



PHULUKISA
HEALTH~SOLUTIONS

Solutionist Thinking





SOLUTIONIST THINKING

We have an award winning risk-assessment platform as the front end which collects data and feeds our backend running on an Azure AI platform which generates reports, gives insights and drives our bespoke incentivized behavior and preventative health care stack. **We find risk and drive it down - period**

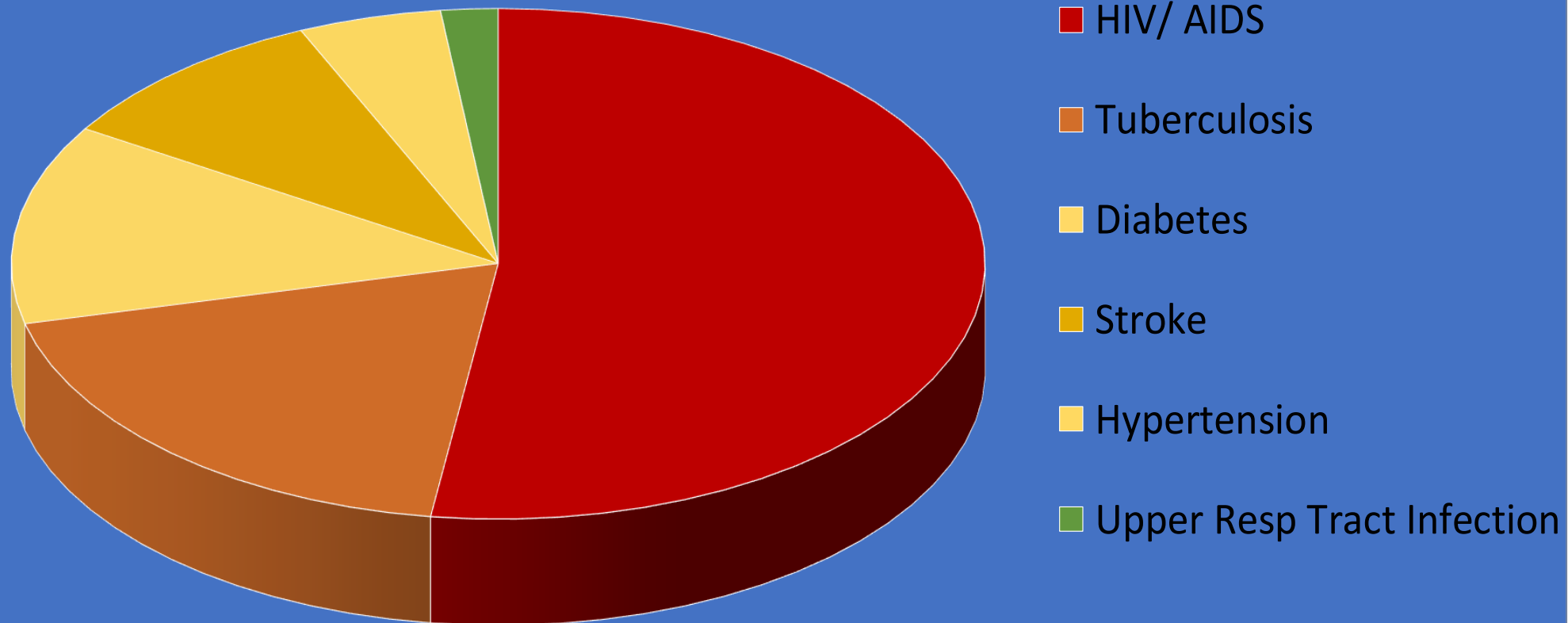


- Phulukisa Health was started in 2014 with a clear goal of re-engineering primary health access for the entire population in an affordable and scalable fashion.
- The Phulukisa platform allows for the rapid and inexpensive screening of patients at primary health care facilities and even in peoples homes.
- It allows improved information flow and is the highway for managing patient care. It is an incredible data collection tool.
- It also enables the far more efficient use of physician resources at these facilities and the integration of screening results into existing health care management systems.

About Us

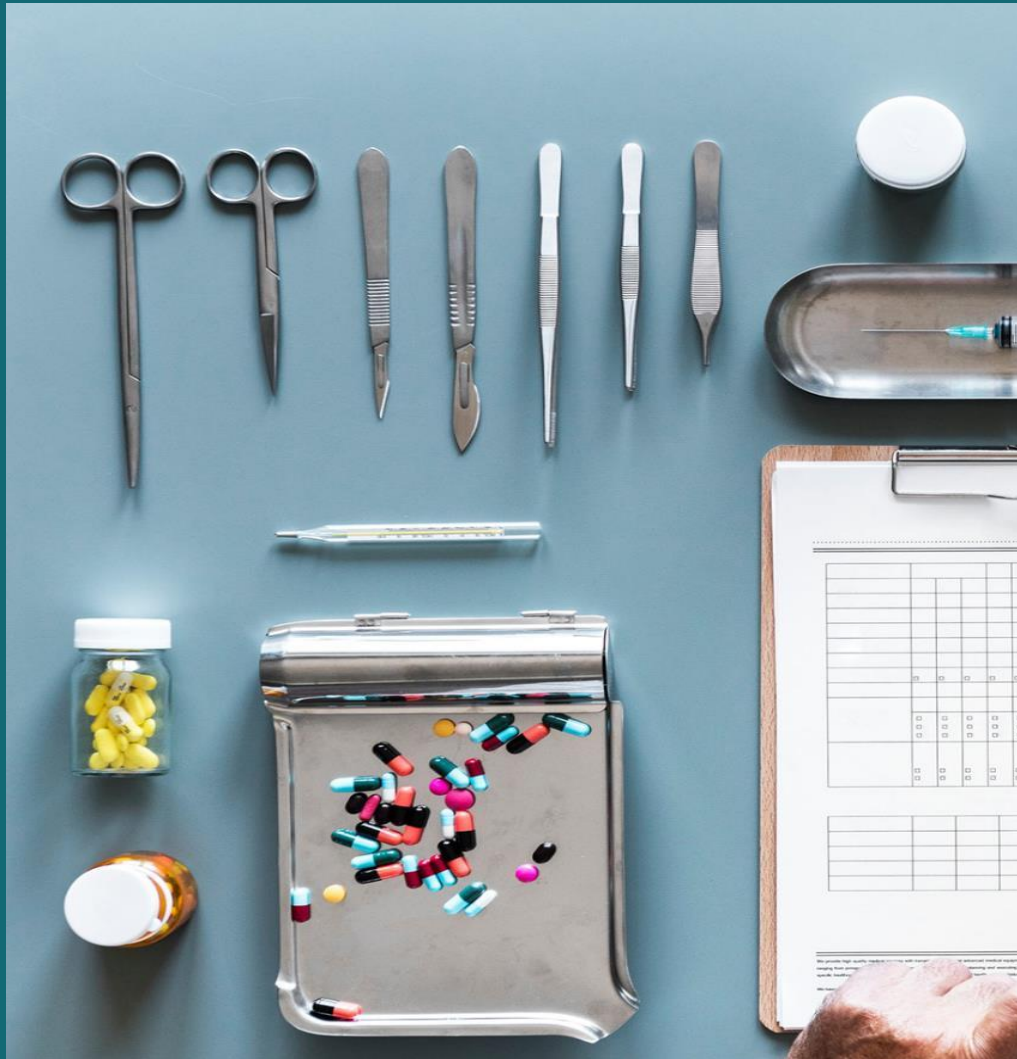
Phulukisa is a Black-owned locally conceived Health informatics company.

What our Platform Tests for



*These are only our Primary Health Diseases screened for

Benefits of our System



Clinical Benefits of Phulukisa System

Patients can be screened pre-emptively at home

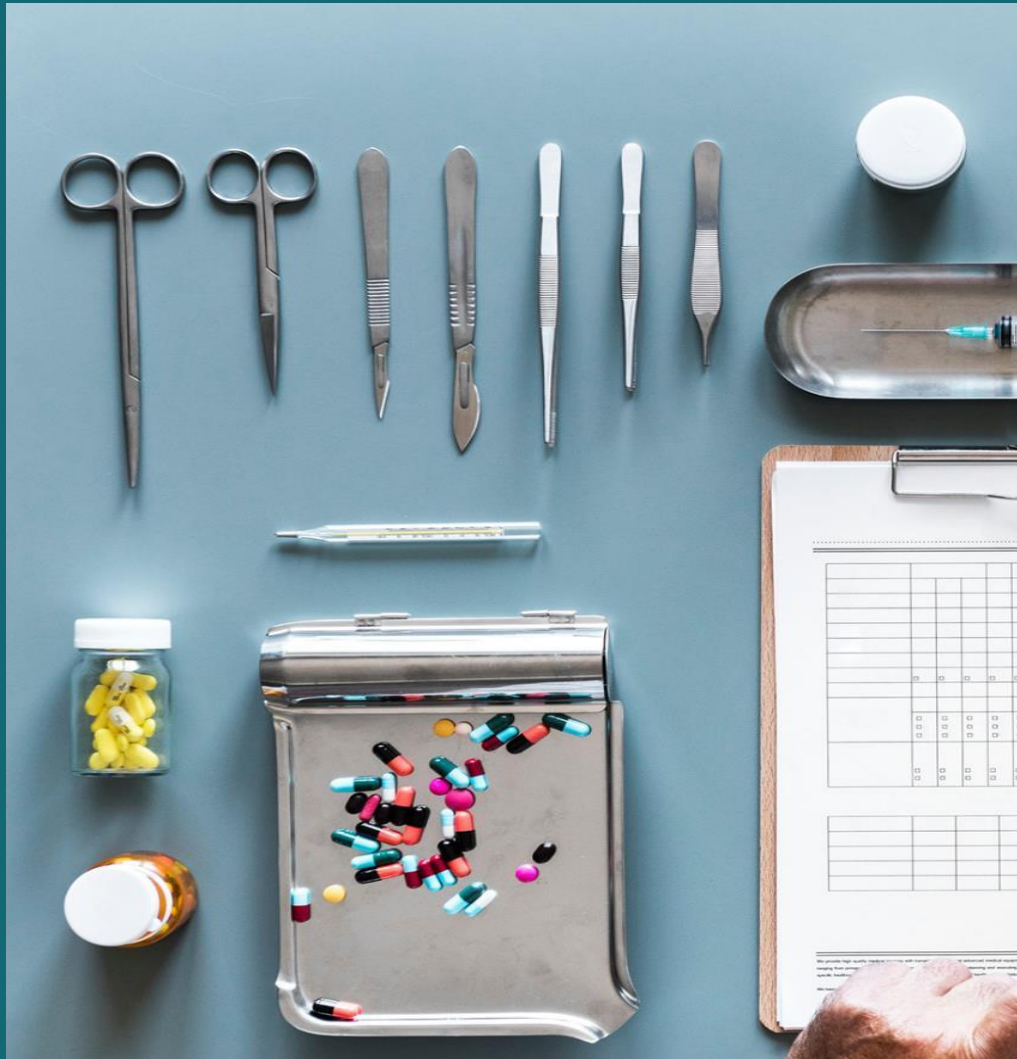
Results are captured electronically, processed digitally and available immediately

There is an electronic record that the client can keep on their mobile device

Out-of-range tests are flagged and escalated automatically

Remote management of clients to engage, escalate or refer patients

Benefits of our System



System Benefits of Platform

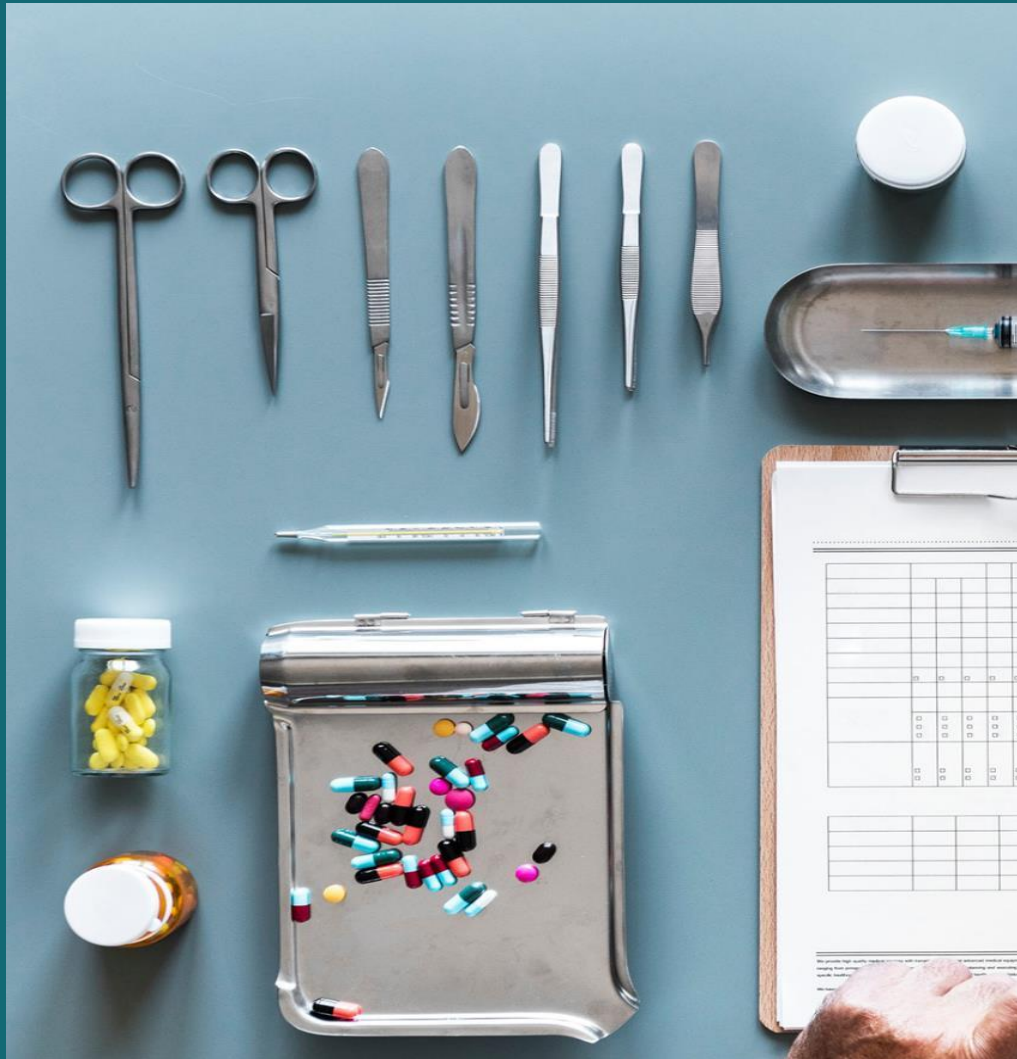
Fully integratable to existing/ legacy systems

Immediate capture with daily consolidation and reporting

Improved turnaround of clients with dramatically quicker throughput of patients.

Data collected is pure. It doesn't need to be written, the scanned, captured, interpreted and then reported. It is all automated and done in one step.

30% reduction in Patient Visits



Lower cost per patient served

- Through pre-emptive screening, the Phulukisa system reduces physician consultations, resulting in a lower cost per patient served and fewer patients queuing for service.
- It costs about R 400 per visit to see a physician in state Phulukisa estimates that a 30% reduction in physician consultations will result in a saving of **R120 million** per one million patients seen.

5% reduction in Overtime

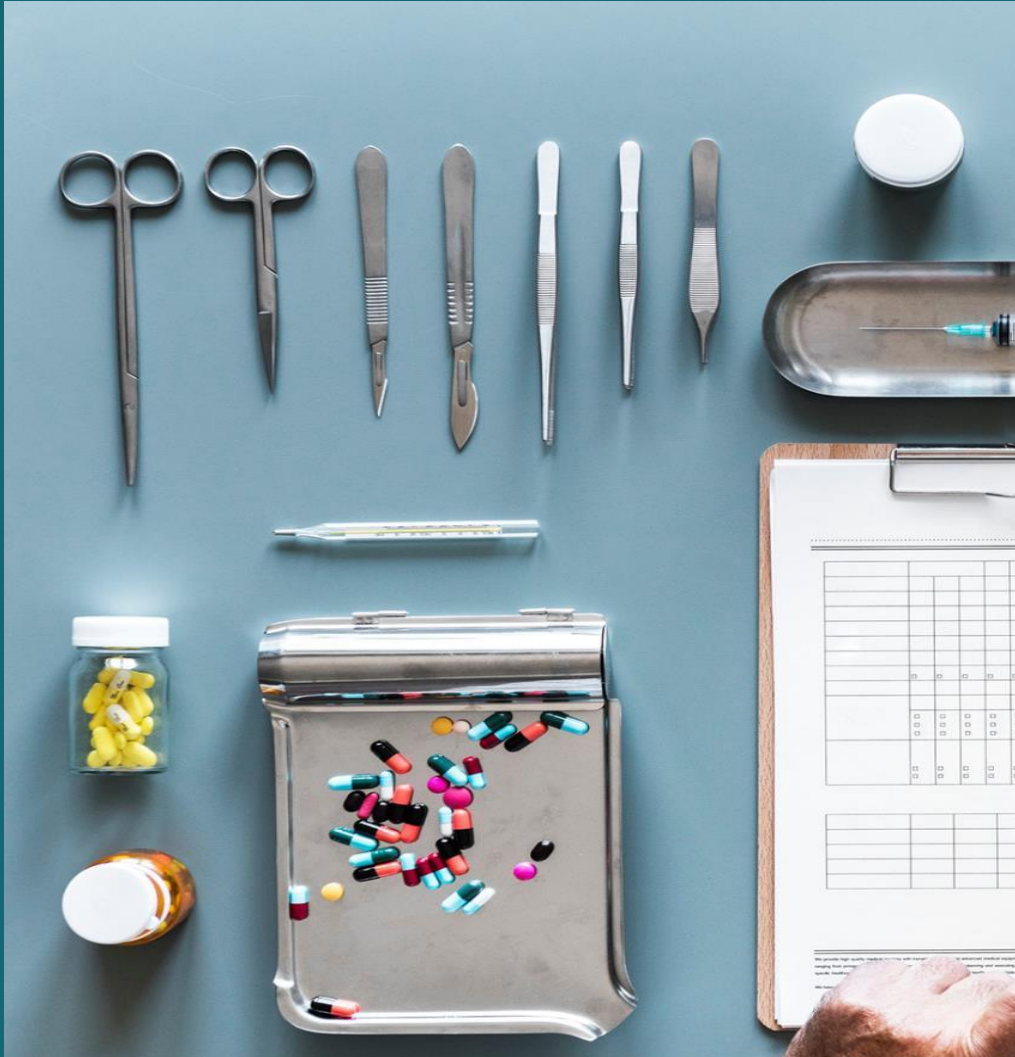
Reduction in overtime payments



- Phulukisa's electronic triage in clinics will diminish the demand on physicians' time, thereby reducing burn-out, fatigue and overtime payments.
- The a reduction in overtime payments will reduce this bill by 5%, the solution offered by Phulukisa could save roughly **R160 million** per annum.*

*On the conservative assumption that doctors' compensation amounts to half the personnel expenditure at primary facilities and

R200 million less to NHLS



Lower laboratory costs

- The Phulukisa solution incorporates modern point-of-care devices that perform blood and urine testing which reduces the need for formal lab services.
- Phulukisa's devices can also provide results almost instantly, eliminating the need for follow-up visits.
- Current GDOH expenditure on NHLS services is around R2 000 million per year. The solution should save a further **R200 million** per annum.*

*With 50% coverage of patients by the Phulukisa solution and a 20% anticipated reduction in laboratory expenditure per patient

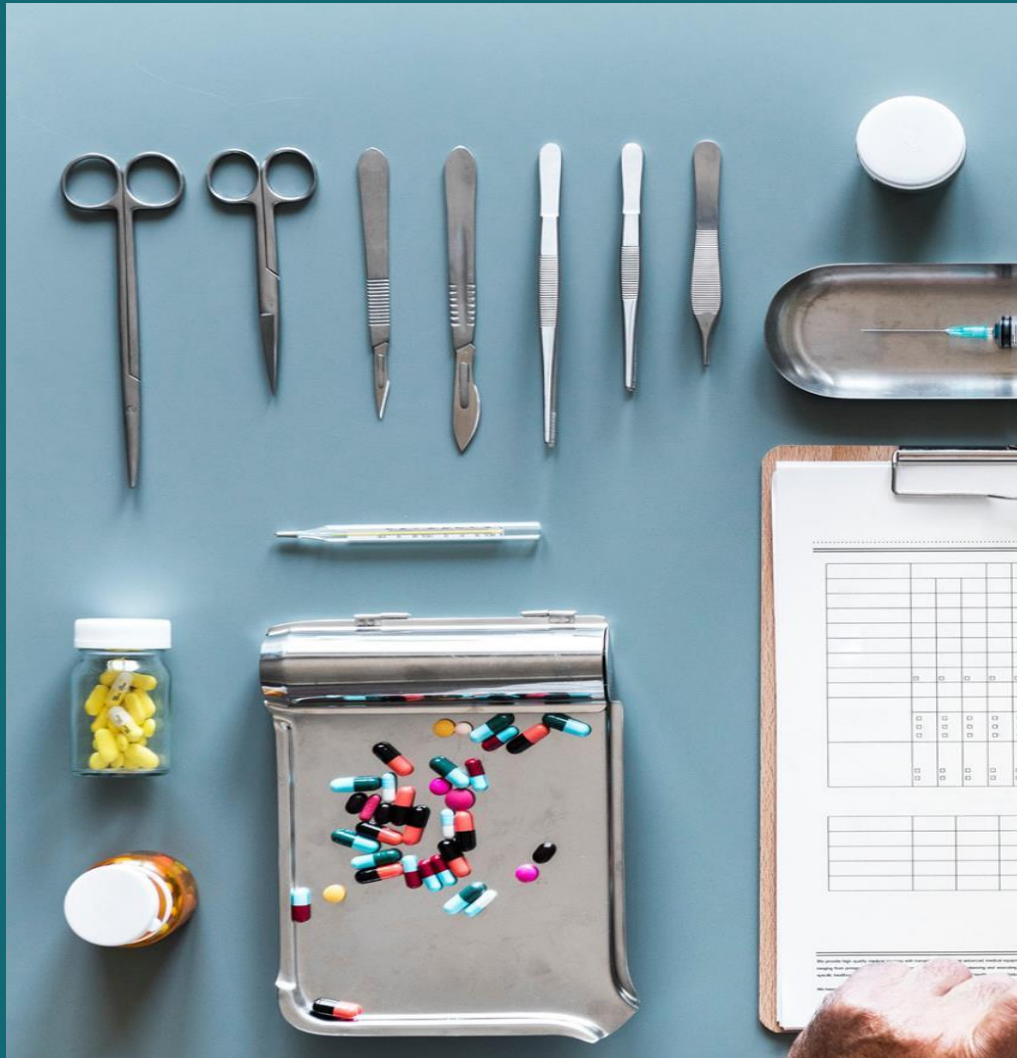
R150 Million saved on Duplication

Reducing duplication

- The Phulukisa platform can assist in eliminating duplicate visits and testing by patients.
- This will result in a further saving of **R150 million** per annum to the province.*

*Conservatively estimating these to account for 2% of total cost in the primary sector and assuming Phulukisa EHR for 50% of patients,

*At least R260 million saved in
Medical Malpractice claims*



Fewer medical negligence claims

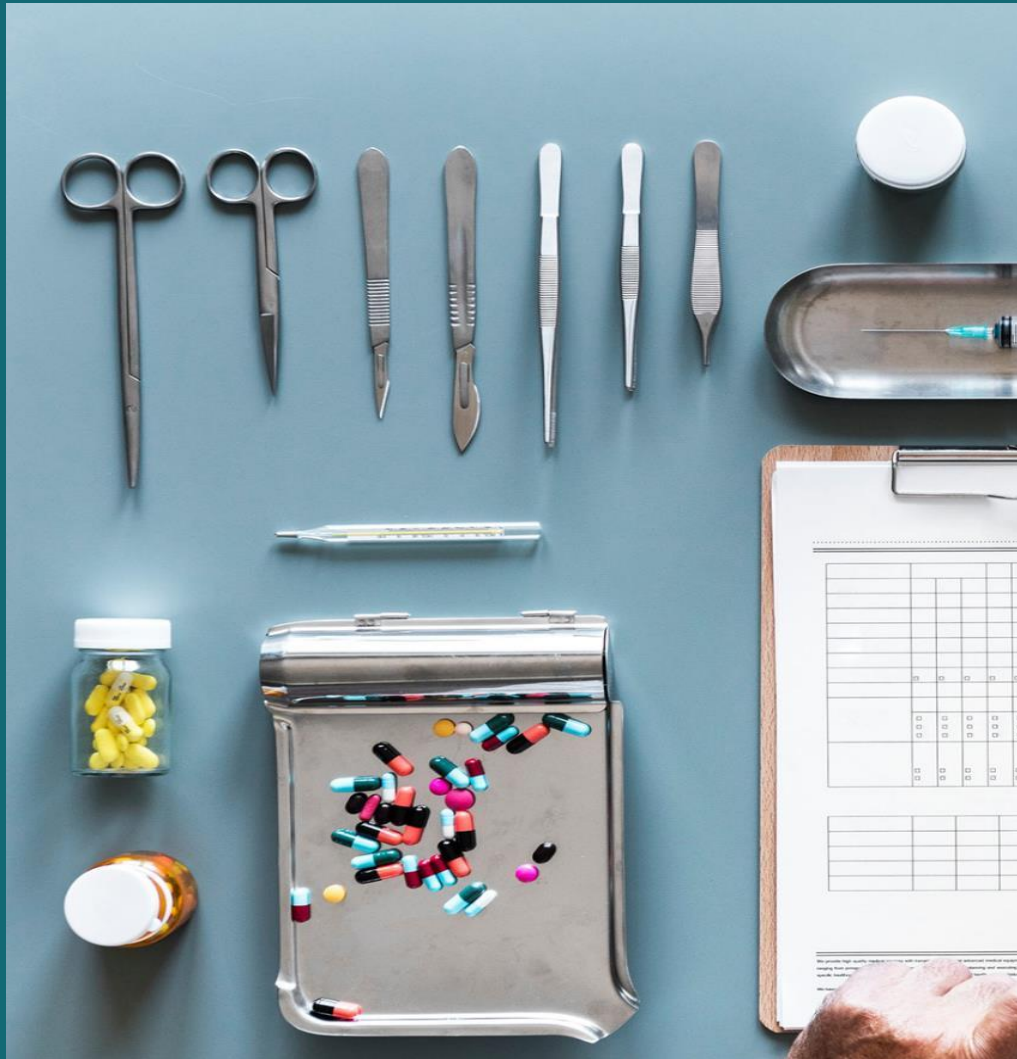
A recent study has found that

*"the rate of malpractice claims when EHRs were used was about one-sixth the rate when EHRs were not used"**

which in the case of GDOH and assuming Phulukisa EHR for 50% of patients, could contribute a saving of at least **R260 million** rand per annum in pay-outs because of EHR only.

*Quinn MA, Kats AM, Kleinman K, Bates DW, Simon SR. The Relationship Between Electronic Health Records and Malpractice Claims. Arch Intern Med. 2012;172(15):1187-1189. doi:10.1001/archinternmed.2012.2371

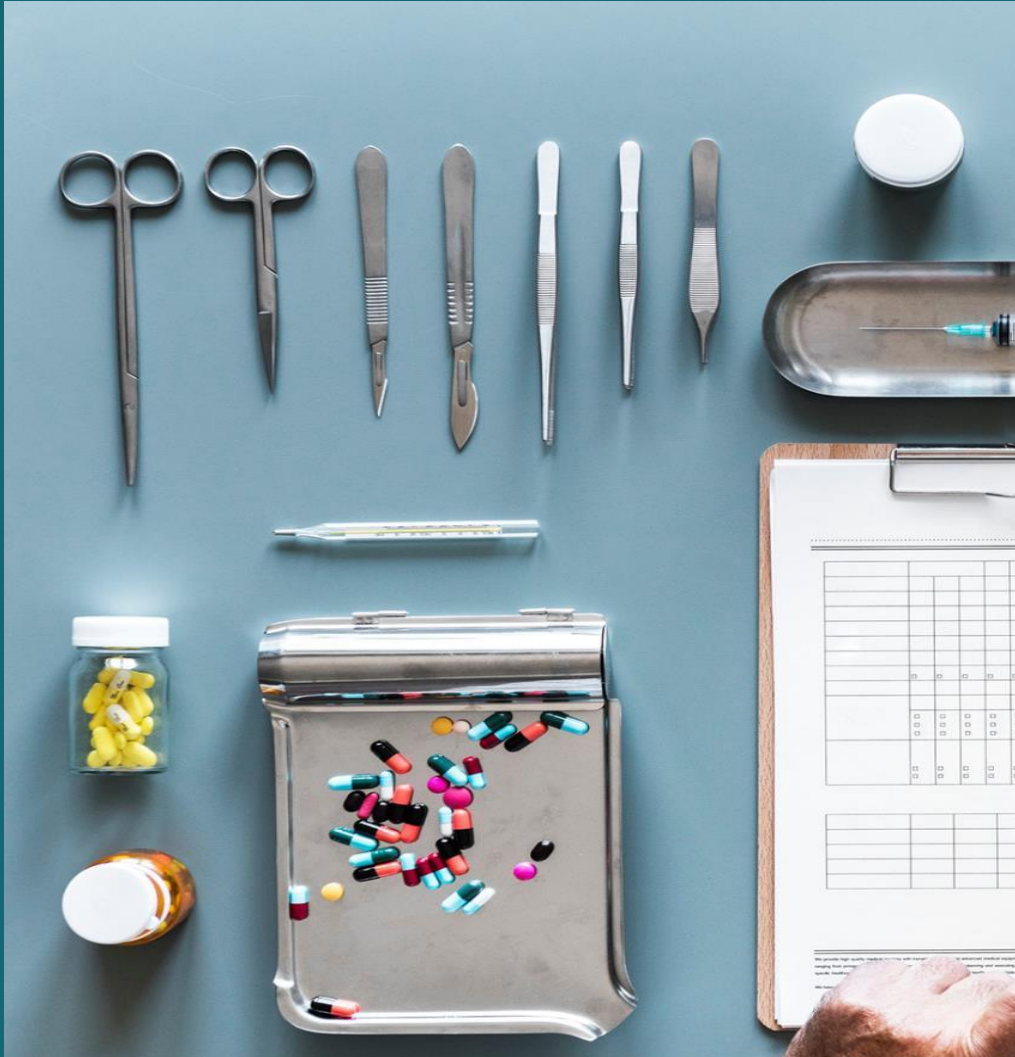
Mental Health screening tool to identify at risk people



Mental health

- 1 in 3 South Africans will suffer from a mental health problem during their lifetime and the rate is much higher for persons suffering from HIV.
- The mental health questionnaire already incorporated in the Phulukisa tool allows for the early detection of mental health problems.
- Early detection allows quicker access into the formal Mental Health services and a less complicated course.

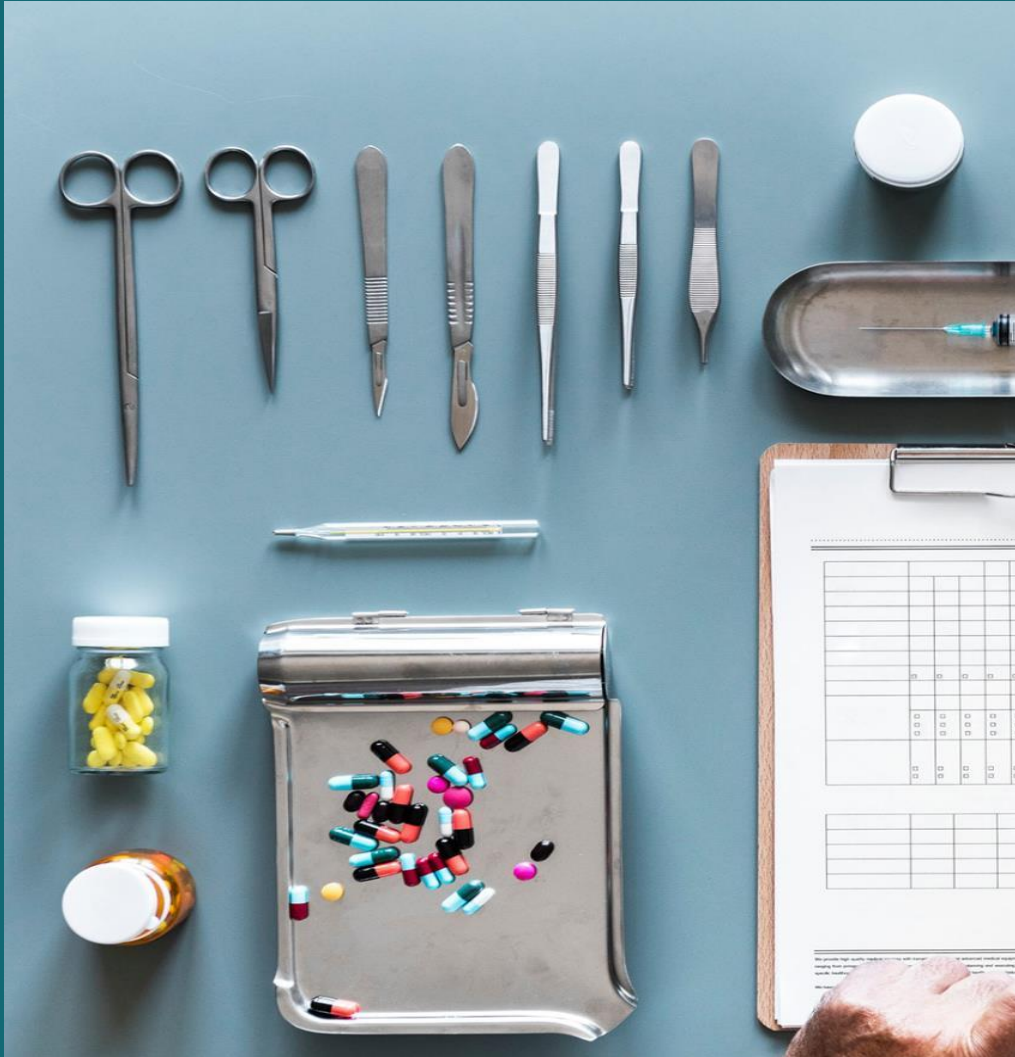
Improved outcomes for mom and child



Mother and child health

- Phulukisa has an advanced screening system for pregnant moms that identifies at-risk individuals.
- Using recognized guidelines and advanced screening tools, moms can be identified, watched and escalated as and when the midwife is no longer an appropriate option.
- The result is *improved outcomes for both mom and child*. Not to mention less Medico-legal Liability.

Added Highlights



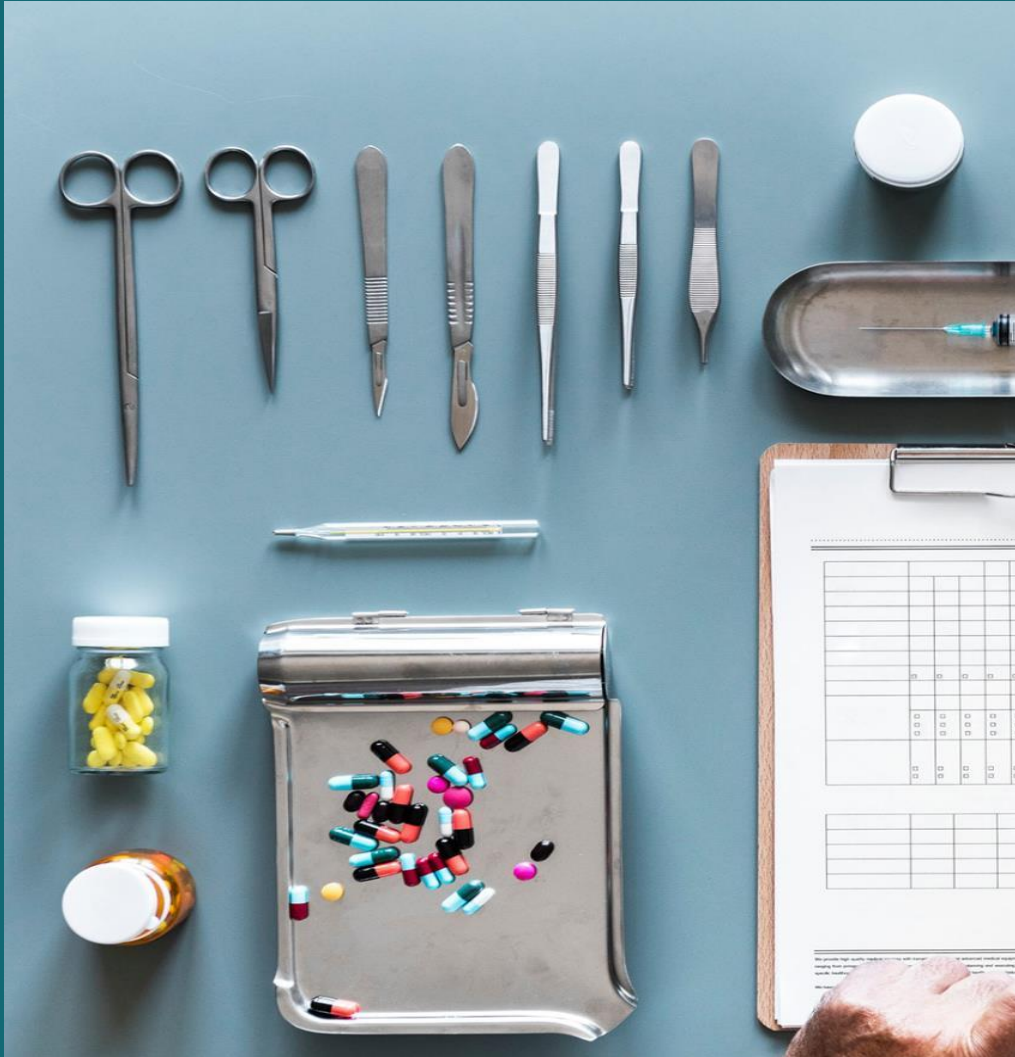
Additional Benefits

- Geo-location / Time & attendance
- Live updated results/ reporting
- Integrated XRay and POCT platform
- Seamless integration with HIS
- Patient engagement platform
- Patient education portal
- **TAKING SERVICES TO THE PEOPLE**



Our mobile clinic solution has X-Ray capabilities and the ability to access remote sites and remain agile and responsive to needs

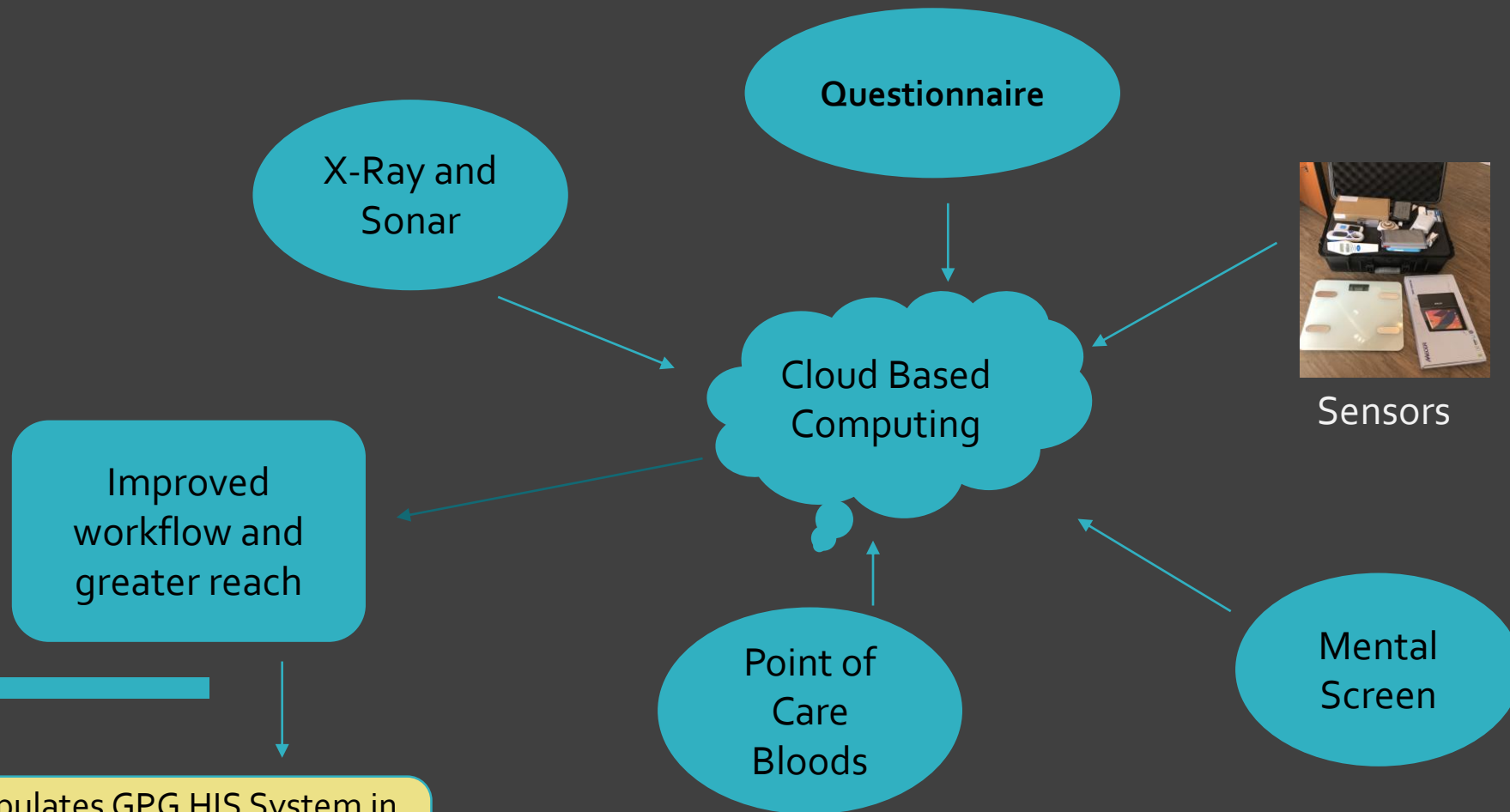
School Screening System



Effective School Screening

- Using our mobile bus unit, we can visit schools, screen children, do hearing and vision tests, give HPV vaccines, and administer reproductive health programs to older scholars (VMMC, female health etc) in a dignified environment and using our online electronic records.
- It will literally leapfrog and revolutionize this poorly serviced space.

Modular Platform





Microsoft

PHULUKISA
HEALTH SOLUTIONS



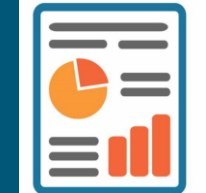
Health worker
screens on our
electronic platform



Data is captured and
sent to cloud



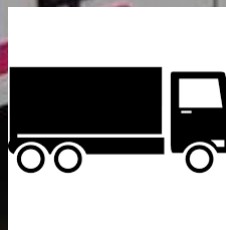
On our AI algorithms and
via cloud computing, results
are calculated



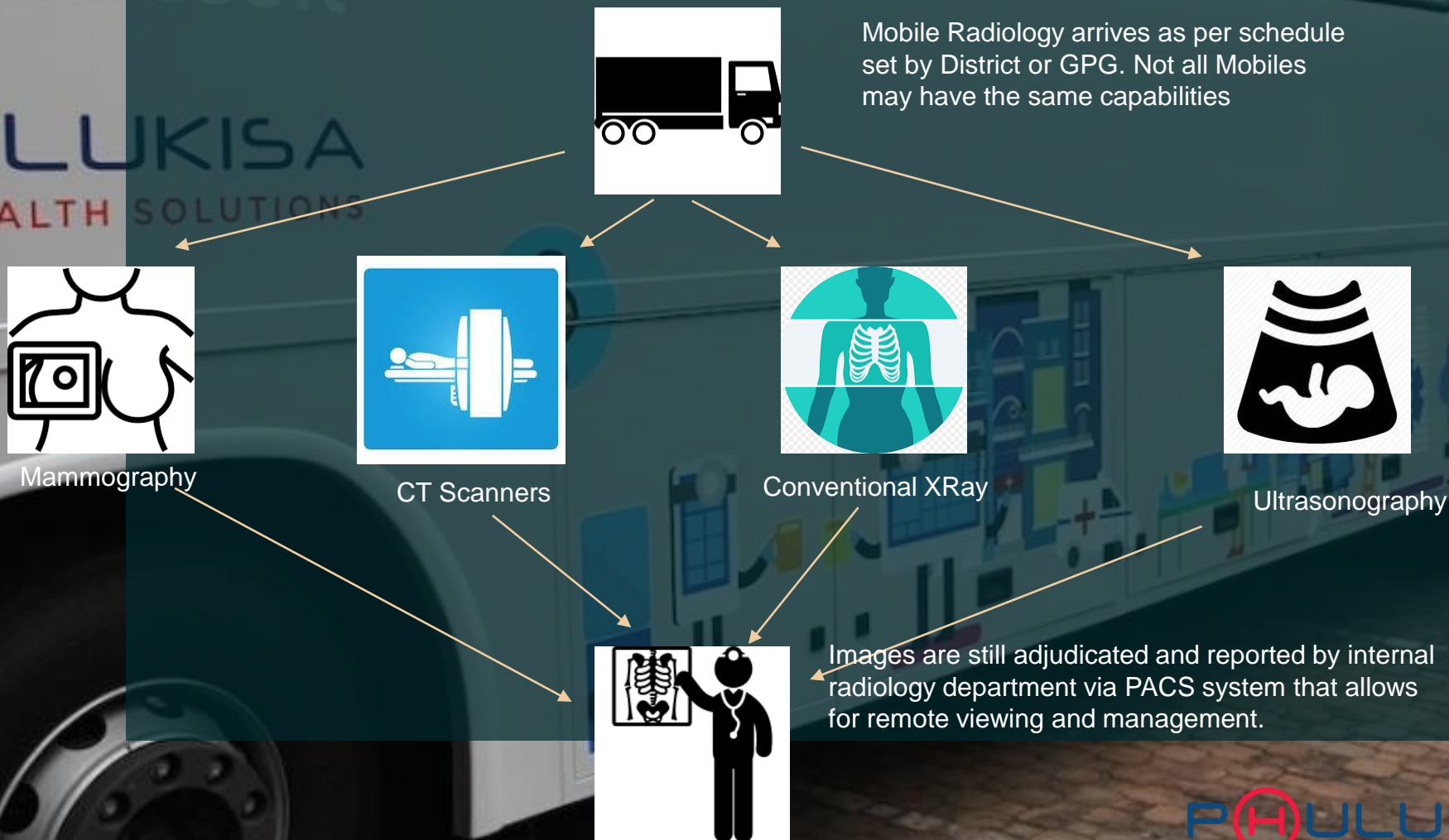
Results are immediately sent
back and ready for client



Flagged results are adjudicated by clinicians who view
results remotely and decide for radiology which is
ordered based on set schedule of mobile XRay unit



CUSTOMER JOURNEY





Additional Benefits

Capital expenditure is managed in a more controlled fashion

No maintenance costs or downtime – we provide **uninterrupted service**

The possibility exists to **augment service** or capabilities at facilities with long waiting lists

The possibility to cover units with out of service radiology units while repair is taking place

The possibility also exists to offer **twilight services** that would mean people can do radiology investigations **after** work and be more productive



Additional Benefits

By bringing services to the people, patient transport, booking errors and overburdened facilities will improve.

There will be a task-shift from secondary and tertiary facilities to district and primary facilities where most care should be taking place

A more patient-centric system will strengthen PHC and make better use of our scarce resource – medical specialists who will see only cases they should be.

All of the records, reports and images will be captured electronically and cloud-based. Remote management is a given.

532

Results

Loaded By

All

Linked Clinic

All

Result Date

9/4/2018

3/26/2019

Result

All

0

Lowest Score

11.91

Average Score

47

Highest Score ...

Pregnant Patients

324

Patients

HIV+ Tested

150

Patients

HIV+ Disclosed

46

Patients

Average Blood Glucose



Average Total Cholesterol



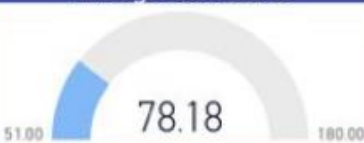
Average Weight



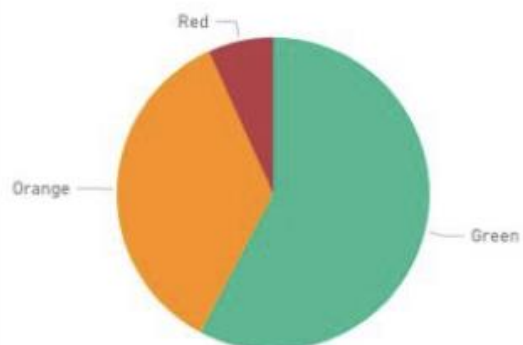
Average Systolic BP



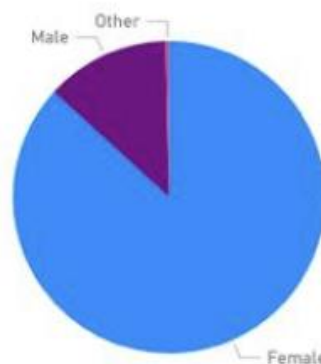
Average Diastolic BP



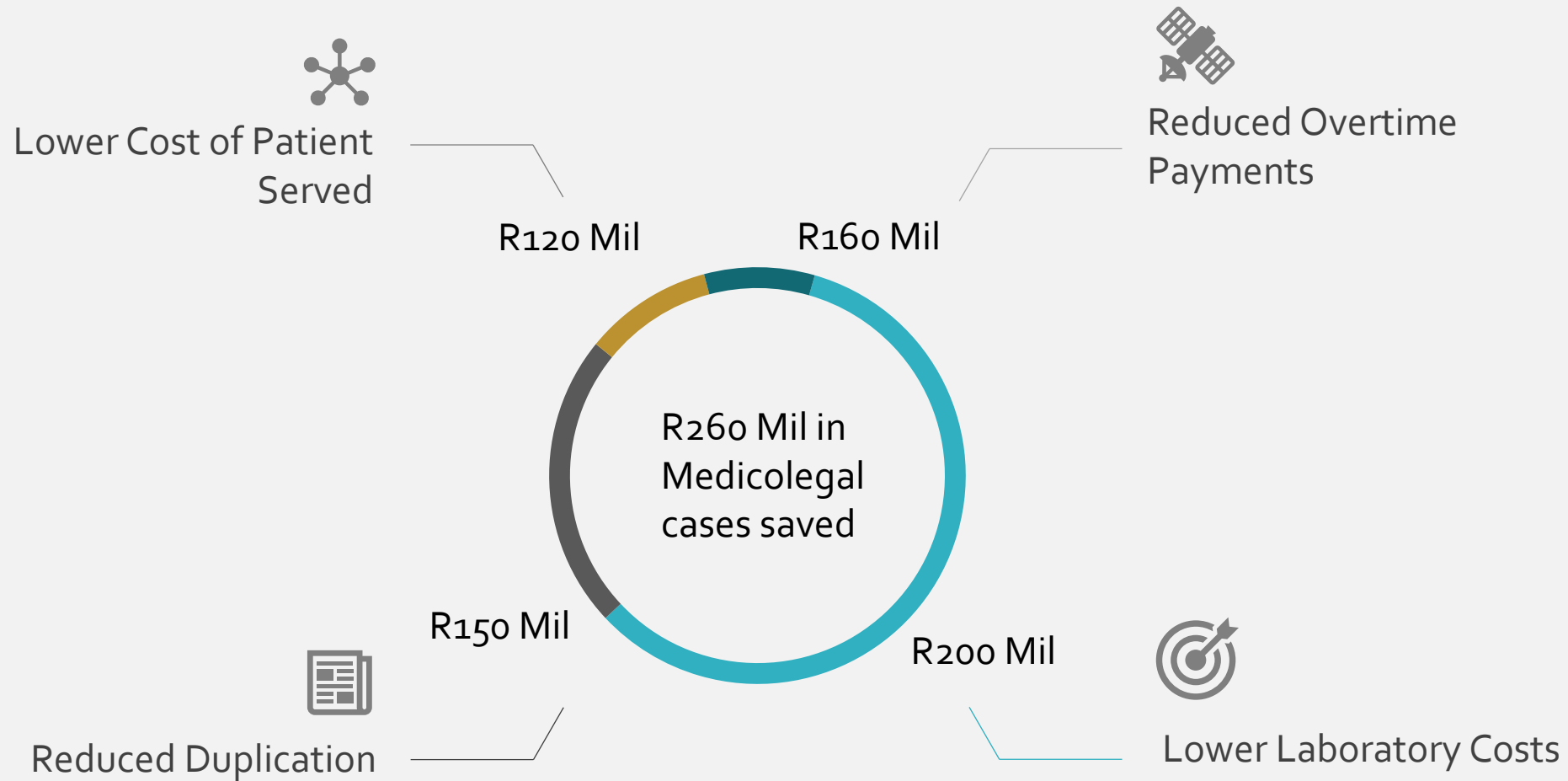
Result Distribution



Gender Distribution



Savings per million population



R 890 Million saved per million served per calendar year

Further Screening - Clinical capable health centre...

Complementary screening to conventional laboratory screening appropriate for high risk populations insufficiently screened and remotely located - distant from common access structures.



Creatinine Screening + aid other NCD screening (ABL90 Flex Plus with Urea and Crea)

- Results 35-60 second for 19 parameters
- Combined screening offer in aid to diagnose other non-communicable diseases (Respiratory tract disease, TB, Ischemic heart diseases, uncontrolled diabetes, drug overdose, kidney failure)
- Small sample volume 45µl.
- Portable or with rolling stand.
- Throughput of 44 samples per hour

Viral Load Screening (Gene Xpert HIV-1 Viral)

- 92 minutes run time with a viral load trend report*
- Run daily or on-demand - 1 minute hands-on time
- No requirements for PCR room settings
- Providing up to 394 viral load results per 8 hours



Testing will typically cost 30 to 60% less than conventional lab services.

Radiometer and Cepheid equipment also is the hardware being used in conventional laboratories.

Creatinine and Urea Testing Using the ABL 90 Flex Plus Analyze



The ABL 90 FLEX PLUS analyzer represents the first blood gas analyzer on the market, capable of measuring, in addition to the available set of parameters of the ABL90 FLEX, *the creatinine and the urea*. Moreover, the new RADIOMETER analyzer offers results regarding a wide set of derived parameters, among these being the eGFR (glomerular filtering rate). This index constitutes a component of the excretory function, but at the same time, GFR is renowned as being the best global indicator of the renal function due to, in general, the fact that it is reduced after an important structural alteration and almost all other functions of the kidney drop in parallel with the GFR in the case of chronic renal diseases.

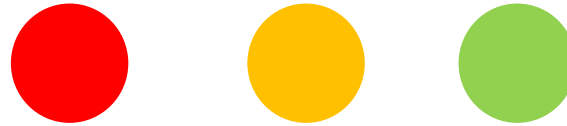
If the user needs a small volume sample, but with high diagnostic demands, the ABL90 FLEX PLUS blood gas analyzer offers great perspectives, with a response time of 35s.

The samples necessary for a future analysis can be collected at arterial, vein, umbilical cord or fetal scalp level. Offering these possibilities, from the point of view of sample type, the analyzer is adequate for emergency receiving units and neonatal intensive care units. Regardless of the sample type, the RADIOMETER analyzer can receive the following sampling recipients: capillary syringes and testing tubes without adaptors.

Cloud-enabled AI platform



- Electronic data captured is uploaded for analysis
- Data is analysed using propriety algorithms automating decision-making power which alerts both the patient and the care-giver when results are out-of-range and in real-time.
- The algorithm helps healthcare providers to ascertain normal, abnormal and critical conditions of the patients per parameter value tested. (score scale of 0-100)



Final result - Colour Indicator that point outs the urgency with which a patient should see a physician.

- The results is available within 1 minute and the algorithm considers the client and suggests a treatment protocol.
- The nurse can Safely initiate treatment within 20 minutes of meeting the client for the first PHC visit.

Electronic Dispensing Units

Electronic Dispensing Units to make collection of medication speedy and anonymous in order to improve compliance.



The Pelebox smart locker system lets patients collect their medications independently and skip the wait at the clinic.

Features

- Wall of lockers controlled by a digital system.
- Healthcare workers to stock the lockers with prepackaged prescription refills.
- Log the medicine on the system, and secure each locker
- Alert the responsible Medical team about non-compliance
- Schedule/ automate action.
- Integratable into existing Phulukisa platform.

Mobile Truck with 2 X-ray Suites

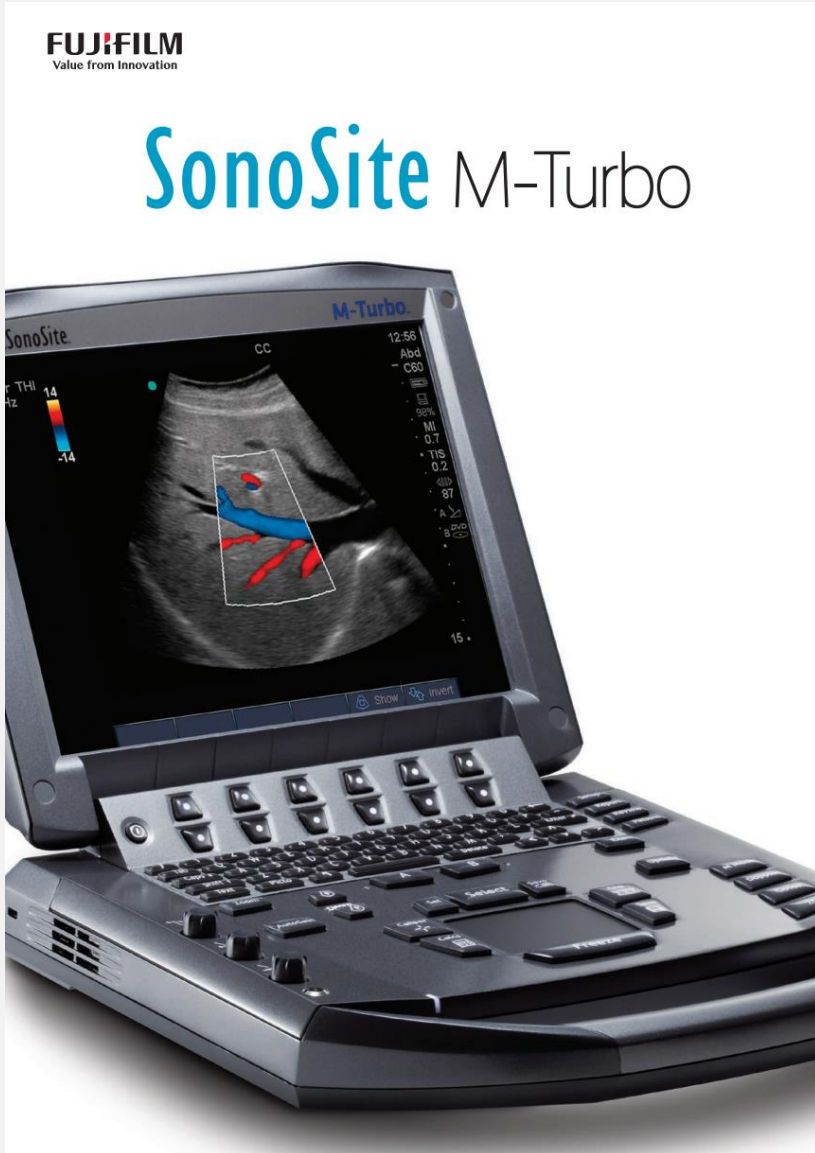


Configuration can be customized and digitally connected

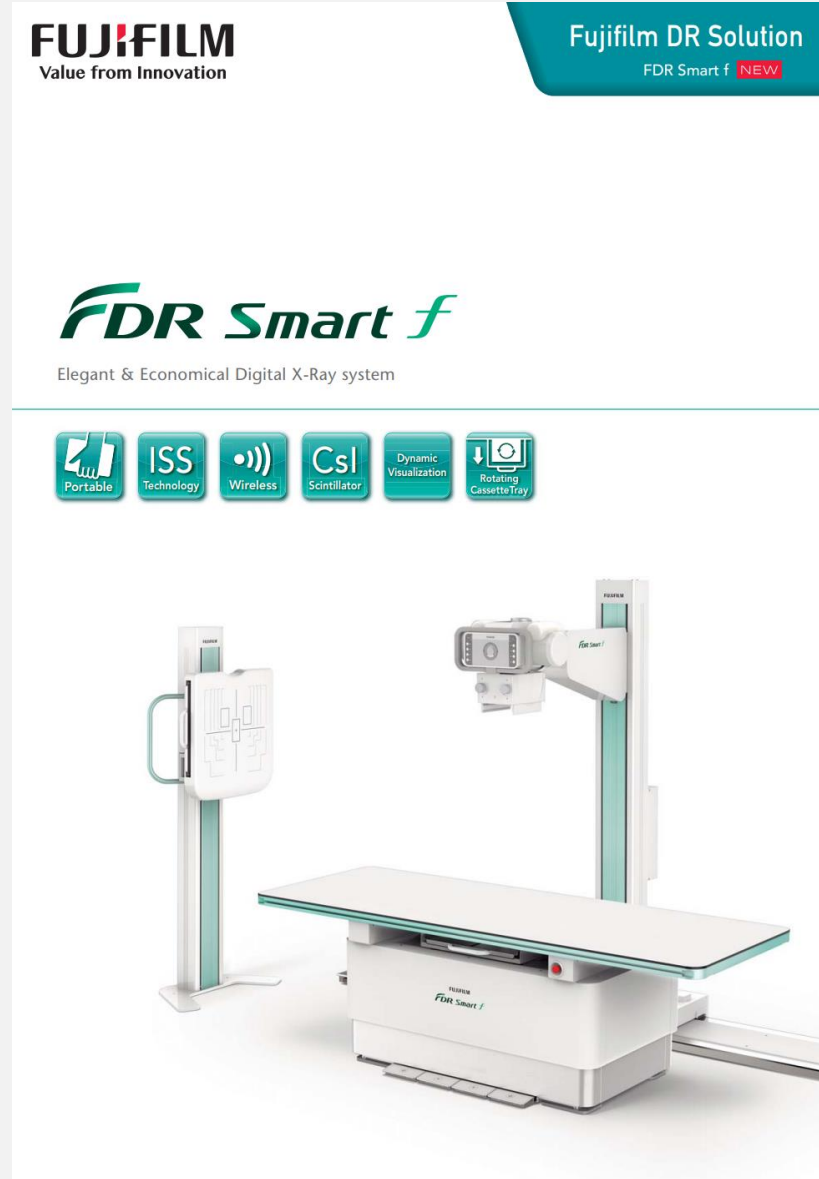


Using Fuji's cloud-based AI platform, only abnormal/ flagged images need to be escalated. All images are stored in their PACS system or integrated into yours. Units are fully loaded with conventional X-Rays, Mammography and Ultrasound capabilities. All images are digital and allows for remote management of clients.

Ultrasound



Conventional X-Rays



Mammography

— Attune to every patient's needs —

AMULET Harmony

AMULET Harmony incorporates a range of mammography solutions specifically designed to maintain a harmonious examination environment and foster an atmosphere of trust between mammographers and their patients.



Fit Sweet Paddle

This type of compression paddle fits to the shape of the breast, allowing pressure to be evenly applied while holding the breast securely and ensuring the breast tissue is adequately separated. Models with the lateral shift function are also available in the lineup.




Mood lighting to ease patient anxiety

Warm indirect lighting is used to illuminate the exposure stand, helping patients to relax and allowing examinations to be performed with minimal stress.

Decorative labels adaptable to each room environment

Five different stand labels are available to add a gentle ambience. Each site can choose a stand appearance that best suits the examination environment, thus relieving patient stress and anxiety.







FUJIFILM
Value from Innovation

Mammography Solution
AMULET Innovality

AMULET Innovality
FUJIFILM DIGITAL MAMMOGRAPHY SYSTEM



Main specifications

Standard components

- Exposure stand (FDR-3500DRLH): Approx. 624 (W) × 1270 (D) × 1974 (H) mm / Approx. 370kg / AC 200/208/220/230/240V
- Control cabinet: Approx. 503 (W) × 205 (D) × 530 (H) mm / Approx. 20kg
- Generator: Approx. 445 (W) × 315 (D) × 825 (H) mm / Approx. 70kg
- AWS (FDR-3000AWS): Approx. 700 (W) × 420 (D) × 1900 (H) mm / Approx. 90kg (including protective shield and operation table) / Main unit: AC 100-240V

The appearance and specifications may be subject to change.

CE 0123

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<http://www.fujifilm.com/products/medical/>

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 FUJIFILM supports the Pink Ribbon Campaign for early detection of breast cancer

An Alternative Method to Reward Productivity



Accurate

Our system is linked and payments are effected for work successfully completed



Garnish-proof

It is an ABSA-linked product that cannot have be garnished.



Incentivize

The reward is simple – the more you screen the more you earn.



Skills Transfer

Each CHW becomes a SMME and invoices us for work done.



Cashless Debit Card

We have a partner that allows us to reimburse CHW's for work done and removing them off the GPG payroll.

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INDUSTRY OUTLOOK

325 - 1300

Price range of spectacles in State sponsored programs

100 - 300

Price we are aiming to land our service at

32%

SA population who are uninsured, but have disposable income

80%

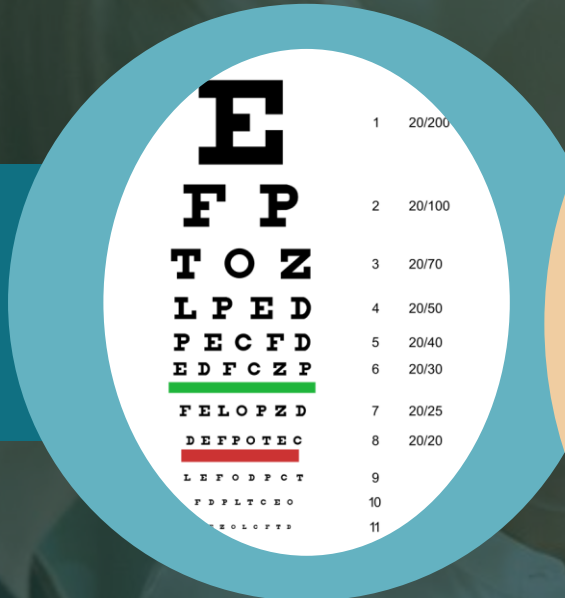
The reduction in costs in the private sector

2

The turnaround in hours compared with the current 5 days

SUCCESS

PROCESS FLOW



Client Is Screened
@ home



Referred for Assessment
@ Local Clinic



Spectacles are Given
@ Local Clinic

This could be a one-stop service at our walk-in stores like the new Silver Crossing Concept store



Over R 890 Million in savings

Bottom Line

- On the back of our system, platform and technology integrated into existing GDoH system and infrastructure, we see savings of **R890 Million** per million users per annum.
- This is without considering the positive effect of our Mental Screen nor the Pregnant Mother Screening Tool and improved school health program.



Unique

Our Comprehensive product stands without peer..



First to Market

It is the first of it's kind on the local and international market



Tested

It was piloted in Qunu, EC together with our partner Microsoft.



Authentic

The IP and Development is Proudly South African.



Proudly SA

We have a uniquely South African product that speaks to our local problems, but is geared to a Global market.