



DIGITAL PATIENT FOLLOW-UP

THE CHALLENGES OF HOSPITAL CIOs AS THE FUTURE OF HEALTHCARE IS RESHAPED

DISCUSSION SUMMARY

Powered by *Johnson & Johnson*

This article is based on conversations that took place during a CIONET Healthcare Circle event – powered by Johnson & Johnson – at Voizine in Haaltert on 9 May 2023. Digital patient follow-up was the event’s main topic. The event was chaired by Luc Hendrikx.

New technology has made it possible to work remotely. Mobile apps pass information about the patient to an online platform – automatically or otherwise. The doctor can monitor the patient's condition via the platform. If a certain parameter exceeds a critical threshold, the app notifies the doctor and/or patient.

This is just one of the many examples of online medicine that are in development or available today. Very often, the producer of the app works closely with a doctor during the development of a proof of concept. Once that is successful, it's all about rolling out the solution on a large scale. All too often, the IT department only really becomes involved at that point, when there's already a long list of issues around performance, security and governance.

The starting point of the conversation during the CIONET Healthcare Circle was to find out where the pain points are across the entire process. The goal was to unveil the most important requirements that CIOs impose on MedTech companies that want to further roll out their solutions at enterprise scale.

THINK ABOUT YOUR DIGITAL HEALTHCARE STRATEGY TOGETHER

There is a huge range of medtech available to both the doctor and the patient. Doctors often take the initiative to try out new applications, but too frequently this is done in an uncoordinated way. This poses the risk of an over-proliferation of apps. It creates a kind of shadow IT, where the IT department is insufficiently – or not at all – aware of which and how many applications are in circulation, while doctors are not always aware of the technical and legal requirements with which an application must comply.

It is essential that clinicians and IT understand that they must work closely together. IT can help clinicians choose the right applications. The problem is often that small-scale proofs of concept cannot simply be scaled up, a fact too easily ignored by some start-ups and – from an IT point of view – too easily accepted by clinicians. In the context of a hospital, IT is much more than a support service. IT is business critical. When IT fails, the entire hospital comes to a standstill. That's why IT relies on a well-thought-out strategy. In practice, doctors don't always see IT in that way, hence the temptation to take initiatives themselves that remain under the IT department's radar – whether on purpose or not.

It's striking that suppliers and doctors talk directly to each other, while in most other industries it's highly unusual for suppliers and business departments to maintain close contact without IT involvement. A simple way to avoid awkward situations like this is to ask doctors to pass all initiatives through the hospital's purchasing department. If the purchasing department suspects that a product relates to IT, it can then involve the IT department.

The underlying idea is that the IT department doesn't come down hard on the initiative in advance but is at least involved from the start. The art then lies in establishing whether and how the initiative fits within the hospital's IT strategy and the associated roadmap. If such a framework is in place, doctors will naturally be more inclined to turn to the IT department.

Our panel stress the fast rising need for more digital skills in the board of directors of hospitals as the sector continues to adopt digital technologies to improve patient care, create operational efficiencies and re-engineer decision making processes. Having board members with digital skills enables hospitals to navigate the complex landscape of healthcare technology, seize opportunities for improvement, and effectively govern the organization's digital transformation efforts. It allow the board to drive and assess the alignment between the IT department and the medical staff.

Additionally, digital skills can also help board members to assess the hospital's cybersecurity posture, oversee security protocols, and guide the organization in mitigating potential risks.

THINK ABOUT THE ECOSYSTEM

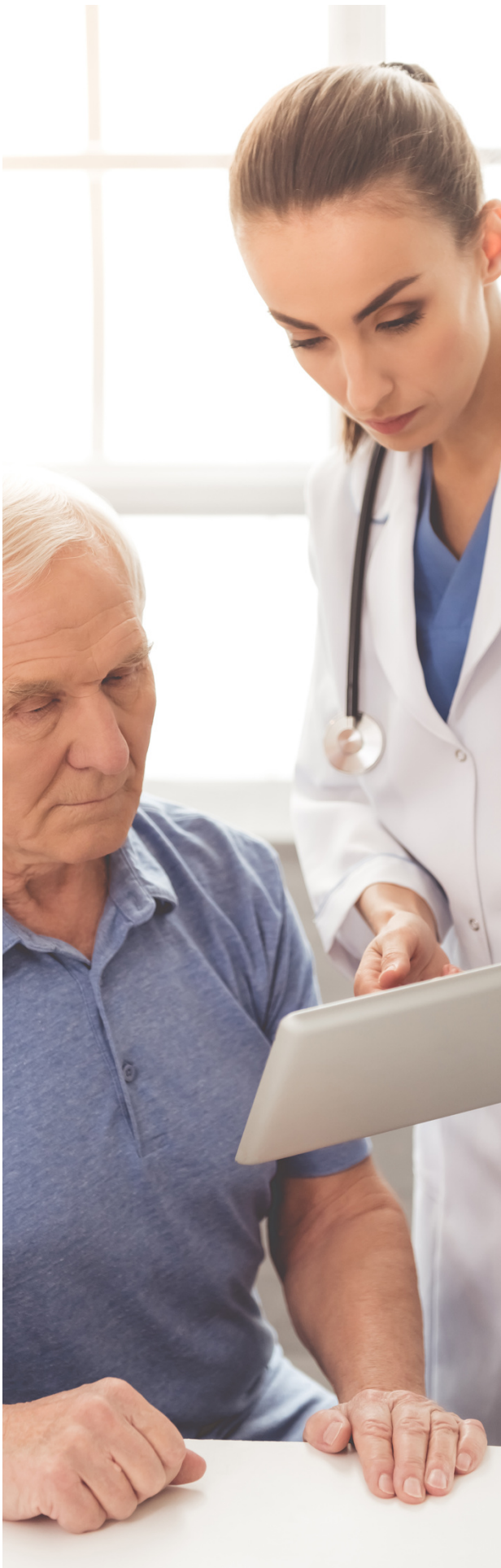
Start-ups naturally think of one specific application for one specific problem. Too often they fail to take into account that their solution usually only supports a small part of the doctor's or patient's reality. As start-ups grow and come up with more solutions, they build their own ecosystem step by step.

A hospital usually doesn't care about that. From the hospital's point of view, the basic principle remains that a new app only makes sense if the supplier succeeds in efficiently integrating it into the existing environment. A solution from one supplier that's only compatible with the electronic patient record of the same supplier is pointless, especially for hospitals that work with a different Electronic Health Record (EHR).



To prove the usefulness of Digital Patient Follow-up systems, MedTech companies are developing solutions that included all required components. This also includes building blocks that are already in place in the hospital IT environment and patients apps. Examples of such building blocks are: Authentication and Authorization features, patients questionnaires to collect Clinical Reported Outcomes (CROMs), Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs), rule based or AI/ML-powered filtering engines, browser based apps that allow the patient and the doctor to visualise data and even completely configured and locked down tablet devices that only allow to interact with a specific device such as an implant or ingestible.

Although these elements are very useful during the Proof of Concept and Pilot phase, they often are focussed on a singly pathology and rarely integrate and scale well according to the participating CIOs. Patients and doctors alike, don't want to find themselves with dozens of unintegrated applications. The CIOs would prefer that the MedTech companies focus on the core building blocks that they can integrate in the overall care process, the patient app of the hospital and the Electronic Patient Record.



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THINK ABOUT THE PATIENT

It sounds good to say that in the digital world it's no longer the doctor but an app that prescribes medicines. This quip reveals that even the medical world sometimes focuses too much on technology. Technology for technology's sake is never a good idea. It's important that quality patient care remains the starting point.

Application suppliers must be aware that their applications form one or more elements within a complete care process. They are building blocks that are part of a greater whole. When a wearable monitors a patient's blood pressure and alerts the doctor if a negative event or trend is detected, this contributes to the quality of the care path. After all, the alternative is that the patient comes to the hospital twice a month to have their blood pressure taken and continuous monitoring that allows for trend analysis is often more insightful than the absolute spot values. But again, in essence, this is not about the technology but rather about the quality of the care provided to the patient.

An important consideration here is that the digital process should not exclude any patients. The digital care path must be accessible to everyone, regardless of age, and even if the patient has difficulty reading or does not know Dutch, French or English.

The digital process also requires a different organisation of patient care within the hospital and the coordination between the hospital and the people involved in the aftercare outside the hospital such as the general practitioners, home nurses and physiotherapists. If the use of digital healthcare technologies allows hospitals to send patients home earlier in a safe manner, what are the implications in terms of split in roles and responsibilities between the hospital and the other care takers involved? Traditionally, the care of patient is the responsibility of the hospital within the walls of the facility and that responsibility is transferred back to the first line when the patient is discharged. However, this first line is not equipped with an operations centre to constantly monitor the alerts generated by these healthcare technologies, nor do they have the capacity in numbers to do so.

One hospital created a central nursing team dedicated to digitally monitor patients that had been released from the hospital after spine surgery and to interact with them through these new channels. As this allowed them to release patients earlier, they managed to staff this new function within their overall headcount, whilst improving the care provided to patients and streamlining the interaction with the first line of care.



THINK ABOUT THE FINANCING

Often, small-scale proofs of concept that were successful from a functional and medical perspective simply cannot be scaled up for financial reasons. The reality is that 80% of the IT budget consists of operational costs and there is very little space and budget for innovation. Most hospitals represented only have 1 IT person per 400 to 500 medical staff.

The financing of the solution is therefore often found to be a breaking point at the time of scaling. This is especially the case with start-ups who at the time of the pilot still have not really fleshed out their business model. All too often start-ups assume wrongly that the financing can just be found within the hospital's budget. The integration of these new Digital Patient Follow-up possibilities into the healthcare system and the financing through the imposed insurance for medical care in Belgium is gradually emerging. The intention is not to reimburse applications per se, but their use within the context of a specific care process. To embrace the use of such digital health technology and increase adoption, it is almost always necessary to innovate the financing of such a care process. This will therefore happen step by step and gradually more and more care processes and their financing will be adapted to today's needs and possibilities.

The first examples of Apps related to specific pathologies that are being reimbursed by health insurers are a fact. The panel mentioned the example of FibriCheck, a medically certified app (CE label class IIa / M2) that helps patients to monitor their heart rhythm and prevent strokes, is being reimbursed by Christelijke Mutualiteit, Helan, Liberale Mutualiteit and Vlaams & Neutraal Ziekenfonds. The moveUP Coach App that assists patients with an optimal treatment and rehabilitation for hip and knee arthroplasty, both before and after surgery, is the only application that reached level 3 light (I am in the process of proving my social-economic value and I am temporarily financed by NIHDI).

Our panel strongly supports the initiatives that already have been taken to integrate the development, use and adoption of new digital healthcare technology in Belgium. However, as indicated above, our panel feels that care processes cannot be looked at purely independently, but that an eco-system and patient centric approach are needed. Consequently, there should also be funding mechanisms for technological digital healthcare components that go beyond the boundaries of specific care processes.

Today there is still no system to finance the development and use of patient centric front-end apps that can be integrated in multiple care paths . Our panel believes that such an App would ideally be available nation wide and would support open interfaces that allow all healthcare providers to safely interact with it.

The panel made reference to the Covid apps and the national app that allows all people in Belgium to consult their digital prescriptions as examples of good practices from a patient centric perspective.

THINK ABOUT THE DATA

It is essential that the business case is sound from the point of view of the hospital, not just that of the supplier. Naturally, the hospital is interested in being able to add data from a new application, for example to the patient's health record. But the essential condition is that this works with the existing hospital's systems, not just those of the supplier.

A new application provides the greatest added value when its data can also be consulted and used elsewhere in the hospital's ecosystem. Ideally, the data from the application should be available in its raw, unprocessed form too. This allows the hospital to continue to use the data and, at the same time, manage it properly. Ultimately, the hospital remains the data custodian.

However, today, this is often not the case. One panellist shared the example of a pacemaker that is often implanted in their hospital that comes with a specific tablet. The data generated by the pacemaker, can only be consulted with that specific device that is complete locked down and cannot be used for any other purpose. No standard format is available that allows to extract the raw data (e.g. in an XML schema) and to integrate it in the Electronic Patient Record.

THINK ABOUT THE IMPACT ON REGULATORY PROCESS

New Digital Patient Follow-up technologies create a wealth of opportunities. However they also require the regulators to apply a new approach to balance risk, reward and costs. Obviously, the necessary precautions have to be taken to ensure patient security and avoid adverse effect to the extend possible. However, if every rule based or AI/ML-enabled filtering engine needs to go through the full certification process to qualify as a Medical Device, many of the benefits will be lost.

Regulators could consider to apply a much faster and less costly approach if the new technology only complements the existing care process. When a wearable continuously monitors a patient's blood pressure and alerts the patient and/or the doctor if a certain threshold is exceeded and the app asks the person to check in a traditional manner, this contributes to the quality of the care process. Even if the value measured or the evaluation thereof, is sometimes not fully correct, it does not hurt the patient. After all, the alternative is that the patient comes to the hospital twice a month to have their blood pressure taken. As the wearable and the rule engine in this example only complement the care provided a simplified qualification path could be considered. If all these solutions have to be processed through the regular medical device certification process, many of them will never see the light of day.

Conclusion

A supplier and doctor who want to set up a proof of concept together should always first align with the CIO of the hospital to get a good overview of the hospital's IT framework.

A major concern of the CIO is the fragmentation that can result from the rapid adoption of MedTech – a diabetes app, a blood pressure app, a knee implant app, and so on. In the long term, this proliferation of applications isn't sustainable, unless they provide added value not only to the doctor and patient, but also to the hospital.

However, the business case can be very simple. Hospitals usually have too few staff and too many patients. A convincing business case arises when an application reduces the administrative burden in nursing and at the same time ensures that doctors use their available time optimally with the right patients.

An app for remote monitoring of a patient can mean that that patient can be discharged from the hospital in less time. When that patient monitoring data is also available to other parties involved – for example, to the GP – the technology helps to more evenly spread the pressure across the sector.





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