White Paper

Industry
Healthcare

Healthcare Transformation Through Better Patient Engagement

Patient engagement must be at the core of a healthcare provider's business - and should start even before the patient steps into the hospital.

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Summary

The Healthcare industry is going through the biggest disruption it has known in recent history. While healthcare providers are largely focused on how to handle COVID-19, the Healthcare crisis is far from over. Once the immediate threats from the pandemic subside, healthcare providers will have to focus on elective procedures and other healthcare issues that are being put on hold now. People will visit hospitals more to consult on matters that they have been ignoring so far this year. Healthcare providers will have to prepare themselves for that longer-term stress while still negotiating the ongoing threat of the pandemic.

The first point of contact in hospitals is patient administration. Patient engagement, however, should start even before the patient steps into the hospital. Healthcare providers need to re-evaluate how they can start the engagement early and provide continuous administrative support not only to improve patient experience, but also for operational efficiency and better clinical outcomes.

Against this backdrop this whitepaper explores:

• The key challenges that healthcare providers face today

• How the patient administrative system needs to evolve to alleviate these challenges, and

• The capabilities a robust patient administrative system should have

This whitepaper, sponsored by LacViet in partnership with Intel, leverages data from the global Ecosystm Customer Experience Study and the Ecosystm Digital Priorities in the New Normal Study, that are live and ongoing on the Ecosystm platform, and provide real-time market insights.

Challenges of Healthcare Providers

Reducing Hospital Burden. The shift in the demographic profile of the average citizen has thrown a curveball at several healthcare systems in the world. While education and lifestyle changes can be brought about by governments, healthcare organisations face the enormous burden of the long-term management of chronic diseases. Healthcare organisations realise the importance of providing personalised care, in order to keep people away from hospitals as much as possible. Remote and home-based chronic disease management and access to individual health records are becoming increasingly common.

Improving Patient Experience. Improving patient experience has been one of the reasons hospitals strive for better operational efficiency (cost optimisation and workforce management, being the other drivers). The traditional concept of consumers of healthcare services as 'patients' has eroded along the way. The average person becomes a consumer of healthcare services long before crossing the threshold of a hospital to become a 'patient'. As a patient, a person who can access banking and utilities services at a click of a button, is made to wait in long queues for basic healthcare. This is promoting a "consumerisation" that is forcing healthcare oragnisations to adopt technology to cater to the digital customer experience (CX) that people take for granted in other industries.

Leveraging the Digital World. The Healthcare industry has its unique challenges. One of the biggest challenges it faces is a shortage of workforce. Not only does the industry depend heavily on skilled workforce, employees also face burnouts because of the high physical and emotional stress. This is further compounded by the inability of organisations to predict workloads in advance. To empower their workforce, the industry has an added need to leverage the digital world, especially when it comes to process automation and collaboration tools.

Healthcare Providers need to focus on:

ENHANCED PATIENT ENGAGEMENT

TEAM COLLABORATION

DATA-DRIVEN INSIGHTS (CLINICAL AND OPERATIONAL)

If we evaluate the top business priorities for healthcare providers, it becomes clear that they are addressing these challenges (Figure 1). However, their key focus area is patient experience - patients are at the centre of their business and the most successful healthcare providers engage with their patients early to provide a personalised experience.
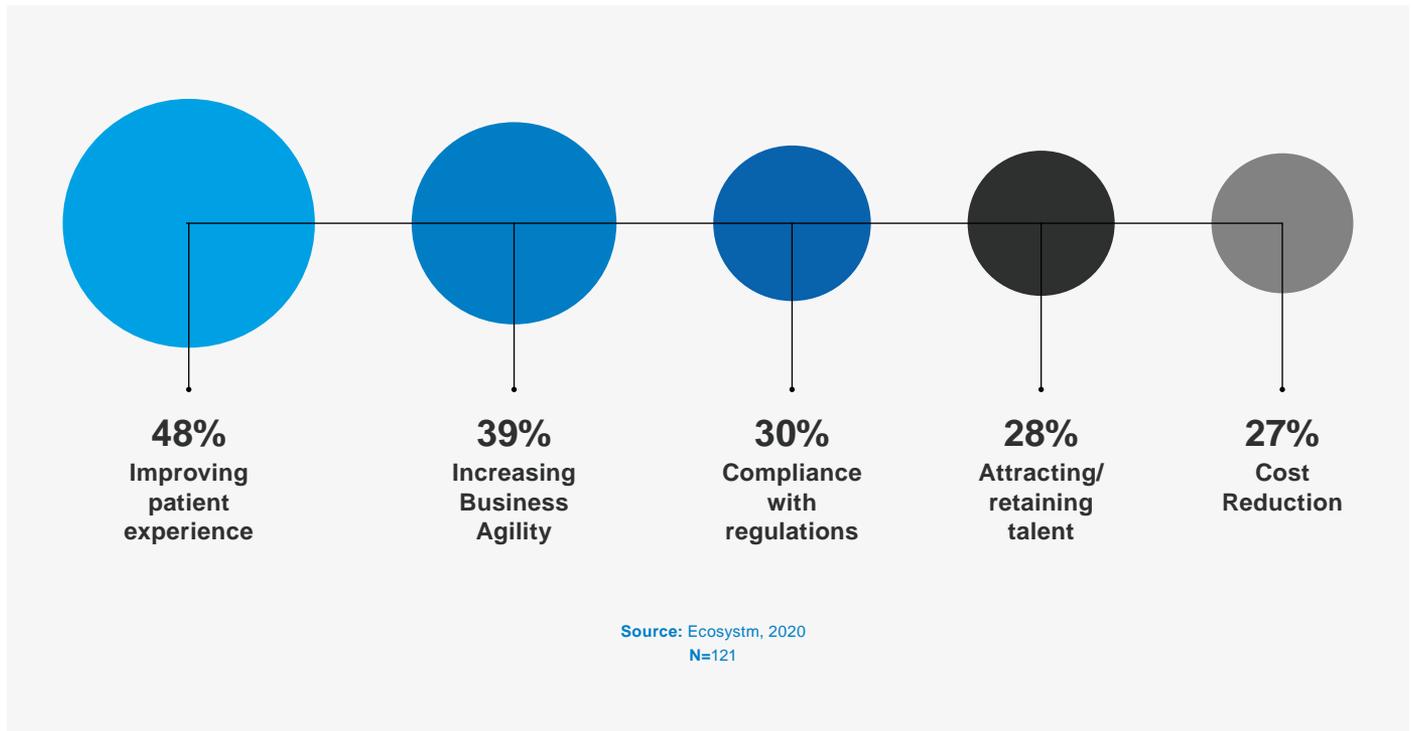

48%	39%	30%	28%	27%
Improving patient experience	Increasing Business Agility	Compliance with regulations	Attracting/ retaining talent	Cost Reduction

Source: Ecosystm, 2020
N=121

Figure 1. Top Business Priorities for Healthcare Providers

Technology-Driven Patient Engagement

Key patient pain points:

- **Ownership of their own health.** People are more health-conscious than ever and want to have a say in their own healthcare outcomes. Not only do they use devices to monitor their health and wellness parameters, they also often research their own health symptoms. Unfortunately, the Internet is not always the best source of trusted healthcare information.

- **Long waiting periods.** Patients are often the most dissatisfied with the long waiting periods and lack of transparency of the waiting process in hospitals. They have to queue up to register, for triage, to meet the doctor, for diagnostic tests, for medication dispensation and for payments. The easiest way to improve patient satisfaction is to reduce the waiting period.

- **Uncertainty of the process.** People visit a hospital when they are sick and worried. For many it is a first-time visit. Complicated administrative and payment processes lead to discontent. Administrative staff in hospitals often come across as insensitive - just for doing their jobs.

Having the right technology for patient administration can go a long way in improving the experience. Here are some technologies that can help hospital administrative staff provide seamless service:

Chatbots and Conversational AI. Hospitals should consider deploying natural language processing (NLP) and other machine learning capabilities on their web page and on mobile apps, to guide patients from the comfort of their homes. Prospective patients can enter their symptoms and receive trusted guidance on immediate steps and the kind of specialist they should visit. This allows for an early engagement with the customer base - even before they become patients.

Appointment Scheduling System. Remote appointment scheduling systems should guide patients on doctor selection and provide a real-time view of the available timeslots to enable self-service. The system should be integrated with mobile and be able to send confirmation, reminders, and other alerts to patients' and carers' mobile devices.

Automated Patient Registration System. Registration kiosks in hospitals can help reduce queue times drastically. The system should have facial recognition and image analytics capabilities for automated patient identification authentication against a government-issued identity document. It should have automated payment systems which allows patients to make payments for registration and other charges. Integration with a national health insurance system is an added advantage in countries where it is applicable. The system should be able to disseminate all important information that the patient should have access to before seeing the doctor and be able

to generate a bar-code enabled appointment card that can be used at every step of the outpatient journey.

Digital Signage. Digital Signage should be used to display queuing information and activated by the bar-code enabled appointment card. The patient's unique appointment number should be used to provide the queue status, irrespective of what the patient is waiting for - to see the doctor, for tests, for medication or for payments.

Patient Portals and Other Communication Channels. Hospitals should also have engagement portals, where patients can access their information - diagnostic reports (including images), prescriptions, payments and billing information, and details of next appointments. Patients should be able to access their data using a unique identifier from the comforts of their home. This should also have chatbot functionalities to answer follow-up queries. This reduces the number of visits to the hospital, reducing the load on the hospitals - and keeps patients engaged long after the hospital visit. Patient portals should have both web and mobile app versions for ease of use.

Ecosystm research finds that most healthcare providers - especially in the Asia Pacific - are looking to ramp up their technology investments in 2021, especially in technologies that deliver process efficiency and better patient experience (Figure 2). A robust patient administration system that encourages self-service is a good place to start technology investments in 2021. It will have a positive impact on patient experience, operational efficiency, and clinical outcomes.
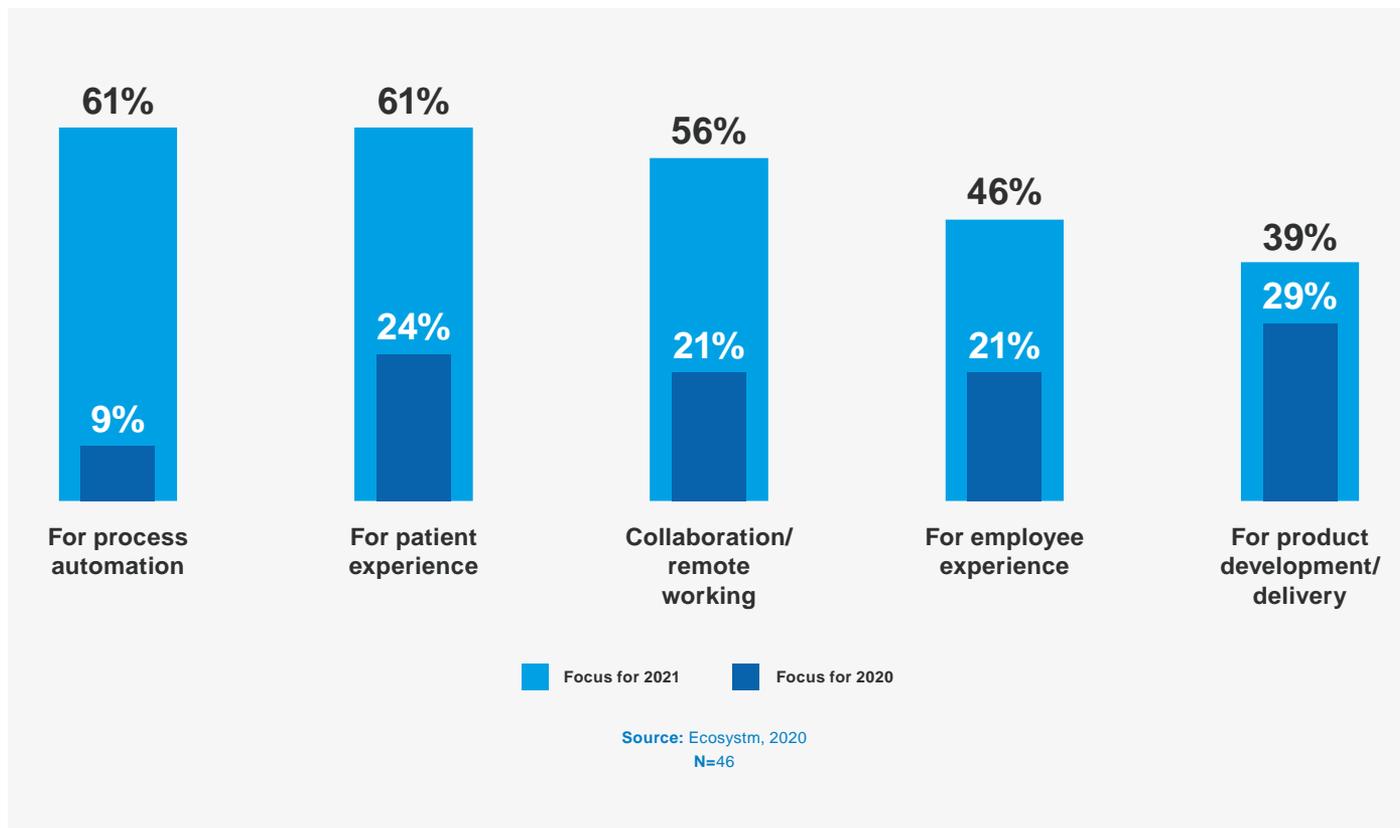
61% For process automation
9%

61% For patient experience
24%

56% Collaboration/ remote working
21%

46% For employee experience
21%

39% For product development/ delivery
29%

Focus for 2021   Focus for 2020

Source: Ecosystm, 2020
N=46

Figure 2. Healthcare Providers will Ramp up Digitalisation in 2021

A robust Patient Administration System will be able to bring these values:

- Ability to drive patient engagement outside the walls of the hospital

- Automatic and seamless patient identity authentication

- Quantifiable ability to reduce human contact in an industry that faces manpower shortage and ongoing health safety issues

- Demonstrable reduction of waiting period

- Better allocation of physician time

- Integration with EMR systems

- Seamless patient journeys - across outpatient and inpatient departments

- Scalability for extension of use beyond patient registration to other processes such as admissions and discharge

Implications for the Healthcare CIO/ IT Teams

Partnering to Transform. IT teams in healthcare provider organisations are stressed to ensure business continuity. Healthcare is an industry where off-peak periods cannot be predicted, and a system outage can often create life-threatening situations. Moreover, many hospitals in Asia Pacific - especially in the emerging economies in Southeast Asia - tend to have smaller IT teams. Technology providers are often key partners for major IT transformation projects, especially where there is not enough experience in deploying emerging technologies and there is a shortage of IT staff.

Evaluating an End-to-End Solution. A robust patient administration and registration system - as has been outlined before - leverages several emerging technologies: NLP, machine learning, facial recognition, image analytics, IoT devices and platforms, edge servers and so on. Engaging a technology partner that has the right internal capabilities and a partner ecosystem that can deliver all the technology capabilities will be an immense advantage to hospital technology teams.

Leveraging Industry Expertise. Healthcare organisations have their unique challenges and requirements. Partnering with a technology provider who not only understands the business model, but also the challenges and pain points of a typical hospital brings value to hospital Operations and Clinical teams. They are equipped with an understanding of patient journeys, and administrative and clinical workflows. They are able to design and develop solutions that require fewer customisations and are able to deliver better outcomes.

Case Study:

LacViet in Vietnam partners with Intel to leverage OpenVINO, and FPGAs and Programmable Devices that enables developers and their solutions to benefit fully from AI, cloud, edge computing and IoT technologies. The partnership allows LacViet to provide an end-to-end patient registration system that has mobile self-diagnosis, automated identity authentication, digital signage, and other patient self-service capabilities. These solutions have been deployed at My Phuoc Hospital (MPH) - a 500 bed hospital in the Binh Duong province of Vietnam - that receives an estimated 1,000 patients daily. Leveraging LacViet's Patient Administration System has allowed MPH to fully integrate their administration system with their hospital information system (HIS).

Conclusion

The next few years will be crucial for every healthcare provider organisation - they will have to evolve their business processes and increase technology investments, as the full and long-term implications of COVID-19 become clearer. What is clear is that they must make patient engagement the core of their business. Patient expectations have however evolved over time. They have better ownership of their health outcomes and demand a transparent healthcare process where they are kept informed at every stage of their journeys.

Healthcare providers should invest in a patient administration system that can address the pain points of their patients, as well as reduce the workload of their staff by automating the process. This system should leverage several emerging technologies such as NLP, machine learning, facial recognition, image analytics, IoT devices and platforms, and edge servers - technologies that are mainstream in other customer-focused industries. It is essential for healthcare providers to find a technology partner who can deliver value through the right partner ecosystem and industry expertise.

About the Author

Sash is a veteran in primary and secondary research with almost twenty years of experience analysing, writing and training in industries as wide-ranging as Public Sector, Healthcare, Education and Insurance.

As a Principal Analyst at Ecosystm, Sash helps us see the bigger picture by delving into our insights and developing thought leadership to show buyers and vendors alike where the industry is heading. She is also involved in delivering consulting projects and custom engagements.

Prior to Ecosystm, Sash was the lead Asia Pacific analyst at IDC for Healthcare and Education, where she was responsible for tracking current and future technology trends in the industries and liaising with the global team on projects and thought leadership. As an in-demand industry thought-leader, she was a regular speaker and panelist at industry events, and frequently moderated conversations between key policymakers and senior IT executives - which she continues to do for Ecosystm.

Sash holds a Masters in Education from the University of California, Irvine, and a Masters in English from Jadavpur University, India. When not at work, Sash works harder on keeping her boys and her cat in line. An avid reader, she is a keen student of the human psyche and of the sociological and genetic factors that shape it.

About LacViet

Founded 3rd Feb 1994, Lac Viet Corporation is a leading provider of IT products and services in Vietnam. They provide all types of software, hardware and services including: Software development; System integration, Online services with cloud based DC; Leasing and licensing by SaaS model; and System maintenance, BPM services. With thorough understanding of our client´s needs of market and professional deployment process (Quality Certified: CMMI Level 3, ISO 27001, ISO 9001:2008), Lac Viet commits to help clients accomplish more with added values from our solutions.

About Intel

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For information on Intel OpenVino, go to:
https://software.intel.com/content/www/us/en/develop/tools/openvino-toolkit.html

About Ecosystm

Ecosystm is a private equity backed Digital Research and Advisory Platform with global headquarters in Singapore. As a global first, Ecosystm brings together tech buyers, tech vendors and analysts into one integrated platform to enable the best decision making in the evolving digital economy. The firm moves away from the highly inefficient business models of traditional research firms and instead focuses on research democratisation, with an emphasis on accessibility, transparency and autonomy.

Ecosystm's research originates from its custom designed "Peer-2-Peer" platform which allows Tech Buyers to benchmark their organisation in "real-time" against their industry or market. This bold new research paradigm enables Ecosystm to provide Tech Vendors access to ongoing and real time Market Insights in an affordable "as-a-Service" subscription model.

This white paper is sponsored by LacViet and Intel. It is based on the analyst's subject matter expertise in the area of coverage in addition to specific research based on interactions with technology buyers from multiple industries and technology vendors, industry events, and secondary research.

The data findings mentioned in all Ecosystm reports are drawn from Ecosystm's live and on-going studies on the Ecosystm research platform. This document refers to data from the global Ecosystm CX Study and the Ecosystm Digital Priorities in the New Normal Study, based on participant inputs that include decisionmakers from IT and other Lines of Business, from small, medium, and large enterprises.

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