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mission

Exploring the future of digital healthcare. A publication by Better.

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Postmodern EHR

Transforming care at Europe's leading healthcare institutions

PLUS • INTERVIEWS: Patrik Georgii-Hemming, Ari Järvelä, Julia Scott • Basel University Hospital • Universal Care Plan • GLOBAL ECHO: Wales, Italy, Switzerland, Slovenia • TRENDS: Products & Solutions, Better AI • openEHR + FHIR • INSIGHTS: Milestones & expectations • Better events • Better people • ***and more ...***

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Across the openEHR community, we share a commitment to creating an open platform for patient-centred health data. Based on a standard architecture for future-proof health information, openEHR offers a path from silos of data to longitudinal, patient-centred care - for life.

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A year has passed, and with the second edition of Mission in your hands, I can easily say a lot has happened in the past year. From milestone successes to some bold new steps, at Better, we continue shaping the future of healthcare with the same determination and the same goal.

One of the things I am most proud of is that the vision of the Postmodern EHR has really started to resonate in the healthcare community. It is great to see leading institutions in Europe like The Christie NHS Foundation Trust, University Hospital Basel, Karolinska University Hospital, and others adopting this concept, which enables a hybrid architecture combining a legacy (or new) EHR and a digital health platform. It demonstrates and confirms we are on the right path to making a real difference in digitising healthcare.

The work we are doing with our existing and new customers is also making a big difference. In London, we have expanded our services and added new care plans to the Universal Care Plan, and we have been chosen as the preferred supplier for ePMA in 5 out of 7 health boards in Wales. We have gained quite a few new customers, and the progress we are making in Spain, Greece, Sweden, Switzerland, and elsewhere is changing the way healthcare is delivered.

By placing interoperability and modularity at the forefront, we have redefined and expanded our product portfolio with innovative products and solutions that empower healthcare providers to deliver person-centred care. These efforts can help solve the most pressing issues in healthcare, but it is not just about technology, it is about improving care and making the whole healthcare process better. AI is also becoming an essential part of our innovations, future products and solutions, and the way we work. Integrating AI into our tools is set to bring efficiency and precision, helping clinicians and developers work more intuitively with healthcare data.

You can read all about this and more in this magazine, which provides an overview of everything we do together with our partners, customers, and, most of all, our amazing team. United by our values of sharing, collaboration, and innovation, we remain committed to improving health and care and accelerating digitalisation through cutting-edge technology, open data, and person-centred innovation.

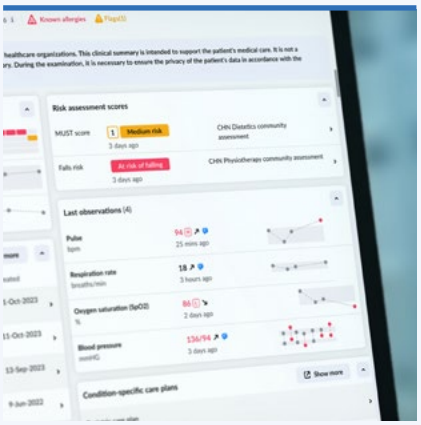
We are happy you are joining us on the Better mission, and let's continue to push the boundaries of what is possible in digital healthcare together.

Tomaž Gornik
CEO & Founder

IN THE SPOTLIGHT

GLOBAL ECHO

TRENDS



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BETTER PEOPLE

A cohesive, data-driven, and person-centric approach can revolutionise healthcare

Catalonia stands at the forefront of healthcare transformation, driven by our commitment to harness digital health technologies to enhance patient care, optimise resource utilisation, and empower healthcare providers. Our vision is clear: a unified, person-centred healthcare ecosystem where data flows seamlessly and securely across all care levels, ensuring personalised, efficient, and high-quality care throughout every patient's health journey.

At the heart of this transformation lies our commitment to build an open digital health platform, anchored by a single, longitudinal Electronic Health Record (EHR) for the entire region. This platform approach represents a fundamental shift from traditional monolithic systems, providing a modular, standards-based foundation that enables innovation and integration. We are creating a truly vendor-neutral ecosystem where care providers, technology partners, and innovators can develop and deploy solutions that seamlessly work together.

This open architecture, built on common standards and APIs, ensures that healthcare organisations maintain control of their data and systems whilst fostering innovation. Our comprehensive, interoperable system will integrate health data across primary care, hospitals, and specialised services. Through a central repository based on openEHR, we ensure healthcare data accessibility when and where needed, regardless of the specific system or provider.

The Catalonian digital health strategy thrives on collaboration. Clinical expertise drives our healthcare solutions, with clinicians and informaticians partnering on data modelling and clinical pathway definition. Meanwhile, IT specialists concentrate on developing robust, user-friendly applications.
This clear separation of responsibilities ensures our solutions effectively address both clinical and patient needs while maintaining technical excellence.

Among our flagship initiatives under this strategy are the implementation of a comprehensive medication management system, a region-wide remote consultation platform, and an integrated Patient Reported Outcome Measures (PROMs) system embedded within our patient portal. These initiatives work in concert to transform care delivery across Catalonia. The medication management system enhances treatment safety and effectiveness across all care settings, whilst our remote consultation platform expands healthcare accessibility and convenience. Our PROMs system ensures that the patient's voice is systematically captured and considered throughout the care journey. Together, these solutions demonstrate the power of our evolving digital ecosystem, where standardised, high-quality data drives better outcomes and more personalised care experiences.

As we build for tomorrow, our digital health transformation extends beyond current needs. We are establishing the foundation for predictive and personalised medicine, leveraging data analytics and AI to enable proactive and preventive care. This future-focused vision transforms our healthcare system from reactive to proactive, actively promoting and maintaining population health.

Whilst ambitious, our commitment to leading digital health innovation remains unwavering. Through these efforts, we aim to set new standards not only for Catalonia but for healthcare systems worldwide, demonstrating how a cohesive, data-driven, and person-centric approach can revolutionise healthcare delivery.

Jordi Piera Jiménez
Director of the digital health strategy office, Catalan Health Service (CatSalut)

Postmodern EHR

Evolution, not revolution

Written by: Tomaž Gornik
Image credit: iStockphoto, Better
Illustration: Artur Felicijan

As the famous quote from Bill Gates says:
"We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten".

Once hailed as revolutionary, the traditional monolithic Electronic Health Record (EHR) systems now show limitations. These mega suites were designed to serve as comprehensive solutions, from patient records to billing and analytics, and often struggle to meet the diverse needs of healthcare providers, leading to inefficiencies, high costs, and limited flexibility. Enter the Postmodern EHR—a new paradigm that combines stability with flexibility, innovation, and improved outcomes.

Acknowledging that incumbent systems are (almost) impossible to replace, the latest model offers a transformative alternative. It enables organisations to extend their legacy systems with modular, interoperable solutions that align more closely with their clinical and operational goals. Here we explore the concept,

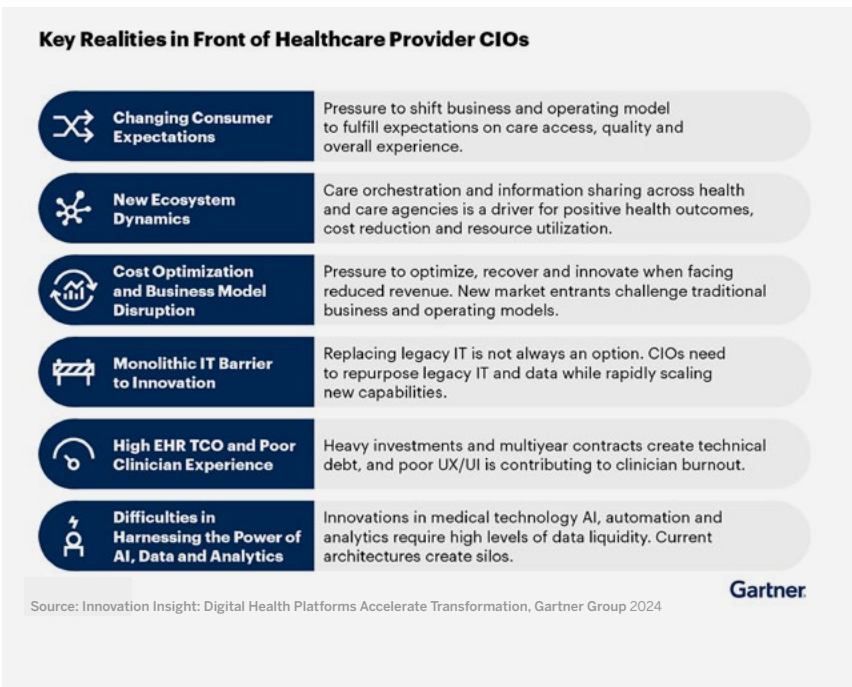
benefits, and reasons why it is being adopted by some of Europe's leading healthcare institutions.

The need for change

"If you do not change direction, you may end up where you are heading."
— Lao Tzu

The underlying reasons for change are still the same as when I started writing about a new approach ten years ago, but as the installed legacy software is that much older, the problem is much worse. Coupled with the increasing need for more and better data to explore opportunities with AI, demands of empowering patients with access to data, and a shift of focus from hospitals to regions requiring person-centred records, we are headed for a perfect storm.

Healthcare CIOs are also facing increasing pressure to respond, as the following slide from the Gartner Group sums up:



Continuing to rely on existing approaches will not solve the issues above. Healthcare needs to move beyond traditional EHRs to:

1. Address the limitations of monolithic systems

Traditional EHRs, while integrated, often come with significant drawbacks:

- **Lack of customisation**: They struggle to cater to different medical specialities' unique workflows and needs.
- **High costs**: Monolithic systems' implementation, maintenance, and upgrades are expensive and time-consuming.
- **Vendor lock-in**: Providers can become dependent on a single vendor, limiting their ability to innovate or switch to better tools.
- **Interoperability challenges**: Data silos and poor communication between systems hinder effective care coordination.

These limitations can negatively impact both provider efficiency and patient outcomes.

2. Respond to the demand for innovation

Healthcare is rapidly evolving. Emerging technologies like artificial intelligence (AI), telemedicine, and remote monitoring require systems that can adapt quickly. A Postmodern EHR architecture supports innovation by allowing healthcare providers to:

- Integrate cutting-edge tools without waiting for monolithic EHR vendors to develop similar features.
- Experiment with new technologies in a controlled manner, adding or replacing modules as needed.

3. Enhance the user experience

Clinician burnout is a growing concern, with EHR usability often cited as a significant contributor. Postmodern EHRs prioritise user-centric design by enabling role-specific interfaces and workflows. This tailored approach reduces cognitive load, streamlines documentation, and improves overall satisfaction.

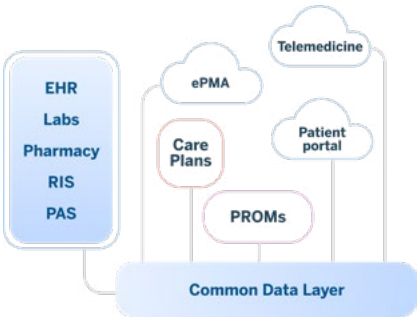
What is the Postmodern EHR?

When looking to implement or upgrade their existing IT infrastructure, leaders are faced with a choice between purchasing a monolithic mega-suite or adopting a best-of-breed approach. Each has its advantages and challenges.

Almost ten years ago, I described a hybrid approach that combined the benefits of the mega-suite and best-of-breed applications. I named the concept the Postmodern EHR and wrote several blog posts on the subject.

The architecture consists of existing (or new) EHR and best-of-breed, pre-integrated applications based on a standard, vendor-neutral common data layer (CDL). In addition, new applications are built

faster using a low-code approach, while UX consistency is achieved by adding a design system. The legacy EHR surrenders data to the CDL while low-code applications (or forms) built on top of the CDL can be embedded into the EHR front-end, creating a seamless user experience and a patient-centric care record at the same time.



Recently, Gartner described a new software category, the Digital Health Platform. This category includes a vendor-neutral data layer, low-code application-building tools, and a composable UX layer. It is a perfect fit for the Postmodern EHR architecture.

What are the key benefits?

As mentioned above, the best-of-breed approach and purchasing a megasuite each have advantages. The Postmodern EHR aims to combine the best of both worlds.

As healthcare organisations transition to a Postmodern EHR model, two key challenges emerge: integration complexity and data governance. The vendor-neutral Common Data Layer (CDL)—a centralised repository or platform that standardises and unifies data across all best-of-breed applications—effectively mitigates these issues. A CDL also provides a single point of validation, access control, and auditing, increasing data quality and improving governance.

The benefits of the Postmodern EHR

1 Flexibility and agility

Healthcare organisations can quickly respond to:

- **Regulatory changes**: Easily adapt systems to comply with new laws or standards.
- **Market demands**: Implement tools that meet evolving patient expectations, such as mobile health apps.
- **Clinical needs**: Support specialised departments with best-of-breed solutions tailored to their workflows.

2 Improved interoperability and data sharing

Using open standards like HL7 FHIR for exchange and openEHR for persistence, a Postmodern EHR ensures that data flows seamlessly between systems, supporting:

- **Better care coordination**: Providers across organisations can access and share patient information in real time.
- **Population health management**: Aggregated data enables more effective tracking and intervention at a community level.

3 Cost efficiency

By adopting a modular architecture, healthcare organisations can:

- **Avoid enormous upfront costs**: Invest in only the modules they need.
- **Reduce maintenance expenses**: Update or replace individual components without overhauling the entire system.
- **Negotiate better terms**: Minimise dependence on a single vendor, fostering competitive pricing and service quality.

4 Long-term data integrity

A common data layer (CDL) ensures that clinical data remains consistent and accessible, even as applications evolve. This setup supports:

- **Longitudinal patient records**: Maintaining a comprehensive health history over time.
- **Advanced analytics**: Leveraging structured, high-quality data for predictive modelling, decision support, and AI.
- **Secondary use**: Comprehensive, high-quality health data facilitates research.

5 Reduced vendor dependence

The Postmodern EHR frees healthcare providers from the constraints of a single vendor. This promotes:

- **Innovation**: Providers can adopt the latest solutions without being tied to a specific ecosystem.
- **Resilience**: The ability to switch vendors or applications without losing access to critical data or functionality.

6 Reduced risk

EHR implementations are complex, high-risk projects. The Postmodern EHR approach reduces risk by:

- **Complementing the legacy EHR**: New functionality is added while not disrupting the existing EHR infrastructure.
- **Phasing the transition** instead of a big-bang rollout allows organisations to start small and deliver value quickly before implementing the next step.

Why now?

As mentioned above, the Postmodern EHR concept is not new. Several factors contributed to the fact that we are now seeing leading European care providers adopting this concept: increasing pressure to modernise, lack of suitable offerings from existing vendors, and the increasing need for patient-centric health records for analytics, AI, and patient empowerment. Finally, the emergence of digital health platforms counterbalances the EHR in modern IT architectures.

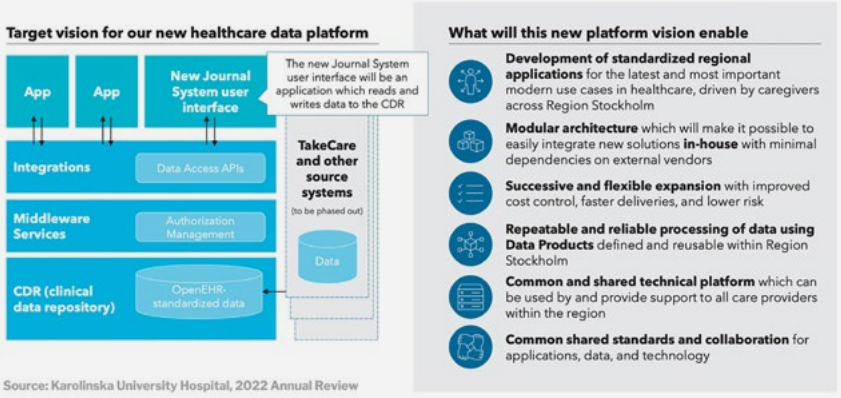
Gartner Group supports this view:

By 2027, healthcare provider CIOs will deploy over 50% of new healthcare-specific capabilities via digital health platforms to directly address critical outcomes.

Gartner Group 2024

We are already seeing this in the market. Leading providers like The Christie NHS Foundation Trust, Karolinska University Hospital, and Basel University Hospital have recently embraced the Postmodern EHR. There are differences in approach, but they all complement their EHR with a digital health platform as described above. They are building a patient-centric longitudinal care record based on openEHR, adopting low-code to accelerate delivering value and embedding newly built or bought application front-ends into existing EHRs and portals to ensure a seamless user experience. All have recently procured the Better Digital Health Platform. The Christie is modernising their home-built clinical applications, while Karolinska and Basel are considering a new EHR to replace their legacy EHR system. In addition, they will use the platform to migrate data from the legacy EHR while implementing the new system.

New modular open platform architecture at the Karolinska University Hospital



Source: Karolinska University Hospital, 2022 Annual Review

A new era for EHRs

The Postmodern EHR is more than a technological framework; it represents a new way of thinking about healthcare IT. By combining legacy EHR systems with modularity, interoperability, and vendor neutrality, healthcare providers can unlock greater flexibility and innovation while preserving stability. The benefits are clear: reduced costs, improved user experience, and better patient outcomes.

The shift may require bold leadership and a willingness to challenge the status quo, but the rewards are well worth the effort. The Postmodern EHR is not just the future of healthcare IT—it is the present, and it is already transforming how care is delivered at world-leading, data-driven institutions like The Christie, Karolinska University Hospital, and Basel University Hospital.

*By combining legacy EHR systems with **modularity**, **interoperability**, and **vendor neutrality**, healthcare providers can unlock **greater flexibility** and **innovation** while preserving **stability**.*

Europe's leading university hospital selects a new core data platform based on openEHR

Article published: July 2024
Image credit: Vladislav Zolotov, iStockphoto

Sweden's largest university hospital, ranked the best European hospital in Newsweek magazine's 'World's Best Hospitals' ranking, opted for a new healthcare model based on open data, with an openEHR digital health platform as the core. They have chosen the Better digital health platform and its low-code development tools, which will be delivered by Tietoevry Care.

The hospital set its openEHR strategy years ago. The target vision for the new healthcare data platform was set in their 2022 Annual Review, with the openEHR clinical data repository being the foundation of the future architecture. The framework procurement with the first call-off for openEHR software, a central data platform, and openEHR development tools was issued in 2023. All new systems will evolve from the openEHR platform, creating

"Being selected as the core data platform by one of the best hospitals in the world is a testament to our work and commitment to openEHR over the past 15 years."

a new ecosystem of self-developed and partner-developed applications, while the existing EMR will be phased out in the coming years.

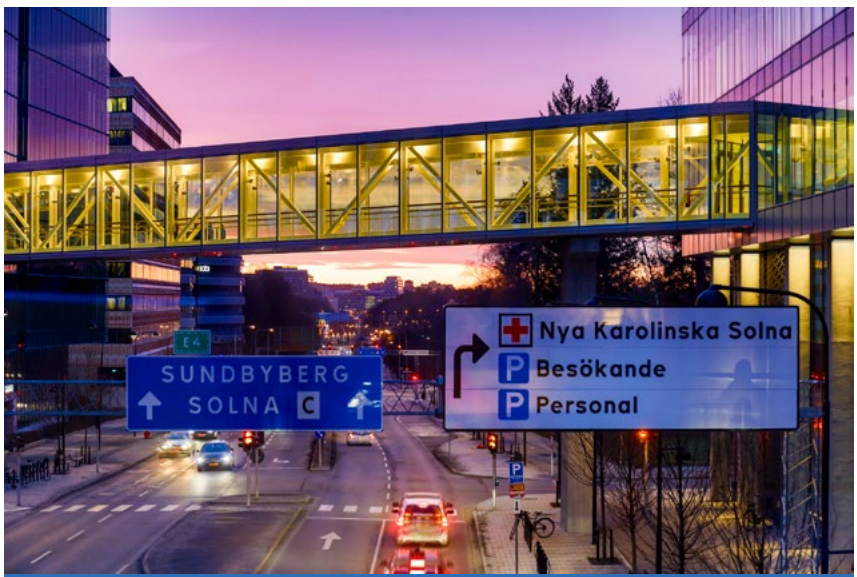
The university hospital has selected the Better digital health platform, which will be delivered by Tietoevry Care, together with other components that are part of the Lifecare offering. Better's modular architecture, based on a vendor-neutral CDR powered by openEHR and low-code tools, will allow the university hospital and other healthcare actors within Sweden's capital region to expand successively and flexibly when developing in-house applications with minimal dependencies on external vendors.

The platform approach will enable the university hospital to grow progressively and by controlling the development processes, it will significantly improve cost control and the pace of deliveries as well as lower the project risks. Such an approach will also enable more efficient and person-centered care.

Tomaž Gornik, CEO and founder of Better, commented: *"Being selected as the core data platform by one of the best hospitals in the world is a testament to our work and commitment to openEHR over the past 15 years. Technically, this framework is one of the most demanding procurements, pushing technology beyond today's boundaries. This is a great motivation for us to constantly improve our technology for the future, staying ahead, and being the driving force in the care transformation journey."*

The university hospital's strategy to implement a digital health platform based on open data, open data standards, and allowing them to build applications and free themselves from vendor lock-in, is a strategy that more and more hospitals, regions, and countries in the UK, Europe, and around the world are following. Among such cases are the City of London, several regions in Sweden, Catalonia, Greece, Wales, and others.

The duration of the framework agreement contract is four years, with a possible extension for two additional years.



KAROLINSKA UNIVERSITY HOSPITAL

- One of Europe's largest university hospitals.
- 7th best hospital in the world (2024 Newsweek "World's Best Hospitals" ranking).
- Located in Stockholm, Sweden, with its main sites in Solna and Huddinge.
- Closely affiliated with the Karolinska Institutet, which appoints the Nobel Committee responsible for awarding the Nobel Prize in Physiology or Medicine.
- A teaching hospital, providing education and training for medical students, nurses, and other healthcare professionals, in partnership with Karolinska Institute.
- Known for cutting-edge medical research and innovation, particularly in cancer treatment, regenerative medicine, and neuroscience.

1,086 beds

1,400,000 patient visits per year

1,500 clinical studies

15,300 employees

Written by: Brina Tomovič Kandare
Article published: December 2024

“Data must be accessible, accurate, and timely to support better outcomes”

“We opted for a digital health data platform architecture because it supports our vision of being truly data-centric and modular,” explained Patrik Georgii-Hemming, Chief Medical Information Officer at the Karolinska University Hospital, when we asked him about why they chose the platform architecture when designing the new data-driven strategy of Sweden’s largest university hospital. He also explained what role does openEHR play in this strategy, how they will leverage AI at the hospital, and what the future will look like.

You say that data should be at the centre of everything we do and that every healthcare transformation must be centred around data. How do you implement this at Karolinska University Hospital?
At Karolinska, we believe that good data is the foundation of effective decision-making for clinicians, patients, and researchers alike. Our entire healthcare process revolves around data, from the initial patient consultation to treatment decisions and post-care analysis. We ensure that every step is documented, and every decision is data-driven. For us, the key is to make data accessible, accurate, and timely to support better outcomes. This focus on data drives our digitalisation efforts, making sure it is integrated and readily available across the care continuum. One of the principles we also want to follow with the data is the FAIR approach, which is well-known in research, meaning that the data should be Findable, Accessible, Interoperable, and Reusable.

Can you tell us a bit more about why you chose health data platform architecture at Karolinska and how you see the benefits of DHP for clinicians?
We opted for a digital health data platform (DHP) architecture because it supports our vision of being truly data-centric and modular but also to “own the architecture”. Traditional systems often tie data to applications, which can limit flexibility and interoperability. With DHP, we prioritise data above the applications, meaning we can unlock valuable insights for clinicians, allowing them to make more informed decisions. With this architecture, the data flows seamlessly between different systems, from primary care to research, which ultimately enhances patient care, clinical decisions and clinical workflows.

You have said several times that the application-centric approach is not suitable, as data is tied up in different applications. Instead, we should opt for a data-centric approach. How can we make sure this shift happens, and how are you doing it at Karolinska?
Shifting from an application-centric to a data-centric approach requires rethinking our IT systems and processes. At Karolinska, we focus on decoupling data from applications. This is where open standards like openEHR play a crucial role, allowing us to standardise how data is stored and shared, independent of specific applications. By focusing on data first, we make the data accessible and reusable across various clinical and research systems, helping clinicians access the right information when they need it – the FAIR approach I have mentioned before

Why did you put openEHR as the standard for managing all the data in your strategy at Karolinska? Where do you see the benefits of openEHR?
We chose openEHR because it offers a flexible, vendor-neutral way to manage healthcare data. I have mentioned that for us it is critical to also "own the architecture" and the most critical part of it is the data. openEHR enables us to build tailored clinical applications while ensuring that all data is standardised and interoperable, or to be more precise, "intraoperable", meaning that the "data exchange" comes from within the data itself. Once you solve the persistence layer, meaning it is open and vendor-neutral, you completely eliminate the need for data transformation and exchange at the application level. Also, the ability to separate data from applications means we can adapt to evolving clinical needs without being locked into proprietary systems, and can change the front-end applications without conflicting with the underlying architecture.

Can you share with us some lessons learned in the process, and what would you advise similar hospital centres going in the direction of an open data approach instead of a monolithic system?
One of the key lessons we have learned is the importance of collaboration - both within the hospital and with external partners. Moving to a data-centric, open architecture requires a lot of alignment across departments. We have also realised that the transition requires careful planning to avoid disruptions in clinical workflows. For other hospitals, I would recommend starting with clear goals and focusing on current interoperability issues and legacy applications, the first use case that needs adapting or a completely new one that needs to be built. Think big, but start small – the implementation of one-for-all systems can last for years and will never fulfil their needs. Focus on what matters and deliver value fast, then build upon that with the other use cases. The platform approach allows you that.

Obviously, Karolinska is one of the best hospitals in Europe and in the world, but still, do you have any role models when it comes to modernising and digitising clinical processes?
We certainly look to leading hospitals globally that have successfully implemented digital transformations, particularly those embracing data-driven approaches. In terms of best practices, we are inspired by institutions that have pioneered person-centered care through the use of technology and those that focus on making data usable for both clinical and research purposes. We continuously learn from others and adapt those lessons to fit our specific context.

The emergence of AI presents both opportunities and challenges for healthcare. As we can see in the annual report, Karolinska is taking an active role in the development of AI. Can you share with us some examples of how AI is used at Karolinska?
AI is an exciting area for us at Karolinska. One example is in oncology, where we use AI to help assess patient readiness for the next round of cancer treatment. Patients input data through a mobile app, and the system integrates this with clinical data from previous treatments and lab results, allowing nurses to make informed decisions about whether to proceed with treatment or adjust the care plan. We also use AI in pathology reporting, improving efficiency and accuracy by automating certain processes and enabling quicker turnaround times for crucial clinical reports.

"OpenEHR enables us to build tailored clinical applications while ensuring that all data is standardised and interoperable, or to be more precise, 'intraoperable', meaning that the 'data exchange' comes from within the data itself."

Patrik Georgii-Hemming
Chief Medical Information Officer,
Karolinska University Hospital

Providing a more flexible, and future-proof IT architecture

Image credit: Tietoevry

Tietoevry is a leading software and digital engineering company based in the Nordics, offering a wide range of solutions. As one of its five businesses, Tietoevry Care is modernising the Nordic health and social care sector with modular, open, interoperable, and data-driven software.

Their flagship healthcare product, Lifecare EHR, is a comprehensive system designed to support healthcare providers in delivering efficient, high-quality care. Based on openEHR and by utilising structured data, Lifecare integrates patient information management, clinical workflows, and administrative tasks and ensures efficient care coordination. It provides healthcare professionals with a robust platform for managing patient records, care plans, and medical data, facilitating better communication and improved outcomes.

The partnership between Tietoevry and Better began in 2017 with the goal of strengthening healthcare systems by advancing openEHR-based technology. Through this collaboration, the Better digital health platform, built on openEHR, has been integrated into Tietoevry's Lifecare system. This partnership enables healthcare organisations to achieve a more flexible and future-proof IT architecture, supporting better data sharing across care settings and providing continuity of care. The companies are now working together in Finland, providing the Lifecare EHR system to 14 well-being regions and 2.5 million citizens, and Sweden, providing an openEHR based digital health platform for a world-leading university hospital, driving digital transformation in healthcare and equipping clinicians with better tools and more complete patient data for informed decision-making.

"As one of our key strategic development partners Better is at the core of enabling an open data model based on openEHR. Better has helped Tietoevry Care to build a robust clinical system that enhances data accessibility and interoperability, opening doors to more personalised care throughout the healthcare ecosystem. We deeply value this collaboration and are dedicated to supporting healthcare providers with innovative solutions that bring meaningful, positive change."

Ari Järvelä
Managing Director,
Tietoevry Care

“Better technology, together with our software, can bring a lot of value to hospitals”

Ari Järvelä is the managing director of Tietoevry Care. During his visit to Ljubljana, we sat down with him to discuss the (digital) healthcare systems in the Nordics, the benefits of adopting the digital platform approach, why they decided to embrace openEHR, and how they see the partnership with Better. *“Everything is better with Better,”* he said, adding that he really appreciates the collaboration of both companies to push for openness and modularity of healthcare systems.

Written by: Brina Tomovič Kandare
Article published: December 2024
Photography: Artur Felicijan

Finland is known for its strong healthcare system. How would you describe the current state of healthcare in Finland and other Nordic markets, and what are the key challenges healthcare providers face today?

In Finland specifically, we just moved to the new model. We called it Social and Healthcare Reform, and we formulated 21 well-being services counties and the City of Helsinki. They are fully responsible for organising everything from social care to primary care to secondary care. Social care in Finland is unique. It consists of helping elderly people, providing family care, and caring for refugees. In addition, primary care and secondary care are very similar across all Nordic countries.

In Finland, we are only in the very beginning. This is now the second year of the reform, but I think that it will help in patient flows, as an example. It is under the same governance, everything from your childhood to healthcare, and all the way when you are an elderly person. The aim is to harmonise everything and have one patient record. So, each of these 21 well-being services counties and the City of Helsinki will be using a one-patient record system. And everything, all the data, is there at the end. What is then unique about Finland is its strong national integration, where certain parts of these patient records are copied to the national systems, including prescriptions and the like. It is a relatively integrated system.

Norway and Sweden are slightly different as their social care and primary care are the responsibility of municipalities. There are hundreds of them, so it's much more fragmented from the system point of view but also from the decision-making point of view, whereas secondary care is organised on a regional level. So that is the difference between the systems in the Nordic countries.

About the challenges - they are pretty common across all Nordic countries and pretty much the same as elsewhere in Europe. The population is getting older and consuming more and more resources, and the lack of care personnel is a problem. Also, compared to many business-to-consumer types of businesses, I have to say that healthcare is falling behind. If you compare it to telecommunications, banking, or retailers, the end-user experience and digitalisation have fallen behind, and there is a lot to do in achieving a better digital experience and a lot of efficiencies to be gained there.

As you said, digital transformation or digitalisation is playing an important part. There are challenges, of course, but my question is how is Tietoevry Care contributing to this evolution? What's your role in this?

Overall, we have a pretty holistic role in the Nordics. In Finland, we now have 21 well-being services counties and we are the main system and digitalisation partner for 16 of them. The main partner means that we are providing them with the full health suite, including the social care customer record system as well as the EMR. We also provide them the full data and analytics, including advanced analytics capabilities for the secondary uses of data. We are in the pole position. In Sweden and Norway, we are the strongest in social care and primary care, whereas our current challenge, if you will, in these two countries is secondary care.

As you mentioned, you are playing a very important role in the Nordic market. What's your vision behind the Lifecare system, and how does it meet the needs of today's healthcare providers?

Just to clarify, Lifecare is our holistic product portfolio covering everything from social care to EMR to our data platform, advanced analytics, and AI solutions. We have two main guidelines when innovating and developing new products. One is tearing down the monoliths. I think the open architecture customers need to have a choice whether they want to have our clinical modules or somebody else's or develop them by themselves. And that requires open architectures everywhere, in clinical data repositories as well. The second thing on top of our minds is insights and data insights. We are investing a lot in advanced analytics to make them AI-driven. We want our AI vision to come true to help doctors make decisions on the operational side or clinical side. Our position in society is also the data integrator role. It is clear that advanced analytics and tools are useless if you don't have access to data. In our position, especially in Finland, we have access to health and social care data. But we

"We decided that we wanted to be open and modular and that our product, mission, and vision is to help our customers be in a better position when they are serving the patients. I think that was the trick."

have developed an extremely secure, the only actually CE-stamped data platform in Europe, with which we can ensure a secure way of integrating data and hosting the data. And then it is us or somebody else who develops the digital solution on top of that data platform.

Lifecare is deployed in over 70 healthcare centres in Finland.
Actually, nowadays, when we have moved to this social and health reform, we have 21 well-being counties, and we are the main player in 16 of them.

What makes Lifecare different, and what are the insights and feedback of healthcare professionals and organisations that actually use the system?
We measure the end-user experience on a regular basis. We actually have three different measurements. We measure product experience, how our customers feel about our product, whether it fits their purpose, and whether it is easy to use. The second is the delivery level experience, when we are delivering a service or product for our customers, how do they experience it? And then we have a relationship experience, where we determine how easy or not easy our company is to work with. And we get top scores in all three of them. We have really paid a lot of attention to the user experience. I think that, as a company, we have come a long way during the past 4 to 5 years. Typically, EMR systems are relatively complex and complex to use. And I think that the whole user experience has improved. Having said that, I think that we, as well as any other company, still have a lot to do to make this experience even smoother. If we take doctors, for example, we have a very flexible user interface, and doctors can formulate their own daily flows. It's also very flexible and allows users to change the UI based on their preferences and daily tasks. We have taken that approach, and we have gotten a lot of positive feedback.

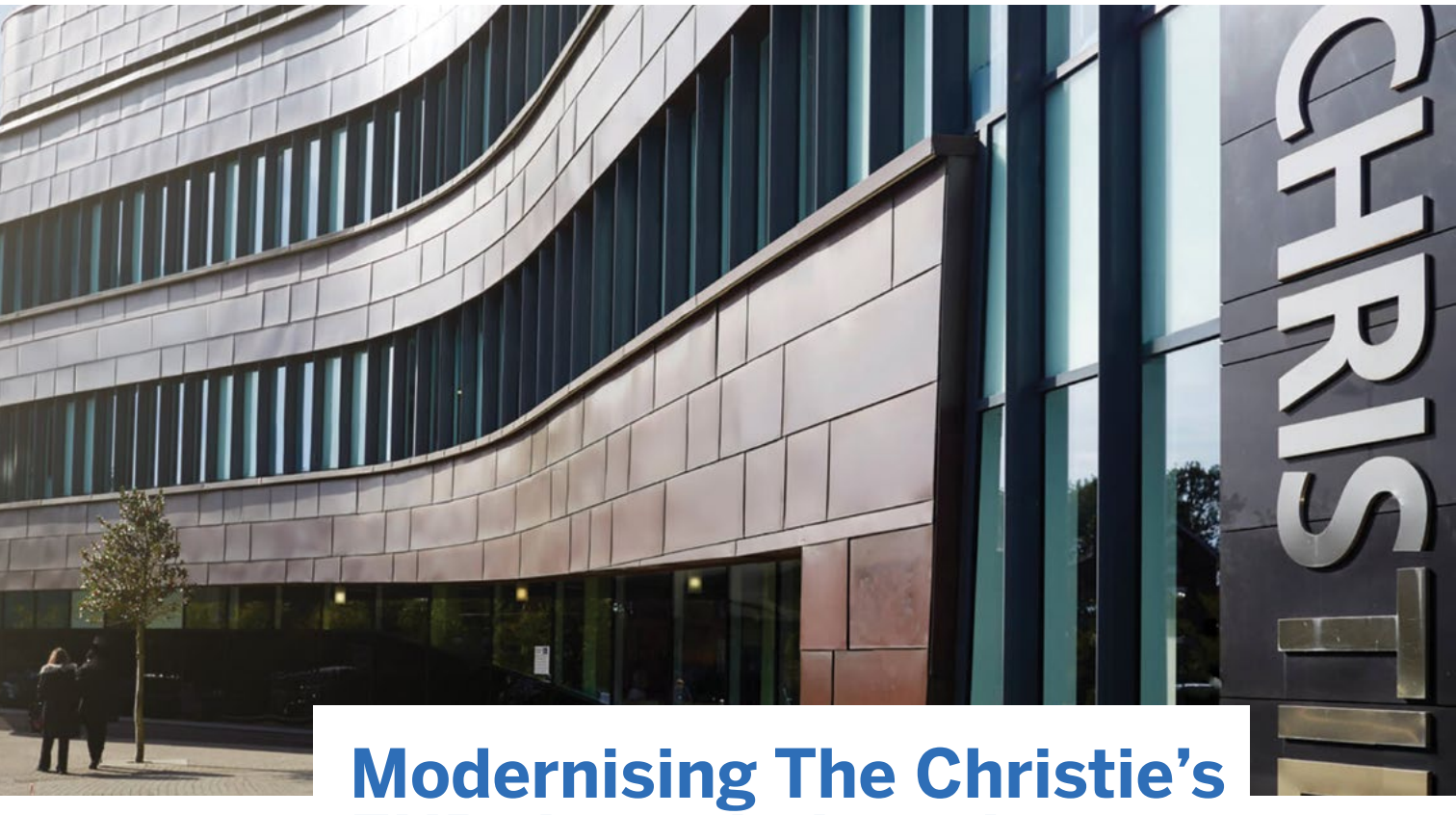
A very important part of Lifecare is also the Better digital health platform. How does it improve its capabilities, particularly from the perspective of healthcare organisations and clinicians, how does it work better with Better?
Everything works better with Better. You are one of our key strategic development partners and at the core of making it possible to have this kind of open data model based on openEHR. You have helped us to build the whole system around openness and modularity. You are providing us with the technology that makes it possible for us to develop our software on top of that. I'm super happy with the open atmosphere, an open collaboration between Tietoevry Care and Better.

The partnership between Tietoevry Care and Better started in 2017. Besides Lifecare, what has been the most significant achievement of this collaboration so far?
Karolinska University Hospital is, of course, one of those examples. The flagship customer for both of us in Sweden, which proved that we could bring a lot of value to the hospitals, regardless of their location. I think this is the case – your technology, together with our software. Actually, just last week in Norway, we launched our integrated primary health care solution, where we are combining our social care software with our clinical modules together with your platform. And I think that will be a totally new offering for the Norwegian market. Our first target is to get at least 50% of the municipalities in Norway as our customers. And I believe there are seeds for something bigger in the Swedish market as well.

You have also been a pioneer in adopting and promoting openEHR in the Nordic markets. What convinced you to embrace this standard, and how does it align with Finnish and Nordic healthcare systems?
We used to be a monolithic software vendor. We got a lot of feedback from our customers at the time, saying that our system does not integrate with other systems and that it's a

huge hassle to take any data out. At the time, we decided that we wanted to be open and modular and that our product, mission, and vision is to help our customers be in a better position when they are serving the patients. I think that was the trick. We listened to our customers, and then we changed our product and strategy dramatically to fit that demand. And I think it was absolutely the right decision.

The healthcare market and healthcare needs are constantly evolving. Can you share with us Tietoevry Care's priorities in terms of innovation and partnerships for the next 3-5 years?
Innovations happen in ecosystems. I think that the platform game is one thing. Take for example the Helsinki University Hospital, which is the biggest user of our data platform. We build the innovation platform, and in addition, there are many other tech companies, smaller and bigger, as well as the hospital itself, building innovations and new solutions on top of that data. We are only part of that ecosystem. Innovating together is important. AI is also definitely the name of the game today. In five or ten years, there will be many other new ideas and new opportunities. And we need to help our customers capture these opportunities.



Modernising The Christie's EHR through data-driven solutions

The Christie NHS Foundation Trust, the largest single-site cancer centre in Europe, is undertaking an ambitious journey to modernise its Electronic Health Record (EHR) system. This journey is focused on improving patient care through data-driven solutions, with an emphasis on structured clinical data, research support, and patient involvement.

Written by: Brina Tomovič Kandare
Image credit: iStockphoto

A patient-centric approach

The Christie, located in Manchester, serves approximately 3.2 million people and treats 60,000 patients annually, with a significant proportion referred for its expertise in rare and complex cancers. As a world-renowned institution, The Christie provides cutting-edge treatments, including proton beam therapy, and conducts over 600 clinical trials each year. Maintaining high-quality, structured clinical data is essential for improving cancer outcomes and advancing research efforts.

"Our role as a specialist cancer hospital means we must capture data that is accurate and comprehensive," explained the hospital's Chief Information Officer, **Alistair Reid-Pearson**. *"This enables us to push forward the boundaries of oncology research while providing the best possible care for our patients."*

Reforming care with patient-reported outcomes

One of the cornerstone initiatives in The Christie's transformation is the

implementation of the electronic Patient Reported Outcome Measures (ePROM) system. This system enables patients to report their symptoms and treatment outcomes via a user-friendly portal, providing accurate data to nurses and clinicians. This real-time feedback is of great importance in personalising care and fostering better communication between patients and clinicians.

Since its rollout, ePROMs have significantly improved both the patient experience and clinical efficiency. Within just four months, The Christie developed the first 24 ePROMs using low-code tools, demonstrating the agility and cost-effectiveness of this approach. Over 13,000 ePROMs have been completed to date, with a 59% completion rate, significantly improving the quality of data collected. Surveys show that 88% of patients felt more involved in their care, while 82% reported better communication with their care teams. The system has also saved significant time during appointments, helping staff focus more on patient care rather than administrative tasks.

"This is more than just data collection; it's about fostering a culture of continuous improvement and patient engagement," explained **Dr Thitikorn Nuamek (Pao)**, Clinical Research Fellow at The Christie. *"ePROMs allow us to understand and respond to patient needs in real-time, enabling informed decision-making and personalised care."*

The role of low-code development in innovation

Low-code tools have been instrumental in The Christie's transformation, as they have enabled the rapid development of applications tailored to the needs of clinicians and patients. *"Low-code has revolutionised our ability to innovate,"* said **Lauren Hindley**, Low-Code Lead at The Christie. *"It allows us to quickly deliver solutions like ePROMs while ensuring they meet the highest clinical standards."* By integrating low-code tools into its EHR strategy, The Christie makes its solutions effective and agile enough to adapt to evolving healthcare demands.

"Accurate and comprehensive data enables us to push forward the boundaries of oncology research while providing the best possible care for our patients."

Alistair Reid-Pearson
Chief Information Officer,
The Christie NHS Foundation Trust

Next steps: Improving medication management and safety

The upcoming implementation of an electronic prescribing and medicines administration (ePMA) system further builds on The Christie's strategy. Set to go live this year, ePMA will improve medication management and safety, contributing to better clinical outcomes. It will facilitate an embedded user interface with clinical staff able to access the medications from within the EHR, providing a better user experience and increased efficiency.

"We are excited about the potential of ePMA," said Lauren Hindley. *"This solution will integrate seamlessly with our existing systems, ensuring that we continue to improve the quality of care and patient safety across the trust."*

Since the ePROMs rollout, surveys show that 88% of patients felt more involved in their care, while 82% reported better communication with their care teams.

Advancing research and future care

As The Christie is transitioning from siloed systems to a platform-based, data-centric approach with openEHR at the core, this means high-quality, structured data is available for researchers and data scientists. The platform-based EHR approach integrates data across clinical, research, and operational domains, providing clinicians and researchers access to accurate, real-time insights.

This enables the trust to push the boundaries of oncology research, advancing cancer research, while ensuring clinicians have immediate access to insights that support personalised care. This shift has improved care delivery, assured data interoperability, reduced reliance on vendor lock-in, and provided the longevity and adaptability of the system.

"Our EHR journey is about creating a future-proof system that supports both clinical excellence and research innovation," said Alistair Reid-Pearson. *"By embracing openEHR, we are ensuring data interoperability, empowering clinicians, and driving better outcomes for patients."*

A model for the future of healthcare

The hospital's work in digitising healthcare processes is not just about improving day-to-day operations but is also about paving the way for a future where cancer treatment is more personalised, data-driven, and integrated across the healthcare system. By integrating ePROMs, using low-code tools, and adopting open standards like openEHR, the trust is setting new standards in cancer care and research.

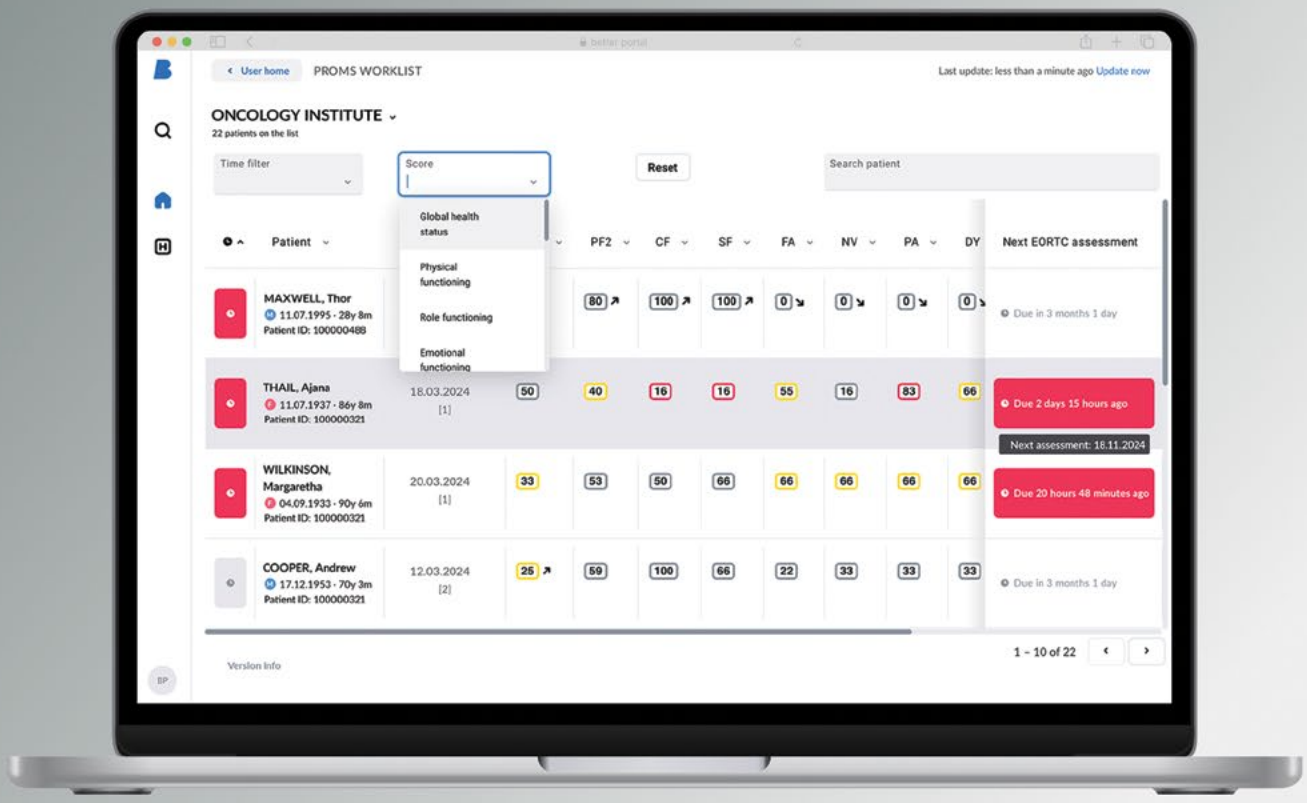
As The Christie continues to innovate, its commitment to delivering exceptional care and advancing oncology remains at the forefront, and its digital transformation is a testament to the power of data in improving patient outcomes and shaping the future of healthcare.

THE CHRISTIE

- Founded in 1901.
- The largest single-site cancer centre in Europe and the first UK centre to be accredited as a comprehensive cancer centre.
- Based in Manchester, the hospital serves a population of 3.2 million people across Greater Manchester and Cheshire.
- The hospital treats 60.000 patients a year and offers both inpatient and outpatient services, including radiotherapy, chemotherapy, and surgery.
- The hospital conducts more than 600 clinical trials annualy.
- It is home to the UK's first high-energy proton beam therapy centre.
- It specialises exclusively in cancer care, providing a range of services from diagnosis to advanced treatment, research, and education.
- The Christie is a leading centre for cancer research and clinical trials, collaborating with institutions like the University of Manchester and Cancer Research UK to develop new cancer treatments.

PROMs.

Capture, **manage**, and **analyse** patient-reported health and process outcomes.



Improve quality and efficiency of the care processes. **Better PROMs** enable you to create custom digital forms or use ready-made templates, bringing flexibility to every stage of the care process.

better

Supported by the leading industry standards

SNOMED CT openEHR IHE INTERNATIONAL Integrating the Healthcare Enterprise HL7 FHIR

Building the next-generation data platform at University Hospital Basel

University Hospital Basel (USB) will introduce a new data platform, based on the openEHR standard. The new data platform will be delivered by a consortium led by OWT, including Swisscom, x-tention, and Better, and it will improve the management, storage, and exchange of healthcare data, thus positioning USB at the forefront of digital health innovation.

Image credit: Universitätsspital Basel

The goal of the project is the development of a cutting-edge data platform that will be fully compliant with the openEHR standard, allowing for improved data interoperability, enhanced patient care, and long-term flexibility. Better will provide its Better Platform, including perpetual licensing with maintenance and support services, providing integration and future-proof digital healthcare delivery.

This project represents a milestone in Swiss healthcare, as University Hospital Basel takes an important step toward fully digitising its infrastructure with the support of industry-leading partners. Together, the consortium will pave the way for a more integrated, efficient, and person-centred healthcare system.

Better to provide Better Platform with all components

The consortium leading this initiative is presided by OWT, with Swisscom, x-tention, and Better as equally important partners. Each partner brings extensive expertise to the project, ensuring the successful realisation of University Hospital Basel's vision for a modern, efficient, and interoperable healthcare system.

OWT will lead the overall project implementation, bringing along its

vast experience in managing large-scale digital health projects. Swisscom, a key player in Switzerland's digital ecosystem, will provide the smooth delivery of the platform with its advanced digital solutions. x-tention will provide integration services, bringing its experience in healthcare IT and system interoperability.

Better will provide its Better Platform with all the components, including the low-code development tools, necessary for building and managing an openEHR-compliant data platform. This solution will not only enable USB to centralise health data management but also provide a scalable foundation for future innovations.

"A key component of the digital transformation journey"

"We are excited to be part of this transformative project with University Hospital Basel, one of the best hospitals in the world. The use of openEHR technology is a major step forward in creating a truly interoperable healthcare system, and our Better Platform is a guarantee for a future-proof, flexible, and equipped to handle the evolving needs of the healthcare sector system," said **Roland Petek**, Chief Operating Officer at Better.

Universitätsspital Basel

- One of Switzerland's leading medical institutions.
- Founded in **1842**.
- Serves a population of approximately **1 million people**.
- Offers comprehensive medical care across **12 medical centres** and **52 clinics and institutes**, covering all major disciplines.
- Known for **high-level research** and teaching in collaboration with the University of Basel.
- 4 values that define the hospital's strategy: **together** - **careful** - **courageous** - **responsible**.
- **80 clinical research teams** focus on **9 core medical fields** and seven interdisciplinary areas are aimed at advancing medicine.

84
nations represented

50,000+
patient visits per year

91
certifications for the highest medical quality

8,000+
employees

70
Doctors in ICU

“The data-driven hospital strategy emphasises the importance of clinical data quality”

Written by: Brina Tomovič Kandare
Article published: December 2024
Image credit: iStockphoto, Artur Felicijan

University Hospital Basel is establishing a data-driven hospital. Realising that high-quality structured data is essential for both clinical and operational effectiveness, they have moved away from isolated solutions and established a structured data factory, integrating data from 206 applications into a common data model. We talked to Bram Stieltjes, Department Head of Research and Analytic Services at the University Hospital Basel, about their strategy and moving to an open data platform.

Basel University Hospital has embraced a “data-driven hospital” approach over an intuition-based model. What motivated this shift, and what are some of the main benefits you have observed so far?
Initially, our group was responsible for data processing by building up a data warehouse where all data from all source systems (200+) were collected and sorted as far as possible. This has allowed us to realise some analytical use cases but also showed us the shortcomings of our data quality, especially with regard to clinical data. We had a collaboration with a large medtech company where we tested some clinical decision support tools, and we realised that we cannot use these tools with the data quality we have. This realisation has sparked the formation of the data-driven hospital approach.

This has led to a massive shift in our mindset regarding the importance of clinical data quality, patient centricity, a robust data model and an open data platform. This mindset shift is reflected in our public tender for an open data platform and is currently even proliferating on a regional level.

You said that centralised, high-quality structured data is critical for both clinical and operational

"The introduction of the openEHR platform with its structured data will enhance both AI training as well as providing possibilities for integrating AI into clinical routines later on."

efficiency. How has the hospital implemented centralised data capture, and what challenges have you faced?
Currently, we are finalising the tender and setting up a roadmap for implementation. This includes concepts for integrating data capturing for research into routine clinical care, making data models more patient-centric and participating in the international community for data modelling. There were many challenges, especially regarding the mindset shift. One of them was to establish an understanding of the differences between the status quo, a silo-based system depending on exchanging data, to a patient-centric data model.

Basel University Hospital has incorporated a digital health platform and openEHR standard as part of its data strategy. How do these tools support the hospital's goals for unified, high-quality data management?
Here we should highlight the importance of having a central data dictionary, which is also one of the core principles of openEHR. We believe that by defining the data once and applying these definitions to the whole ecosystem we can improve our data quality tremendously.

AI seems to play an important role in Basel's data-driven strategy. Could you share with us how AI is integrated into the hospital's data environment, and what specific applications or improvements AI has brought to patient care?
The data-driven hospital strategy emphasises the importance of clinical data quality. This is a critical criterion both for AI training and implementation. Currently, our AI development uses the data warehouse as its core infrastructure with the limitations mentioned above. The introduction of the openEHR platform with its structured data will enhance both AI training as well as providing possibilities for integrating AI into clinical routines later on.

Looking forward, what are some of the next steps in Basel's journey as a data-driven hospital, particularly with respect to building out real-time data availability and integrating AI further into clinical workflows?
Deploying the platform in a productive environment, managing migration of legacy data, setting up a roadmap of use cases and applications to be moved to the platform. Also, we need to ready our organisation for fast, incremental development of clinical functionality.

B

"We believe that by defining the data once and applying these definitions to the whole ecosystem we can improve our data quality tremendously."

Institute of Oncology Ljubljana is implementing a Postmodern EHR based on Better Platform

The Institute of Oncology Ljubljana, a leader in cancer care in Slovenia, is taking a bold step forward in digital healthcare by embracing a postmodern approach to electronic health records (EHR). This initiative will modernise the Institute's digital infrastructure, delivering a unified, patient-centric ecosystem that integrates clinical, administrative, and operational workflows.

Written by: Anže Droljc, Brina Tomovič Kandare
Article published: December 2024
Image credit: iStockphoto, Artur Felicijan

This project, due to be implemented over the next two years, is an important milestone for the Institute of Oncology as it builds its EHR system from the ground up in collaboration with several vendors. It is supported by a multi-tiered, modular architecture that uses openEHR for clinical data and FHIR for operational data. By adopting the postmodern approach, the Institute is revolutionising its operations and setting a new standard for digital health innovation in Slovenia and beyond.

A platform-based transformation

Central to the Institute of Oncology's vision is implementing the Better digital health platform, which includes core components such as the Clinical Data Repository (CDR), Operational Data Repository (ODR), EHR Studio, and Clinical Portal. Together, these components form the foundation of a modular, flexible ecosystem that will support all

aspects of the Institute's operations, from patient administration to clinical care and research.

The Institute has also partnered with a Slovenian partner, 3FS, a software development company, to design and implement a new modern Patient Administration System (PAS) that runs natively on the Better platform and stores, updates, and reads data in real-time from openEHR and FHIR repositories. 3FS will complement the clinical modules that the Institute already uses to support clinical processes such as Better Meds, eObservations, Clinical noting, Nutrition management, Order coms, etc. With openEHR and FHIR standards, the Institute of Oncology is creating a robust, interoperable framework that will enable data availability, sharing, and collaboration across systems and vendors.

Unified user experience

One of the most innovative aspects of this initiative is the focus on providing clinicians and administrative staff with a unified, user-friendly experience and a unified patient record. By embedding Better's clinical modules – such as medications management, nursing, nutrition, and order communications – directly into the PAS, the Institute of Oncology provides users with access to critical patient information and clinical tools within a single, cohesive interface throughout all the steps of patient care.

The Institute is adopting a context launch approach for larger, specialised clinical applications. This will enable the integration of external systems while maintaining the unified look and feel of the platform. Task lists, such as patient lists for individual departments, will also be integrated directly into the platform.

Expanding capabilities with preventive care

The Institute of Oncology is also modernising its digital capabilities that support its initiatives of preventive care. The Institute recently completed a tender for DORA, a national breast cancer screening program, and is developing modules for cervical cancer screening (ZORICA). These new digital solutions developed by Slovenian IT companies will also run natively on the Better Platform and manage data in real-time using openEHR and FHIR data repositories, ensuring that all patient data will be accessible across all levels of care, from prevention to treatment and also linked to a national Central Registry of Patient Data (CRPD).

Building a unified patient record

A cornerstone of the Institute's vision is creating a unified patient record that consolidates clinical and operational data into a single, accessible source. The platform is designed to synchronise patient demographics and clinical data with Slovenia's national CRPD backbone, which is also built on Better Platform and uses openEHR and FHIR data repositories. This ensures that all relevant patient data is available to other healthcare providers in Slovenia.

With the integration of multiple vendor solutions into the Better Platform, it is becoming a collaborative ecosystem where different applications, tools, and technologies work together to improve patient care.

A vision for the future

The Institute of Oncology's commitment to adopting a platform-based, postmodern EHR reflects its forward-thinking vision for digital health, which will support the needs of medical teams and the Institute. With the use of openEHR and FHIR, the Institute is building a modern, future-proof system that supports innovation and adaptability. This approach will also lay the grounds for all new tenders to align with the platform and its standards, positioning the institute as a leader in digital healthcare transformation.

Over the next years, the Institute plans to fully implement its unified patient record system, integrate preventive care modules, and expand its capabilities to meet the evolving needs of patients and clinicians.

Better Meds as the electronic prescribing and medicines administration solution at Betsi Cadwaladr University Health Board

Betsi Cadwaladr University Health Board (BCU), the largest health board in Wales, will deliver an electronic prescribing and medicines administration (ePMA) system to digitise the lifecycle of a prescription. They have chosen Better Meds, an ePMA system that will replace paper-based processes with digital workflows across 40+ hospital and community sites to manage a patient's medication record and prescribe medications.

Article published: October 2024
Image credit: iStockphoto

Through the major digital implementation, BCU will improve the way patients, clinicians, and pharmacy teams prescribe and manage medicines for more than 700,000 people across six counties in North Wales.

Digitising these workflows will make prescribing far more efficient and effective, drive improvements in patient safety and medicine management governance, and reduce medicine administration expenditures. By providing timely access to a patient's medicine record and allergy information, the health board expects to reduce the risk of errors while transcribing. Overall, transcribing time is forecast to reduce due to clinical data being made available and shared electronically which will release time to care. The reduction of paper will also support the environmental initiatives BCU is working towards.

Mandy Jones, Deputy Executive Director of Nursing and Senior Responsible Officer at BCU said:

"This is an important project because it is the first stage in our electronic health record strategy. It will transform services across our hospitals to streamline processes for the benefit of patients and staff. We have taken a user-centred design approach and brought together a team of clinicians, nurses, and pharmacy staff who have engaged with users across many of our services to get their input into how this is going to work."

"We are one of the first in Wales to start this work, which will support Digital Health and Care Wales' programme. These wider Welsh Government initiatives will support breaking through organisational boundaries and create a shared medicines record across Wales. We will be working closely with the national team and other health boards to share learnings and insights to achieve the wider national objectives."

Adrian Aggett, Client Director at Better UK & Ireland, said: *"We are thrilled to be supporting BCU as it kicks off its comprehensive digital strategy with ePMA. The patient safety improvements and efficiency gains are incredibly high, meaning they will make a big difference in the initial stages of BCU's digital plans. We will be working closely to ensure it strengthens care collaboration, facilitates a full overview of the patient medication record, and integrates with the EHR system to achieve the highly anticipated benefits for patient care and efficiency."*

"We have taken a user-centred design approach and brought together a team of clinicians, nurses, and pharmacy staff who have engaged with users across many of our services to get their input into how this is going to work."

Mandy Jones
Director of Nursing, Betsi Cadwaladr University Health Board

The health board has recently entered the implementation phase of the project and is working at pace with Better to deploy the new system by March 2026.

Better has been chosen as a preferred supplier by 4 other health boards in Wales.

Betsi Cadwaladr University Health Board is the largest health organisation in Wales, with a budget of £1.87 billion and a workforce of over 19,000. It is responsible for the delivery of health care services to more than 700,000 people across the six counties of north Wales (Anglesey, Gwynedd, Conwy, Denbighshire, Flintshire and Wrexham). The Health Board coordinates the work of 96 GP practices, and NHS services provided by 78 dental and orthodontic practices, 70 optometry practices and opticians and 145 pharmacies in North Wales.

Envisioning seamless sharing of digital meds data in Wales

Digital Health and Care Wales (DHCW) is embarking on the creation of a shared medicines record for the whole country. The Digital Medicines Transformation Portfolio will include a shared medicines record, a patient access project, a secondary care ePMA programme, and a primary care electronic prescription service.

Article published: May 2024
Image credit: Better

At our Better Meds community event in April 2024, **Keith Farrar**, Deputy Senior Responsible Officer for Wales' Shared Medicines Record (SMR) programme at DHCW, presented the shared digital medicines record vision for Wales. He provided some reasoning for why it is worthwhile to invest in medicines:

1 **Widespread therapeutic use**
Medications are the most widely used therapeutic intervention, with almost everyone receiving some form of medication, including surgical patients.

2 **Prevalence of medication errors**
Medication errors are common and harmful, occurring in about 10% of all written prescriptions and 5% of all drug administrations. These errors account for 6.5% of all hospital admissions.

3 **Importance of medicine management**

Managing medicines is crucial for several reasons:

- Addressing antimicrobial resistance, a critical public health issue.
- Enabling better treatment and procurement strategies through an effective epidemiological perspective.
- Facilitating the development of AI support systems with accurate and comprehensive medication data.

The medication journey involves numerous interactions with various applications and systems, even for the same patient and the same medicines. In acute care, medication data is constantly being transferred between different settings. This creates several medication data silos that must exchange information efficiently to ensure continuity and accuracy of care.

Shared medication record and how will it work?

The shared medication record will be a centrally held store populated by all significant medicine events in any approved healthcare system across the country. Data will be pulled from secondary, tertiary, community, and primary care, along with citizen systems and wider services such as social care, care at home, care homes, private care and hospices. It will record every new prescription, prescription update, dispense, and administration for each patient and make it available to health and care professionals in a context-specific way at the point of need.

Creating a shared medication record revolves around the adoption and implementation of robust standards. These standards include patient identifiers, organisation identifiers, encounter context, user identifiers, medicine identifiers, and meta-data codes (such as dosage information). Additionally, message structures and behaviors are defined using FHIR. The key to success lies in achieving inter-operability and widespread adoption of these standards. Interoperability enables all healthcare systems to connect seamlessly through a unified set of APIs, ensuring that medication data can be accurately and efficiently shared across different platforms and care settings. This standardised approach is essential for creating a cohesive and reliable medication record accessible to all healthcare professionals when needed.

"Standards are essential because computers require precise instructions to process and exchange information effectively, ensuring consistency and reliability in data handling."

Keith Farrar
SRO, Wales Shared Medicines Record

In acute care, medication data is constantly being transferred between different settings.

GIG CYMRU NHS WALES

The envisioned benefits of the project are:

- **Reduced risk of errors** while transcribing by providing timely access to patient medicines and allergy information.
- **Reduction in transcribing** time as clinical data is made available and shared electronically, releasing time to care.
- **Supporting NHS Wales research** as medicines and allergy data is made available.
- **Empowering patients** in their health care by **giving them secure access to their records**.
- Projections estimate the integrated record will **reduce errors by at least 40%** and **save 800 bed days** and **£383,000 annually**.

Article published: May 2024
Image credit: iStockphoto

CONCERTO project: Bringing paediatric rare disease research to the next level

In an effort to revolutionise the diagnosis and treatment of rare immune-mediated diseases in children, Better, with its digital health platform, is a part of the cross-border CONCERTO project. The project will elevate paediatric rare disease research, focusing on harmonising clinical approaches and treatment strategies as well as disseminating the cross-border database.

The CONCERTO project builds upon the achievements of its predecessor, the CATTEDRA project, which set up four registries to improve the therapeutic methodologies and diagnostic possibilities of rare immune-mediated inflammatory diseases in children. It also digitised essential forms, laying the groundwork for cross-border collaboration and data-driven insights essential to tackling rare diseases effectively.

The CONCERTO (CrossbOrder Network for ChildrEn RheumaTolOgy) project is now building on this success, as it intends to develop further a jointly produced database of paediatric patients suffering from immune-mediated rare diseases in the Programme area. The consortium of partners in the project include I.R.C.C.S. materno infantile Burlo Garofolo, Univerzitetni klinični center Ljubljana, Experteam srl, Università degli Studi di Trieste, Azienda Sanitaria Universitaria Friuli Centrale, and Better. The partners have agreed to refine the database, which is built on the Better digital health platform, to advance diagnostic tools, transfer the database, and thus drive progress in paediatric rare disease research.

By August 2025, the CONCERTO project will improve and expand the cross-border database of rare paediatric diseases and make it more user-friendly, also with a view to its possible transferability to other institutions. It will build an enhanced database of immune-mediated rare diseases in children and strengthen it with new data and new functions that will contribute to better clinical practice and research. The project then aims to open up the database and facilitate its transfer to partner institutions and dissemination to aid researchers, where it will be used as a tool for further research activities and scientific publications.

Once finished, all the outcomes of the CONCERTO project will empower clinicians and researchers from different environments to better understand and address rare paediatric diseases by streamlining data collection and analysis, ultimately improving patient outcomes and quality of life.

"We are very happy that we get to continue and elevate the results of the CATTEDRA project even further with the CONCERTO project. I think it stands as a testament to the power of collaboration in driving innovation and progress in paediatric rare disease research, and we can really see the important role technology plays in such research. An important component of the project is also the transfer of the database to other institutions, as it will only further the possibilities of developing new diagnostic tools for rare diseases in children," said **Jovan Pavićević**, International Markets Director at Better.

Interreg Italia-Slovenija
CONCERTO

Cofinanziato dall'Unione europea
Sofinancira Evropska unija

Objectives of CONCERTO:

- **Improving** and **expanding** the cross-border database of rare paediatric diseases.
- **Transferring** the database to partner institutions.
- **Disseminating** the database to aid researchers.
- **Enhancing** feasibility studies for new diagnostic tools.

Article published: October 2024
Image credit: Kantonsspital St.Gallen

Kantonsspital St.Gallen selects Better for a pilot project to manage lab data

Kantonsspital St.Gallen has chosen Better to implement a Clinical Data Repository (CDR) solution for a pilot project focusing on lab data management. This project marks an important step towards optimising clinical data management and providing interoperability within the hospital's IT systems.

The project will see the use of the Better Platform, focusing on one specific use case, lab data, within the hospital's digital ecosystem. With Better's technology, Kantonsspital St.Gallen will gain improved data accessibility, a scalable infrastructure, and a better approach to managing patient data.

As part of this pilot initiative, Better will deliver its Better Platform, an innovative product for managing health data, tailored to Kantonsspital St.Gallen's requirements. The solution will support the registration and management of up to 2 million EHR IDs (electronic health records), ensuring efficient and secure handling of lab data.

The scope covers the clinical data repository for lab data, license, maintenance and support, and comprehensive project services to ensure successful implementation. The pilot project will be implemented over a period of 6-8 months.

Roland Petek, COO and Managing Director of Better Germany said: *"Partnering with Kantonsspital St.Gallen on this pilot project is of great importance. Our Better Platform is perfectly suited for lab data management, and we are confident that this initiative will demonstrate the value of openEHR-based technology to improve data accessibility and overall operational efficiency"*.

Stefan Panic, data architect at Kantonsspital St.Gallen, also board member of openEHR.ch, added: *"At Kantonsspital St.Gallen, we are committed to take our digital capabilities to another level, and this pilot project with Better is an important step in that journey"*.

This project is an important step forward in Kantonsspital St.Gallen's digital strategy. It offers a scalable and future-proof solution for managing clinical data. With the successful completion of the pilot project, the solution could be expanded to cover additional use cases, positioning the hospital at the forefront of digital health transformation in the region.

"We are committed to take our digital capabilities to another level, and this pilot project with Better is an important step in that journey."

Stefan Panic
Data Architect, Kantonsspital St.Gallen

Universal Care Plan breaks usage records with new integrations and sickle cell care plans

The Universal Care Plan (UCP), OneLondon's shared care planning solution powered by Better, has integrated with the NHS National Record Locator (NRL), the NHS App, and extended care plan support for people with sickle cell disease. At the end of 2024, the care plan was transformed into a personalised care and support plan, with patient preferences and wishes at the fore.

Article published: November 2024
Image credit: iStockphoto

The UCP is a dynamic, integrated, digital care planning tool, which is accessible to all health and care professionals across London. It communicates citizens advance, urgent, and personalised care information and can be continuously co-created by any user in London, and displayed via the London Care Record and primary care systems. These latest developments within the solution, which spans five integrated care boards across London, are helping to further integrate care, improve patient outcomes, and drive up engagement, in some cases at record-breaking levels.

Introduction of sickle cell care plans

Expanding the UCP to support individuals with sickle cell disease is an important step, following the No One's Listening report, which called for major changes in sickle cell care. Sickle cell disease affects approximately 15,000 people in the UK. With symptoms ranging from anaemia to severe pain episodes known as sickle cell crisis, managing this condition effectively requires comprehensive care planning and prompt treatment interventions.

Approximately 65% of people diagnosed with the disease have their treatment in London. Since the launch of the care plans, 6,600 people with the disease now have a plan on the integrated care platform, meaning the service is close to supporting everyone who is cared for in the capital.

Nick Tigere, Head of the UCP Programme, said: *"I think this is a real game changer for people with sickle cell disease. They are now able to confidently seek the medical attention they need while in crisis, knowing fully that the services they attend, wherever they attend in London, will be aware of consolidated key information on diagnosis, symptom management, and treatment options. Supporting healthcare professionals with immediate access to this critical information facilitates timely interventions and improved care. It really has been transformative for people's care pathway".*

"Supporting healthcare professionals with immediate access to this critical information facilitates timely interventions and improved care."

Nick Tigere
Head of Programme,
Universal Care Plan

National Record Locator integration

With the new National Record Locator (NRL) integration in place, London and out of London urgent care services are now able to view a UCP on route when responding to a patient in need. This means that a patient's care plan, particularly their symptom management requirements, can be delivered immediately as the paramedics make contact with the patient, even when they are away from London. Following the go-live, the number of plans accessed by the Ambulance Service has increased by 20% due to the increased access the integration is providing.

The NRL is an NHS service that allows health and care professionals to find and access patient information shared by other health and care organisations across England to support patient direct care.

NHS App integration

Patients can now also access their UCP in the NHS App, which is a further step towards putting the patients at the heart of their care planning. It means patients have their plans at their fingertips to show healthcare professionals as they move around London and across the rest of the country. In an emergency, patients may not be able to articulate or communicate their wishes and preferences, and they can defer to showing clinicians the plan on the app. The increased accessibility is also empowering patients to take a more active role in managing their information and ensuring it is up to date.

Concluding on the new integrations and sickle cell care plans, Nick added: *"The UCP platform has become a well-established tool for health and care professionals and is helping to ensure people have their care wishes and preferences respected. Our role is to enable all parts of the system to quickly access relevant patient information at the right place and right time. I am proud that we continue to enable this for people and our health services with these latest developments".*

Darren Ransley, Managing Director UK & Ireland at Better, said: *"By expanding access to patient data through the NHS National Record Locator and NHS App, we are advancing interoperability and making healthcare data available anywhere, anytime. These integrations mark a significant step forward in delivering person-centred care and ensuring equitable access to healthcare services. By leveraging innovative technology and a person-centred approach, the UCP continues to redefine care delivery standards, setting a new benchmark for integrated healthcare solutions".*

At the end of 2024, the UCP has been transformed into a personalised care and support plan with the introduction of new forms and data fields to create a richer picture of the person receiving care. The new information covers the PRSB 'About Me' standard, living arrangements, medical devices, communication and accessibility requirements, and daily activities and support needs.

The UCP also has plans to extend to other areas of care. This includes but is not limited to, supporting people with dementia, frailty, children and young people, asthma, mental health needs, learning disabilities, autism, and others.

Universal Care Plan
for London

- Over **69,000 new care plans** created since go-live, viewed more than **600,000** times.
- Over **115,000 total care plans** on the UCP system.
- **5,800** regular system users per month.

"ePMA has set the bar for what can be done and how to do it"

Written by: Veronika Stepanova
Image credit: NHS, Julia Scott
Illustration: Artur Felicijan

"The concept of ePMA is not one that needs a lot of effort in order to gain buy-in. It is pretty well-understood across health systems that hand-written prescriptions are, in the context in which we now work, dangerous; they should have no place in this millennium," said Julia Scott from Dartford & Gravesham NHS Trust.

Julia Scott is an Associate Director of Clinical Quality Assurance and Innovation at Dartford & Gravesham NHS Trust. We spoke to her about the experience with Better Meds after successfully rolling out the ePMA (electronic prescribing and medication administration) system over a single weekend using a "big bang" approach. A dedicated clinical team carefully transcribed more than 500 paper drug charts and 8,000 prescriptions into the system during the two days, and 200 healthcare staff from across the integrated care system joined forces to support the go-live.

It's been a few months since the go-live. What has been your and your team's experience? What has been the general response to the transition?

The response to ePMA has been overwhelmingly positive, and the transition to this new way of providing care has been pretty smooth overall. We knew that the Better Meds user interface was highly intuitive, so we expected users to have very little difficulty with the core functionality, and those expectations were very much met. My favourite quote from one of our consultants is, *"I think ePMA is wonderful. It is sometimes little*

short of miraculous and does all sorts of beautiful things." I love that; it encapsulates exactly how I feel about Better Meds! Furthermore, user feedback tells us that staff felt the benefits from day one, including no more missing drug charts, no more waiting for a drug chart whilst someone else uses it, complete and accurate record keeping and audit trails etc.

Are there any features of Better Meds that have particularly resonated with clinicians?

From the point of view of prescribers, I think the most frequent feedback to date has been about how helpful order sets are. Order sets/order sentences are a relatively simple thing but are so powerful in terms of enabling various safety features and nudging towards safe behaviours. We don't want clinicians to rely 100% on the content of order sets, and the need for clinical judgment and expertise remains. But they are an incredible tool for reducing overall cognitive burden and reducing reliance on potentially flawed memory (or counter to that, reducing the need to spend time looking things up when you can't remember), both of which are hugely important for clinicians who may be tired, hungry, stressed, lonely, etc. Something as simple as order set functionality could, when multiplied up to the whole organisation scale, have a genuine impact on reducing clinician burnout.

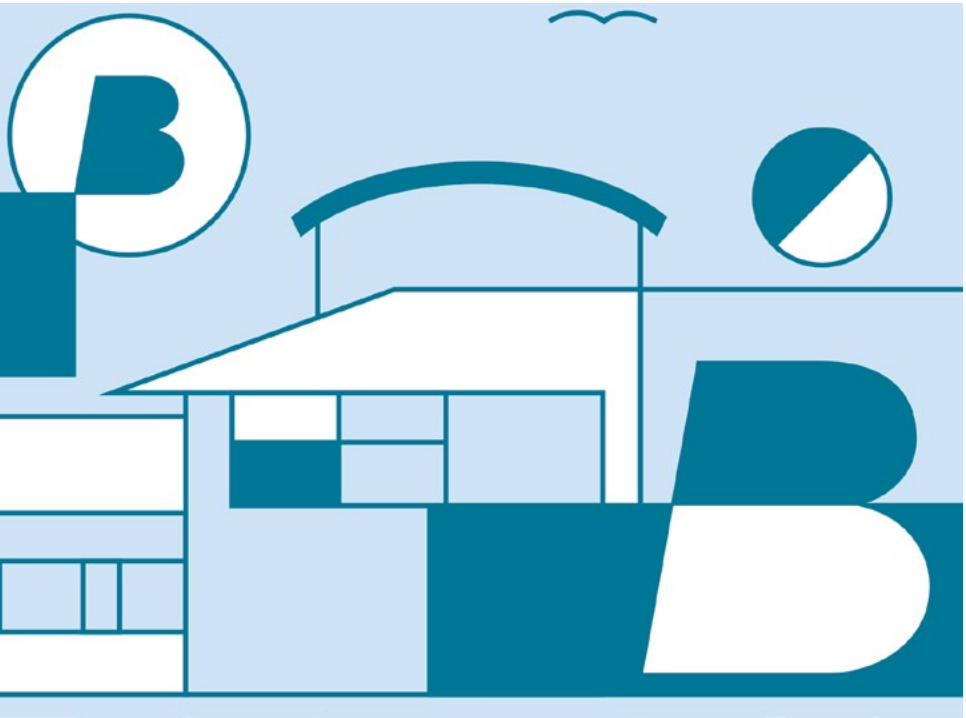
A couple of other highlighted features are around pain management and palliative care. The totalling up of doses of drugs given PRN ('pro re nata' – medicines given when needed, rather than on a regular basis), if you've listed a daily maximum dose, is really useful in areas such as pain management with opioids. The feature for prescribing multiple drugs in a single subcutaneous infusion, something that is essential to keeping many patients comfortable during end-of-life care, is also beautifully designed. This feature does take a bit more guidance for clinicians than others, but this is not a simple area of prescribing and should always require care, thought, and consideration.

Julia Scott with her team after the successful ePMA rollout.

From the point of view of drug administration processes, one of the favourite features seems to be how easy it is to order medication supplies from Pharmacy. From a personal point of view, I love the overall ability to build genuine hard stops into prescribing processes via Meds Config, the Better Meds medication configuration module. My go-to example, as we have worked through this project, of what ePMA should do for safety is around the drug methotrexate, which is commonly used for conditions such as rheumatoid arthritis. It needs to be taken just once per week; if a patient is inadvertently prescribed the drug daily instead, it can be fatal, and this is one of the 'classics' of medication safety. With Better

"User feedback tells us that staff felt the benefits [of Better Meds] from day one, including no more missing drug charts, no more waiting for a drug chart whilst someone else uses it, complete and accurate record keeping and audit trails etc."

Julia Scott
Associate Director of Clinical Quality Assurance and Innovation, Dartford & Gravesham NHS Trust



Meds, I now have a hard stop that simply will not allow you to prescribe this drug at a frequency of anything other than once per week.

How did you engage clinicians and staff during the implementation of Better Meds? Were there any strategies you used to ensure buy-in and ease the transition?
The concept of ePMA is not one that needs a lot of effort in order to gain buy-in. I feel it is pretty well-understood across health systems that hand-written prescriptions are, in the context in which we now work, dangerous; they should have no place in this millennium. As such, the messaging through the course of this project has never been *'Should we do it?'* but *'Why haven't we done it already?'*. The buy-in from these users was an absolute given! I've also never felt a need to gain buy-in for our system choice in particular. As I mentioned earlier, the Better Meds UI is highly intuitive and beautifully designed – it speaks for itself. I have senior pharmacy colleagues in other organisations who are very jealous of us for being able to use Better Meds!

As we approached go-live, our engagement work with frontline teams was led by our team of Digital Clinical Practitioners. This group of healthcare professionals, on secondment from frontline roles within our organisation, were piloting a new role for us (with credit for the inspiration to Dan Pugh and the team at South Tees Hospitals NHS Foundation Trust!), expanding the capacity of our Digital Health Team, aiming to both prepare the organisation for the change of ePMA, but also to act as the first line support for clinical colleagues having any issues with ePMA post-go-live. They developed their knowledge of business change processes, became expert users of the system, and helped to bridge the gap between project/technical teams and clinical teams by creating our 'Digital Hub'. Initially, this was a fixed location hub in our staff canteen, where staff could drop in for questions and queries, to see Better Meds in our test environment, or to seek support with completing their training. But true engagement doesn't wait for users to come to it – it meets users where they are. So the DCPs created the #HubOnWheels, which went out to all of our wards to provide that same offer of support and to have an open dialogue around ePMA, but in the clinical environment. We found this to be a really useful way of reaching people and seeking feedback and is absolutely something we'd love to keep rolling in the future – literally!

How has this project reinforced your trust's commitment to clinical excellence and patient safety?
Our Trust's new strategy, launched in April 2024, has digital and data transformation as a strong theme throughout. We know that digital systems and good use of data are both key enablers to clinical excellence, and our strategy acknowledges that. Our Trust Board set ePMA deployment as one of the key goals for the first year of our strategy, along with several other goals related to deploying digital tools to support our patients and clinicians.

The project has shown us just what can be achieved when clinical transformation is enabled by high-quality digital systems and deployed thoughtfully, with appropriate skill and resources. It has shown us how quickly we can begin to experience the benefits of digitalisation after a go-live. It also makes the areas where we are still very heavily reliant on paper stand out in stark relief.

As a result of this contrast, the conversation about some of our other healthcare IT system projects

"I feel it is pretty well-understood across health systems that hand-written prescriptions are, in the context in which we now work, dangerous; they should have no place in this millennium. As such, the messaging through the course of this project has never been 'Should we do it?' but 'Why haven't we done it already?'"

seems to have had the volume turned up since Better Meds went live. People recognise that we really cannot deliver improvements in clinical excellence and safety at scale without the right digital tools. We have had a strong pull from areas that are not currently live with ePMA to get it into their hands ASAP, as well as other pieces of our Miya Precision platform. ePMA has set the bar for what can be done and how to do it.

How do you envision this system evolving clinical workflows or improving healthcare delivery over time? Does it align with your plans or priorities for meeting future clinical needs?

From my professional point of view, one of the most exciting things about ePMA has always been how it could transform clinical pharmacy processes through clinical prioritisation. By using the data to identify those patients most in need of, e.g., specialist pharmacist input, we will be able to make the best use of the precious and limited resource that is a Pharmacy team. I know that the 3.16 release of Better Meds is actually going to do this prioritisation for us in a far more sophisticated AI-driven way, so I think our next step may just be to get that upgrade!

In November, the new UK Secretary of State for Health & Social Care outlined three 'strategic shifts' needed in the NHS: a shift from analogue to digital; a shift from care in hospital to care in the community; and a shift from treatment to prevention. This aligned with our existing strategy as a Trust, and even with past strategy over the last decade, to focus beyond the walls of the hospital and inpatient beds, looking at increasing delivery of specialist care in the patient's home, with a stronger focus on illness prevention and admission avoidance, and on addressing issues of health equity.

For DGT, Better Meds is at the vanguard of our analogue to digital shift, that one is a no-brainer. In terms of that shift towards care in the community, the current Meds solution will be a key part of our care processes for virtual wards, and I'm excited about how future developments could expand on suitability for that virtual care setting. In terms of a shift to prevention, I think one of the key things here for us is about how Better can give us access to the data that can drive that, especially as they are at the cutting edge of open-source EHR data.

What are some key lessons you've learned through this project? How has it shaped your approach to managing future healthcare projects?

Oh, there are so many. The big one for me personally... never give up! This was a very long project for us, and we suffered some significant unavoidable delays due to the COVID-19 pandemic, as well as some technical infrastructure and governance issues. But even when all that was in the past, and the project was gathering pace towards the finish line, there were times when new issues or barriers arose when I felt ready to throw the towel in. Those are the times when I had to really dig in, remember the goal, remember why we were doing this, and remember to ask for help. A pep talk from someone in my core support network was something I needed a few times in those last few weeks, as well as remembering to be kind to myself and recognising when I needed a break or some downtime of my own.

In terms of my own approach to future projects, the key things I'm thinking about at the moment are about continuing to grow our internal capacity and capability for this type of transformation, working with peers across our healthcare system to look at opportunities for collaboration, and making sure every project continues to be driven with quality and safety for our patients at the heart. If the work isn't about making improvements in care for the people we serve and for the colleagues who provide that care, I'm not interested in it!

What advice would you offer to other NHS trusts considering the implementation of an ePMA system like Better Meds?

Make sure a commitment to safety is the driving force behind the project. Invest as much time, if not more, in addressing the human side of the change as you do in the technical change. ePMA is not a Pharmacy project; it's a whole system medicines optimisation project. Make sure you have the Business Intelligence resources and infrastructure in place to extract data and turn it into actionable information, as some of your biggest benefits will be in use of this data. And yes, you CAN do a big bang!

Deploying a national FHIR-based operational data repository: Insights from Slovenia

In Slovenia, the deployment of a FHIR-based national demographic and operational data repository marks a significant advancement in healthcare data management. Built on the FHIR R4 specification, it harmonises data from diverse sources, offering healthcare providers, EMR systems, and other stakeholders a reliable, up-to-date primary source of information.

Written by: Samo Drnovšek
Article published: December 2024
Image credit: iStockphoto, Better

The FHIR advantage: standards and customisation

Adopting FHIR R4 standards provided a structured and interoperable approach to managing demographic and status data. Our implementation supports a comprehensive range of FHIR resources, including:

- Patient, RelatedPerson, Practitioner, and PractitionerRole for representing individuals and their roles.
- Organisation, Location, and HealthcareService for mapping healthcare providers and facilities.
- CareTeam, EpisodeOfCare, Coverage, and Consent for operational and contextual data.

To address local requirements, we developed dedicated FHIR profiles for each resource, extending them where necessary to include Slovenia-specific attributes like extended parental rights or custom organisation types. This customisation balances global interoperability with national relevance.

Harmonising data from diverse sources

Slovenia's FHIR-based repository acts as the Reference data synchronisation platform (RDSP), consolidating data from various national sources to ensure a unified and up-to-date dataset. By integrating information from the **Population registry**, **Healthcare insurance**

company, **National registry of healthcare organisations and workers**, **Ministry of education**, and the **Surveying & Mapping Authority of the Republic of Slovenia**, the repository harmonises demographic and operational data into a single, reliable source for healthcare providers and systems. In total covering more that **10 million resources** referenced and linked to eachother and updated on a daily basis.

Beyond harmonisation, the FHIR repository allows data to **be consumed**, **amended**, and **enriched** through a range of applications within Slovenia's eHealth ecosystem. These applications empower stakeholders to update and enhance data directly within their operational workflows, making the repository a dynamic and evolving resource. By allowing multiple stakeholders to consume and enrich data through various applications, the FHIR repository becomes more than a static database—it evolves into a living, interconnected system that reflects the needs of Slovenia's healthcare ecosystem.

Optimised resource references

One of the key benefits and successes of Slovenia's FHIR-based repository is its ability to fully leverage FHIR's design for creating a dynamic web of interconnected resources. This capability enables sophisticated data queries that span multiple resource types, transforming how healthcare data is accessed and utilised. By adhering to FHIR's standards, particularly the use of **_include**, **_revInclude**, and **_include:iterate** parameters, the repository supports multi-level queries, unlocking advanced search capabilities that are critical for modern healthcare systems.

For instance, identifying a patient's general practitioner and their affiliated organisation can be accomplished with a single query. This retrieves the patient's demographic data, the practitioner's details, and the organisation's information, streamlining workflows such as care team assignments, referral validation, and detailed reporting on patient-practitioner relationships. These interconnected queries reduce operational complexity and ensure timely and accurate data retrieval.

This adherence to FHIR's core capabilities delivers numerous benefits. It provides holistic views of patient relationships, combines multiple resources in a single query to reduce latency, and enables real-time, evidence-based decision-making in clinical and administrative contexts. For example, hospitals can quickly validate practitioner assignments or ensure organisational data accuracy during referrals, improving efficiency and coordination.

Addressing challenges in FHIR implementation

Implementing a national FHIR-based repository comes with its set of challenges, as highlighted by several experts. Our experience in Slovenia has provided valuable insights into overcoming these obstacles:

- **Performance and scalability:** We optimised our FHIR server to efficiently manage millions of records, ensuring quick response times even under heavy load.
- **Data quality and consistency:** We implemented rigorous data validation and harmonisation processes to maintain high data quality across the repository.
- **Interoperability:** By adhering strictly to FHIR standards and implementing robust profiling, our system achieves high interoperability, facilitating smooth data exchange across different healthcare platforms.
- **Security and access control:** We employed Attribute-Based Access Control (ABAC) policies to define who can access and amend specific data points, ensuring data integrity and compliance with privacy regulations.

Securing data with granular access control

The Slovenian FHIR-based repository ensures data integrity and security through Attribute-Based Access Control (ABAC), implemented via the Better Platform's CRPD component. This approach enforces detailed, role-based policies for accessing and modifying data, ensuring that only authorised users can interact with specific resources.

Granular permissions limit operations like updating patient telecom information or managing care team details to designated roles safeguarding data accuracy. Search restrictions further protect privacy by allowing users to query patient

Consent management is tightly controlled, with policies ensuring that access to consent-related data is granted only to authorised entities, such as eHealth agents or primary care physicians.

data only through targeted parameters like identifiers, names, or birthdates, in line with strict policies. Consent management is tightly controlled, with policies ensuring that access to consent-related data is granted only to authorised entities, such as eHealth agents or primary care physicians. This guarantees compliance with GDPR and national regulations, while maintaining patient trust.

By embedding these policies across all workflows—from managing organisations and care teams to supporting preventive programs like school health screenings—the repository achieves a balance between robust security and operational flexibility. This ensures that sensitive data is protected without compromising the usability for healthcare providers.

How FHIR data powers healthcare applications

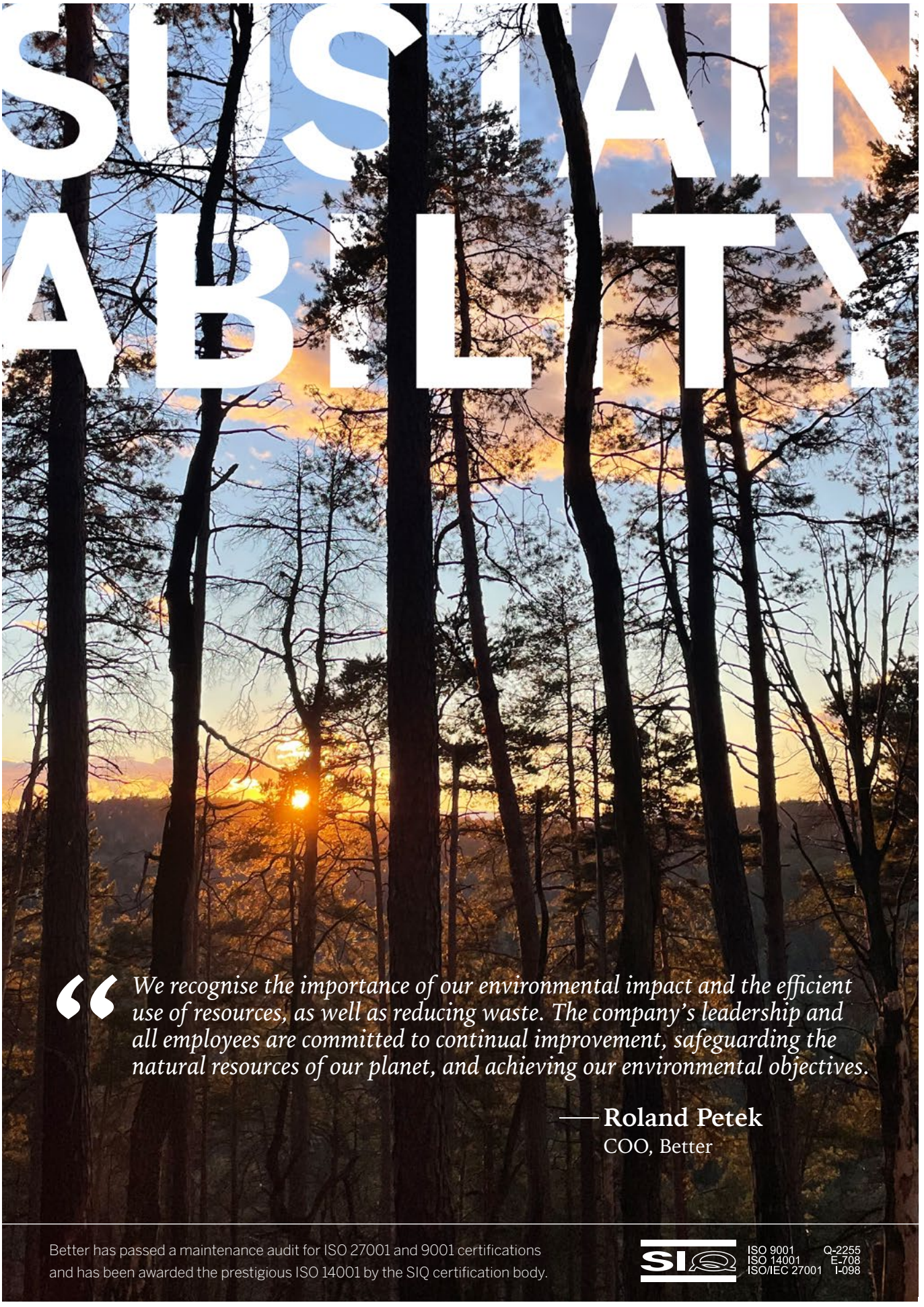
The FHIR-based repository underpins healthcare workflows in Slovenia, enabling efficient and secure access to patient, practitioner, and organisation data. It supports critical processes like referrals, notifications, and administrative updates by providing comprehensive, interconnected information.

The repository enhances care coordination by enabling seamless collaboration via CareTeam resources and enforcing patient preferences through Consent resources, ensuring GDPR compliance. Preventive programmes also benefit, with pediatricians assigned to school classes for efficient health screenings. Additionally, real-time updates keep general practitioners informed about new patients and changes to demographics or insurance coverage, improving care delivery and administrative efficiency. By linking diverse resources, the repository transforms healthcare data management in Slovenia.

Transforming operational health data management

Slovenia's FHIR-based demographic and operational data repository represents a major milestone in national healthcare digitalisation. By combining interoperability, scalability, and security, the repository sets a new benchmark for national healthcare data management, paving the way for more efficient, collaborative, and person-centric care. This implementation serves as a model for other countries seeking to modernise their healthcare infrastructure and unlock the full potential of their data.

The **Slovenian Ministry of Health** (MoH) has transitioned to a platform-based architecture reflected by the Central Registry of Patient Data (CRPD). This national system presents a patient-centered approach, separating standardised clinical data from demographic and operational data. This is an essential step in achieving privacy-by-design, as championed by openEHR. By decoupling data from applications, Slovenia has unlocked the potential of a multi-vendor ecosystem, providing interoperability through robust standards like IHE, openEHR, and FHIR. This paradigm ensures that critical health information is accessible to all who treat patients, enabling scalable, future-proof solutions, but still safeguarding privacy. The CRPD stands as a model for national shared care record systems worldwide, demonstrating that data-driven platforms are the foundation for modern, integrated, and secure healthcare delivery.



We recognise the importance of our environmental impact and the efficient use of resources, as well as reducing waste. The company's leadership and all employees are committed to continual improvement, safeguarding the natural resources of our planet, and achieving our environmental objectives.

Roland Petek
COO, Better

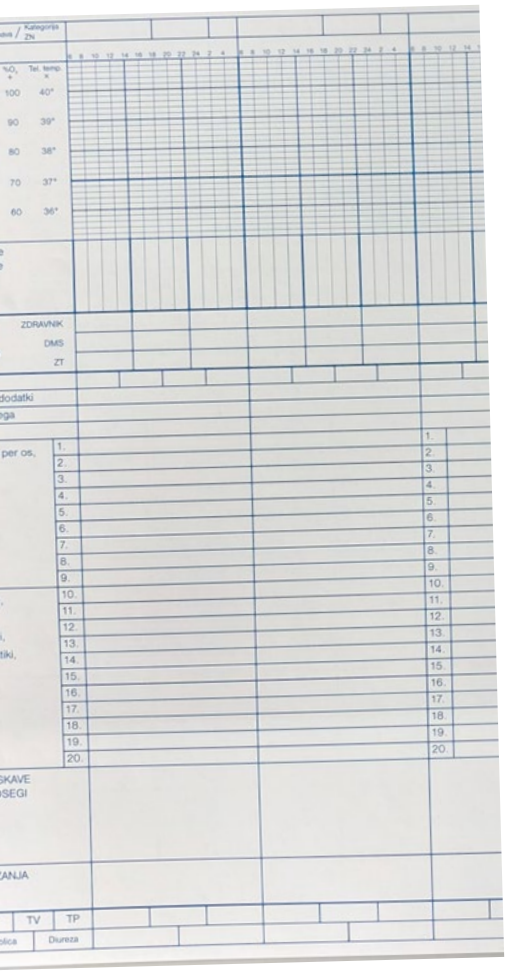
Better has passed a maintenance audit for ISO 27001 and 9001 certifications and has been awarded the prestigious ISO 14001 by the SIQ certification body.

SIQ
ISO 9001 Q-2255
ISO 14001 E-708
ISO/IEC 27001 I-098

Written by: Dora Žmuc, MD
Article published: December 2024

Electronic patient charts are one of the most important digital tools in a hospital

The patient chart is an analytical tool that enables clinicians to get an overview of all the patient's essential information on one screen. It is the final step in the process of the digital transformation of a hospital because the digitalisation of the basic clinical processes, where the data is generated, is essential. Why? Because doctors spend over 90% of their time behind a computer looking at the patient chart.



Paper patient charts have always been the centre of collecting and viewing patient data during a hospital stay. It is an indispensable tool for doctors and nurses during morning rounds, consultations, and multidisciplinary boards. By looking at the patient chart, together with performing a physical examination, clinicians can get a comprehensive understanding of the patient's current state.

The patient chart provides doctors with information needed to plan further treatment, manage discharge, or adjust current treatment plans. One of the most important features of the patient chart is the ability to view and track patient data over time, allowing doctors to make better-informed decisions about the patient's future medical interventions.

The patient chart provides all the necessary data

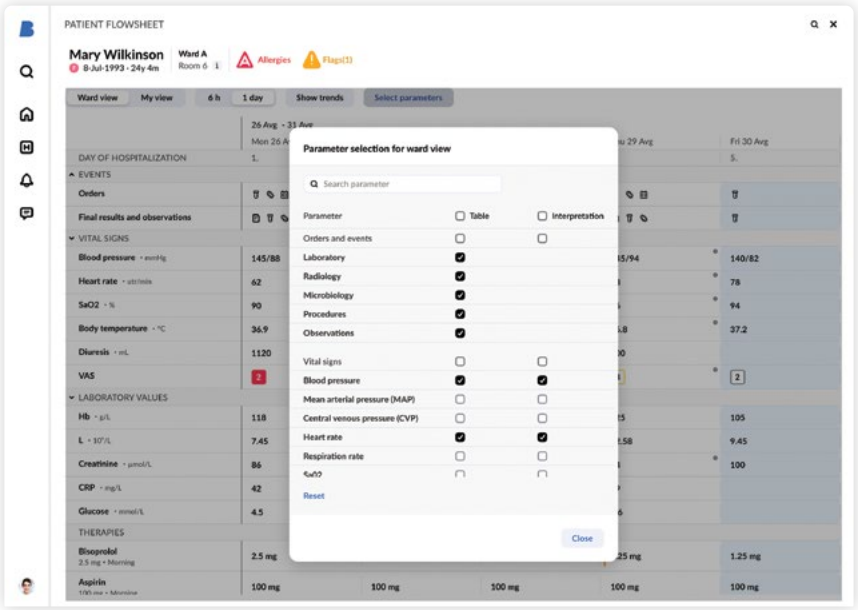
Digital transformation of hospital wards changes clinical practice workflow. It also affects the patient chart which is one of the most important modules but also one of the last ones to be digitised. An electronic patient chart, as did the paper one, enables clinicians to track the patient's vital signs, laboratory, radiology, and microbiology results over time.

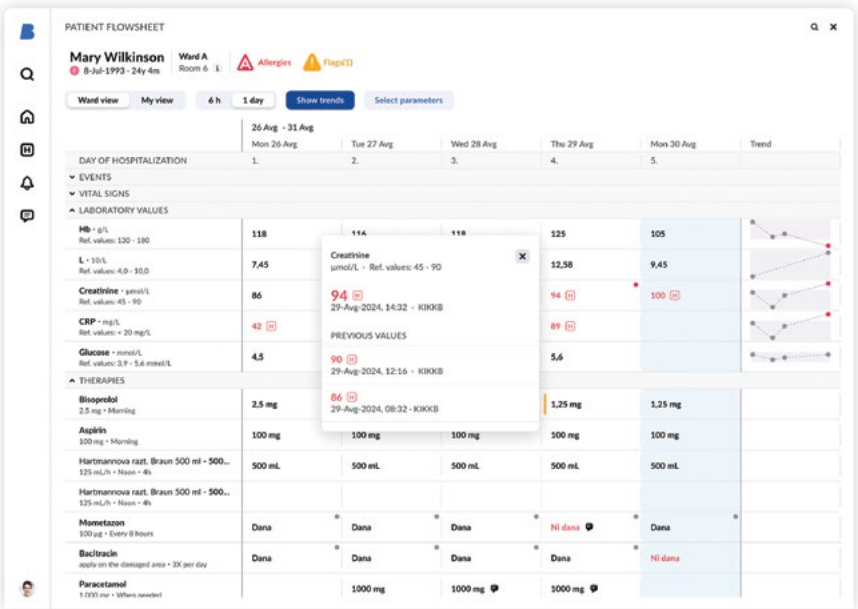
The real added value of an electronic patient chart is how customisable it is. In an electronic patient chart, clinicians can choose to track as many vital signs as they want to. They can choose to see various custom parameters like hunger level, urine output, fluid balance, or pain severity. They can pull their preferred laboratory results and review them along with the patient's other health data. They can choose to flag abnormal results or plot the data to see the changes visually in a graph. All that is customisable, and clinicians can build their custom views for themselves or for their department. The level of complexity and patient data needed to be reviewed on a daily basis varies greatly among different departments and medical specialties. Surgical departments have different needs than medical departments, and even doctors on internal medicine departments have different preferences for displaying vital signs, laboratory results, and other patient health data on a patient chart, depending on their specialities.

Digitising medication management is one of the crucial steps

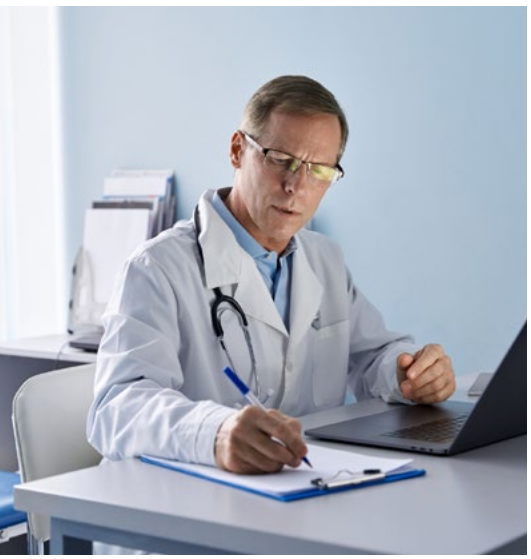
Another important part of the patient chart is the medication segment. Doctors can see the changes to the patient's vital signs and other results in correlation to adjustments to the patient's prescribed medications or the changes of medications in correlation to the changes in the patient's vital signs, laboratory results, and other health data. In an electronic patient chart, the changes to the patient's medications are easily identifiable. New medications added, changes in dosing, or frequency made to the existing therapies are highlighted at a level of prescription and on a daily administration level. Doctors can interpret those changes in regard to the patient's vital signs, laboratory results, or radiology findings on a daily level, but can also choose to evaluate them in a shorter time period, depending on the preferred time view.

The digitalisation of medication management is one of the crucial steps. An electronic medication management system supports the process of prescribing,



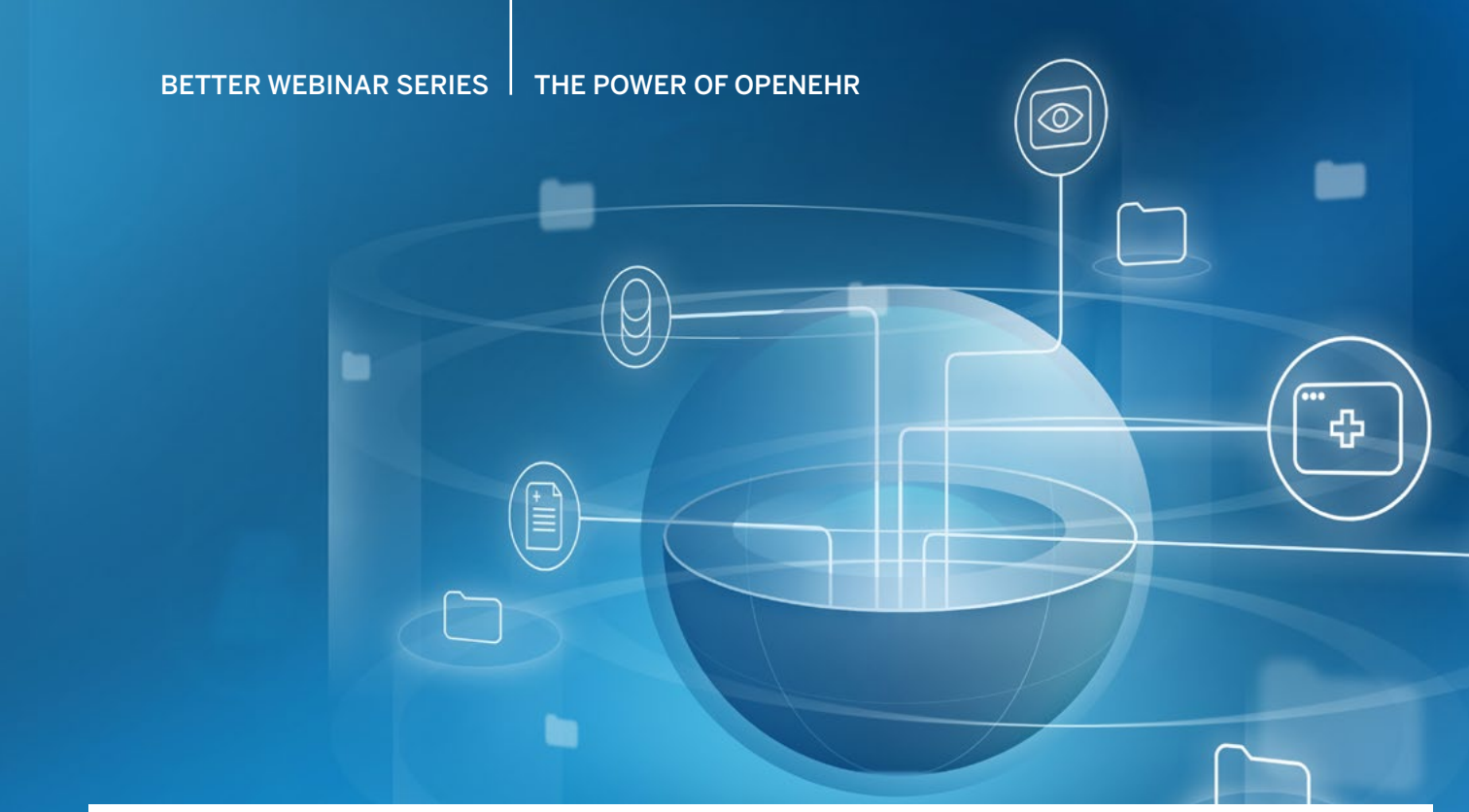


Doctors spend over 90% of their time behind a computer looking at the patient chart.



administration, and pharmacist's review. It enables medication-related workflows in simple and complex clinical environments. The changes in prescriptions and administration need to be easily seen on the electronic patient chart. Digitalisation of other modules, such as laboratory, microbiology, and radiology systems, is also necessary, along with the daily doctor and nurse observations.

Electronic patient charts are one of the most important and commonly used digital tools in hospitals. According to research, doctors spend over 90% of their time behind a computer looking at this view, as it enables them to see all of the patient's important health data over the chosen period on a single screen. Unnecessary or too much information discourages clinicians from using this digital tool, which is why the ability to customise an electronic patient chart to individual or department needs is very important.



The future of digital health depends on it being open

Written by: Rachel Dunscombe
Article published: June 2024
Image credit: Better, iStockphoto

With healthcare systems so pressured for time and clinical capacity, we need a digital health future that enables fast and precise decisions about a patient's care.

Most agree the future of digital health largely rests on making joined-up data available. Integrated data is also going to play a vital role in propelling tech innovations forward. And, as we are hearing and experiencing from all corners of the industry, we need to leverage AI to unlock its full potential. The consensus was getting effective data foundations firmly in place is a prerequisite to support these types of innovations, while recognising there are some barriers to work through first.

NHS England shares the same views. The Operational Planning Guidance released in April places a key emphasis on implementing strong digital foundations. Just weeks before that it agreed to increase productivity in return for an additional £3.4bn investment for digital transformation in the spring Budget.

Traditionally, to risk stratify a patient, health professionals rely on hundreds of transposed data sources. This is an incredibly complex undertaking which is costly, time consuming, and difficult to scale up. I have experienced the complexity while being a chief information officer (CIO) and I have big reservations that continuing with the same approaches will undoubtedly delay progress, despite it being imperative that the NHS expediates

digital programmes to relieve current pressures. It's time for a new approach using architectures that are built differently to solve the mounting capacity issues.

A citizen-led approach that benefits everyone

openEHR enables healthcare systems to move away from organising records around systems to data that is centred around the person. The powerful architectural concept accelerates digital transformation by securely separating patient data without the frictions of disparate data silos. The result is one consistent longitudinal patient record that improves care coordination, outcomes, and population health.

Health and social care systems are realising that the longitudinal record or digital twin is the key to getting healthcare right for the individual and the population. The development of the NHS App has encouraged citizens to start thinking in this way, too. They expect to have access to their data, and they want to receive it in a unified way.

Evergreen growth and standards co-exist

openEHR is the best standard for data persistence and provides a platform for evergreen growth. What is recorded today will be data that health and social care professionals can still use in 10 or 100 years to risk stratify and manage long-term conditions through a person's lifetime.

My observations as a CIO were that systems weren't evergreen because the data was hardcoded. With every new application, we had to start again with the data or rescue bits and put in a new data layer, causing huge frictions and costs to the trust's overheads. openEHR is far more cost-effective because it is additive and can accommodate future technologies, but underneath, the data will remain valid and useful.

There are many data standards in use across healthcare and they must work together to provide a functional system. I used them together as an information practitioner such as FHIR, SNOWMED, and OMOP. I feel quite passionate about this area, and we've been doing lots of work to make improvements. For instance, openEHR International has been working closely with HL7 on a number of FHIR projects including connecting smart FHIR and openEHR data sources together to surface in patient/clinician-facing apps. In a recent joint announcement with Chuck Jaffe, CEO of HL7, we signalled our ambition to align some of our standards and specifications for the global good. We hope this will enhance the choice and power of available software. In the spirit of the two open communities, we're looking forward to the discussion this signalling of intent will bring.

Supporting advanced healthcare systems in Europe

Europe is leading the way with the use of openEHR. The interesting theme is that advanced healthcare systems are adopting the open approach because they are able to separate their data more easily and leverage it.

Catalonia is a flagship example of a bi-directional regional unified record. The region has taken a semi-academic approach looking at the target architecture and how they should use it. Academics from around the world collaborated to review the outcomes and openEHR was chosen as the data layer. Now there are future plans to implement openEHR in other Spanish regions as well. It's been a rigorous process, but rather than a reflection on

"Health and social care systems are realising that the longitudinal record or digital twin is the key to getting healthcare right for the individual and the population."

Rachel Dunscombe
CEO, openEHR International

the pain of fragmented systems and data, it's a reflection on what suitable architecture should be, and it's been a pleasure to be part of it.

In the Nordics, there is a long tradition of openEHR, which is growing with lots of vendors. Seven regions in Sweden are using it, and the Karolinska University Hospital has published a framework with an open approach. It's steeped in the country but with a variety of approaches and other regions are set to embark on their own transformation journey with openEHR.

Slovenia has been using openEHR for nearly 13 years, and the most recent country to follow suit is Greece, which has signed an agreement to implement a shared care record for the entire country.

openEHR in practice across the UK

Closer to home, we've been able to facilitate integrated care through read/write care coordination across OneLondon using Better openEHR-based digital health platform. It amounts to a footprint covering approximately 10 million people, 5 Integrated Care Systems, 1400 general practices, over 40 NHS Trusts, and 33 local authorities.

There are some really exciting things happening in Scotland and Wales too, where they are using openEHR for various use cases at a national level. Certainly in the UK, we are seeing an increase in people moving towards openEHR and hearing more senior people within the NHS talking about architectural patterns for openEHR and the advantages based on experience.

It's encouraging to see this shift in conversation at a time when the NHS is nearing breaking point and services need rapid transformation. openEHR is the fastest approach to achieve it and put digital health on the path to a sustainable and promising future.

The power of openEHR

openEHR has a huge impact on how we manage data, constantly optimising care outcomes and creating a better clinical experience. It has a unique approach to data management, it breaks the cycle of data silos, offering a unified platform for seamless data exchange and collaboration across healthcare systems.

In a series of webinars we got to know:

- How medication management can be used to **reduce errors**, **increase patient safety**, and **ensure efficient care**.
- How patient-reported outcome measures (**PROMs**) capture **valuable insights** into patient experiences and outcomes, **helping healthcare providers refine treatment plans**.
- How care planning enables organisations to design and implement **person-centred care strategies**.

The Power of openEHR with Rachel Dunscombe and Tomaž Gornik

This webinar showcased openEHR as a transformative standard for healthcare data, providing a solid foundation for data persistence and interoperability. **Rachel Dunscombe** and **Tomaž Gornik** shared valuable lessons on the importance of learning from others' experiences to drive successful outcomes, alongside strategies to use data for accurate outcome predictions and better patient care.

UK EDITION

Technical dive into openEHR

Ian McNicoll, Director of the openEHR Foundation Board, presented a deep dive into openEHR's approach to data management. Diving into openEHR technology, he offered a comprehensive introduction to core concepts like archetypes, templates, and clinical forms. He explained how openEHR transcends traditional federated data systems by envisioning a future where every Integrated Care Board (ICB) has a Clinical Data Repository (CDR) and shared insights into the practical ways to use content from the Clinical Knowledge Manager (CKM) to build better, more effective systems.

openEHR & medication management - EPS case study

Nishali Patel and **Darren Powell** from NHS England explored the strategic implementation of Electronic Prescription Services (EPS) in secondary care settings and highlighted the benefits of the system in improving patient safety and workflow efficiency. **Leo Martin-Scott** of Somerset NHS Foundation Trust shared insights from their successful EPS implementation, demonstrating the tangible benefits of EPS and enhanced care delivery.

Musgrove Park Hospital, Somerset NHS Foundation Trust

openEHR & PROMs - The Christie NHS Foundation Trust case study

Dr Thitikorn Nuamek (Pao) from The Christie NHS Foundation Trust discussed their innovative use of patient-reported outcome measures (PROMs) on an openEHR-based platform. He illustrated how PROMs have evolved into a comprehensive tool for improving patient care, treatment outcomes, and research. The session also emphasised the integration of an openEHR CDR to maximize the utility of PROMs data, advancing healthcare delivery and insights.

How to make personalised care a reality - the case of the Universal Care Plan

Nick Tigere, Head of the UCP Programme, highlighted how the Universal Care Plan (UCP) transforms patient outcomes by enabling real-time, integrated care planning across London's five ICBs. He discussed the benefits of shared care plans for pathways like end-of-life and sickle cell disease, focusing on the importance of interoperability and accessibility. With openEHR's persistent data layer and low-code tools, UCP offers a flexible, future-proof solution that accelerates change and reduces dependencies on specific vendors.

LA EDICIÓN ESPAÑOLA

openEHR and the digital region – the case of Catalonia

This session highlighted Catalonia's initiative to create a regional health data platform and medication management system accessible to over 60 hospitals. **Jordi Piera Jiménez** of CatSalut shared insights into the region's strategy for coordinated care, promoting vertical solutions over monolithic systems, and how open data enables connectivity across healthcare. The webinar demonstrated how this patient-centric approach lays the foundation for a longitudinal electronic health record, driving better care and data integration.

openEHR and the digital hospital – the case of INFOBANCO

This webinar explored INFOBANCO's mission to transform Spain's digital healthcare sector through an advanced health data platform. **Juan Luis Cruz Bermúdez** from Hospital Universitario 12 de Octubre explained the concept of Clinical Data Repositories (CDRs), detailing their primary and secondary uses in healthcare. He showcased how openEHR supports connected care at the hospital level, improving collaboration, patient care, and operational efficiency while advancing decision-making and research.

openEHR and digital services – innovating with low-code tools

In this session, **Jesús Sánchez Berian** of EY Mexico discussed the role of openEHR-based platforms in accelerating innovation through low-code tools. These tools enable rapid development of efficient healthcare solutions, giving service providers and developers a competitive edge. The webinar provided an overview of the broader digital health ecosystem and demonstrated openEHR's integral role in advancing innovation and improving healthcare delivery.

Design archetypes with ease.

https://tools.openehr.org/designer

openEHR
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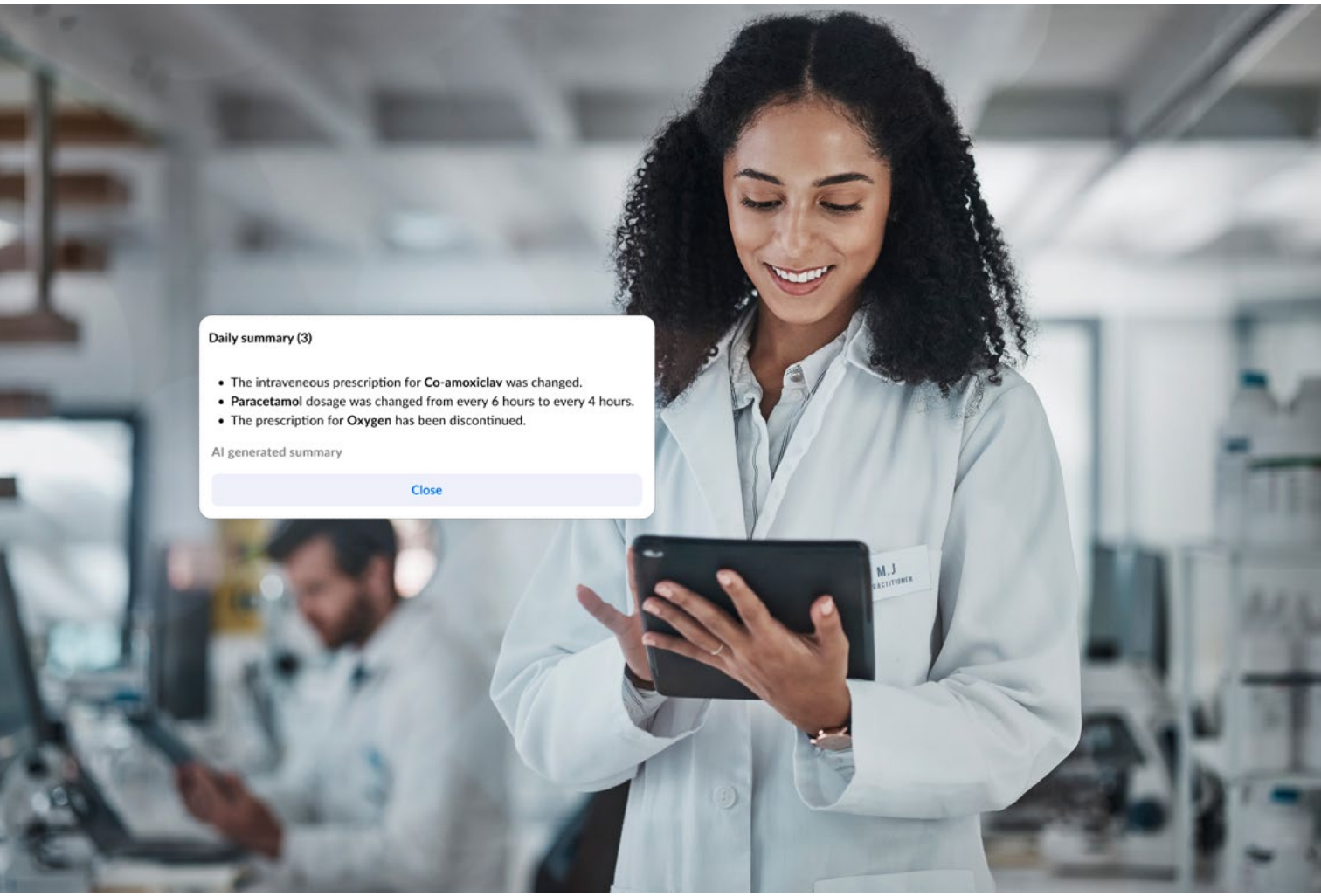
better

Advancing healthcare with innovation and smart solutions

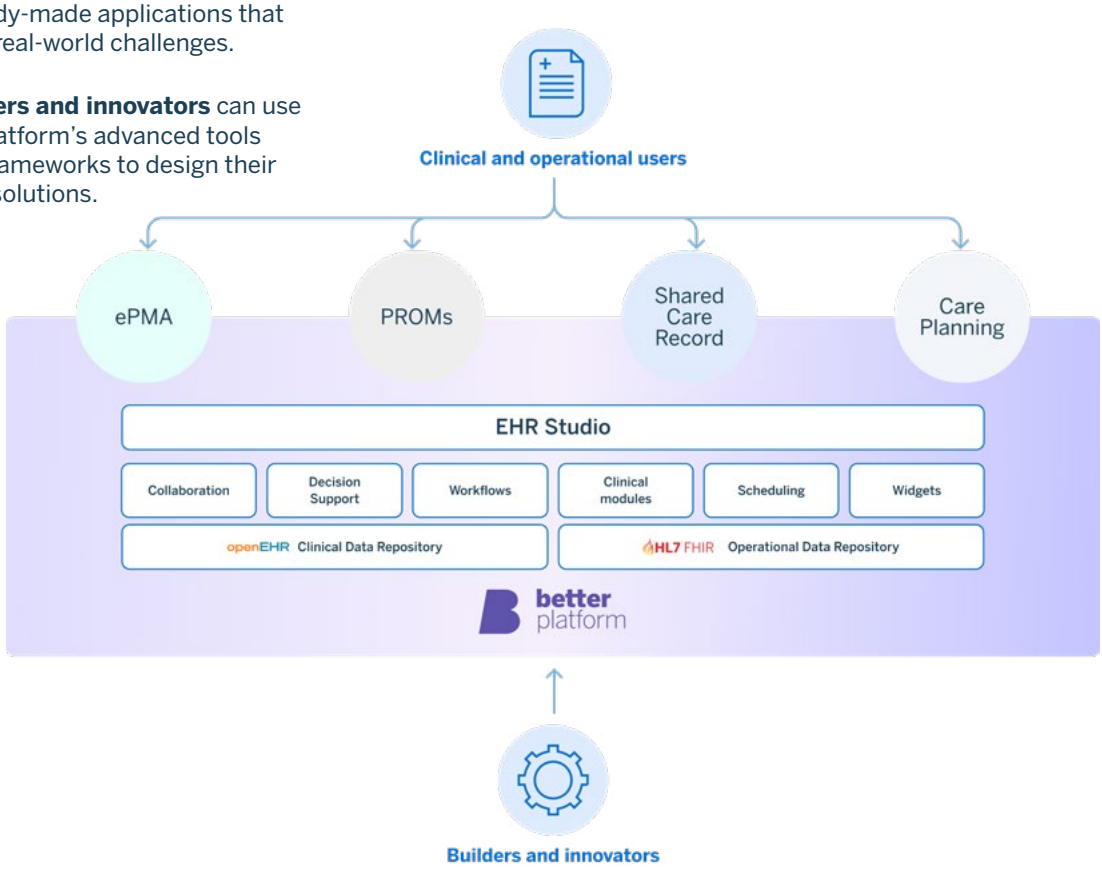


At Better, we redefine how healthcare organisations address their most complex challenges, moving beyond traditional EHRs to a more modular, scalable, and adaptable ecosystem - the Postmodern EHR.

Healthcare technology buyers and users face distinct challenges. Some need robust tools to build systems that meet their unique needs – APIs, low-code tools, and a modular design system. Others look for ready-made solutions like **Medication management**, **PROMs**, **Care coordination**, and **Shared care records** to solve immediate clinical problems.

The Better Platform bridges these gaps by serving both:

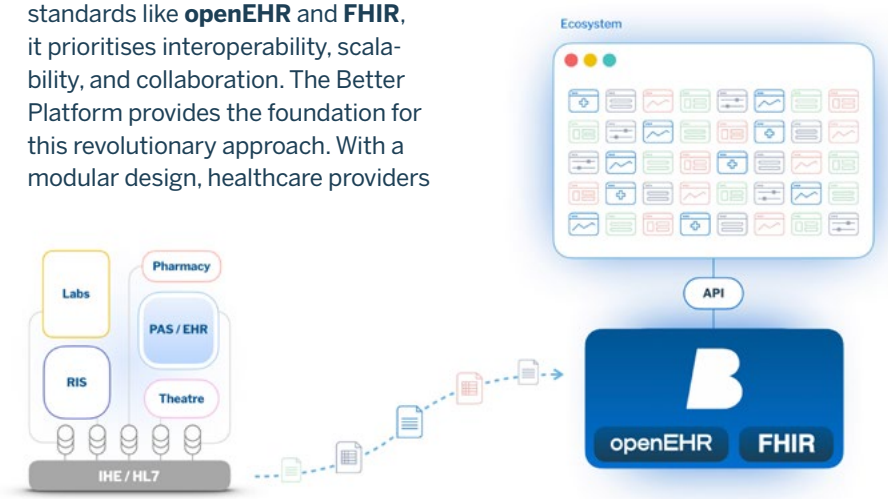
- **Clinical and operational users** can benefit from a portfolio of ready-made applications that solve real-world challenges.
- **Builders and innovators** can use the platform's advanced tools and frameworks to design their ideal solutions.



Postmodern EHR – The future of healthcare

The **Postmodern EHR** extends where traditional systems stop. Unlike monolithic, inflexible EHRs, this new paradigm combines the stability of traditional EMR solutions with the flexibility and innovation of modern digital health platforms. Built on open standards like **openEHR** and **FHIR**, it prioritises interoperability, scalability, and collaboration. The Better Platform provides the foundation for this revolutionary approach. With a modular design, healthcare providers can focus on solving real problems while ensuring their systems evolve with their needs.

The platform's ability to scale across hospitals, regions and countries, as well as vendors ensures that healthcare organisations, regardless of size or complexity, can create or deploy solutions tailored to their needs.



AI as the game-changer

Artificial Intelligence is becoming central to our platform.
AI is already:

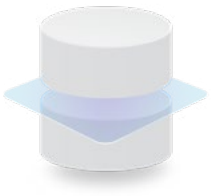
- Writing AQLs to query clinical data.
- Assisting in the creation of clinical models, forms, widgets, and summaries.
- Simplifying integrations, accelerating time-to-value for all users.

With AI, the Postmodern EHR isn't just about building the systems of today; it's about shaping the future of care delivery.

Learn more about AI on page 60

Better Platform

Better Platform is empowering healthcare with an open, modular, and scalable platform. It builds an ecosystem that transforms data into better care, applications into collaboration, and interoperability into innovation.

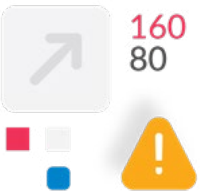


Data core

Built on openEHR and FHIR standards, data core gives control over the data. It ensures data is interoperable, secure, and future-proof. Scalable and reliable with over 30 million patient records stored globally.

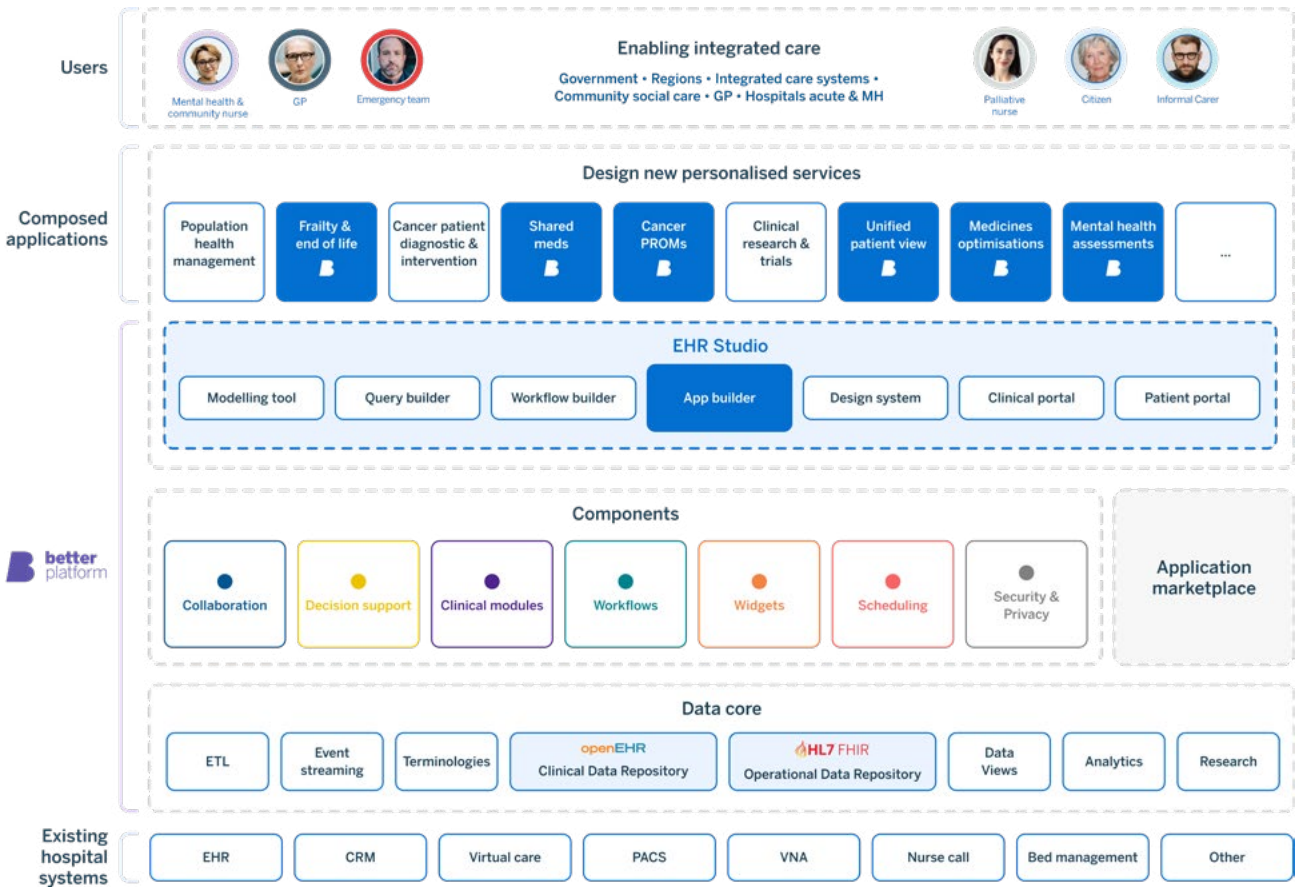
EHR Studio

Empowers users to design and deploy custom healthcare applications. Based on low-code tools and domain-driven development, it is ideal for organisations seeking to create tailored solutions without heavy development costs.



Design system

The Design system ensures that every application looks and feels cohesive, no matter the complexity. It streamlines the creation of healthcare applications with modular components, clinical data visualisation, and guidelines designed to improve patient outcomes.



Data core
The foundation for unified health data

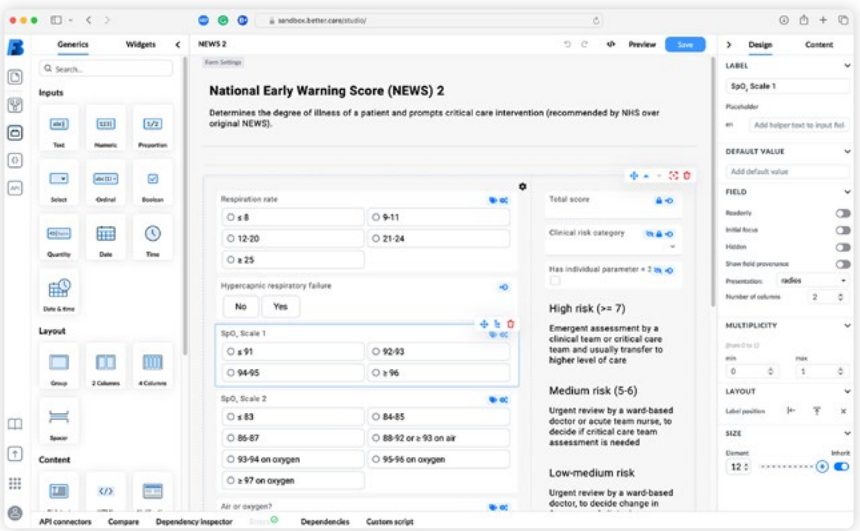
The Data core unifies data through a vendor-neutral platform built on openEHR and FHIR standards. It serves as the backbone of modern healthcare, enabling interoperability, scalability, and data security. Storing over 30 million patient records globally, the Data core empowers healthcare providers to unlock the full potential of their health data.

- The platform ensures **data consistency and quality** through clinically validated open standards and advanced validation rules. With features like AQL and APIs, it supports real-time, bidirectional communication for diverse healthcare use cases.
- Optimised for **real-time data processing**, the platform delivers sub-100ms response times. Its cloud-agnostic and Kubernetes-compatible architecture supports deployment across environments such as Azure, AWS, and Google Cloud. Apache Kafka-powered event streaming ensures efficient data flow for live monitoring, instant notifications, and automated workflows.
- Attribute-Based Access Control (ABAC), robust encryption, and compliance with GDPR, HIPAA, and ISO 27001, the platform **safeguards patient information** while maintaining transparency through comprehensive audit logs.

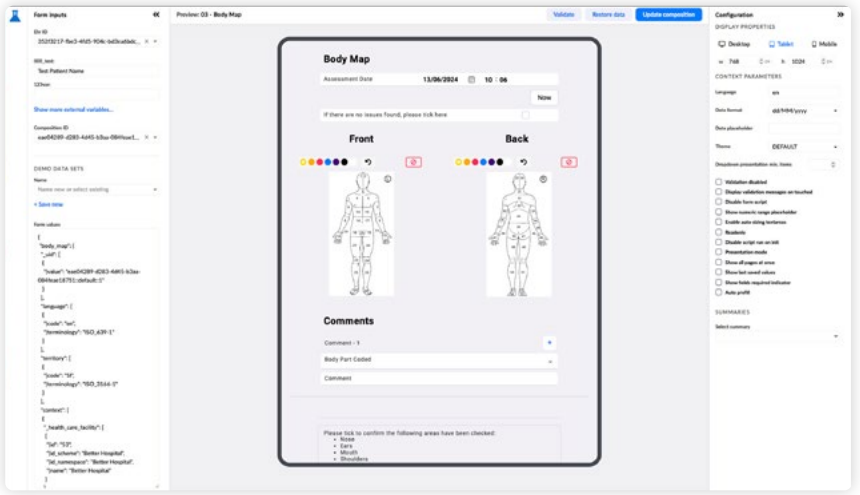
EHR Studio
Build EHRs that work the way you do

EHR Studio transforms development with a healthcare-specific low-code tools. Designed around openEHR and FHIR standards, it allows citizen developers to create personalised, clinically validated applications in a fraction of time.

- EHR Studio builds on clinically validated openEHR and FHIR data models, ensuring instant interoperability and compliance. By starting from standardised healthcare data models, clinically robust and future-proof applications can be built, meeting the highest standards of accuracy and consistency.
- Everyone can build tailored applications with low-code tools, from business analysts and UX designers to clinicians. Solutions can be delivered without relying on extensive developer resources, reducing time to delivery by up to 90%.
- Scalable architecture and features like context launch allow applications to integrate effortlessly into existing workflows. This enhances productivity across healthcare ecosystems on a hospital or regional level.



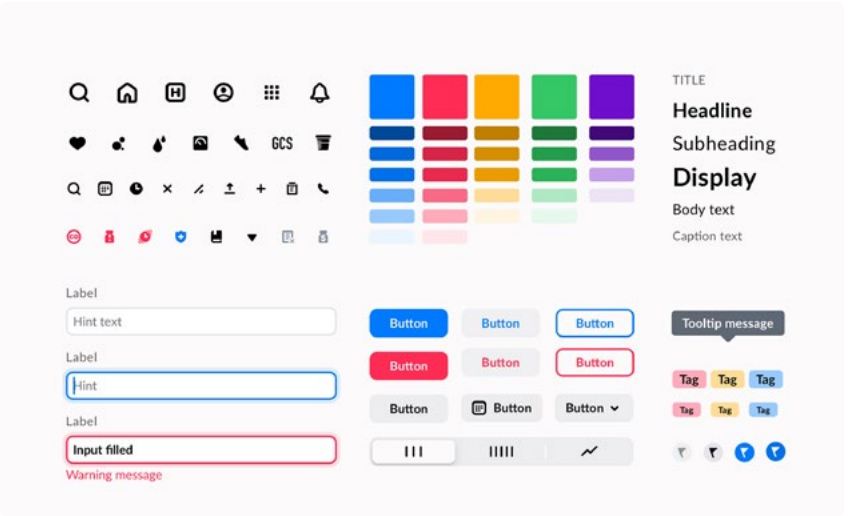
A citizen developer is a non-professional programmer who creates or modifies applications using low-code or no-code platforms to address specific business needs or challenges within their organisation.



Design system
A design system for better care

Better Design system brings a modular, scalable approach to designing healthcare applications, helping product teams move faster while ensuring patient safety and compliance with accessibility standards.

- **Speeds up application development** with pre-designed, reusable UI components like buttons, input fields, and widgets. Maintains a consistent user experience across applications and devices, reducing training needs and minimising user errors.
- **Transforms raw clinical data** into intuitive visualisations, including graphs, dashboards, and summaries. Designed to reduce cognitive load, it makes complex data more accessible, empowering clinicians to make informed decisions quickly and accurately.
- **Built for healthcare**, the design system prioritises safety and compliance with clear usability guidelines and clinically validated forms. Standardised components ensure every interaction is intuitive and aligned with clinical workflows.



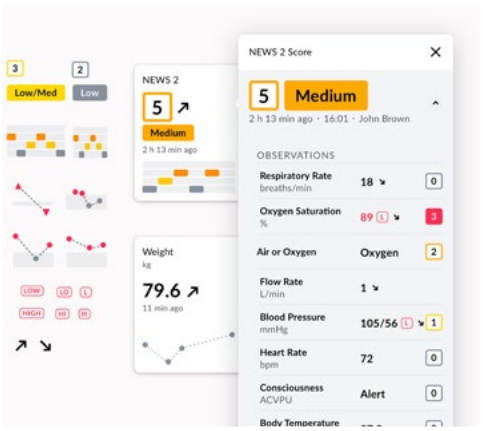
Better solutions

Better Meds:
Transforming medication management

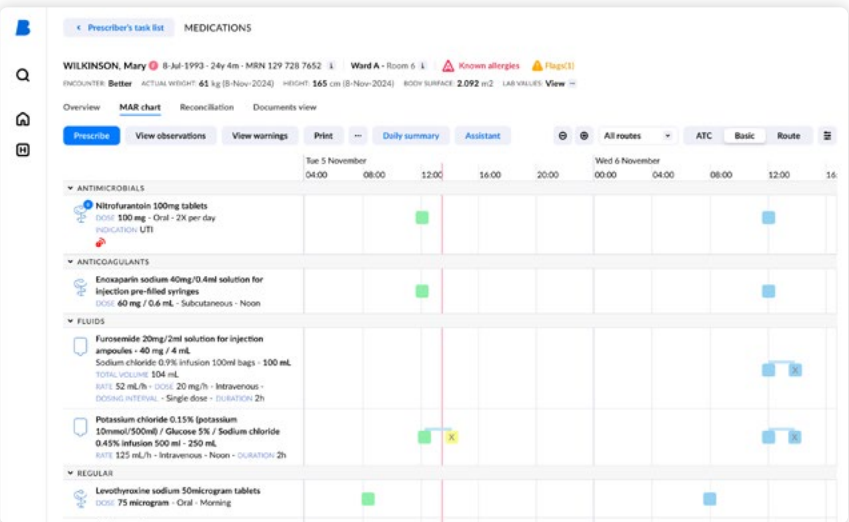
By improving medication workflows, enhancing patient safety, and prioritising interoperability, Better Meds is redefining digital medication management for a safer and more efficient healthcare system. Designed with end-users in mind, Better Meds collaborates closely with clinicians to ensure the solution aligns with their specific needs. With a clear medication administration overview, nurses no longer must worry about the accuracy or type of medication they need to administer.

Better Meds key features

- Medication reconciliation and summary
- Inpatient & outpatient prescribing
- Order sets
- Pharmacy integration
- Administration audit trail
- Allergy module
- Medication administration record
- Discharge summary
- Clinical pharmacist review
- Reporting dashboard
- Adherence to the NHS's Electronic Prescribing Service (EPS) standard



Snippet of our clinical data visualisation components and their use in clinical concepts.

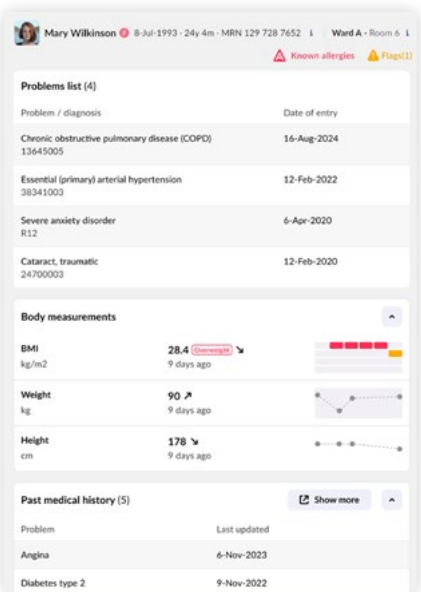


Shared care record: Enabling comprehensive patient care

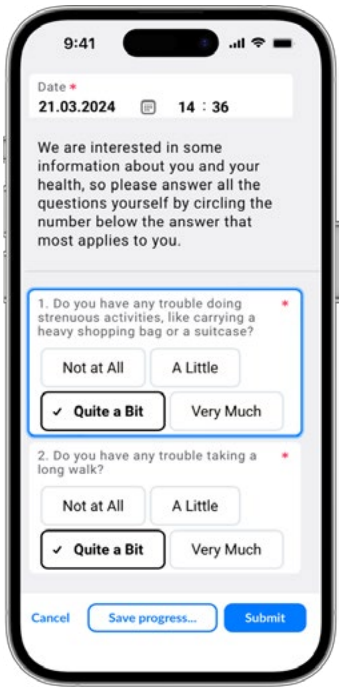
Better Shared care record consolidates patient data across the entire health and care ecosystem. It enables both real-time data retrieval as well as direct data entry by clinicians and patients, fostering active patient care coordination. The Shared care record enhances care in multiple settings, including GPs, acute care hospitals, outpatient clinics, and community health organisations. It is ideal to be deployed region-wide, connecting ecosystems together. The solution is designed with a patient-centric approach, emphasising accessibility, transparency, and consistency in care delivery.

Key features of Shared care record

- Enables live data interactions, ensuring up-to-date information flow and active care management.
- Puts the system in the hands of care professionals and avoids vendor lock-in.
- Utilises openEHR and FHIR standards to ensure data consistency, quality, and interoperability across healthcare systems.
- Eliminates data silos by aggregating patient data from various sources into a single, coherent record.
- Provides immediate access to patient data, ensuring timely and informed clinical decisions.



PROMs: Capturing and analysing patient-reported health outcomes



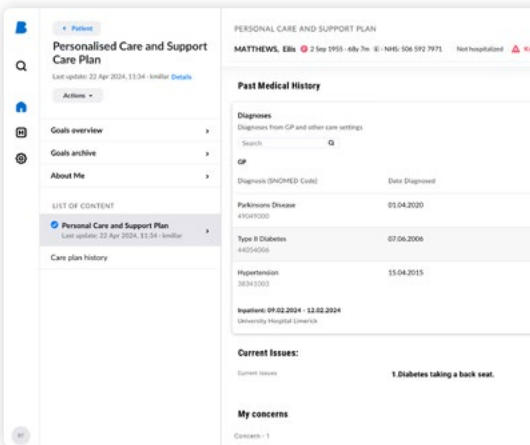
Better Patient-reported outcome measures (PROMs) help improve care delivery, optimise outcomes, and ensure a holistic understanding of patient needs. By introducing a patient-centric approach, the solution empowers healthcare providers to gather, analyse, and act on patient feedback effectively and can be used in different health settings and across various stages of patient care. Its structure and functionalities support individuals and care teams in clinical practice, trials and research, and chronic disease management.

Key benefits of PROMs

- Creation, collection, and management of digital forms.
- Individual or group care pathways with one or multiple forms.
- Real-time digital dashboards for clinical or process data analysis.
- Automatisation of care pathways based on form statuses or external system integrations.
- Streamlined operational workflows through automated scheduling and notifications.
- Contextual launch integration of forms into existing patient clinical solutions.

Care coordination: Personalising patient care journeys

Better Care coordination solution ensures seamless integration of all aspects of patient care, encompassing medical, social, and support services. This multi-disciplinary approach, centred around the person, ensures patients receive comprehensive, timely, and holistic care. With creation, management, and sharing of individualised care plans, the solution is ideal for health systems aiming to enhance coordination and collaboration, improve patient outcomes, and support evolving healthcare models with scalable, innovative technology.

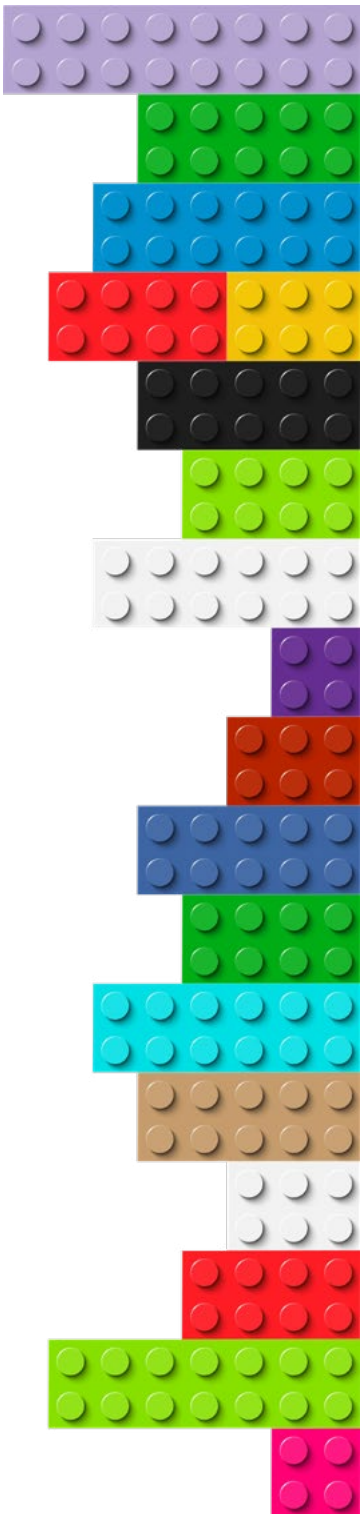


Key benefits of Care coordination

- Access and visibility into the care plans tailored to the patient's needs.
- Single sign-on access and easy access from existing systems.
- Interoperabile with the existing health and care systems.
- Low-code development tools and design system enable you to take charge and design new forms, pathways, and worklists.
- Reduces gaps in care, duplication of services, medical errors, and healthcare costs.
- Collects and shares real-time data across primary, secondary, urgent care, and community health care settings, making it readily accessible, and ready for reuse.

Written by: Jovan Pavićević
Article published: December 2024

Data-first low-code development



A simple use case: a care provider needs a new clinical application. Using a traditional approach and depending on the complexity, this could take months or even years of development and testing, and a lot of developers, QAs, UX designers, and clinical domain experts. The front-end development timeline shortens with classic low-code platforms, but ensuring compliance and functionality remains challenging, and you need domain knowledge experts. This is where the data-first approach comes to shine.

In the dynamic world of software development, three primary approaches stand out: traditional coding or code-first development, low-code development or UI-first, and an emerging, more advanced method of domain-driven development or data-first. Each has its strengths and weaknesses, particularly in the context of healthcare. We explore why the data-first approach offers unparalleled benefits for healthcare application development and how to amplify it by combining it with low-code tools.

Traditional development: Code-first

The traditional approach involves writing code in Java, C++, Python, and others. First come application logic and business rules, and then the development of other components from that code, such as database schemas, APIs, and front-ends. This method, while powerful and flexible, demands significant expertise in coding and a deep understanding of healthcare-specific requirements. Development cycles can be lengthy, and ensuring data interoperability and standardisation is a complex, resource-intensive task. In most cases, these have proprietary data models.

Low-code development: UI-first

Low-code platforms aim to simplify and accelerate the development process by allowing users to build applications through visual interfaces. The screen and what the user sees is the start, and then the business logic is reverse-engineered, and the data model is auto-created - by default, proprietary to that application. These tools are advantageous for industries like telecommunications or banking, where business logic can be relatively straightforward, and data models are simpler than healthcare. However, in healthcare, the need for more standardised data models and extensive domain knowledge can hinder the effectiveness of these platforms. Applications built

this way often need more structure, interoperability, and compliance with healthcare standards.

Domain-driven development: Data-first

There is a concept called "Headless EHR", which was until recently more theoretical than practical. Today, however, we are witnessing the arrival of true headless EHRs - both those designed to be headless from the ground up (platforms) and existing EHR systems swiftly opening up their core functionality through a wide range of APIs. A headless EHR is a type of EHR system that separates the back end (data and functionality) from the front end (user interface). This approach allows developers to create custom applications and interfaces or integrate with other systems using the EHR's data and capabilities without being tied to a specific user interface.

However, with the above-mentioned options, developers still need to develop the application, or domain experts need to define the models for the application and define the business rules. But is there a better way, somehow combining it all?

Advantages of data-first low-code development

- **Standardisation and interoperability out of the box**: Using standardised data models, applications built on platforms based on openEHR and FHIR ensure consistent data structuring and seamless interoperability across different systems. This approach enables the delivery of an active Shared Care Record, as it is set up on a national level in Slovenia, with 98% of the shared national health data stored on a platform.
- **Acceleration of development**: Traditional low-code platforms claim to improve development speed by 7-10 times. Combined with low-code tools, the data-first approach can double or even triple these improvements. Starting from a robust data model, it eliminates the guesswork and trial-and-error typically involved in designing healthcare applications. EHA Clinics from Nigeria report that building simple use cases can take 1 to 6 hours, while the most complex ones can take 3 to 4 days.
- **Built-in domain knowledge**: Healthcare applications require specific medical knowledge. The data-first approach incorporates this knowledge within the models, enabling developers to drag and drop actual data points onto their application canvas. This ensures that the application logic is inherently aligned with clinical requirements. There are almost 1000 archetypes on openEHR CKM available to download for free.
- **Ease of use**: While traditional coding requires extensive expertise and low-code platforms necessitate understanding the business logic, the data-first, low-code platforms democratise development. They empower business analysts and UX designers, working hand in hand with healthcare professionals, to not only participate in but actively run the application development process.
- **Lower maintenance and development costs**: Adopting a data-first approach with standardised data models combined with low-code tools and contextual launch of applications within the existing systems massively decreases maintenance and new use-cases development and rollout costs as you develop once and maintain one instead of many. This is well described in the paper about London's Universal Care Plan, which is built upon these technology principles.

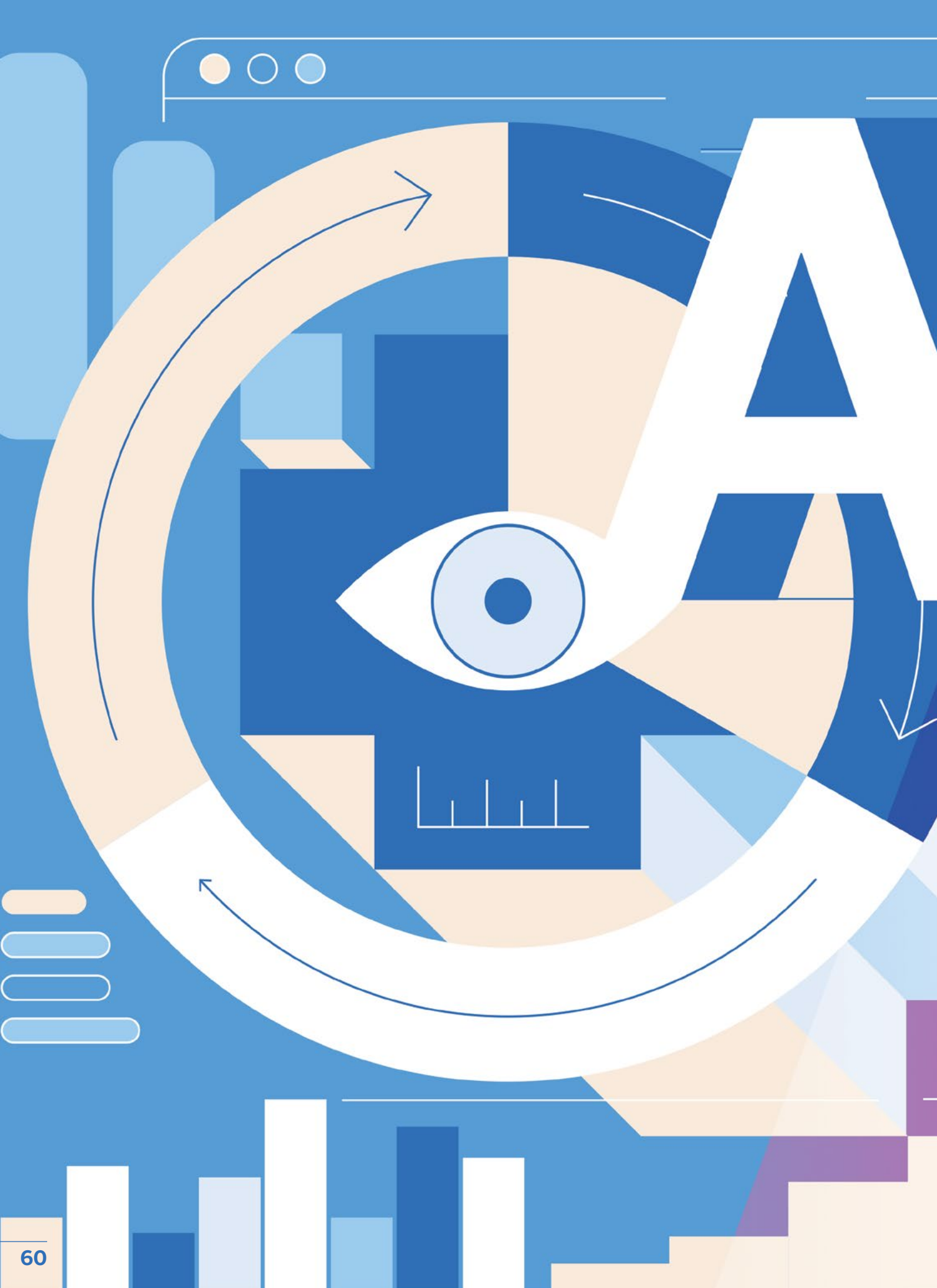
(R)evolution: Data-first low-code development

Unlike traditional low-code platforms, this method starts from the data model and the domain knowledge within. A similar concept to headless EHR - but requires no coding. While we can integrate to the backend via APIs and build applications on top, here we have a drag-and-drop development environment as well, which allows us to take that domain knowledge from the data and put it on the screen.

Comprehensive data model ensures all necessary fields, clinical validation of the model, and use of data standards are included. To achieve this, you need a robust framework, and here, openEHR and FHIR come into play. One of the core advantages of the openEHR approach is the clear separation of clinical domain expertise from software development. Using openEHR, clinicians and clinical informaticians are empowered to define and manage clinical knowledge and workflows. At the same time, the application development teams can focus on building robust applications with the best user experience.

There are two significant benefits of this approach. Leveraging the pre-built, standardised data models, such as those offered by openEHR and FHIR, clinically verified and interoperable applications can be built from the outset. This introduces an entirely new term in data exchange, INTRAoperability, meaning seamless data exchange within the data persistence layer itself and not on the level of interfaces and integration engines. Building a clinical application doesn't require development knowledge, as the low-code tools significantly reduce development efforts. Moreover, clinical knowledge is already embedded into the data model, further accelerating development.

At Better, we exemplify our commitment to innovation and quality in healthcare IT with our Better EHR Studio. It showcases our data-first and low-code approach in a single tool. By leveraging openEHR and the Better digital health platform, we are accelerating the development process and ensuring that our solutions meet the highest standards of interoperability and compliance.



Better AI

Artificial Intelligence is changing the world. It is changing healthcare, changing everyone and everything. At Better, we are in the front seat of this transformation. We are building AI solutions that address the challenges faced by healthcare professionals. We want to simplify their complex workflows and help them focus on the patient, delivering safer and more efficient care. Every single day.

From our **AI Assistant**, which simplifies medication management and provides clinicians with actionable insights, to tools like **Daily Summary**, which provides an overview of a patient's history and creates valuable time for healthcare teams to focus more on their patients. We have developed solutions like the AI-powered **Medical Coding Assistant** and integrated AI into our Better EHR Studio to simplify **AQL queries**, making healthcare data more accessible and actionable, simplifying the process for researchers as well.

The opportunities for AI in healthcare are limitless. Whether through providing better decision support, automating routine tasks, or gaining new insights from complex datasets, AI does have the key to creating a more sustainable and effective healthcare system. At Better, we are determined in our mission to innovate and collaborate with healthcare providers to bring these possibilities to life and lead the way to smarter, safer, and more connected healthcare.

Article published: October 2024

Better Meds' AI-powered solutions: AI Assistant and Daily Summary

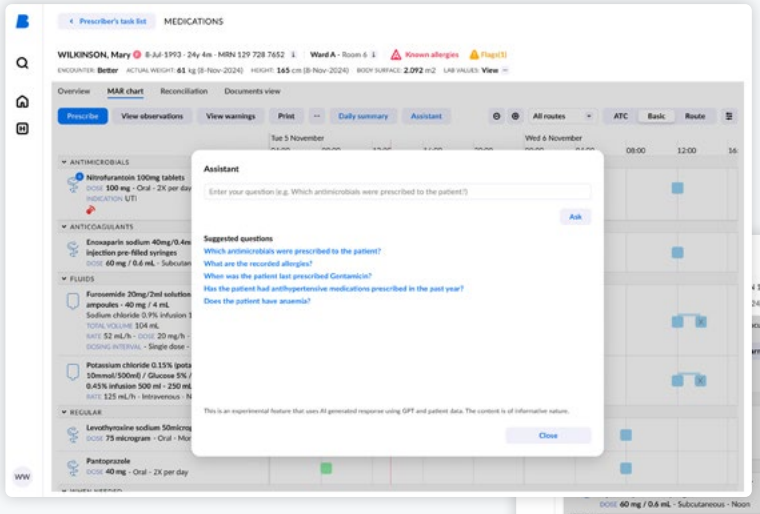
Better Meds has two innovative AI-powered solutions that are transforming medication management: the AI Assistant and the Daily Summary. These tools are designed to support healthcare professionals by improving efficiency and precision while maintaining a patient-centred focus in clinical workflows.

The **AI Assistant** uses advanced natural language processing (NLP) to help clinicians efficiently explore a patient's medication history. Through a conversational interface, clinicians can ask questions or select pre-made queries to uncover detailed insights into past prescriptions, medication interactions, and other relevant data. Acting as a "co-pilot" for healthcare professionals, the AI Assistant organises critical information and ensures it is readily accessible when it's needed, helping to reduce administrative burden and support confident decision-making.

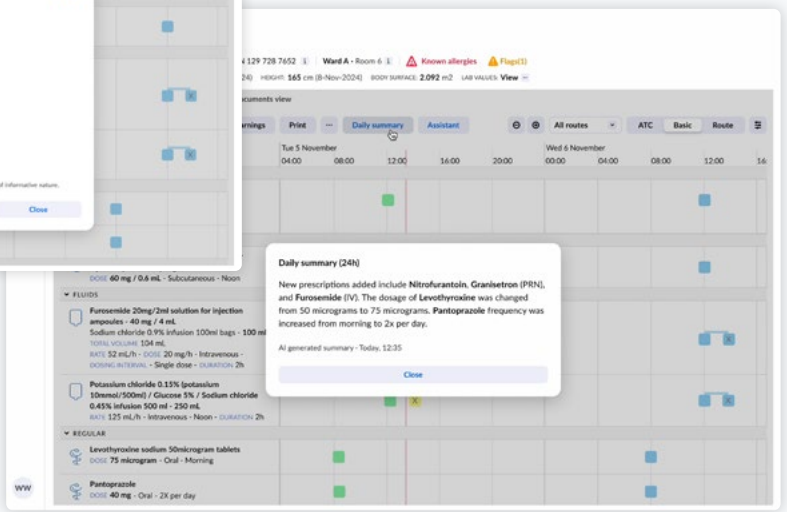
The **Daily Summary** complements the AI Assistant by generating concise, AI-driven overviews of medication changes within the past 24 hours. This includes additions, dosage adjustments, and discontinued prescriptions, giving clinicians a clear and structured view of updates to coordinate care more effectively during handovers or busy shifts. By summarising key information, the Daily Summary saves time spent on manual reviews and helps healthcare teams maintain accurate, up-to-date records.

These tools are designed to increase communication, improve workflow efficiency, and assist healthcare professionals in reducing the risk of administrative errors. For clinicians, they provide timely, actionable insights that simplify daily tasks and reduce workload. For patients, this translates to more efficient care delivery and improved outcomes through better-coordinated processes.

The AI Assistant and Daily Summary represent the future of collaboration between technology and human expertise, supporting professionals in delivering safer and more effective medication management.



Better Meds AI Assistant

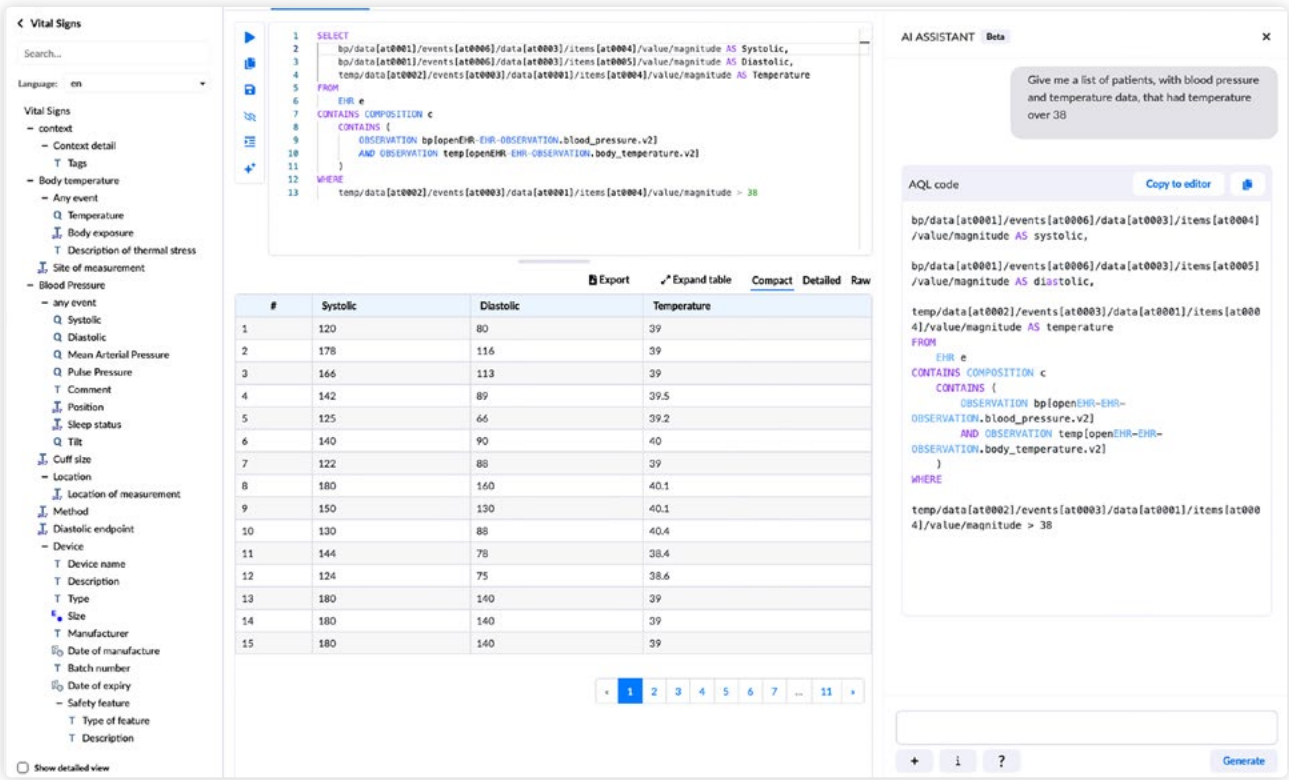


Daily summary solution in Better Meds

Article published: October 2024

Simplifying AQL queries with Better's AI-powered assistant

The AI-powered AQL Assistant, part of Better EHR Studio, is transforming how clinical and technical teams interact with healthcare data. This innovative tool allows users, regardless of their technical expertise, to effortlessly create, modify, and understand queries using the Archetype Query Language (AQL).



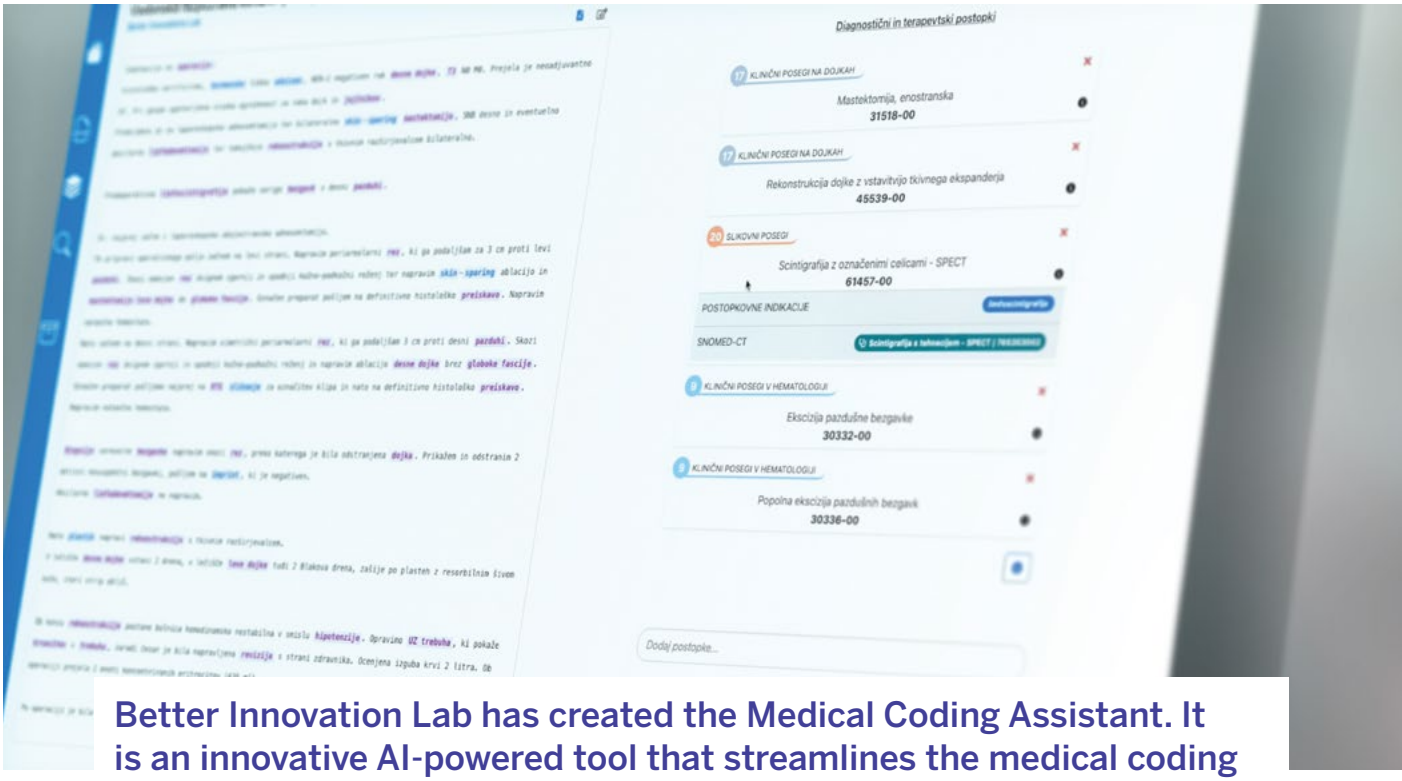
Driven by AI, the assistant provides real-time guidance and generates queries based on what users describe in their own words, eliminating the steep learning curve typically associated with AQL or similar query languages. It also explains the context behind queries, helping users fully grasp the logic of their results. By simplifying complex tasks, the assistant accelerates workflows and encourages collaboration between clinical and technical teams, enabling them to work faster and focus on solving clinical challenges rather than navigating technical hurdles. This ensures efficient data handling and helps teams deliver results with less effort and time.

The **AQL Assistant** is particularly valuable for clinicians and researchers, who often rely on IT teams for data retrieval. It increases autonomy, reduces delays, and makes both data retrieval and analysis quicker and more intuitive. For developers, it enhances productivity by automating repetitive tasks and simplifying the integration of clinical insights into applications. This frees them to concentrate on higher-value priorities, such as improving user experiences and system performance.

By bridging technical complexity and user accessibility, the AQL Assistant empowers clinicians and developers to work more efficiently with clinical data. This results in insights that are more actionable, insightful, and timely. Elevating data accessibility improves patient care and supports healthcare innovation.

Article published: October 2024

Better Innovation Lab introduces an advanced AI-powered Medical Coding Assistant



Better Innovation Lab has created the Medical Coding Assistant. It is an innovative AI-powered tool that streamlines the medical coding process by using AI algorithms, including Natural Language Processing (NLP) and Deep Learning techniques.

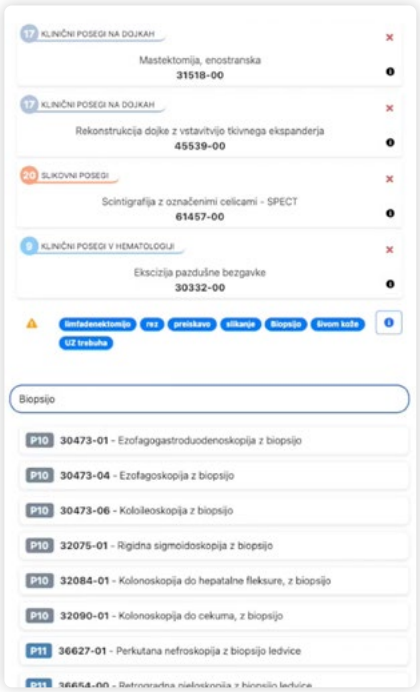
Medical coding is a crucial task in healthcare organisations. Traditionally, skilled coders require hours of manual effort to swipe through patient records, identify information, and assign the appropriate diagnostic and procedural codes. **Medical Coding Assistant** can assist coders in accurately assigning codes.

What sets the Medical Coding Assistant apart is its ability to analyse unstructured medical documents and provide AI-driven suggestions for diagnostic and procedural codes. By building on the power of NLP techniques, the Medical Coding Assistant can accurately identify and understand clinical concepts within these documents, making it an invaluable resource for medical coders.

Code suggestion mechanism to help understand code

One of the key features of the Medical Coding Assistant is its comprehensive code suggestion mechanism, backed by explanations, thus allowing

A snippet of the contextual recognition window.



Diagnostic and procedural codes window built on the power of NLP.

coders to understand why certain codes are recommended. Using AI algorithms, the Assistant suggests suitable diagnostic and procedural codes based on established coding guidelines, regulations, and best practices. These suggestions not only expedite the coding process but also improve accuracy by minimising errors and ensuring compliance with coding standards.

Moreover, the Assistant acts as a second pair of eyes, performing quality assurance checks on coded data to detect inconsistencies, discrepancies, or potential errors. This ensures coding integrity and reduces the risk of compliance audits or billing discrepancies. This transparent process ensures that coders can confidently review and confirm the right codes.

Working with the help of NLP and AI

Natural Language Processing (NLP) and AI algorithms are integrated into the Medical Coding Assistant. NLP is used to parse and make sense of the text in clinical documents, identifying relevant medical terms and their context, and AI algorithms help recognise patterns and connect these terms and appropriate medical codes. This integration allows the Assistant to 'learn' from vast data, improving its suggestions over time.

"We developed the Medical Coding Assistant to streamline the complex and time-intensive process of medical coding," said **Robert Tovornik**, Innovation Lead at Better. *"The primary beneficiaries are medical coders. It reduces their manual workload, allowing them to focus on more nuanced aspects of coding, and redirecting their focus from routine, time-consuming code searches to more complex tasks and cases that require a deeper level of expertise."*

The Medical Coding Assistant's development exemplifies Better Innovation Lab's commitment to leveraging cutting-edge AI technology for practical healthcare solutions. *"We are excited about the positive impact of the tool's capabilities and the potential it holds for the future of medical documentation and billing. We aim to continuously improve the Medical Coding Assistant, considering its potential for supporting more languages and coding systems. We approach expansions with care, ensuring the tool remains helpful and effective for medical coders,"* also explained Robert Tovornik.

"We are excited about the positive impact of the tool's capabilities and the potential it holds for the future of medical documentation and billing."

Robert Tovornik
Innovation Lead, Better

Getting from ideas to code

How we speed things up

In today's fast-paced world, designers and developers often find themselves racing against time to deliver products. To ease the stress and, most importantly, get from design to final product faster, we have found a solution that combines the benefits of having a design system with AI design-to-code tools.

Written by: Valentin Grudnik
Article published: November 2024

AI design-to-code tools help us build faster

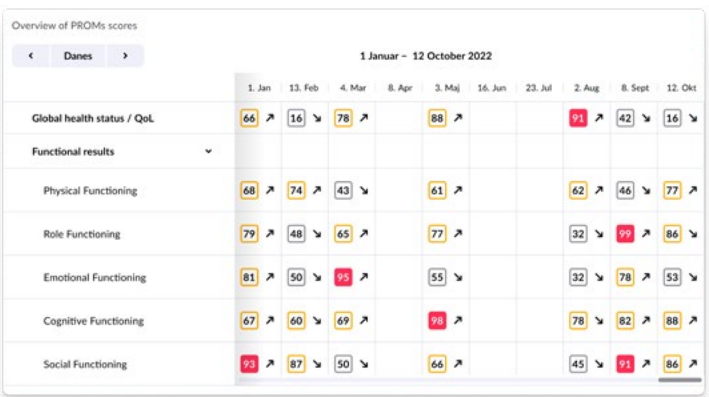
While design-to-code tools aren't something totally new, their capabilities are rapidly improving, thanks to AI. The code they generate is clearer and easier to work with, which has been a huge help for us—especially in Studio, our low-code tool. Here, we frequently develop widgets, which are small, self-contained units that display data, ranging from simple BMI calculations to more complex data like patient lab values.

However, these widgets are often created separately for specific projects and use cases, which can be time-consuming. This is where AI design-to-code tools truly shine: in no time they generate smaller pieces of code that don't interfere with the overall development of our software. From a designer's perspective, what could be better than seeing designs implemented so quickly?

What is so great about design-to-code tools?

What have we learned about the advantages of these tools? Here are some key benefits that really stand out:

- **Faster prototypes**: Creating Proof of Concepts (PoCs) has never been quicker. We can get ideas off the ground in no time.
- **Quick feasibility checks**: It's easier to see if a design is feasible right from the start. No more guesswork.
- **AI-enhanced code**: Thanks to AI, the code generated is not just smarter but also more practical and easy to use.
- **Comprehensive framework support**: These tools work with all major frameworks, making integration a breeze.
- **Automation of repetitive tasks**: AI helps automate the tedious and repetitive aspects of web development, freeing up time for more complex tasks.
- **Faster workflow adaptation**: The whole process becomes more flexible, allowing developers to quickly regenerate designs as they change, making the workflow more iterative and efficient.

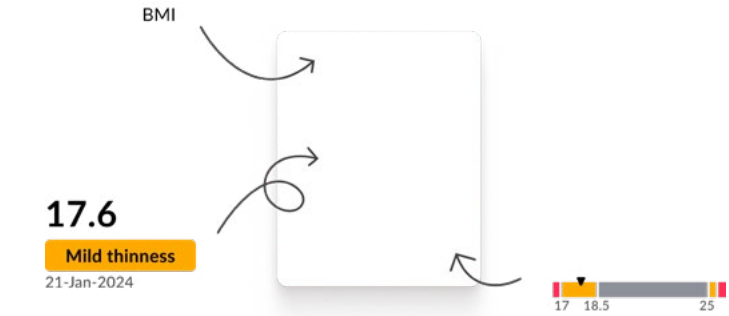


Creating widgets in hours instead of weeks

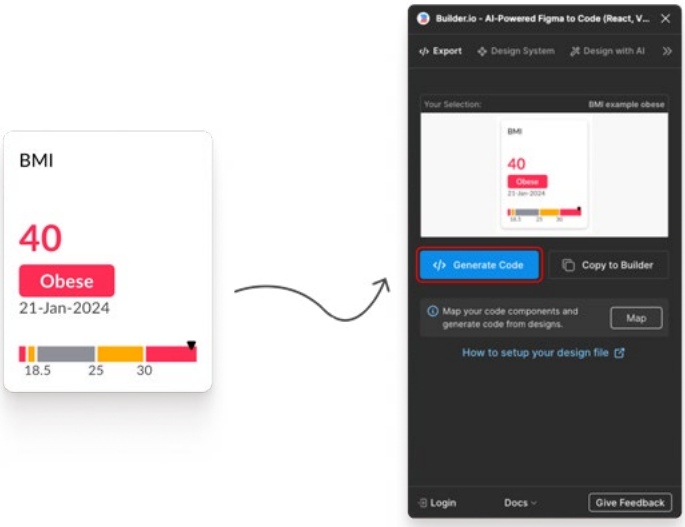
Initially, we set out to test AI tools that could speed up our design processes. However, with our BDS design system and clinical visualisation system in place, we didn't find AI tools that could leverage these systems efficiently. So, we shifted our focus to the coding aspect of our projects.

In collaboration with developers from the Studio team, we tested a plugin we found for our design software, Figma, called Builder.io. This tool allows us to quickly convert designs, that we do in Figma, into code, giving developers a solid foundation to build upon. Based on developer feedback, the generated CSS and HTML code was well-structured, which significantly speeds up their coding process.

Now, we can build a widget in hours instead of days, benefiting both teams. Designers can iterate and test their designs more frequently, while developers have more time to focus on functionality and fine-tuning the widget. This leads to widgets that are not only more usable but also reusable.



Creating Proof of Concepts (PoCs) has never been quicker. We can get ideas off the ground in no time.



Builder.io allows us to quickly convert designs, that we do in Figma, into code, giving developers a solid foundation to build upon.

From slow handoffs to quick turnarounds

Before, the process was pretty straightforward but often took way too much time. A project manager and analytic would come with a request or idea for a widget. Designers and researchers would take on the project and create the designs. Then came the handover for development, which frequently took days or even weeks due to complexity or a shortage of available developers. Now, with the use of design-to-code AI tools, development happens much faster. Developers save time as they no longer need to worry about getting the right colors, spacers, typography, or achieving pixel-perfect designs—our AI tool handles that! It takes care of the coding, making the widget functional and ready for publication in our Studio Marketplace.

Overcoming AI limitations in UI and UX design

In today's workflows, designers often rely on large language models like ChatGPT to help generate content, placeholders, boilerplates for documentation and handovers. However, when it comes to generating UI or UX ideas, our field is still too specific for these models to produce results we can actually use. There are a lot of limitations and additional context that AI can't yet fully grasp. Plus, many generative UI/UX AI models can't use existing designs or design system components, making their output even less useful.

On the bright site, AI tools are improving all the time, generating practical and useful code that serves as a solid starting point for further development. This allows developers to focus less on CSS and HTML and more on functionality—crucial for creating effective widgets for Studio.

Looking ahead, we are eager to explore more AI tools in our design workflows. With Figma set to release its own AI soon, which promises to leverage our Better Design system and generate ideas based on our UI components, we are very much excited about the future.

Better Meds EDU

better meds

BRIDGING THE GAP BETWEEN ACADEMIA AND CLINICAL PRACTICE

Better Meds EDU helps universities train students about medication management they will be exposed to in future clinical practice.

We can enable students to learn about the principles of prescribing, reviewing, and administering medicines electronically while exploring the patient safety aspects of the technology.

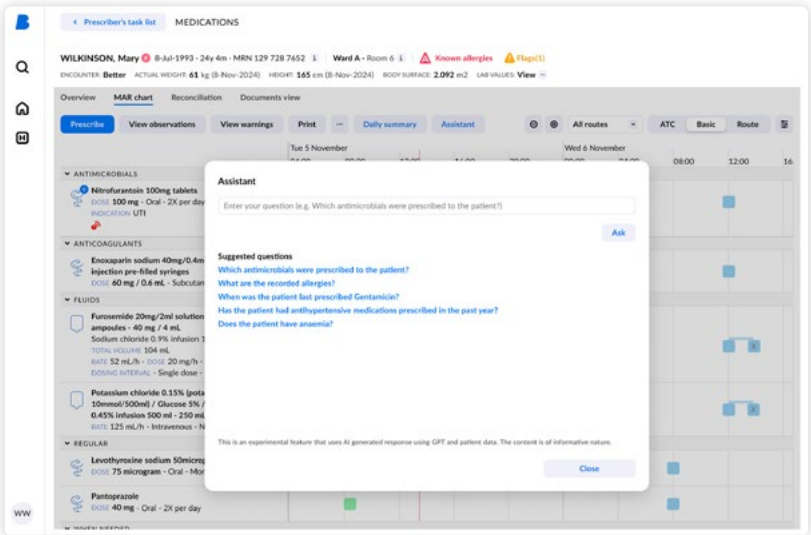
FIND OUT MORE:

Trusted by the top European universities

University of Plymouth · University of Liverpool · University of Maribor · UCL · Newcastle University · Manchester 1824 The University of Manchester · Liverpool John Moores University · Hull York Medical School

Article published: July 2024

Enhancing pharmacy efficiency and patient care with Better Meds 3.16



The release of Better Meds version 3.16 is packed with exciting new features designed to improve workflow efficiency for pharmacists and enhance patient care. Our latest update introduces the Pharmacist priority list, a comprehensive Lab results view, and an AI-powered Daily Summary feature.

The latest enhancements are a direct response to feedback from our dedicated community of users, who continuously inspire us to improve and keep our Better Meds ePMA (electronic prescribing and medication administration) solution up-to-date with evolving needs.

Pharmacist priority list: Streamlining patient reviews

Pharmacists often face the challenge of identifying which patients require urgent review. This process can be time-consuming and involve examining multiple patient records and drug charts. To address this, we have introduced the Pharmacist priority list. This feature displays all hospitalised patients with key information about their priority status, items for review, and reconciliation status.

The Pharmacist priority list categorises patients into four priority groups based on predefined rules set by the healthcare organisation. This allows pharmacy teams to target patient reviews more effectively, ensuring that those who need urgent attention receive it promptly.

Improved lab results: Comprehensive trend analysis

Our users expressed the need for a more extended view of patients' lab results to better understand result trends and incorporate this information into prescribing decisions. With Better Meds 3.16, we have met this need by offering a detailed view of lab results in a new pop-up window. The updated Lab results feature includes a trend line showing current and previous results, along with reference ranges. This improvement allows clinicians to quickly grasp result trends and make informed decisions when creating prescriptions.

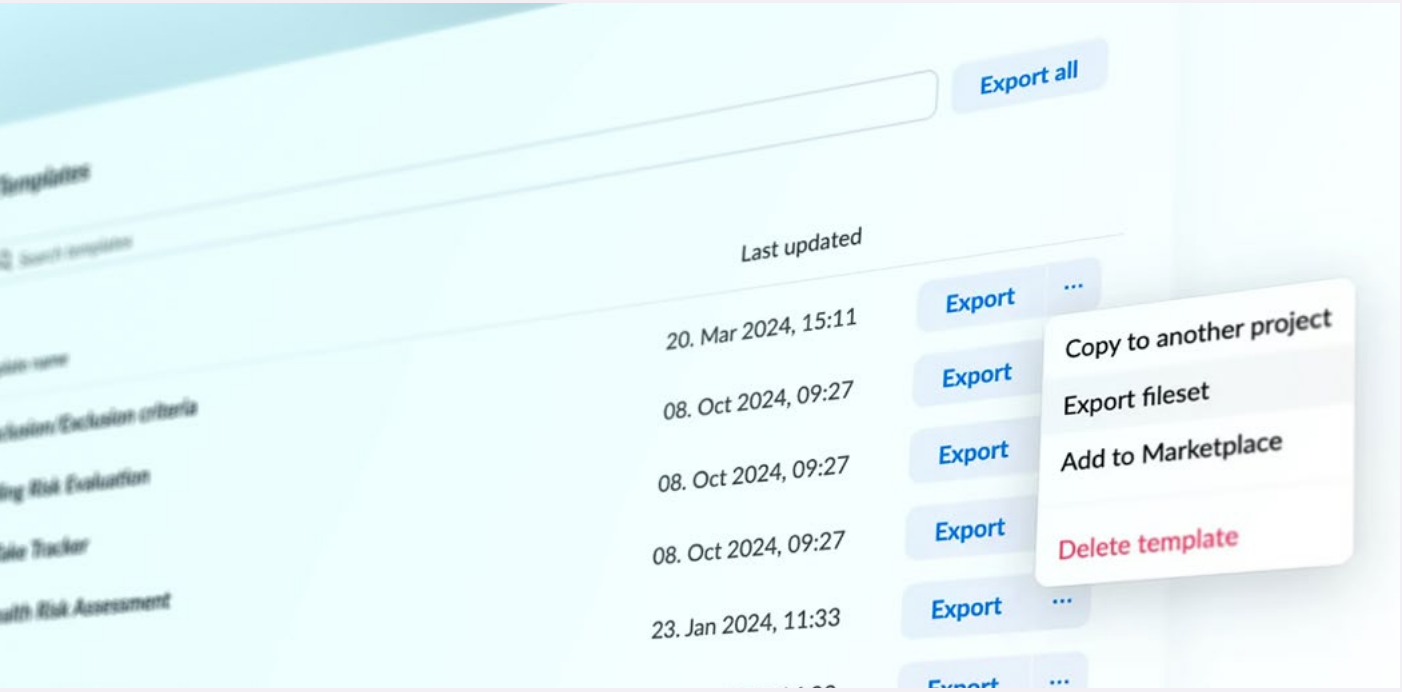
Daily Summary: Seamless handover with AI

Effective communication during handovers is crucial for maintaining continuity of care. Better Meds 3.16 introduces the Daily Summary feature, powered by Artificial Intelligence, to facilitate seamless handovers. This feature provides users with a summary report of a patient's prescription changes over the past 24 hours. The Daily Summary includes information on changes to prescriptions, such as dose and frequency adjustments, and actions taken on prescriptions. This enables clinicians to have an overview of recent prescriptions, assess the complexity of a patient's condition, and make appropriate clinical assessments before managing their prescriptions.

A community-driven solution

Our ePMA solution is driven by the insights, continuous support, and feedback from our incredible community of users. These contributions inspire us to continuously improve Better Meds.

New features and improved efficiency of low-code development with Better EHR Studio 3.10



Better EHR Studio 3.10 brings new features and functionalities that improve form-building and the low-code development experience. From smarter API handling to our very first AI Assistant, this latest update offers powerful enhancements to help healthcare organisations accelerate the creation of medical applications and improve data management efficiency.

Article published: October 2024

Better EHR Studio, a low-code development tool within the Better Platform, is designed to enable healthcare professionals and developers to build applications and manage clinical data with ease. It empowers users to create high-quality, interoperable medical content without extensive coding knowledge. The new release, 3.10, introduces a range of functionalities that are aimed at simplifying workflows for healthcare developers and helping teams with advanced low-code tools.

Here are some of the key features and improvements of the latest version:

Pre and Post Processors in APIs are a new feature that allows users to run custom scripts before or after each API call. This enables making additional calls, retrieving authorization tokens, or filtering and reformatting data in a more presentable manner, which simplifies data binding to forms and enhances API functionality.

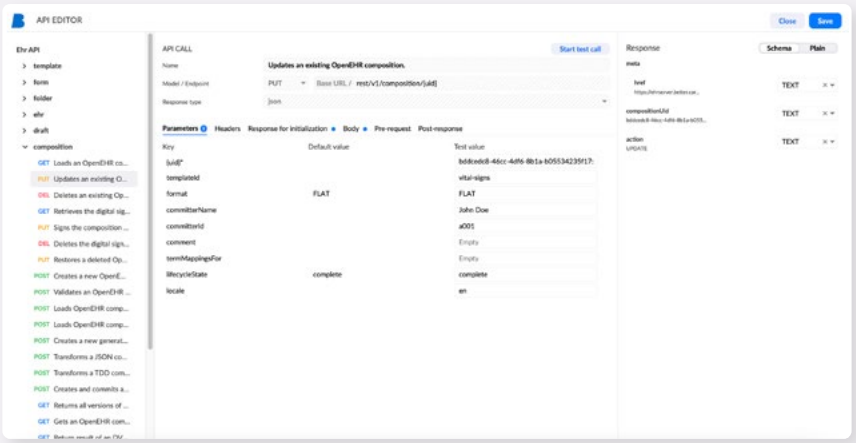
OpenAPI integration allows users to import API connectors and all calls in bulk from any API that follows the OpenAPI specification. This way, users can quickly bring in API connectors and use them across multiple forms within a project.

In addition to operational templates, users can now **upload and download filesets** directly to the selected project in the studio or on the Marketplace. This brings greater flexibility in content management and reduces complexity in data model adjustments.

This version of Better EHR Studio also includes the first **AI Assistant**! It has been developed to help users create, modify, and explain AQL queries. While still in Beta, it offers quick query suggestions that can be copied to the editor and executed.

"I am really proud of the latest release of the Better EHR Studio. We have introduced many powerful new features that make form-building faster, more flexible, and easier than ever before. These improvements are all about giving our users the tools to perfect their workflows and make collaboration easier. We will certainly continue to improve our platform to support healthcare professionals in managing data efficiently and developing better health solutions," said **Benjamin Muhič**, Better EHR Studio Lead.

The new release also brings some upgrades that provide a smoother, more reliable user experience across the platform. With the constant upgrades, Better continues to push the boundaries of what healthcare professionals and developers can achieve with low-code development tools.



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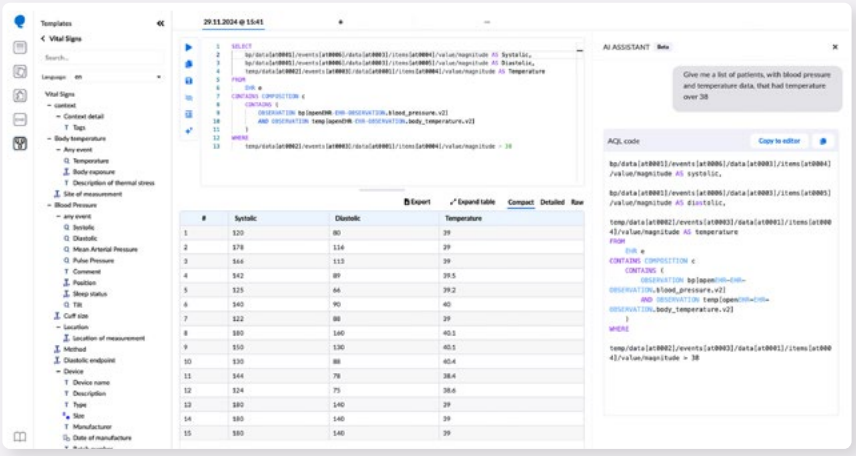


This version of Better EHR Studio also includes the first AI Assistant! It has been developed to help users create, modify, and explain AQL queries.

Better EHR Studio 3.10 Release Notes

Form Builder
- Pre and Post processor in APIs
- OpenAPI integration
- Batch actions
- Duplication of forms
- Support for uploading and downloading of filesets
- Search for tags in the save form modal

AQL Builder
- Close multiple tabs at once
- AI Assistant (beta)

Marketplace
- Support for bundles
- Document attachments in content
- Improved text editors and mark-down support

Bug fixes
- Form Builder
- Form Renderer
- AQL Builder
- Studio
- Marketplace

Discover the power of seamless patient record management with **Better Data core**.

Transform your organisation with a vendor-neutral health data core based on openEHR and FHIR standards. It is designed to unlock and unify data while ensuring the highest standards of security and privacy. With more than 30 million patient records stored, it is the biggest healthcare open data platform used globally.

powered by openEHR HL7 FHIR

Article published: October 2024

Strengthened security, interoperability, and data integration

In 2024, Better has introduced significant updates across its platform, emphasising patient data security, interoperability, and improved data integration capabilities. These advancements reflect the company's ongoing commitment to equipping healthcare providers with cutting-edge tools for managing and protecting health data effectively.

Improved data security

With the latest release, Better Platform introduced robust updates to its EHR Server, Demographics Server, and Attribute-Based Access Control (ABAC), ensuring smooth operation while maintaining high-security standards. The key highlights are:

- **SMART on FHIR and SMART on openEHR support**
  The platform bridges two vital healthcare standards—SMART on FHIR and SMART on openEHR—enabling adaptable, secure EHR solutions. This innovation fosters interoperability and supports the development of modern, scalable healthcare applications.

- **OpenSearch security integration**
  By introducing SSL and authentication support, Better has fortified data communication between its products and OpenSearch, restricting access to authorised users and minimising potential vulnerabilities.

- **Enhanced SNOMED CT querying with ECL support**
  Users can perform detailed queries within SNOMED CT using the Expression Constraint Language (ECL), enabling the creation of precise, standards-compliant datasets that improve data accuracy and reliability.

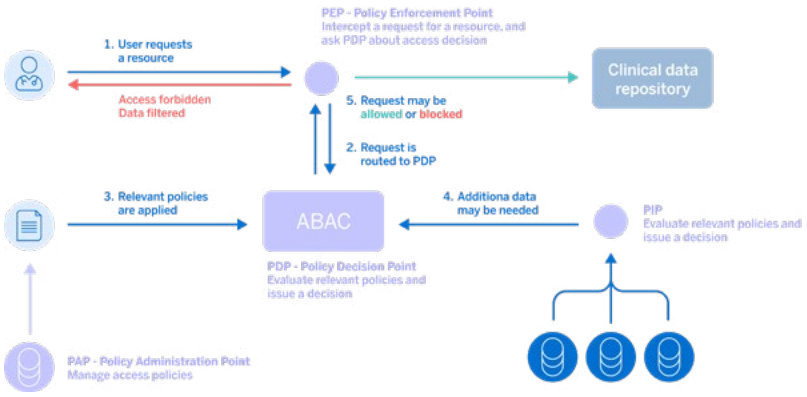
- **Advanced ABAC**
  Tailored access control decisions based on data specifics during updates and searches reinforce data privacy, granting healthcare organisations confidence in their security frameworks.

Improved data extraction capabilities

Better has also unveiled Better ETL 2.0.0, an advanced extract, transform, and load (ETL) component designed to streamline data integration processes for healthcare professionals.

The main new features include a redesigned graphical user interface for easier configuration and management of data flows, improved connection testing for seamless EHR and database integration, enhanced PostgreSQL compatibility, eliminating the need for superuser privileges and simplifying setup, and Global failure email notifications, providing proactive alerts for job failures.

"Ensuring patient data protection is our top priority. This way, we are enabling healthcare organisations to advance their digital transformation journeys while keeping their data secure," said **Matija Polajnar**, Better Platform Core Technical Lead. *"Our focus remains on delivering reliable and efficient solutions for healthcare data management and we are comitted to provide users with tools that improve healthcare delivery while maintaining the highest standards of data security and interoperability,"* he added.



Written by: Samo Drnovšek
Article published: July 2024

Business-driven validations for health and care data repositories with Better Advanced Validation Services

In the realm of health and care data management, ensuring accuracy, security, and compliance of data within repositories is of great importance. Validation services are instrumental in enforcing data integrity and compliance throughout the lifecycle of health and care data.

The importance of a validation layer in digital health platforms cannot be overstated, as it plays a critical role in validating and managing data before it reaches the repository. By implementing robust validation processes across repositories, organisations can enhance data quality, mitigate risks associated with incorrect or incomplete information, and ensure regulatory compliance in dynamic healthcare environments.

Understanding the depth of validation

In a typical setup, the data layer consists of several repositories, each catering to specific domains such as clinical data, operational data/demographics, workflows, and reporting metrics. To maintain consistency and validity across these repositories, a robust business-driven validation service becomes indispensable. This service not only ensures data quality but also improves clinical decision-making and, consequently, patient care outcomes. By integrating a validation layer, healthcare organisations can effectively enforce business validation rules, restrict access to unsupported resources, manage conditional requests, and modify request and response bodies, thus optimising the reliability and accuracy of their data. These services are organised into three layers of validation:

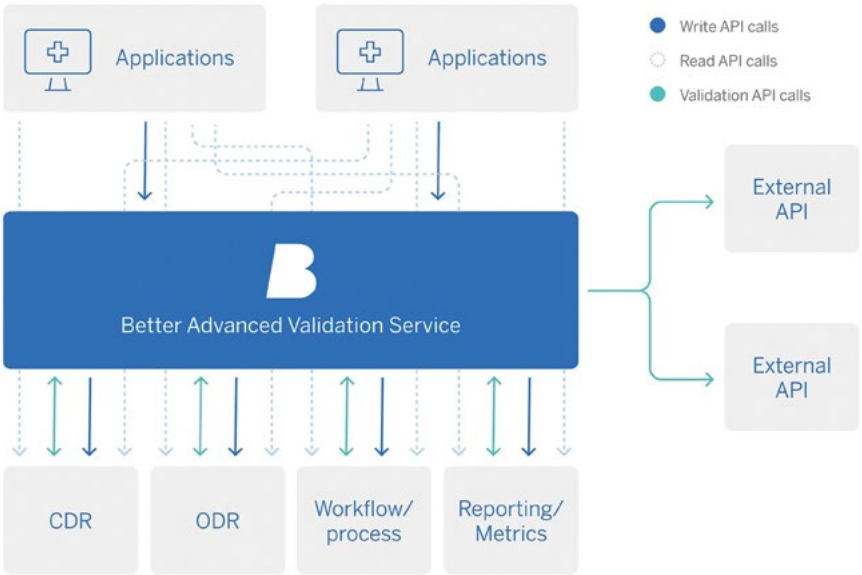
- **Layer 1: Semantic validation:** Foundational in nature, this layer makes sure data complies with standardised models such as openEHR and FHIR, fostering interoperability and consistency across healthcare systems.
- **Layer 2: Access control:** Moving beyond semantics, access control safeguards sensitive information, ensuring it is accessible only to authorised personnel or systems. This layer regulates data access based on privacy and security policies, thereby protecting sensitive information and ensuring compliance. Moreover, it protects data entry so that only authorised personnel can create or update data.
- **Layer 3: Business-driven validation:** The most intricate layer revolves around business-specific rules and logic, validating data against operational and regulatory requirements unique to the healthcare sector. This includes clinical decisions, clinical protocols, adherence to quality metrics, and other related capabilities.

Together, these validation layers uphold data reliability, security, and interoperability, thus facilitating improved patient care outcomes and organisational efficiencies in healthcare.

Business-driven validation

Implementing business-driven validation rules in healthcare data management is essential for maintaining data integrity and providing accurate clinical information across diverse applications. Validating data within each repository enforces custom rules on data flowing in and out, ensuring consistency and reliability.

Let's consider how business-driven validation can be applied using a practical scenario, such as restricting diagnoses based on patient demographics. For example, in a healthcare application, we might want to enforce a rule that allows recording a diagnosis of "Type 2 Diabetes" only for patients aged 18 years or older. This validation



process integrates specific checks into the data entry process, automatically verifying the patient's age against predefined criteria to ensure alignment with demographic profiles.

Integrating patient history is vital to prevent duplicate or inaccurate entries. The system can query stored medical histories to identify existing diagnoses, alerting users to potential duplications and maintaining data consistency.

Business-driven validation extends beyond demographics to include clinical data validation, making sure diagnoses align with medical histories and current conditions. Furthermore, leveraging external data sources through APIs enhances validation capabilities by integrating with national health databases or insurance records, guaranteeing comprehensive and accurate patient information.

Implementing business-driven validations with Better Advanced Validation Service

While our main products, EHR Server (openEHR Clinical Data Repository) and Demographics Server (FHIR-based Operational Data Repository) already validate data on ingress against the standards (openEHR reference model and FHIR resource definitions) and models (openEHR archetypes and templates and FHIR profiles and implementation guides), these validations often lack functionality in real-world projects, and no cross-validation can be done between different data points. Examples include taking other existing compositions into account when validating a new one, using demographic information to verify whether the new clinical information makes sense, consulting external services such as catalogues, workflow management systems, or non-openEHR clinical applications, and much more.

Better Advanced Validation Service is a central service for business rules validation on data ingestion. It installs as a gateway to actual repositories and applies validation to all incoming data. Our Validator Server uses validation scripts that can be written in a well-documented DSL (domain-specific language) and deployed to the project ecosystems. Validation rules are written in simple and easy to use validation scripts, managed through a REST API. They can be used to validate:

- Clinical data based on patient demographics (such as age, gender, etc.).
- Clinical data based on data already present in the patient history (existing conditions, vaccination iterations, etc.).
- Demographic data based on encounters, related persons, etc.
- Clinical and demographic data based on national entitlement APIs.
- Any other validation case requiring data across services or from external APIs.
- With an external and central validation service, business rules are no longer scattered across applications where they are difficult to manage and control. This allows for complete control over the incoming data and validation of the most complex cases.

How it works and is used

The Validation Script Definition feature enables healthcare applications to create custom validation logic using Kotlin scripts. This feature ensures data accuracy and compliance by executing business rules against Electronic Health Record (EHR) data, FHIR resources, and remote APIs.
The 'validate' method supports different types of data, such as single EHR entries, lists of EHR entries, and various FHIR resource types. Developers can query and validate data using specific tools ('withEhr', 'withFhirR4', 'withFhirR5', 'withRemoteApi') that interact with EHR, FHIR (R4 or R5), and remote APIs. These tools facilitate data management tasks, such as retrieving metadata, executing queries, handling compositions for EHR data, reading, searching, and managing FHIR resources, and remote server interactions. Additionally, they offer data extraction and conversion capabilities to ensure the data is in the required format.

How we use FHIR for the persistence of operational data?

Better is well known for its innovative use of openEHR in its Better digital health platform. Our belief is that openEHR is the most appropriate standard for a patient's lifelong clinical information. Perhaps less well-known is the fact that alongside each openEHR clinical repository, Better makes use of the FHIR open standard for the persistence of operational data.

Written by: Richard Kavanagh
Article published: December 2024

The combined used of FHIR and openEHR in healthcare platforms is increasingly prominent in the open standards world. Both Grahame Grieve (HL7 FHIR Product Director) and Rachel Dunscombe (openEHR International CEO) are publicly talking about the need for these standards to work constructively together. The shared belief is that to achieve the healthcare systems of the future, both standards should play a part. Better already has extensive experience in this area and is actively engaged in the respective communities to accelerate the collaboration.

We currently use the R4 version of FHIR, as this one is the most widely adopted, but we are already prepared for the later versions, and can provide an R5 version if and when our customers need it.

The patient record as a whole

The most significant items of operational data we keep is demographic information pertaining to the patient (e.g. healthcare number, name, date of birth, gender, address, ...). The openEHR data is 'anonymous' by design, meaning we do not keep non-clinical information within it. As such, we link the openEHR data to the FHIR patient data to enable

the patient record as a whole to be maintained. Once the FHIR patient is defined, additional related people can be defined within FHIR. These could include their next of kin, spouse, or other family members.

In addition to the patient information, the Operational data repository (ODR) is used as the store for the Encounters between the patient and healthcare professionals. The date, time, location, and healthcare professionals involved can all be stored within the FHIR Encounter. Where patients stay as inpatients, then their location within a hospital can also be recorded. Most Encounters will result in clinical information being recorded, to support this FHIR Encounters and the associated openEHR data is linked together, making best use of both standards.

As much of the encounter information is shared using HL7 ADT messaging, we also have a transformation capability to convert HL7 ADT messages to FHIR. Our integration capabilities support the movement of data between FHIR, openEHR, and other non-standard forms as seen in many of our existing solutions.

The ODR as the master data store for organisational data

The ODR has utility above and beyond the Patient and Encounter information and can be used to cater for many other operational needs. Whether that is managing patient Appointments, Healthcare service registries, or the central store for healthcare professionals, then, the ODR can support them. The ODR is increasingly being used as the master data store for organisational data, healthcare professionals, and other registries required within a healthcare solution.

The Better ODR is engineered to the same standards as our openEHR Clinical data repository (CDR) equivalent. It is highly secure and scales

to national scale volumes without sacrificing performance or agility of use. As per the FHIR standard, the ODR can be extended to support additional search capabilities and operations.

With the FHIR standard, the use of profiles is frequently used as a mean to constrain the FHIR data models (resources) or extend them where required. The Better ODR fully supports the use of FHIR resource profiling, allowing for constraints and FHIR extensions as required. This allows for locally identified and national level FHIR profiling initiatives alike.

As with the CDR, the platform supports the use of high-quality data. The ODR uses the FHIR validation processes to validate the completeness and conformance of FHIR data as defined within FHIR profiles.

Management of terminology codes as an inherent part of the process

A further use for the ODR server is the functionality it offers around providing Terminology Services. The ODR supports the use of the resources used for terminology management and the FHIR operations that go along with them. The robust management of terminology codes is an inherent part of the process for creating high quality structured health data for data with both the ODR and CDR. Additionally the terminology services of the ODR provide an excellent opportunity for a terminology management capability across the enterprise.

Technically, the ODR is more than just a generic FHIR server. The ODR exists as an intrinsic part of the overall Better Platform offering. As such it shares many of the same platform capabilities as seen on the CDR. These include the same security and access control features, interface to the common platform audit services and event streaming for enhanced data integration.

For organisations looking at Better for their future modern healthcare platform, the combination of openEHR and FHIR should represent an appealing choice. For existing customers already on the platform, the ODR provides opportunities for exploiting the Better Platform in many diverse ways.

Milestones and expectations

What was the biggest success for Better in 2024? What are the expected trends for 2025? What will the digital healthcare landscape look like? We asked our market directors to share their thoughts.

Darren

Looking back, how would you evaluate 2024? What milestones or challenges defined the year?

2024 was a year of growth and momentum for Better's UK & Ireland team, now more prepared than ever to meet healthcare needs in the UK and Ireland. With expanded operational, clinical, and technological resources, plus a strengthened leadership team, we engaged widely across the industry, participating in key events throughout the year. Client growth was a highlight, with new contracts signed and notable expansion in use cases and user numbers. This reflects the rising demand for digital solutions that support efficient, person-centred care.

In the political landscape, the UK saw its first Labour government in nearly 15 years, promising renewed NHS investment. While funding has been slower than hoped, the commitment to a new digital strategy is encouraging, ensuring projects continue despite delays. Government backing is expected to foster a more innovative digital healthcare future.

A notable 2024 achievement was South London and Maudsley NHS Foundation Trust's win at the HSJ Digital Awards for the impactful implementation of Better Meds ePMA, highlighting digital innovation's role in transforming healthcare delivery and enhancing medication management.

What were the UK market's significant successes this year in business growth and customer impact?

2024 marked a key year in the UK market as 5 new Welsh Health Boards signed up for our ePMA journey, and existing customers such as The Christie expanded their deployments. The year also underscored the benefits of a platform approach, with multiple clients adopting a hybrid model of platform and application from Better. London's Universal Care Plan expanded rapidly, adding new care pathways, such as sickle cell and is now viewed as the model to use for care planning at scale. We were also successful in our application to join the London Procurement Partners, Clinical Digital Health Solutions framework which will allow us to transact directly with more Trusts, rather than through 3rd parties.

How will emerging healthcare and technology trends shape the market next year?

AI remains a focus at Better, though it needs nuanced discussion. While AI holds transformative potential, its real value is in complementing rather than replacing clinical decision-making. We must view AI beyond simple assistance versus

replacement, recognising broader possibilities for enhancing healthcare through thoughtful integration. openEHR is also gaining ground. A year ago, few had heard of it, but today, it's much better understood. Unlike older, closed approaches, openEHR enables open, standardised data that can be easily accessed and shared, a major benefit in healthcare. Together with AI, data trends, and openEHR, healthcare tech is moving towards a smarter, patient-focused future.

What are the key priorities and expectations for the UK market in the next year?

With the UK's digital strategy accelerating in 2025, healthcare is set for a more connected, data-driven future. Better, with its digital health platform based on openEHR, is leading this shift, employing standardised data approaches through openEHR and FHIR, and providing low-code tools to fast-track user-centred solutions. AI will also play a central role. Better aims to use AI internally for development efficiency as well as externally to enhance user experiences, positioning ourselves to innovate quickly and create more responsive solutions. Better's top goal in 2025 is advancing a digital future for healthcare by bridging data divides, dismantling vendor-locked data silos, creating an open, interoperable ecosystem, where data control rests with healthcare providers and patients. ■

Darren Ransley is Managing Director at Better UK & Ireland

Johannes

Looking back, how would you evaluate the past year? What key milestones or challenges defined 2024 for you?

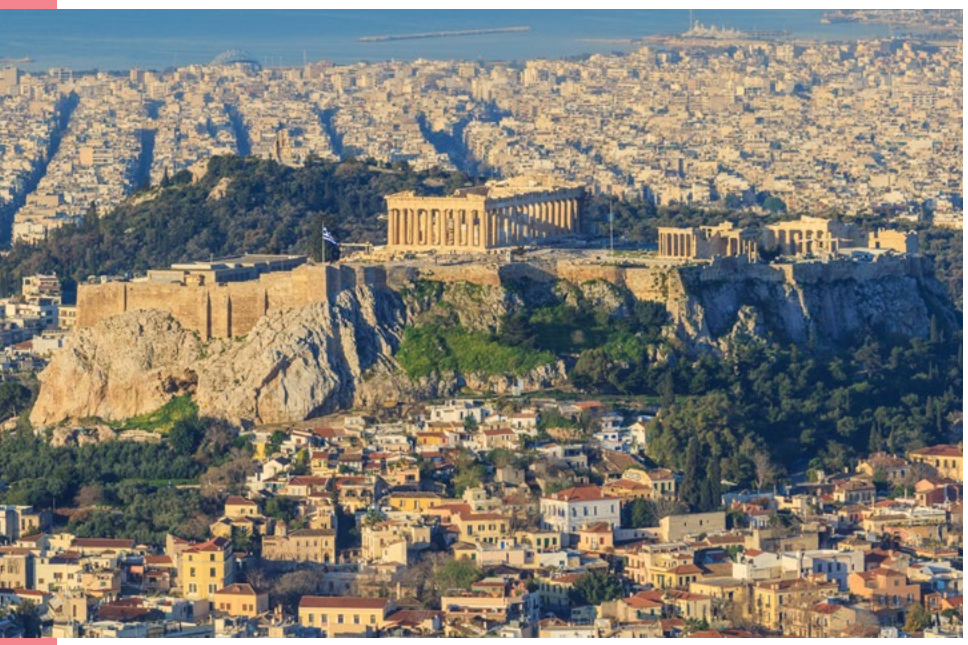
It was an incredible year. After years of investing to develop the DACH market, we are getting the first results. Particularly in the Swiss market, many have embraced our approach and the advantages of openEHR-based storage of health data. While in Germany, openEHR is mostly used in research, the approach in Switzerland is to provide acute support for treatment. And this is certainly where openEHR is best located.

What do you consider the most significant successes in your market this year, both in terms of business growth and customer impact?

Definitely the successful tender for an openEHR-based data platform at Basel University Hospital. This project is a lighthouse project with a signaling effect, similar to the project and programme at Karolinska University Hospital in Sweden. Even before the official start of the project, we are already sensing great interest from other hospitals. But this project has a regional and national impact as well! The way in which health data should be made available to the various players in the healthcare system is being openly discussed - and this in itself is a great success.

How will emerging healthcare and technology trends shape the market next year?

The realisation that data should be the basis for decisions is not new. This has always been the law, especially in the healthcare sector. No treatment decision without first examining the patient. BUT – the possibilities with regard to the amount of data (historical data instead of snapshots) are only possible thanks to current technologies. Clinical decision support, for example, is based on two basic principles: lots of data and good



data. The quality of data has been Better's core for years. The possibility of high-performance analysis and processing of many different types of data is new. The use of LLMs (Large Language Models) will change the work of everyone involved in the treatment process. Directly but also indirectly.

What are the key priorities and expectations for the DACH market in the next year?

To utilise the momentum in Switzerland. To implement existing projects in the best possible way, of course, but also to win new customers throughout Switzerland with our partners. We are also targeting Germany and Austria. In addition, it is important for me to promote cooperation between various customers. The community approach is fundamental to openEHR. But an exchange of ideas and solutions is also important at application level. If we manage to share content, everyone benefits. Human resources are always an issue. Despite all the competition, if we also manage to work together at content level, there will be more time and energy for the really exciting topics. ■

Johannes Schmidt is Head of Technology & Innovation at Better Deutschland

Jovan

Looking back, how would you evaluate the past year? What key milestones or challenges defined 2024 for you?

I would say it was definitely a successful year, as we have added several new markets, including Italy, Lithuania, and Sweden, and have significantly increased our customer base in existing markets. As the Better Platform is a market-agnostic solution, it can be both marketed and implemented anywhere in the world. This is a big plus, as you have unlimited potential, but on the other hand, you can easily lose focus on key markets and priorities. So, balancing between the two, potential and focus, was key for us. We will continue working on this in the future, mainly by creating SaaS products that will be even more agnostic, but also more self-sufficient, allowing us to spend time on creating even more value for our customers.

What do you consider the most significant successes in your market this year, both in terms of business growth and customer impact?

Getting our platform installed at one of the most prestigious and technologically advanced hospitals in the world – the Karolinska University Hospital – was for sure a success that will have a big impact on the market and business growth, not only in Sweden and in the Nordics but also globally. When you have such an institution using your technology and delivering use cases, it is for sure easier to enter into discussions with others. The Greek National project, which is currently in implementation, is certainly a big success as well and will have a big impact, as it would be the largest national EHR system based on an open platform approach.

How will emerging healthcare and technology trends shape the market next year?

I believe that the idea of Postmodern EHR is now well set on the market. We have the likes of Karolinska, Zürich, Basel - all University Hospitals, The Christie NHS Foundation Trust in the UK, which is the largest cancer trust, and several others, even nations, following this approach. It means it is lifting off. The openEHR community has also grown significantly last year with more modelers and experts, and new collaborations, like the one with the HL7 community, can only add to this overarching healthcare IT ecosystem we are all trying to build. Technology-wise, AI will definitely have a major impact, not only from the perspective of the clinical users but also in the development process, simplifying and accelerating application development and delivering value to end-users even more.

What are the key priorities and expectations for the international

markets in the next year?
Definitely to expand further, but also to keep our focus, as mentioned earlier. In the international markets, we were primarily going with a more technological approach, solving interoperability challenges, data challenges, and application development. With more end-user solutions developed and implemented in the UK, Switzerland, Spain, and Slovenia, we will start promoting these in other markets as well, together with our implementation partners. These solutions include Medication management, PROMs, Care coordination, and Shared care records. We are also considering opening additional offices in established markets. ■

Jovan Pavićević is International Markets Director at Better

Looking back, how would you evaluate the past year? What key milestones or challenges defined 2024 for you?
Over the past year, openEHR continued to make significant strides in being recognised as a standard that will drive digitalisation in healthcare forward. There is also a growing consensus that openEHR and FHIR complement each other and together can advance interoperability and drive the healthcare sector forward. Of course, challenges remain. Though an increasing number of organisations are adopting openEHR, it is still a maturing standard, and many remain cautious about embracing a new approach with relatively "untested" solutions. In the past, there were a lot of examples where organisations embarked on projects that offered something new and untested, and, unfortunately, there were a lot of failures. The key here is for organisations that are working with openEHR supported solutions to share their experience and best practices with others and with each other to overcome any challenges or doubts and avoid any possible pitfalls.

What do you consider the most significant successes in your market this year, both in terms of business growth and customer impact?
In Slovenia, following the 2023 publication of the digital national health strategy that established openEHR as one of the key standards to expand digitalisation in healthcare, Slovenia is working both nationally and locally on preparing a number of projects that will comply with the strategy's requirements.
The Institute of Oncology in Ljubljana started to implement a postmodern EHR with a group of Slovenian companies. They will develop and implement a new modern and standards-based Patient Administration Portal (PAS) that will work natively on Better digital health platform and along Better Clinical modules such as Better Meds, Better eObs, Better PROMS and Better Patient Chart.
One of the major successes in the Netherlands is the publication of three more tenders with openEHR requirements. This is in addition to the RSO Zuid Limburg region being completely committed to openEHR, with work underway to build their digital health platform based on the standard. Furthermore, their regional representatives are working with national bodies to impact further adoption of openEHR.

How will emerging healthcare and technology trends shape the market next year?
While regions have increasingly recognised openEHR as a viable option for shared care records, a growing trend signals that hospitals are also shifting away from traditional, monolithic systems that no longer meet their evolving needs. Many hospitals today recognise that legacy EHR systems often fall short of expectations, and modern options on the market aren't revolutionary - they are offering new versions of outdated models. This is leading hospitals to look at different approaches with flexible, interoperable systems that support dynamic, patient-centered care. This trend is already evident with Better winning contracts with institutions like Instiute of Oncology Slovenia, Karolinska University Hospital, University Hospital Basel, University Hospital, and Kantonsspital St.Gallen in Switzerland. So, it will definitely be interesting to follow how this trend will evolve.

What are the key priorities and expectations for the Dutch and Slovenian markets in the next year?
Priority in the Netherlands is to begin the implementation of the openEHR project in RSO Zuid Limburg region. We are also expecting to extend this type of partnership with other regions facing similar digitalisation challenges. Further cementing openEHR as a recognised standard for data availability in the Netherlands is also crucial, positioning it alongside other established standards to underscore its value in driving effective, sustainable healthcare digitalisation. I anticipate that the Dutch market will see a growing number of tenders and opportunities centred on openEHR, opening doors for Better to play a leading role in advancing digital health transformation in the country.
In Slovenia we will work to implement the first comprehensive postmodern EHR at the Institute of Oncology. ■

Anže Droljc is Business Development Director at Better

Connecting the world **the Better way**

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Better is an innovator and a worldwide leader in digital healthcare products and solutions that help build organisations of the future. Our platform and solutions are used and deployed across more than 150 sites, 5 continents, and 20 markets, including some of the leading care providers in Europe as well as national and regional ecosystems.

5 continents

20+ markets

30+ partners

1000+ healthcare institutions connected

30M+ unique patients' EHRs stored

datamed systemsintegration &consultingservices
Daya Medika Pratama
EBG advisors
EG
epro
EY
H LAB
openline Smart cloud solutions
owt
Qinshift
RESTART Interoperable Digital Care
SIGMASOFT
We:com
wipro
xtention IT with care.
zühlke empowering ideas
3fs
6B

New partners in 2024

SIGMASOFT

Sigmasoft, founded in 2013 and based in Thessaloniki, is a trusted provider of innovative IT solutions, specialising in healthcare technology and IT security. Serving over 4,000 customers across the private and public sectors, Sigmasoft delivers tailored hardware and software solutions that drive growth and efficiency. Backed by a dedicated team of experts, the company ensures consistent implementation and optimisation of its technology, empowering organisations to seize the full potential of high-tech advancements.

"At Sigmasoft, we are committed to providing our clients with the most advanced and interoperable healthcare solutions. Our partnership with Better allows us to deliver openEHR-based solutions that meet the evolving needs of the healthcare industry in Greece."

Georgios Stefanidis,
Founder and CEO, Sigmasoft

swisscom

Swisscom is Switzerland's leading ICT provider and a global pioneer in digital innovation and sustainability. Offering mobile, internet, TV, and comprehensive IT services, Swisscom supports private individuals and businesses with secure, reliable, and cutting-edge solutions to optimise their digital lives and operations. Swisscom is recognised as a trusted market leader and one of the world's most sustainable telecommunications companies, with 51% ownership by the Swiss Confederation.

"openEHR is the way to go for clinical documentation. This is the solution to persist clinical data in a structured way over decades, enable new data entries and present clinical data in a user-friendly way. Swisscom is proud to partner with Better and contribute our digital expertise to manage health data more efficiently and securely, leading to improved patient outcomes."

Christian Westerhoff, Head of Vertical Healthcare, Swisscom

owt

OWT, a Swisscom company, is a leading Swiss strategy and technology consulting company, specialising in digital transformation. With a team of over 200 experts and innovators, OWT combines diverse expertise to help organisations across industries such as healthcare, finance, manufacturing, and public services thrive in a competitive global market. Driven by a commitment to advancing technology, OWT supports Swiss businesses in delivering impactful solutions that enhance operations and improve citizens' lives.

"The standardisation of healthcare data through openEHR and FHIR is definitely a game changer, and we are excited to partner with Better to bring better care for the Swiss healthcare system. This collaboration will redefine healthcare delivery and set new standards for digital health interoperability and innovation."

Jean-Luc Jaquier,
Partner & Head of Healthcare, OWT

NTT DATA

NTT DATA, part of the NTT Group, is a trusted global innovator in IT and business services, dedicated to empowering organisations to navigate the digital future. Through consulting, industry solutions, business process services, IT modernisation, and managed services, NTT DATA helps clients achieve transformation and long-term success. With a presence in over 50 countries, the company blends global expertise with personalised, local attention to deliver impactful, future-ready solutions for businesses and society.

"NTT DATA, a top 5 global systems integrator with an extensive set of international health and life sciences customers, is delighted to have created a partnership with Better. The partnership will offer healthcare organisations a unique set of joint capabilities. Better can provide market-leading software platform capabilities based on openEHR standard and NTT DATA brings proven global expertise to help customers deliver transformational change. Having previously worked successfully together in Spain on the InfoBANCO project, the prospect of jointly delivering regional care plans is exciting. We anticipate that the partnership will deliver real savings, improved outcomes, and enhanced patient experience."

Russell Charlesworth,
Business Development Director, Healthcare, NTT DATA UK

varutis

Varutis is a leading health tech company operating in Lithuania since 2007. The company's primary mission is to develop and maintain IT solutions for healthcare institutions, contributing to the digital transformation of the sector through close cooperation with the medical community. Varutis serves over 100 hospitals and clinics, supporting more than 20,000 healthcare professionals in Lithuania, with 80% of these institutions in the public sector.

"The partnership between Varutis and Better will revolutionise Lithuanian healthcare by introducing Varutis'

openCare next-generation EHR system, which is based on Better's innovative openEHR platform, tools, and solutions. Better's international experience combined with Varutis' knowledge of the Lithuanian market provides a solid foundation to make it happen. It will be a starting point for an openEHR ecosystem in Lithuania. This ecosystem will act as a catalyst for innovation and sustainability improving data management and patient care outcomes."

Evaldas Dobravolskas,
Director, Varutis

Qinshift

Qinshift is a multinational technology consultancy integrating six companies with deep expertise in software design and innovation across diverse industries. With a strong European heritage and a global presence, Qinshift aims to expand its impact in Europe, the United States, North Africa, and Latin America. By offering advanced AI solutions and fostering partnerships, Qinshift empowers forward-thinking businesses to navigate the complexities of a rapidly evolving digital landscape.

"Avenga/Qinshift and Better have a vibrant strategic partnership to drive digital transformation in healthcare, both with a strong commitment to secure interoperability in healthcare data across platforms. Together, we aim to lead openEHR initiatives, leveraging Better's expertise in healthcare data management and Avenga/Qinshift's global reach to empower healthcare across Europe and beyond with robust, secure, data-driven solutions for improved patient care."

Hansa Andersson, Head of HLS Industry, Avenga/Qinshift

bjss

BJSS is the UK's largest privately-owned technology consultancy, delivering innovative, high-quality solutions for over 30 years. Known for technical excellence and a client-focused approach, BJSS combines the expertise of talented technologists to tackle complex challenges and deliver transformative results. With a spirit of continuous innovation and a commitment to building lasting partnerships, BJSS supports clients at every stage of their journey—from idea to implementation and ongoing evolution—helping them thrive in an ever-changing digital landscape.

"We agreed to a partnership with Better in the first half of 2024, as there is a lot of overlap between our services, experiences, and philosophies. We will partner with Better to support them in delivering at scale. Using their technologies and our delivery experts, we will improve patient outcomes and clinical efficiencies within healthcare organisations. We are truly excited by the opportunities to support NHS organisations to improve patient care through technology."

Pad Burns, Client Principal - Healthcare and Life Sciences, BJSS

6B

6B is a technology and engineering consultancy, partnering with different organisations to deliver complex, innovative solutions that drive digital transformation and user engagement. The company specialises in building scalable technology platforms that accelerate value. While renowned for its work in healthcare, 6B's impact extends across industries. Driven by a passion for technology and backed by technical excellence, 6B is dedicated to empowering its clients and people to achieve extraordinary outcomes and create meaningful change.

"At 6B, we are proud to work alongside Better, whose commitment to open and interoperable healthcare technology aligns closely with our own mission to have a positive impact. Together, we aim to overcome long-standing barriers in healthcare data exchange, facilitating smoother clinical workflows and ultimately enhancing patient care. Our partnership goes beyond technical integration - ultimately, it is about fostering a more connected healthcare ecosystem. This partnership brings scalable, standardised solutions to the sector, setting a precedent for future data integration projects that benefit providers and patients alike. Together, we are advancing a vision of healthcare where information flows seamlessly and securely, improving outcomes and operational efficiency."

Paul Brown, CEO, 6B

We:COM

We-COM, established in 2010, is an Italian IT company dedicated to fostering innovation and digital transformation. With over 100 employees and offices in Rome, Viterbo, and Catania, We-COM provides advanced web platforms, strategic consulting, and customised solutions to healthcare and public administrations. A highly skilled team and cutting-edge technologies ensure optimal daily operations, streamlined processes, and competitive advantages in an evolving digital landscape for its customers.

"The collaboration with Better marks a significant step forward for us and for the advancement of Italian healthcare, as we are looking forward to a partnership that will introduce openEHR to the Italian market. Together with Better, we are committed to driving transformation across the healthcare sector for a more connected, data-driven ecosystem that supports clinicians and improves outcomes for patients nationwide."

Massimo Mangia,
Healthcare Director, We-COM

Better events

Image credit: iStockphoto, Better

2024 was a very busy year for Better, as we were present at more than 40 events all over Europe, promoting our digital health platform and our solutions, sharing our knowledge in the field of digital healthcare, spreading the word of openEHR, and discovering future trends.

REWIRED

Rewired 2024 brought many insightful industry discussions, AI lectures, indicating the increasing importance of understanding AI's impact on healthcare, great client and partner follow-ups, and interesting talks. Better presented innovative digital health solutions that deliver at pace and at scale, foster control and clinician-centric innovation, and commit to person-centred care with data for life.

David Chalkley, Clinical safety officer, associate CCIO and associate director of pharmacy from the Somerset NHS Foundation Trust presented the benefits and challenges of digital technologies, he explained how important it is to support a person-centric approach and empower patients to take an active role in their healthcare, and talked about the practical insights into how digital technologies are being used at their trust to improve patient outcomes.

BETTER MEDS EVENT

Our Better Meds community event brought together industry leaders, healthcare professionals, and innovators. Creating a platform for exploring the evolving landscape of digital medication management with a tailored agenda focused on the latest trends, the event soared with insights and discussions.
From the keynote speaker **Rahul Singal**, to distinguished speakers **Daniel Pugh**, **Leo Martin-Scott**, and **Jordi Piera Jiménez**, members of the Better Meds team, to a panel moderated by **Ann Slee**, and much more, it was a great day to learn about the trends in the world of medication management and explore how we can make the future Better together. One overarching theme surfaced and encompassed the focus on collaboration, integration, and innovation, it was sharing medicines data and achieving medicines interoperability.

HLTH EUROPE

"You want birth-to-death data available, but also digestible." This is what **John Halamka**, M.D., M.S., the president of the Mayo Clinic Platform, said at HLTH Europe. At Better, we always stress the importance of data, which needs to be available for the lifetime of a patient and stored in an open format, so it is readily available to anyone who needs it.

Better attended the first ever HLTH Europe event to showcase the digital health platform, low-code development tools, and open data approach that are the right choice when designing and implementing person-centred care. It is also the way more and more hospitals, regions, and governments are approaching digital healthcare.

HIMSS

HIMSS 2024 took place in Rome and it was a great event, bringing together renowned speakers and all the trends in digital healthcare. Together with openEHR International at the openEHR pavillion, Better shared the knowledge of digital health platforms based on openEHR and FHIR, low-code development tools, shared care records, regional architectures, and person-centred care. And presented the actual use cases from all over the world where all of this is used in practice.

DMEA

After numerous meetings, interesting conversations, getting to know the industry trends, and listening to experts talk about innovations, AI, and the future, two main points stood out at this year's DMEA: platform and interoperability. Our approach at Better, focused on breaking data silos and harnessing structured clinical data within a digital health platform, based on the openEHR standard, resonated very well with all the people we engaged with at the event. There are plenty of new opportunities to improve patient care and design innovative, high-performance healthcare structures in the DACH region.

Johannes representing Better at DMEA.

HPN North & South

For the first time, Better participated in the Healthcare Partnership Network (HPN) North and South events. HPN is a forum for key stakeholders from across the healthcare ecosystem, supporting collaboration and innovation in healthcare. In April, **Brian Murray** and **Anže Droljc** travelled to Manchester, and in June, **Darren Ransley** and Brian Murray participated in an event in London, and we were excited to be part of them both.

VITALIS

Digital health platforms, person-centred care, openEHR and data persistence, innovative solutions and state-of-the-art technology were the main topics of the most important digital health event in the Nordics that brought new trends and ideas, new knowledge, and new acquaintances.

Better was at the stage of Vitalis not just once, but twice, and openEHR was the common idea, connecting all the dots. Our International Markets Director **Jovan Pavićević** presented the transformative power of openEHR and digital health platforms that help create a more connected, person-centric healthcare system. *"Data is key, and it must be kept for a lifetime of a person,"* he said and explained how it is all possible with a change in mindset and creating an open and vendor-neutral healthcare ecosystem.

Andraž Koželj, our Customer Success Team Lead, did a live demo on the stage where he developed a MUST app (malnutrition universal screening tool) in 30 minutes. He showed that low-code development is possible with openEHR and the right architecture, capabilities, and components of the right digital health platform.

Better booth at Vitalis

OPENEHR INTERNATIONAL ANNUAL CONFERENCE

The first annual openEHR International Conference was a true celebration of the global healthcare community! Thought leaders from around the world — clinicians, healthcare IT professionals, software developers, and researchers, came together to promote a shared vision - an open, person-centred future for digital health.

The event highlighted the strength and growth of openEHR, with sessions focused on the evolution of healthcare technology and the critical role of collaboration in addressing global challenges in patient care. Key discussions revolved around how the integration of various data standards can break down data silos, enabling healthcare professionals to exchange data across different systems and deliver more comprehensive, accurate, and person-centred care.

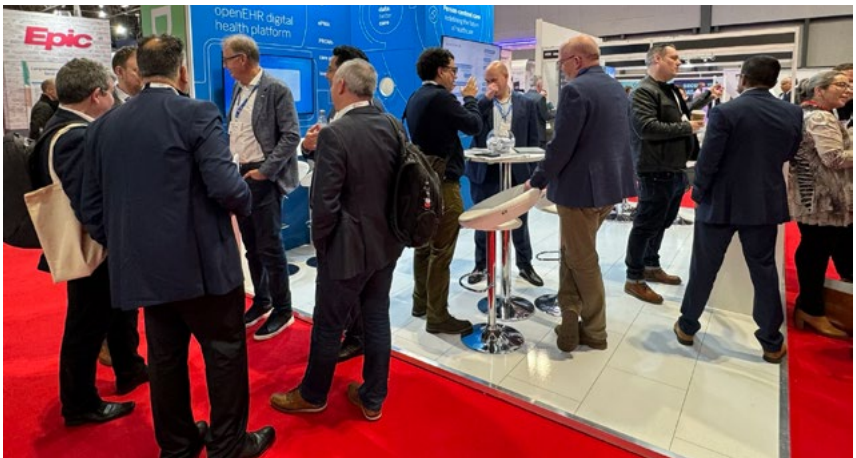
We have seen presentations from several Better customers and friends, including **Rachel Dunscombe**, **Luke Readman**, **John Meredith**, **Patrik Georgii-Hemming**, **Jordi Piera Jiménez**, **Alastair Allen**, **Amanda Herbrand**, **Thitikorn (Pao) Nuamek**, **Victor Okrobodo**, and many others.

Our CEO and founder **Tomaž Gornik** presented the transformative concept of the Postmodern EHR and explained how this approach combines the stability of traditional EHRs with the innovation of digital health platforms, paving the way for an open-data model that supports person-centred care for life. **Anže Droljc**, our Business Development Director, also presented how openEHR and AI are shaping the future to drive meaningful improvements in healthcare.

HETT

The HETT show was a great opportunity to catch up with Better clients and partners, dive into the latest healthcare technology trends, and promote the power of data with the Better digital health platform. AI was one of the main topics of the event, dominating conversations in healthcare innovation.

Tom Ince, Senior Clinical Transformation Manager at Universal Care Plan Programme presented how does the UCP support personalised care across London. He shared how a dynamic integrated care planning solution enables every Londoner to have their care, health status, and support wishes digitally shared with healthcare professionals across the capital, how Londoners can view their UCP via the NHS App, and how the UCP has led to a reduction in ambulance calls, freed hospital beds, and cost-saving.



Meet us in 2025 at the following events

digitalhealth REWIRED

Rewired
The NEC, Birmingham
18 – 19 March 2025

DMEA Connecting Digital Health

DMEA
Berlin Messe
8 – 10 April 2025

HPN

HPN North & HPN South
6 – 7 March 2025
16 – 17 October 2025

VITALIS

VITALIS
Swedish Exhibition & Congress Centre, Gothenburg
20 - 22 May 2025

HIMSS

HIMSS
Palais de Congrès, Paris
10 – 12 June 2025

hett | Healthcare Excellence Through Technology

HETT
ExCeL, London
7 – 8 October 2025

Better customer event

London, Institute of Directors
17 October 2024

Photography by:
Artur Felicijan,
Jaka Lozar

The Better community gathered in London to explore advancements in health and care at the annual customer event. The day was not just about sharing insights but a call to action for collaboration and innovation across health sectors globally to create a more efficient healthcare future.

100 attendees

15 speakers

7 workshops

10 countries

30+ organisations

We had a room full of customers, partners, and colleagues from the NHS and across Europe who shared their learnings, progress, and insights about Better products and solutions. The importance of collecting good data for better care was at the forefront of every presentation.

The Slovenian ambassador to the UK, **H.E. Sanja Štiglic**, attended the event and gave the welcome address to the audience. She stressed the importance of supporting innovation

H.E. Sanja Štiglic

The Nash room at the IoD was full of customers, partners, and colleagues from the NHS and across Europe

Dylan Roberts, CDIO of Betsi Cadwaladr

and strengthening economic ties between Slovenia and the UK. She also mentioned some of Better's latest successes and embraced the work Better is doing in the UK and around the world. *"Companies like Better are at the forefront of digital transformation. Their hard work and innovation are earning them global recognition, and they are reshaping healthcare all over the world. But what makes Better exceptional is not just their technology, but their vision. They understand that digital healthcare is about more than just systems and software, it's about improving lives. They are constantly looking ahead, imagining new possibilities for what healthcare can be, and pushing the boundaries of what is possible,"* she said.

Sickle cell representative Solome Mealin with Dr Subarna Chakravorty in the Universal Care Plan session

We had **Alastair Allen** from EY talking about using the technology and data, **Patrik Georgii-Hemming** presented the data-driven journey of Karolinska University Hospital, and **Tomaž Gornik**, our CEO, explained how the Postmodern EHR approach is the way to go as it enables a hybrid architecture combining a legacy EHR and a digital health platform.

In the session about the Universal Care Plan, we heard from a sickle cell patient representative, **Solome Mealin**, who described what it is like to live with sickle cell disease and how a care plan helps her situation, and **Dr Subarna Chakravorty**, who works with sickle cell patients. There are definitely clear benefits of having a universal care plan for the city of London, as **Nick Tigere**, head of the Universal Care Plan programme, explained.

Bram Stieltjes, Department Head of Research and Analytic Services from the Universitätsspital Basel showed us how they are building a data-driven hospital, **Alistair Reid-Pearson**, Chief Information Officer, and **Lauren Hindley**, Low-Code Lead, from The Christie NHS Foundation Trust guided us through how they are modernising the EHR with the help of data-driven solutions at the hospital. **Dylan Roberts**, Chief Digital and Information Officer from Betsi Cadwaladr University Health Board explained why they chose

Alistair Reid-Pearson and Lauren Hindley from The Christie NHS Foundation Trust

ePMA as the first step of their EHR strategy journey, and **Anže Droljc**, our Business Development Director, presented how Slovenia's national health data platform is supporting a future-proof healthcare system.

In the workshop session of the event, the participants shared their views, opinions, expertise, and suggestions on how to make Better digital health products and solutions even better. With ideas like this, we can make our technology enable even better patient care, and provide seamless information sharing and coordination across health and care systems.

“We deliver a solution that makes patient care safer, faster, and more reliable every single day”

Written by: Brina Tomovič Kandare
Photography by: Jaka Lozar

“It’s a fast-paced environment, and we have many customers with different views and needs across different teams. This makes for a demanding but rewarding job,” says Francesca Leithold about her work at Better.

Dr Francesca Leithold is the Global Service Delivery Director at Better. Her job is to ensure that the Better team delivers what they have committed to with the customer and that all internal processes function smoothly at the same time. *“The impact of what we do with our career is fairly important to me,”* says Francesca, and the drive of wanting to make a difference somewhere, brought her to Better. A true athlete by heart, she has bought a road bike to cycle around Slovenia, her newfound sympathy and, possibly, a new home. Read the interview to find out how Francesca got to where she is now and what her plans are for the future.

Were you always determined to work in technology and healthcare, or was it the coincidence of several life events that brought you to where you are now?
I came to health informatics on a rather unexpected journey, starting with a master’s degree in information managementThe purpose and broader impact of our work and career matter a lot to me, so I took some time off after my PhD to consider where to go from there and what my options were. I wanted to make a difference somewhere. Travelling abroad, I met British people, and one of them worked at Epro, a company delivering healthcare software to the NHS, and they invited me to join their business. The rest is history. I moved to the UK, and having worked there for several years, I joined Better. Better’s

mission statement, improving health and care by simplifying the work of care teams and accelerating digital transformation underpinned by data for life, really resonated with me.

You graduated in information science and then did your PhD in business administration and management. How do both degrees intertwine and help you in your everyday work?

Education-wise, I'm closer to an all-rounder rather than a specialist. My PhD at the Munich School of Management focused on usability, software, and performance of digital teams online. There is a connection between facing a broad range of topics, keeping an open mind to take it all in, and using skills and knowledge from different sources for better decision-making. I enjoy tech talk but can also relay the tech talk to the customer in a language the customer will understand. Fundamentally, it helps me bridge between different topics and groups and teams into a joined-up approach, which is key to my day-to-day job.

You work as the Director of Global Service Delivery; can you tell us what you do and what your typical day looks like?

No day is the same - we sometimes joke that my real job title should be Chief Cat Herder instead, because there are so many moving parts to align. I interface with most of the teams on a daily basis: helping to coordinate resources and workstreams to ensure we deliver what the customer has agreed with us and what we have set out to achieve internally while not losing the plot in the process of doing so. Not always an easy one, but never boring! We are a small but closely-knitted team, so quite a variety of different tasks come my way. I don't get hands on with the technical bits, but I try to fully understand the basics from installation to handover before planning anything with the customer. I always try to work along the lines of 'If I understand it, the customer will', and it helps me streamline and coordinate the service delivery programme.

You strongly believe in digital transformation and digitising health and care processes. Why is it so important, and how does it lead to better care?

Centrally managed healthcare data becomes increasingly important for all countries, and healthcare services worldwide face complex challenges which we can address better by digital means. It is key to implement high standards of care to positively impact the lives of those who rely on these services. The digitalisation and standardisation of medical records, such as care plans, can aid medical practitioners in managing patient information with greater speed, ease, efficiency, and intuitiveness. Embracing digital healthcare enables the realisation of fully interoperable electronic health records while eliminating paper records for patients. This leads to decreased turnaround time for clinical processes, a reduction in errors, and enhanced patient safety.

How do you work with different teams at Better, and what do you find most important in the work culture?

I have been at Better for over two years now, and it has been a truly inspiring journey. It's a fast-paced environment, and we have a lot of different customers – internally and externally – with different views and needs across different teams. This makes for a demanding but rewarding job. At the moment, I split my time half and half between Slovenia and the UK, working both remotely from home and in the office from the Ljubljana headquarters. We employ a unique set of truly excellent people, and I never stop learning. The culture in the team is one of teamwork and supporting one another, whatever the challenge. People really care about the work they do and the pride they take in it. This is important to me and has made a difference from day one.

You have worked and lived all over Europe, but now it seems that Slovenia truly has your heart. Why is this so?

I came to Slovenia for the first time in 2020 as part of the structured onboarding programme Better runs for partners. I extended the visit to explore the countryside, and it was – truly – love at first sight. Ljubljana is small but outstandingly pretty, and the rest of the country has an incredible amount of variety to offer. My Slovenian colleagues are hardworking, dedicated, reliable and full of fun, and have made me feel welcome above and beyond expectations. My friends at home joke these days that it's just a matter of time before I move to Slovenia altogether!

What does Better mean to you?

We here at Better deliver a solution which makes patient care safer, faster, and more reliable every single day. This resonates strongly with me, and I see the purpose of what we do and the impact we make. In my second month here at Better, we had an all-company meeting where one of the keynotes had a line in it which stayed with me. It said: "When we signed for Better, we signed for growth […]. On a personal level and on a company level, and, no matter the obstacles, we will make it happen." I would add to that to say: *"When we signed for Better, we also signed for making a difference. Personally and for healthcare"*.

It's the right people who make everything Better

We are an innovator and a worldwide leader in openEHR based products that help build healthcare organisations of the future. This can only be done with a strong and dedicated team trying to change healthcare for the better.

We care

We believe there is a better, more collaborative way to deliver digital health. We put data before any application or vendor. We give control of the data to the patient and healthcare system.

We listen

We work closely with the clinical community to ensure our digital solutions are designed to fit the needs of healthcare professionals.

We solve problems

We create products to overcome challenges and get things done so that healthcare professionals can provide better care to more people.

We build community

We are developing a community for everyone's benefit so that the knowledge and technology that improve care in one hospital or region can be used by all.

We are passionate about technology

We are focused on the digital innovation that makes it easier for healthcare professionals to help people live longer, healthier lives.

“We offer something that many companies lack: mission and vision”

Q & A with Urška Stanovnik, Head of HR

How do you see the place of Better in the current job market?
The brand of Better is becoming stronger and stronger, which gives us a solid position in the current job market. Many IT companies are either not hiring right now or are reducing their workforce. In contrast, we are growing. Moreover, we work in healthcare, which provides significant added value and personal satisfaction compared to other industries.

Additionally, we offer something that many companies lack: mission and vision. They resonate with candidates, differentiating us from other companies. And finally - there are not many mid-sized companies in Slovenia with Slovenian founders that primarily operate abroad. Combining all of the above mentioned, we have many advantages in the current unstable work environment, and candidates recognise this - many of them want to be part of our success story.

What makes Better's culture unique?
What makes Better's culture unique is a combination of talented, dedicated, and ambitious people who are very approachable and ready to help. There is professionalism on one side and a relaxed, pleasant atmosphere on the other. Many hardworking individuals view their work as more than just a job, and innovation is strongly present within the company.

I am particularly impressed by the fact that many people have been with the company for a long time, creating a mix of experienced employees and newcomers who are eager to learn. This results in a supportive and inclusive atmosphere where employees feel valued and empowered to contribute.

We prioritise well-being with programs that promote work-life balance and support mental health, while our focus on growth and development ensures that every team member has access to mentorship and training opportunities. The culture of open communication allows everyone to share their insights and feedback, making all employees feel valued and engaged in our mission.

What are the biggest benefits of working for Better?
Better offers a variety of benefits, allowing each employee to find something that suits their needs. The benefits vary from employee to employee, depending on factors such as life situation, age, family status, and many others. According to our recent Quantifly report and employee feedback, one of the most valued benefits of Better is the autonomy employees enjoy. This autonomy includes how they achieve their goals and deliver results, as well as flexibility regarding work locations and hours.

Another key benefit I would emphasise are many opportunities for development and career growth, such as internal rotations, mentorship programs, soft skills training, and various external educational opportunities. The company's management strongly believes that we can improve by investing time and money in different educational programs, and I believe this is a significant advantage compared to other companies.

One notable benefit for Slovenian employees is also our office space, as evidenced by the fact that people genuinely enjoy coming to the office. Of course, the benefits differ from country to country, but we strive to always offer those that our employees appreciate the most.

“I feel like we are doing a great job, and that’s what matters”

“It’s not a product, it’s the way of thinking, it’s the way of accommodating the needs of modern healthcare,” **says Andraž Koželj, Better’s leading educator, about openEHR, the standard Better is building its products on.**

Written by: Brina Tomovič Kandare
Photography by: Jaka Lozar

His job description says Customer Success Team Lead, but Andraž Koželj is actually the one who transfers all the Better knowledge to our partners and customers, teaching them about openEHR, our products, and solutions. The attitude of always wanting to know and learn everything about the subject that interests him turned his hobby into his job, and now he is a certified openEHR educator, working for Better, which *“provides solutions that are up-to-date with current and future challenges”*. Besides that, Andraž is a passionate sailor who spends every free moment on a sailboat, and he was also a judge at the 2012 Olympic Games.

What was your childhood dream, what did you want to become when you grew up?
My father was a cargo ship captain, and we were travelling all around the world for ten years. I was looking up to him, so first, I wanted to be a captain. Then, I grew up a bit, and I wanted to be an astronaut, then a doctor, and maybe an aeroplane pilot. Finally, I decided on having something to do with biology or electricity. So I entered the Faculty of Electrical Engineering. Computers were my hobby, and then they got to be my job as well.

You have been with Better for eight years now, how did the company change and develop in all those years?
I started as a frontend developer, at least the aspiration was to work as one in healthcare. And then I picked up on other jobs like IoT devices and mobile development because I was doing that privately, and suddenly we needed somebody to take over the team. After a year and a half, we dismissed the team and focused on web development completely. It was good to focus on a single technology or at least a path and put all our efforts into this. We were going really wide and weren’t fast and flexible enough, so we needed to grow to push something new out there. And it was the time when the second generation of Form Builder and Studio began. That’s where I believe we started our path of Better as we are today. Focusing on a single thing, putting all the noise away. We were quite project-driven, so it was a mix of luck, projects, and the inspiration of the moment.

You are Better’s most valuable educator, delivering all trainings for partners and customers. Is every such training different and a new experience, and what do you personally get from them?
It’s not always the same since our customers are solving different problems with our solutions, and it takes different paths during the

process. Yes, we are delivering a predefined set of topics and explanations, but the core part needs to be understood by everyone. That's how I started this path as well. I was curious, I wanted to know everything about the technology and underlying standards that we were basing our work on, and as a "collateral", I became an educator. I took over the role of transferring the knowledge to our partners and customers, and it became a two-way channel because they're also talking to us about their needs and their experience. My work is usually associated with a pilot or with a small project, where we establish that our technology and the standards we use are really the right way to go. And once the customer is convinced and believes we are on a good path, they start bringing back feedback and their specific needs. And this is where I believe my secondary role starts. I'm not just a one-way educator but also someone who listens to them, hears about their challenges, and brings them back to our development teams.

Do customers often come back to you for advice?

It's always about cooperation. It's not like we deliver the materials and say, »good luck«, but we stay and support our customers at every phase of the project. It is a steep learning curve, and each time around, they have their own individual requirements or specifics, which we have to address in some way, adapt to, and make it work. We help them with the architecture and sometimes even help them find development teams that could help. I often have the first contact with the company or with the partners when the business cases are put on the table, and we discuss them. I help them understand the technology and what we bring to the team. Once we get along and start cooperating, I do the trainings and knowledge transfer, consultations as well, since I'm working with a lot of groups within Better, and I try to connect them to the people who can advise or help bring the project to a successful end.

Better builds all of its technology and products on openEHR. Are you an openEHR enthusiast as well, and why is it the best standard for healthcare?

I want to understand every beat and last detail of openEHR, because I like the approach. It's not a product, it's the way of thinking, it's the way of accommodating the needs of modern healthcare. I believe it's open to accommodate every use case and addresses most modern problems with long-term data persistence, which people usually do not focus on enough. It's also about interoperability and exchanging data. It started 30 years ago, and today, with the fast-changing approach to how we work and with the modern needs for healthcare data, where data has become the centralised part, and it's about the person-centric world, not the application-centric, openEHR fits and checks all those boxes. I always see room for improvement, but these improvements sometimes are one-off, and you can address that on a local case-by-case scenario, which, compared to solutions from the past 15 or 20 years, feel like heaven.

How do you see the future of digital healthcare, and is Better, with its digital health platform and low-code tools, a trendsetter in the healthcare industry?

How do I see the future? There are not many options in the future for a successful outcome. We need to go the way we are going already because we had options in the past that didn't play out well. I think what we're doing is the best way to continue. I believe Better is understood not exactly as a trendsetter but as an omnipresent and reliable force. Most people who care about data and standards and the future of healthcare have us on their maps, which is a great achievement. The tools we are working on solve the current problems in an advanced way. There is always room for improvement, but I believe we provide solutions that are up to date with current and future challenges. We need to stay open since we are working with open data, open access and open standards, we need tools that will be able to adapt to all the challenges of the near future. Are we trendsetters? The level of knowledge and the level of experience within the company should put us ahead. But it's not a competition. It should be cooperation between all the vendors because we should all work together for others, not against each other.

You are also a sailor and a sailing judge. Why sailing, and what does it give to you?

I've tried many sports, and sailing is a really complex thing if you want it to be. I was a racing sailor, but I didn't start as a kid, I was really involved in it only in the last 20 years. It's something that occupies my mind to the level where I can't think of anything else, and I get rid of the problems, current workloads, everything. It's a "mental" white noise for me and a personal challenge. Plus, the sun, breeze, and the sea. :)

What does Better mean to you?

It's a fun workplace with lots of people with a high level of experience and knowledge in their own individual areas. Sharing experience and having fun with them feels like teamwork all across. It means a lot to me because I've been working solo in the past, I've been working with teams that were not ideal, ... It's been eight years now, and I'm not fed up with it. It feels great when you see the results of your work, not just in terms of code and products but also the feedback of our customers and people who come back for more, they take our advice seriously, and they implement it. You also see the results from the patient's perspective. I feel like we are doing a great job, and that's what matters.

Better ESG: Meeting client expectations and our progress on sustainability

As we continue to advance in the tech world, our clients' priorities are evolving as well. They include Environmental, Social, and Governance (ESG) standards and we are seeing a shift in expectations, where clients increasingly evaluate the environmental and social impacts of the technology solutions they choose. This means our products are not just expected to drive efficiency and innovation but also to align with sustainability goals that are crucial to them.

Recently, our clients have expressed increased interest in the environmental impact of the solutions we provide, especially as they set their own ESG targets. We expect many of them will review their supply chains and vendor partners to ensure that everyone meets the highest standards of sustainability. This makes our company's environmental footprint, as well as the sustainability features embedded in our products, an important factor in their decision-making processes.

In response, we have been prioritising sustainable design and development practices. Whether through energy-efficient coding, optimised infrastructure, or smart data management, we are constantly working on ways to reduce our carbon impact and empower clients with tools that align with their own ESG standards.

Carbon footprint report highlights

In 2023, Better successfully reduced its overall CO_2 emissions by 12% compared to 2022 levels. This reduction is the result of collective efforts across the company to minimise waste, transition to renewable energy sources where possible, and implement eco-friendly practices within our offices and operations. It is a testament to our commitment to lessening our environmental impact and our goal remains to continue this trend.

There are more opportunities to optimise operations, work on our products, and reduce emissions even further. Each year, we are setting higher goals to ensure that we are not only keeping pace with industry standards but also leading the way in sustainable solutions.

The importance of ESG to our mission

Adhering to ESG standards is not just a business imperative but a responsibility that we share as a company. ESG practices resonate with our company's core values, and they ensure that we are creating technology that benefits society at large, minimises environmental impact, and upholds transparent, ethical governance. By aligning with ESG standards, we are deepening trust with our clients and partners, strengthening our reputation, and contributing positively to the global community. ESG is not just a priority for our clients – it is central to our growth and mission and we will keep pushing forward and setting new benchmarks in ESG together.

better meds

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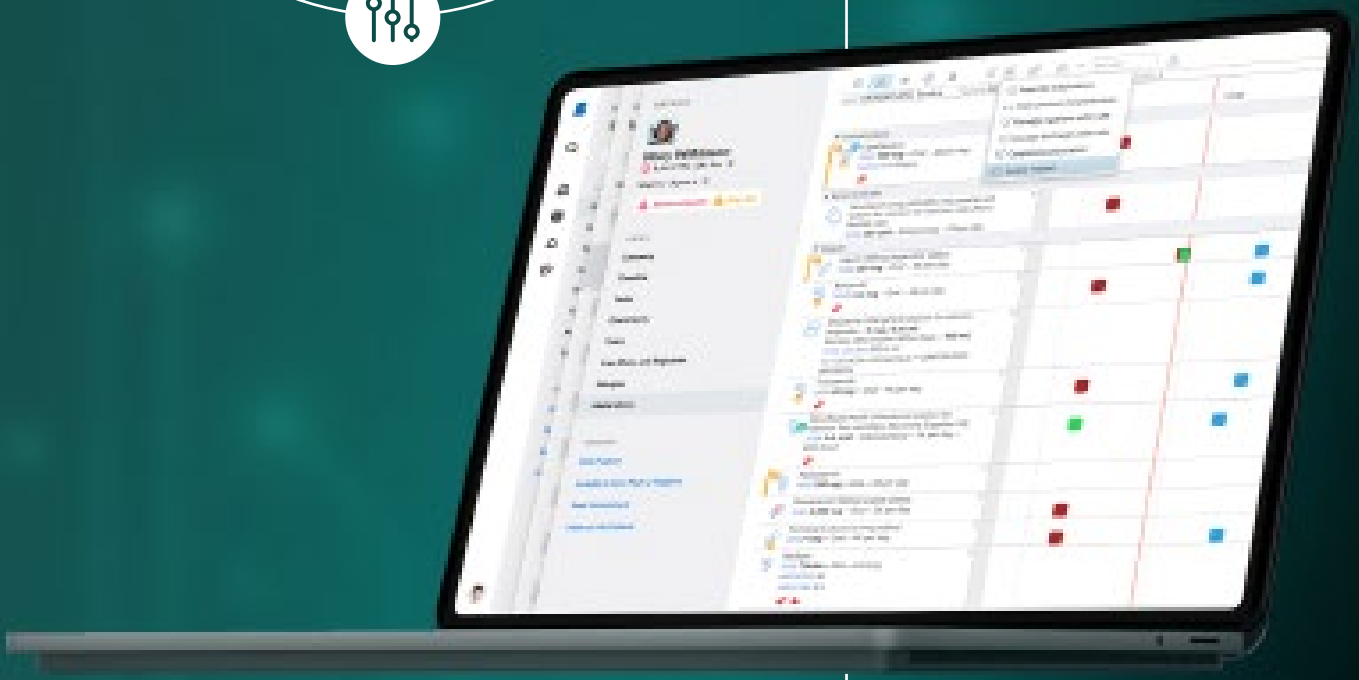

HSJ AWARDS
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Better Meds is an **award-winning** electronic prescribing and medication management solution that **improves** the way medications are managed, prescribed, and administered.
It **encourages team collaboration** and supports informed decision-making.
Better Meds saves time and money while reducing errors and seamlessly integrates with existing workflows and technologies.

Learn more:

It all comes back to **YOU.**

With **Better Platform**, you have the tools to innovate and transform healthcare, one app at a time.

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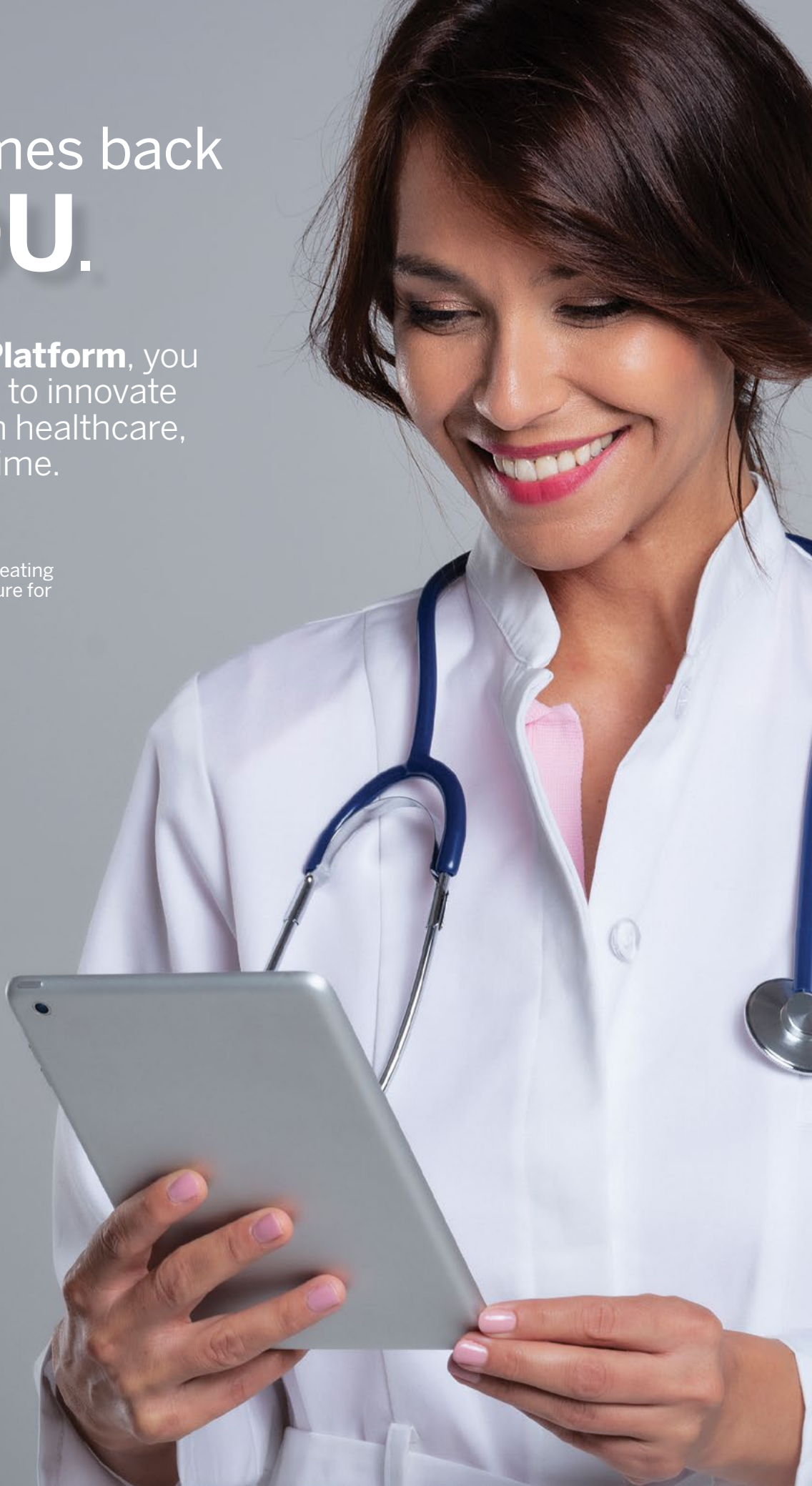

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