the cloud. Collected physiological indicators are then processed by the analytics engine to establish patients' baseline data using AI and machine learning. Physiological indicator deviations that signal condition deterioration will alert personnel in near-real time for emergency room evaluation and medical attention.

Impact/benefits realized

Hospital@Home provides significant benefits to patients, such as earlier hospital discharges and a reduced need for emergency department visits, with patients cared for at home showing better outcomes. Hospital readmission for home patients was 16% lower than for hospital patients, and home patients were more active.

In addition, *Hospital@Home* also provides an expanded emergency department capacity, as at-home patients do not take up beds in the hospital. It is also found that the cost of caring for at-home patients was 38% lower on average than for hospital inpatients.

Success factors

Redesigning solutions for the right environment

Biofourmis, unlike other companies that also offer at-home hospital solutions, recognized that providing hospital-level care at home requires strategic redesign and overhaul of the existing protocols and processes. **Biofourmis** changed existing system processes to focus HCPs' attention where it is most needed, cutting false alarm alerts by 88%, which expands the HCP's capacity to care for more patients.

In hospitals, alert thresholds can be set conservatively, resulting in more frequent alerts, as nurses within the facility can respond quickly. However, if the same thresholds were applied to at-home settings, HCPs would be overloaded with alerts. By generating more accurate triggers, HCPs can focus the right amount of attention on patients, reducing the ratio of nurses to patients from as low as 1:8 patients to 1:200 patients, without compromising on quality of care.

Integration support for successful adoption

Further, **Biofourmis** has been able to ensure there is sufficient integration at the operational and infrastructure levels. By offering a turnkey solution to hospitals — in addition to equipping the hospitals with remote monitoring tools and an analytics platform — they also improve the necessary operational capacity and capability. **Biofourmis** works closely with hospitals over a six-to-12-month time span to ensure seamless sustained execution of the *Hospital@Home* workflow.

Measuring and quantifying benefits

Biofourmis' Hospital@Home has proven quantifiable benefits for patients, hospitals and the overall healthcare system. By working in close collaboration with **Brigham and Women's Hospital** and payor organizations like **Centers for Medicare & Medicaid Services (CMS)**, *Hospital@Home* has gained reimbursement from CMS and is rapidly expanding across the eligible hospitals in the U.S.

National Kidney Foundation



Source: L.E.K. research and analysis, company website

Background

The **National Kidney Foundation (NKF)** is a not-for-profit organization that provides support to low-income patients with chronic kidney disease. The foundation was established in 1969 by nephrologist Prof Khoo Oon Teik to tackle the problem of high mortality rates faced by chronic kidney disease patients.

Solution overview

NKF operates 39 hemodialysis centers across Singapore. These centers are conveniently located, covering 91% of **NKF** patients within a 5 km radius.¹⁹ To be eligible for support, patients must pass financial eligibility criteria. Hospitals in Singapore help patients with the application process and transfer patients to **NKF** if the patient is accepted under this eligibility scheme. While patients still undergo periodic consultations at hospitals, **NKF** takes over other ongoing clinical support, such as conducting blood tests to check kidney function and for anemia as well as tests to check for bone loss. If complications arise, patients are referred to the hospital for further treatment.

Impact/benefits realized

Most chronic kidney disease patients require dialysis. Without subsidies, many low-income patients would not be able to afford the weekly dialysis sessions. This is considering that the annual cost of hemodialysis treatment in Singapore is about US\$19,000,²⁰ a recurring cost that excludes other medical expenses and opportunity costs.

As of 2020, **NKF** supports almost 5,000 chronic kidney disease patients, which constitutes about 60% of dialysis patients in Singapore. **NKF** is heavily supported by Singapore's **Ministry of Health**, although it is also funded by donations.

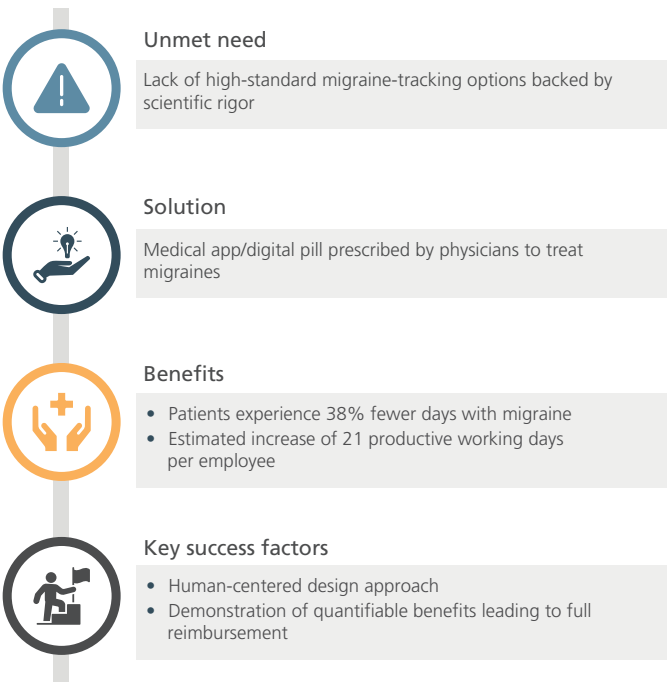
Success factors

Transferring patients to **NKF** benefits both patients and hospitals. For patients, the centers are conveniently positioned in local communities, nurturing a sense of community spirit where patients can obtain improved support during their treatment journey. For hospitals, this arrangement helps free up resources and ensures patients receive sufficient treatment.

In addition to clinical support, **NKF** provides multidisciplinary support to hemodialysis patients, including dietitian support, physiotherapy, counseling and community enablers.

Singapore's **Ministry of Health** has pushed for an increase in peritoneal dialysis uptake because it has been shown to result in better patient outcomes and reduced costs compared to hemodialysis. Given **NKF's** success in providing multidisciplinary support to hemodialysis patients, similar support could be extended to peritoneal dialysis. In the future, hospitals and medtech companies could form a multiparty collaboration with **NKF** to provide expanded support infrastructure opportunities to peritoneal dialysis patients.

M-sense



Source: L.E.K. research and analysis, company website

Background

M-sense is a medical application/digital therapeutic prescribed by physicians to treat migraines. According to **M-sense**, between 10% and 15% of the global population experience migraines.²¹ In Germany alone, due to migraines, 100,000 people are unable to work, resulting in a €3.9 billion indirect cost attributed to employee absenteeism.²² Studies have also shown that only 10% of people with chronic migraines get proper consultation and

diagnosis — only 4.5% are properly treated, and only 2.9% are adherent to treatment.²³

Solution overview

Treatment and management of migraines is particularly tricky. Each patient is triggered by different stimuli and responds uniquely to different treatments. To effectively manage the condition, patients and HCPs must understand the impact of medication and lifestyle habits on their symptoms. The **M-sense** app helps patients track episodes of migraines and analyze the potential triggers. Users are also provided with research-backed education material, personalized exercise therapy programs and expert advice to manage symptoms. In addition, the app functions as a communication platform to share relevant medical information with HCPs and payors,²⁴ as HCPs can identify triggers and tailor treatments based on the data collected from the app.

Impact/benefits realized

M-sense has benefited patients by allowing better management of migraines and increasing their resulting personal productivity and quality of life. Patients using the app experience 38% fewer days with migraines²⁵ and indicate improved quality of life, with 3.1 fewer days of migraines per month after four months.²⁶ There is also reported increased productivity in the workplace, with an estimated increase of 21 working days in attendance per employee.²⁷

Success factors

Collecting data early, enabling reimbursement

Preliminary data was collected early in clinical studies that quantified the benefits of the solution, with patients using the app experiencing 38% fewer days of migraines and adding 21 days of productivity. Such strong evidence for its benefits has made **M-sense** one of the first nine digital therapeutics to be covered by Digital Health Applications (DiGA).²⁸ In addition, it is worth noting that **M-sense** is reimbursable by some private insurance providers and all statutory insurance providers.²⁹

Using design and user experience testing to ensure engagement

M-sense also placed heavy emphasis on a human-centered design approach, ensuring the app would successfully provide an engaging user experience and ease of use to increase the rate of app uptake and compliance.

Omada Health



Source: L.E.K. research and analysis, company website

Background/solution overview

Omada Health is a digital platform that provides a personalized lifestyle coaching solution for prevention of chronic diseases.

Omada Health offers five programs: diabetes, musculoskeletal, hypertension, behavioral health and general prevention. In addition to providing users with an array of connected measuring devices to help them monitor their progress, this platform differentiates itself by matching users with a real coach who will help personalize their health journey.

Impact/benefits realized

Omada Health helps users successfully lead a healthier lifestyle and gain confidence to sustain the changes. Users of **Omada Health** successfully achieve a healthier lifestyle as measured in terms of weight loss and reduced progression to preventable diseases. On average, previous users lost 4% of their body weight after the first 16 weeks of participation in the program, which was sustained up to three years afterward.³⁰ Users also achieved a 30% reduced risk in developing type 2 diabetes, 16% risk reduction from stroke and 13% from heart disease.³¹

Success factors

Understanding and integrating the human connection

The human factor has been cited by many users as a huge factor helping them adhere to the program. Eighty-four percent of consumers would like a human as part of their digital care program,³² so each user is paired with a coach who guides them through the program. This provides the users with valuable ongoing encouragement to the point of seeing quantifiable changes for themselves.

A personalized approach

Coaches work with each individual to tailor a personalized program that fits their unique needs, ensuring a sustainable healthy lifestyle change. For example, the coach will begin the journey by starting with smaller changes such as walking around the office, then gradually increase intensity, proposing physical activities in line with their interests.

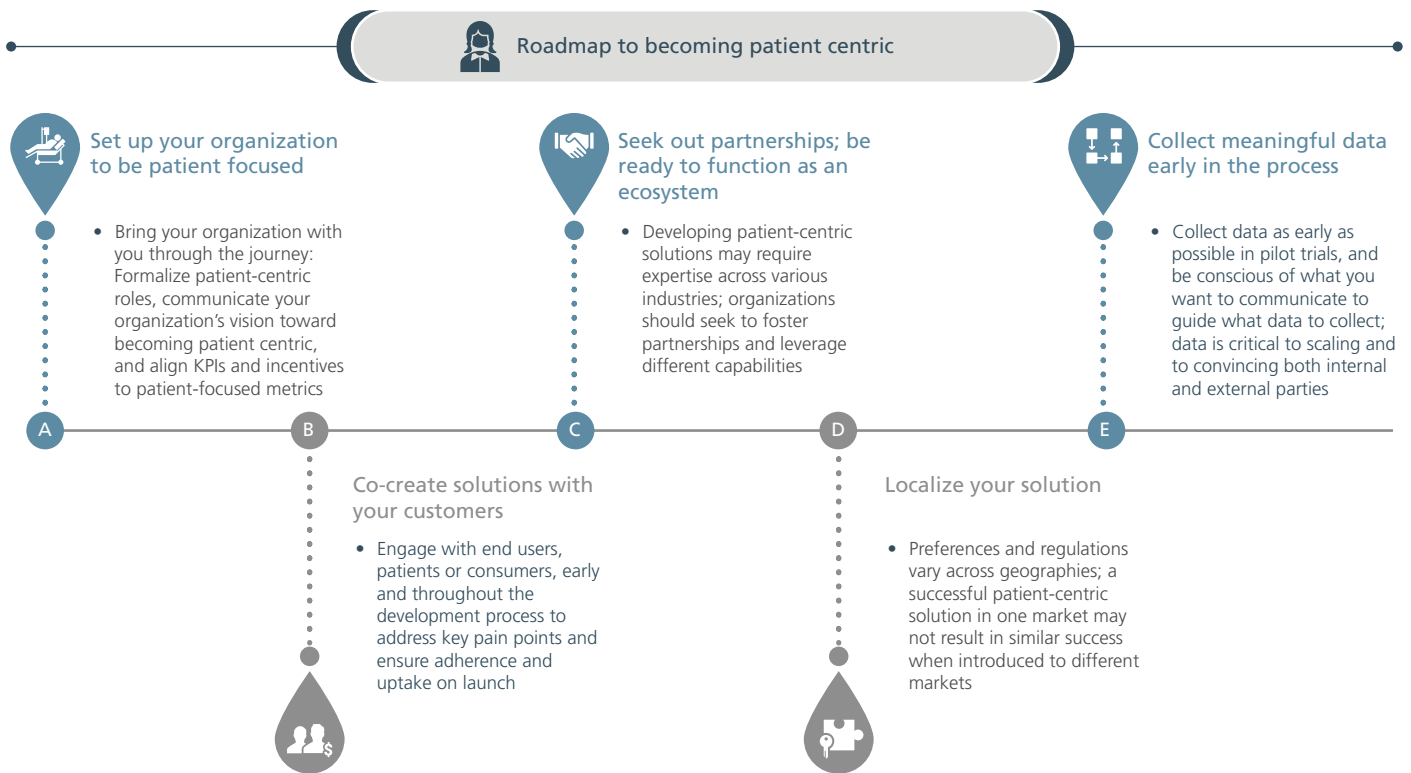
Cost-effective

Omada Health has built a solution that delivers sustainable health benefits to its users and at the same time cost savings to payors.

Omada Health has shown that adoption of their solution by users can help save companies more than US\$1,000 in medical bills per user. This represents a return of investment in as little as one year.³³ Further, 80% of **Omada Health** users feel grateful that their employer or insurance company offers this program.³⁴

Roadmap: Introducing and implementing your PCH system

Figure 3
Five steps organizations can take to become patient-centric



Source: L.E.K. research and analysis

There are five steps your organization can take to be patient centric.

Set up your operations to be patient focused

First, create formalized roles to take charge of the transition to PCH. **Roche** has Patient Partnership departments that work with patients to develop new solutions.³⁵ Similarly, **Sanofi** has an appointed Chief Patient Officer. This role ensures the company constantly adapts to patients' changing needs and preferences.

Second, senior management needs to be visibly committed to and supportive of a PCH approach, including communicating the organization's vision toward becoming patient-centric. Doing so would display commitment to PCH and encourage its consistent adoption throughout the organization.

Lastly, organizations should align key performance indicators (KPIs) and incentives to patient-focused metrics. For example, these could be patient outcomes, adherence and patient experience.

KPIs should be measurable and long term. While specific KPIs may vary by industry (e.g., healthcare providers, payors, pharmaceuticals, medtech), the core principles of patient centricity remain relevant.

Co-create solutions with your patients

Treat end users as stakeholders in the final product and not just receivers of it. Engage with end users, patients or consumers early and throughout the development process. Run focus groups and design thinking workshops to understand the pain points end users are facing. This will ensure solutions developed address the pain points and drive eventual uptake of the solution. This also avoids developing solutions that users want, as what users want may be limited to existing solutions and what they think is possible. To put it in context, many of the revolutionary solutions in the consumer space, like the iPhone and Netflix, are so well

received because they were addressing user pain points: Intuitive mobile phone for iPhone and content on demand for Netflix.

- For guidance in the co-creation process, the team can refer to the PCH principles [Figure 1]

Seek out partnerships; be ready to function as a system

Developing patient-centric solutions may require expertise across various industries, as, increasingly, technology and big data are playing important roles in the care of patients. Thus, organizations should seek to foster partnerships and leverage different capabilities available through these cohorts. This removes the need to develop capabilities from scratch and reduces the time to introduce new initiatives. For example, when **Biofourmis** co-developed the *Hospital@Home* solution with **Brigham and Women's Hospital**, each party brought in different expertise. **Brigham and Women's Hospital** has expertise in providing care to acute patients, while **Biofourmis** provides the FDA-approved monitoring devices and analytics platform and capabilities.

To successfully identify potential partnerships, organizations need to ask themselves several key questions:

- What are the addressable pain points experienced by patients?
- What expertise is required to address these pain points?
- What expertise does the organization have?
- What expertise does the organization lack?
- What synergies will arise from such a partnership?

In developing a PCH system, organizations should also work with key stakeholders that will be involved in delivering the solution. This could include HCPs that play a role in prescribing such solutions to patients, or payors who remove the financial barriers faced by patients. In doing so, organizations need to take note of where the solution sits in the healthcare system as well as the benefits it can give to other stakeholders.

Localize your solution

Users' needs and preferences vary across geographies. Factors such as age, socioeconomic demographics and culture can lead to different expectations among patients and are further amplified by differences in infrastructure and government policy. Consequently, a successful PCH solution in one market may not result in similar success when introduced to different markets.

An example of localization is **Baxter's** connected PD solution *Sharesource*, which has been launched with great success in markets such as the United Kingdom and Japan. However, introduction to Singapore was delayed due to different PDPA (Personal Data Protection Act) regulations, which required the solution to be adjusted to conform to local requirements.

In addition, **Baxter** works with different local organizations to support PD patients. In Taiwan, **Baxter** assisted in setting up a Taiwan PD Patient Association with a PD patient, Lin Su-Juan. In Singapore, **Baxter** works with organizations like the **National Kidney Foundation**.

Collect meaningful data early in the process

The importance of data cannot be emphasized enough. Increasingly, hospitals and payors want to see health economic data before they commit. How does the solution affect the bottom line? Will it save time for HCPs? Will it improve patient outcomes and hence reduce cost? Will it allow payors and hospitals to treat more patients? Having data to prove these points can convince customers (which can be employers, insurance companies or hospitals, for example) to pay for the solution.

Data can help with scaling, to convince both internal and external parties. Therefore, collect data as early as possible in pilot trials, and be conscious of what you want to communicate to guide what data to collect. Regulatory bodies will want to see safety data, payors will want to see cost benefits, and hospitals will want to see cost savings or capacity expansion.

Having the right data and clinical and health economics to prove the benefits of the solution has been the underlying common theme in many of the case studies illustrated above. *Omada Health*, *M-sense* and *Biofourmis* all had cost/benefit data that facilitated the reimbursement process.

Parting Thoughts

As healthcare providers and industry partners strive to evolve their systems, services, and products to provide their patients with the best care, the convergence in digital tools and data-driven technologies has opened up a new era in our response to global population health and well-being.

Patient-centric healthcare remains a robust and adaptable ecosystem to support the complexities of achieving this, as its principles remain focused on fundamental sector outcomes — disease prevention, treatment efficacy and quality of life for all patients.

To be successful in designing and managing a PCH environment, organizations' goals and ambitions need to remain consistent with the existing values and stakeholders involved. First-class healthcare can be provided when all parties come together to address not just operating gaps, but whole person care opportunities that reinforce a holistic, multidisciplinary and integrated approach to human health.

Endnotes

- ¹ <https://care.diabetesjournals.org/content/40/7/973.long>
- ² <https://ascopubs.org/doi/full/10.1200/CCI.17.00153>
- ³ <https://www.fortunebusinessinsights.com/industry-reports/telemedicine-market-101067>
- ⁴ <https://www.lek.com/insights/covid-19-impact-us-consumer-intended-healthcare-usage>
- ⁵ <https://www.forbes.com/sites/forrester/2020/03/11/the-empowered-healthcare-patient/?sh=26a975685614>
- ⁶ <http://www.ahaphysicianforum.org/resources/appropriate-use/ACSC/content/AHRQ-PFE-Guide-selections.pdf>
- ⁷ <https://pubmed.ncbi.nlm.nih.gov/19728768/>
- ⁸ <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2648.2009.05017.x>
- ⁹ <https://josi-online.biomedcentral.com/articles/10.1186/1749-799X-1-3>
- ¹⁰ <https://eiperspectives.economist.com/healthcare/state-patient-centricity-2020-advancing-patient-first-intentions-true-co-creation>
- ¹¹ <https://www.appliedclinicaltrialsonline.com/view/five-steps-making-your-clinical-trials-patient-centric>
- ¹² <https://eiperspectives.economist.com/healthcare/state-patient-centricity-2020-advancing-patient-first-intentions-true-co-creation>
- ¹³ [https://www.ajkd.org/article/S0272-6386\(19\)31127-8/fulltext](https://www.ajkd.org/article/S0272-6386(19)31127-8/fulltext)
- ¹⁴ <https://www.moh.gov.sg/news-highlights/details/speech-by-mr-chan-heng-kee-permanent-secretary-ministry-of-health-at-the-3rd-kidney-care-conference-2019-25-may-2019>
- ¹⁵ <https://www.jabfm.org/content/jabfp/24/3/229.full.pdf>
- ¹⁶ <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2010.0158>
- ¹⁷ <https://www.healtheuropa.eu/vitality-at-work-promoting-better-health-in-the-workplace/104863/>
- ¹⁸ <https://pubmed.ncbi.nlm.nih.gov/16229055/>
- ¹⁹ <https://nkfs.org/event/bringing-dialysis-closer-to-patients-homes/>
- ²⁰ <https://www.straitstimes.com/forum/forum-cost-of-diabetes-kidney-failure>
- ²¹ <https://www.m-sense.de/en/>
- ²² <https://www.m-sense.de/en/>
- ²³ https://www.goethe-business-school.de/fileadmin/user_upload/Files/07_Master_of_Pharma_Business_Administration/2019/PharmaMBA-Digital_Workshop-Dahlem-Digital_Therapeutics_to_treat_Migraine.pdf
- ²⁴ <https://www.m-sense.de/en/>
- ²⁵ <https://www.m-sense.de/en/ads/Persberichten/Pressemitteilung.pdf>
- ²⁶ https://www.goethe-business-school.de/fileadmin/user_upload/Files/07_Master_of_Pharma_Business_Administration/2019/PharmaMBA-Digital_Workshop-Dahlem-Digital_Therapeutics_to_treat_Migraine.pdf
- ²⁷ https://www.goethe-business-school.de/fileadmin/user_upload/Files/07_Master_of_Pharma_Business_Administration/2019/PharmaMBA-Digital_Workshop-Dahlem-Digital_Therapeutics_to_treat_Migraine.pdf
- ²⁸ <https://mtrconsult.com/news/three-more-health-apps-received-reimbursement-germany>
- ²⁹ <https://www.m-sense.de/faq/>
- ³⁰ <https://drc.bmj.com/content/5/1/e000422#ref-3>
- ³¹ <https://www.omadahealth.com/outcomes>
- ³² <https://www.omadahealth.com/news/digital-care-real-people>
- ³³ <https://www.omadahealth.com/outcomes>
- ³⁴ <https://www.omadahealth.com/our-approach/health-plans>
- ³⁵ <https://www.roche.com/careers/our-locations/europe/germany/blogs/meet-maira.html>

About the Authors



Stephanie Newey
Partner, Sydney

Stephanie Newey is a partner in L.E.K. Consulting's Sydney office and a Director of the firm's Asia-Pacific Life Sciences Centre of Excellence. She has more than 20 years of experience in strategy and consulting, with expertise in the healthcare sector. Stephanie's insights into biopharmaceuticals and healthcare are supported by three years of experience working at a major global pharmaceutical company.



Mei Young
Manager, Singapore

Mei Young is a Manager in L.E.K. Consulting's Singapore office and is a member of L.E.K.'s Life Sciences and Healthcare practices. Mei has worked with healthcare clients in Asia and North America on the development of growth and operations strategies, as well as on driving large-scale transformation and implementation.



Manoj Sridhar
Manager, Melbourne

Manoj is a Manager in L.E.K.'s Melbourne office and is a member of L.E.K.'s Life Sciences and Healthcare practices. Manoj has worked with pharmaceutical, medical technology and government clients on a range of strategy and M&A projects in Australia. He also previously led a national research centre developing early stage immunotherapies, building academia-pharma partnerships to commercialise attractive technologies.



Pornteera Pawijit
Life Sciences Specialist, Singapore

Pornteera Pawijit is a Life Sciences Specialist in L.E.K. Consulting's Singapore office. During her time at L.E.K., Pornteera has worked on projects with biopharmaceutical and medtech clients in Southeast Asia and East Asia on market assessment, market access and go-to-market strategy.

L.E.K. would like to acknowledge the following executives who have provided insights for this special report: Andrew Frye, SVP & President, Asia Pacific, Baxter International Inc; Cameron Gordon, Head of Ex US Divestitures, Takeda; Kuldeep Singh Rajput, Founder & CEO, Biofourmis; Jaydev Thakkar, Chief Operating Officer, Biofourmis.



L.E.K. Consulting is a registered trademark of L.E.K. Consulting LLC. All other products and brands mentioned in this document are properties of their respective owners.

© 2021 L.E.K. Consulting LLC. All rights reserved.

