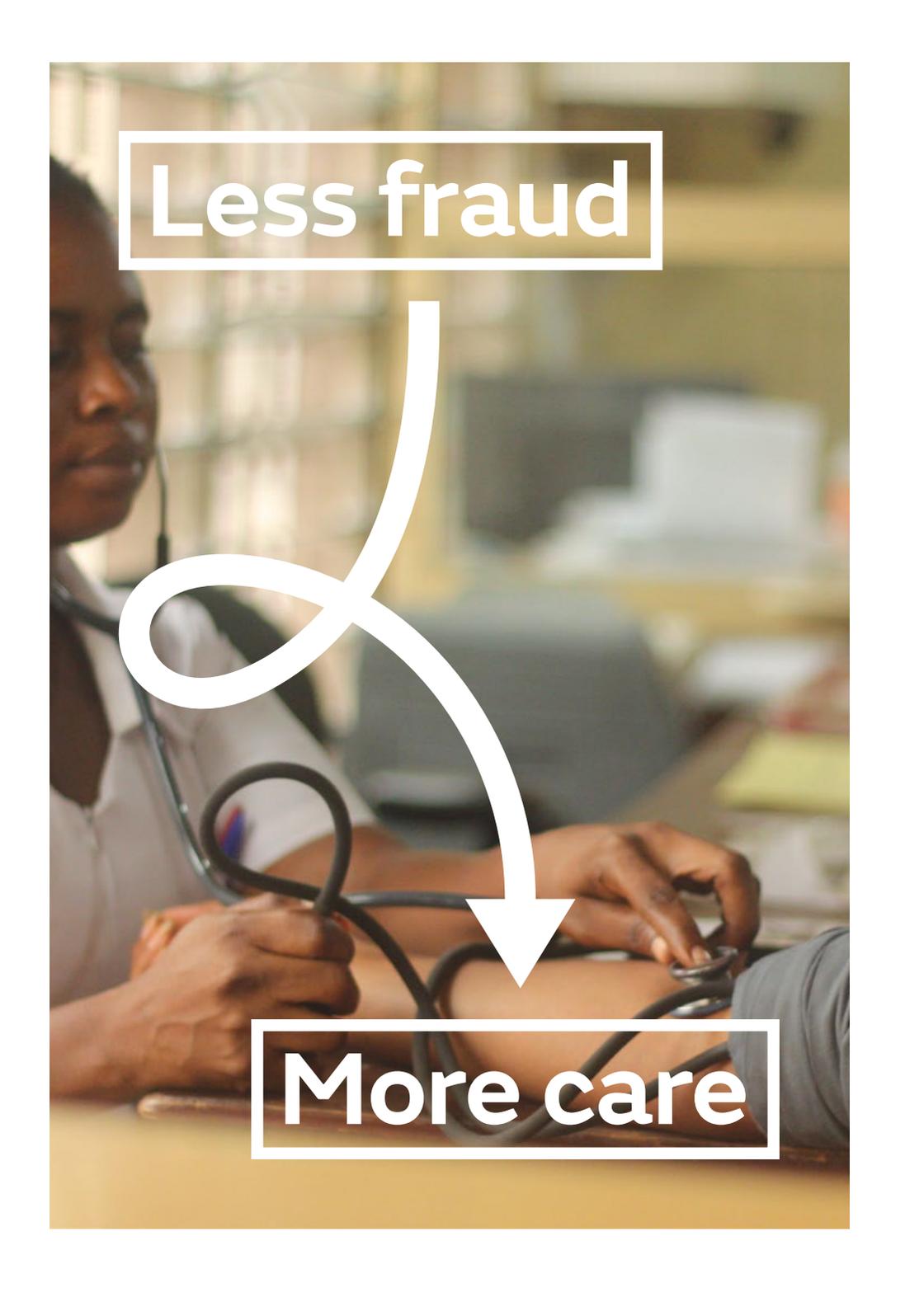

**GEN
KEY**



Reducing healthcare fraud in Africa

What we do. How we do it.





Less fraud

More care

Healthcare fraud in Africa is a widespread and growing problem, costing billions, raising insurance premiums and depriving patients of the affordable, quality medical care they need. Through biometric technology, GenKey is helping to prevent fraud and ensure that healthcare funding is spent where it's needed most: on patient care.

→ What could you do with \$487 billion? If you work in healthcare, the answer is: a lot. You could cover the total annual healthcare costs of more than 27% of all European Union countries, for example. Fund the NHS in the UK for three years running. Or pay for South Africa's annual healthcare expenditure 14 times over. And yet this huge sum – equivalent to around 7% of the world's average annual healthcare costs – is lost every year through healthcare fraud, according to the latest WHO estimates.

In African countries where there is a lack of strong financial and medical accounting systems, the problem is especially pronounced. For example, healthcare fraud is one of the leading crimes in South Africa in terms of monetary value. And because healthcare fraud tends to occur at all levels along the healthcare delivery chain, involving medical scheme members as well as health care providers, it's also one of the most complex forms of fraud to detect and prevent.

Examples of healthcare fraud committed by providers include charging the insurer or payer for patient visits that didn't occur, or inflating the quantities of medicines prescribed. On the member side, >

Claim intelligence and clinical audits within a number of national health insurance schemes in Africa reveal that 15 to 20% of healthcare spending is lost through fraud.

➤ fraud could include patients visiting several different providers with the same complaint in order to collect prescriptions to sell on, or giving health cards to relatives and friends. Whatever the nature or source of the fraud, the effect on healthcare is highly damaging, hampering the efficiency of delivery and limiting the resources available for patient care.

Some countries are trying to combat healthcare fraud by imposing tougher sentencing for convicted fraudsters, or through technological systems designed to detect fraudulent patterns of behavior. The problem with these approaches is that they deal with crimes that have already occurred, rather than addressing the systemic nature of the problem. But what if we could focus on prevention, rather than cure? What if we could use technology to eradicate any

opportunity for fraud, making it much harder to commit the crime in the first place?

At GenKey, we believe biometric technology is the key to achieving this. By creating unique digital identities for health scheme members, and then linking these identities to medical claims, our biometric solutions dramatically improve healthcare efficiency and limit the potential for fraud and abuse to occur. Since 2013, national health insurance schemes in countries throughout Africa have used GenKey's biometric solutions to significantly reduce healthcare fraud.

Of course, for any new technology to be effective it must be fit for purpose. That's particularly true for emerging economies in Africa and elsewhere, where lack of resources and limited access

In South Africa, fraud adds between R192 (\$14) and R410 (\$30) per month to every national health insurance member's medical aid contributions.

Before 2013, 30% of total healthcare spending in Ghana was lost through fraud.¹



¹ Based on results from a clinical audit conducted by the Ghana National Health Insurance Authority.

to the internet pose a range of unique technological challenges. GenKey's biometric technologies have been designed with these contexts in mind, providing state-of-the-art software, continuous service access and the highest levels of data security through user-friendly mobile devices that don't require internet connectivity.

Our first biometric project addressing healthcare fraud took place in Ghana from 2013. At that time, Ghana's National Health Insurance Scheme (NHIS) was facing a seemingly insurmountable challenge. The proportion of healthcare spending lost to fraud was estimated to be a staggering 30%. Almost as remarkably, there were 26 million names on the NHIS subscriber database – 2 million more than the entire national population, suggesting that the database contained many duplicate registrations.

As the rate of public spending had failed to keep pace with the rapid increase in the number of healthcare subscribers, there was an urgent need to save costs by cleaning up the database and reducing fraud. So in 2013, the NHIS engaged GenKey through its partner STL Technologies to implement our biometric healthcare solution.

The first phase of the process was to give all members a secure digital identity by registering their biometric and biographic details. We carried out this process in phases, registering an average of more than 40,000 people

a day using 1,100 registration systems deployed across Ghana, including the most remote regions of the country.

GenKey's registration process involves capturing a range of information: the biographic details of the member (date of birth, address and so on), a digital image of the member's face, and high quality scans of all ten fingerprints. Before the system adds the fingerprint samples to the central biometric database, GenKey's Automated Biometric

Our biometric program resulted in a biometric member database of 7.5 million people, with no duplications.

Ghana National Health Insurance Scheme

Identification System (ABIS) compares it with all samples registered in the database. Any duplicates detected are retrieved for immediate adjudication by the registration official. Thanks to the processing power of GenKey's ABIS, the deduplication process happens continuously and in real time, in parallel with registration.

Immediately following registration and deduplication, the member receives a personalized ID card, printed on the spot. The ID card contains identifying details such as the member's name and ID number, along with a unique biometric template. The entire process from registering a member's details to printing an ID card >

› takes just seven minutes, massively improving the speed and efficiency of member registration. To date, over 7,5 million NHIS members have been registered across Ghana in this way, resulting in a clean healthcare database with zero duplications.

In any sector involving the sharing and storing of personal data, security is an absolute priority – and in vital public services such as healthcare, this is particularly important. GenKey’s approach to biometric registration meets the highest data protection standards. Thanks to our BioHASH® technology, the fingerprint data captured during the registration process is transformed such that it cannot be traced back to the member. Because no traceable biometric data is stored either on the card or the database, it can’t be hacked or stolen.

Once each member has a secure digital identity and a clean database has been created, the next critical step in preventing healthcare fraud is verification. This involves biometrically authenticating the identity of a member when they seek medical care, and linking that identity to any claim made by the provider on their behalf.

When a member visits a health provider, the provider uses a biometric verification device to scan the member’s fingerprint and match it against the template stored on the member’s ID card. This proves that the member is who he says he is, so that he can receive appropriate medical treatment.

A positive match also generates a unique 13-digit claim verification code (CVC), which the provider adds to the claim form as a biometric signature along with the member’s ID, the health provider’s ID and other details. Because the CVC can only be generated in the case of a live fingerprint match, it acts as a vital proof of presence to the insurer, demonstrating that the patient was actually there when the claim was made, and ensuring that the claim is valid.

GenKey is currently in the process of deploying this verification solution throughout Ghana. This involves the supply of 3,000 biometric verification devices to health providers across the country.

GenKey’s unique approach to biometrics has brought major long-term benefits to Ghana’s healthcare system. A clean member database, instant ID card printing, biometric member verification and claim authentication are contributing not just to major cost savings, but also to better member management and continuous improvements in the efficiency of the NHIS.

The WHO has described healthcare fraud as “the last great unreduced healthcare cost”. At GenKey, we’re looking forward to helping many other countries in Africa and around the world reduce the burden of healthcare fraud, and free up resources for better patient care. ■

We biometrically registered an average of 40,000 health insurance members a day across Ghana between 2013 and 2015.



“Through GenKey’s real-time deduplication system, we have prevented multiple registrations and built a clean, digital member database. The issuance of membership cards at point of registration or renewal has helped us eliminate challenges and costs associated with the distribution of subscriber cards. In addition, biometric authentication at healthcare providers is also preventing the submission of false claims and cutting down claims costs.”

Perry Nelson, Director, Management Information Systems, NHIA



Healthcare. Delivered.



7 minutes

The entire process from registering a member to issuing an ID card takes seven minutes.



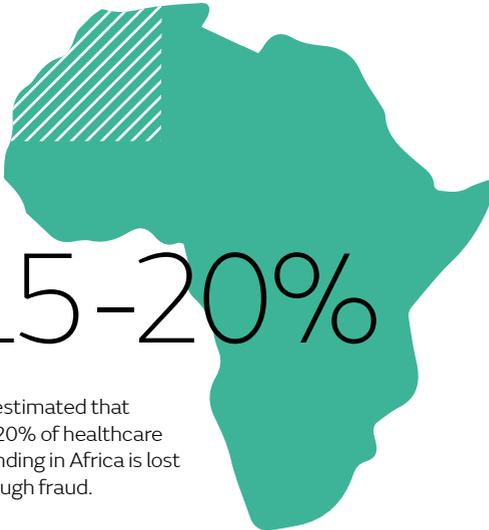
40,000 a day

In Ghana we registered an average of 40,000 people every day using 1,100 registration systems between 2013 and 2015.



7.5m

Our biometric healthcare program in Ghana resulted in a clean member database of 7.5 million people.



15-20%

It's estimated that 15-20% of healthcare spending in Africa is lost through fraud.

4m

Our project objective is to register 4 million people for Kenya's National Hospital Insurance Fund.

3k

We're issuing 3,000 biometric verification tablets to healthcare providers throughout Ghana.

GenKey's healthcare record

Enroll Solution

GenKey's Enroll Solution streamlines the process of registering healthcare members. An operator scans a member's fingerprints, takes biographic information and prints a personalized ID card. The whole process takes just seven minutes. Each smart ID card contains the member's biometric and biographic information, stored securely on the chip

1=1 Solution

Before an ID card can be issued during the enrollment process, each member's biometric data is checked against the central database. GenKey's 1=1 Solution provides reliable deduplication using GenKey's Automated Biometric Identification System (ABIS), removing any double entries from the register and ensuring that one member = one ID. All data is securely held, with systems for updating, retrieving and maintaining the data of each member registered.

Verify Solution

When a patient seeks treatment, GenKey's Verify Solution does two essential jobs. Firstly, it tells the health provider that they're treating the right person. And, secondly, it generates a unique 13-digit Claim Verification Code (CVC). This code is a vital proof of presence, telling the insurer that the patient was actually there when the claim was initiated. The unique CVC is added to the member's health insurance claim form, making it much harder for a health practitioner to submit a false medical claim.

Featured projects

Ghana National Health Insurance Scheme (NHIS):

The National Health Insurance Authority (NHIA) of Ghana sought to roll-out an electronic healthcare information system. To improve the quality of service, clean up its membership database and deal with card management challenges and claim fraud, the NHIA engaged GenKey through its partner, STL Technologies, to introduce biometric membership registration, real-time database deduplication, instant issuance of member ID cards and biometric verification (using tablets) at the healthcare provider.

The biometric enrollment of the NHIS members started in 2013 at NHIA scheme offices as well as mobile enrollment stations, enabling registration in remote parts of Ghana. Currently, there are 7.5 million people in the database. The total target is to enroll 22 million people.

Kenya National Hospital Insurance Fund (NHIF):

The NHIF in Kenya is implementing a smart card system for all users of its health facilities including clinics, casualty departments, outpatient facilities, hospitals, pharmacies and emergency response vehicles. GenKey works together with local partner MIBM to deliver a biometric health card solution and the supporting infrastructure to provide an accessible, affordable and high-quality health management information system (HMIS) that will help increase efficiency and curb fraud.

The biometric enrollment of NHIF members and their dependents commenced on the 1st of September 2015. The biometric and biographic registration is done using GenKey's own enrollment software, and is taking place at NHIF scheme offices as well as various mobile registration service points in Kenya. The objective of the project is to enroll 4 million people.

1,350 verification stations are being deployed at healthcare providers throughout Kenya, where patients are biometrically verified before treatment and claim codes are generated. The verification systems are directly connected to the NHIF.

We're GenKey. We're experts in healthcare biometrics.

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www.genkey.com

We work with governments and their partners to help millions of people across Africa to register and verify their identity.

Our 3 step approach is proven to deliver large scale ID programs across a wide range of markets, including elections, healthcare and social protection to name a few.

There are 1.5 billion people with no legal identity, that means no birth certificate, no ID card, no passport. Nothing. What's more, it's estimated that over 600 million children alive today have no registered birth. Access to a legal identity is one of the UN Sustainable Development Goals. It calls for every person to have a legal identity by 2030.

It's GenKey's mission to help bring about *Identity for all.*