

EHA Clinics' journey of digital health transformation with Better Digital Health Platform

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CASE STUDY

EHACLINICS

The 12-month EHR journey of EHA Clinics

- They chose to build their own system to adapt to the way that care models are changing and to have a system built for the future.
- New workflows tailored specifically to the clinic's needs are easily built with Better Platform and openEHR.
- Depending on the complexity, the use cases could be built in 1 to 6 hours, the most complex ones took 3 or 4 days.

- The clinicians and their inputs are an integral part of the development process.
- Out of the 159 archetypes, only 12 were created by EHA Clinics, meaning that more than 90% of the content was reused from the openEHR International Clinical Knowledge Manager.

Introduction

The case study presents the remarkable journey of EHA Clinics, a leading primary healthcare service provider in Nigeria, in developing a complete Electronic Health Record (EHR). EHA Clinics has a vision of accessible, effective, and affordable healthcare for everyone, and the need for a unified, efficient, and comprehensive digital solution led to the deployment of Better Digital Health Platform and its low-code tools.

With the use of Better Digital Health Platform and its low-code tools, EHA Clinics developed EHACare with **80 different use cases in just 12 months**. EHACare is now an ecosystem of workflow-driven tools to support clinical care, digital/telehealth, home care, community health, continuous quality improvement, and clinical research.

In this case study we showcase the challenges EHA Clinics faced, the implementation process, and the incredible results they achieved.

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Background and challenges

The healthcare landscape in Nigeria, a country with 220 million inhabitants, out of which 70% live below the poverty line and lack access to essential health services, faces several challenges. Among those are difficulty in access to care, lack of standardisation in clinical workflows, and gaps in the delivery of telehealth and home care services.

EHA Clinics operates across different clinical settings, including clinical care, telehealth, home care, and community health. The clinic has been on a mission to deliver quality, effective, and affordable healthcare by integrating comprehensive primary care services with advanced digital health solutions.

CHALLENGES FACED

- The need for an adaptable clinical system to meet EHA Clinics' specific requirements.
- The inability of existing "out-of-the-box" EHR solutions to provide the necessary level of customisation, userfriendly interfaces, and cost-effectiveness.
- The need for interoperability, standardised datasets, and clinical guidelines to fit within their varied clinical settings.
- The desire to optimise information sharing by building reusable content packages that could be shared across different applications.

The Convergence: Partnering with Better

The requirement of the EHA Clinics was the ability to design their own workflows and have complete control of the system. They needed an EHR system that was interoperable and had standardised datasets and clinical guidelines, all adaptable across different clinical settings from acute outpatient, in-patient, home care, community health outreach, and digital health platforms. When inspecting the market, they learned that the existing EHR systems could not accommodate these requirements, nor did the development platforms, which would require a lot of development.

EHA Clinics found their answer in **Better Digital Health Platform**. The platform provided all the necessary **healthcare-specific features** and **low-code tools** as well as infrastructure to develop a unique and comprehensive EHR system, EHACare. Low-code tools were instrumental in speeding up the development and customisation of EHACare, together with the **pre-build openEHR content**, which additionally accelerated the process.

The EHR was **built from scratch** following their specific needs, includes unique workflows and reusable content packages, and is designed to be **fully interoperable across different applications** and compliant with international standards.



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BENEFITS OF CHOOSING A DIGITAL HEALTH PLATFORM

- Low-code tools to provide the flexibility to swiftly build forms and use cases, and customise workflows.
- Robust and scalable back-end architecture and data layer.
- Robust security measures to protect sensitive patient data.
- The implementation of standardised datasets for data persistence to ease data exchange with other platforms.
- Set of pre-built clinical content to accelerate the development process.



We are a very data and guideline-driven healthcare organisation, and therefore the ability to build reusable content packages that can be shared across different applications is one of the key benefits for us.

George Ohia Product Manager, EHA Clinics

WHY OPENEHR?

The standards-based data model is the key benefit as it allows the EHA Clinics to confidently interoperate with other tools and data systems. The standard data model was vital to them during the application development as it helped reduce a lot of ambiguity as to what information users are required to collect for specific clinical concepts. By adopting openEHR, they are more confident of the solution they built because they feel confident as these are the models developed and used globally, and that their users, and potentially from care providers, that might use the new system, will be able to relate to it.



Implementation

Building EHACare was an ambitious project that involved initial planning, development, and implementation of the solution. A small team of 3 people, a product owner, a developer, and a designer, developed an EHR in just 12 months. EHACare currently has over 80 clinical use cases and supports various areas of care, including patient encounters, nursing assessments, doctor assessments for general, dental and optometrist consultations, laboratories, and prescriptions.

During the development process, EHA Clinics applied both standard archetypes from the international openEHR Clinical Knowledge Manager (CKM) and created new ones to accommodate their specific needs. The usage of prebuilt models was immense as of the 159 archetypes used, only 12 were newly created. This means that 90% of content was reused from CKM, demonstrating the power and utility of the openEHR model in promoting interoperability and content sharing globally.

The rapid development cycle was possible because of the ease of use and flexibility of Better low-code tools to quickly build workflows that would take considerably less time. The time to build a form varies, depending on the complexity of the form, but the simple ones take between 1 and 6 hours, and more complex ones can take 3 or more days.

During the implementation process, EHA Clinics also overcame challenges related to integrating EHA Care with existing clinical applications in finance, operations, pharmacy, and lab, ensuring a seamless transition. Better and EHA Clinics worked closely together, especially during the initial training and onboarding phase, to ensure a successful implementation.

12 ARCHETYPES THAT WERE CREATED BY EHA CLINICS

- Fall risk screening (Cluster)
- Encounter context (Cluster)
- Episode of care additional info (Cluster)
- GAD-2 score (Observation)
- Intraoral examination (Cluster)
- Morse fall risk assessment (Observation)

- Physical finding (Cluster)
- Procedure qualifier (Cluster)
- Teeth chart (Cluster)
- Teeth count (Cluster)
- Two-item conjoint screen (TICS) for alcohol and other drug problems (Observation)
- Vision spring eye exam (Observation)

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Assessment screen

Fall risk assesment

EHA Clinics will contribute the clinical content to the openEHR International Clinical Knowledge Manager.

Impact

EHACare has drastically changed the workflows in EHA Clinics, as the healthcare professionals emphasised that EHACare supports quality and impactful healthcare.

The system is now being used by more than 200 clinical personnel across 5 EHA Clinics branches and their Community Health program (REACH) which covered more than 130.000 patients to date.

THE IMPACT OF EHA CARE

- Seamless integration with other applications, thereby boosting operational efficiency.
- Improved clinical workflows and enhanced access to information, fundamentally transforming healthcare delivery.
- The clinicians and their inputs are now an integral part of the development process.
- Equipping healthcare providers with real-time data and insights to facilitate efficient decision-making and personalised patient care.
- Improved patient outcomes.
- New workflows are quickly built, and existing ones are easily adapted to specific needs, due to the usage of lowcode development.

Evolution and expansion

EHA Clinics' transformative journey does not stop here, as they have ambitious plans to expand the scope and utility of EHACare further. The Better Digital Health Platform will continue to play a crucial role in enabling future developments, thus emphasizing the sustainability of EHACare.

Future plans include the implementation of dedicated workflow tools for the quality management teams as well as the home care and community health teams and various care settings.

OTHER KEY FUTURE DEVELOPMENTS

- The implementation of dedicated workflow tools for pharmacy, nursing (inpatient care), home care, telehealth, and community health teams.
- The integration of Care Plans, Clinical Guidelines, SOPs, and Clinical Decision Support across various applications.
- A quality management application to support various management tasks related to chart reviews, clinical audits, and tracking of quality indicators.
- The creation of a research platform and health observatory for analysing health outcomes and targeting improvements in key areas such as early detection of cancer and the management of chronic diseases.

Conclusion

EHACare is an example of a customised EHR system that meets the specific needs of a diverse healthcare provider. It showcases how the intelligent use of innovative digital tools, like a digital health platform, can revolutionise healthcare delivery.

Through the effective use of Better Digital Health Platform, the low-code tools, and openEHR standard, EHA Clinics has built a robust, scalable, and adaptable EHR system that directly addresses their unique needs. It has significantly advanced their mission to provide quality, accessible, and affordable healthcare.

The successful implementation of the EHACare system shows what can be done with the right digital tools, dedicated teamwork, and a patient-centred approach. It shows how innovative solutions can be applied to address real-world clinical needs and showcases the potential of digital healthcare solutions in achieving the vision of making healthcare accessible and providing better care for patients.

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