



## Moving from paper to Digital Health - How best to utilise an EHR in this journey

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# AGENDA

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1

WHAT IS **DIGITALISATION**?

2

WHAT ARE COMPONENTS OF **DIGITAL HEALTH**?

3

UNDERSTANDING THE CRITERIA FOR A GOOD **EHR**

4

SELECTING THE RIGHT **EHR** FOR YOUR ORGANISATION

5

IMPLEMENTING AN **EHR**: DRIVERS, CHALLENGES AND SUGGESTIONS

# WHAT IS DIGITALISATION?

“ digitalisation<sup>1</sup>  
/ˌdɪdʒɪt(ə)laɪˈzeɪʃ(ə)n/  
noun

1. the conversion of text, pictures, or sound into a digital form that can be processed by a computer. ”

# DIGITAL HEALTH

01

Digital health is the convergence of digital technologies

03

SOUTH AFRICA

02

The discipline involves the use of information and communication technologies

04

PMA  
Switching  
EHR  
PHR  
Patient Portals

# WHAT IS AN EHR?

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# DEFINITION – ELECTRONIC MEDICAL RECORD (EMR) / ELECTRONIC HEALTH RECORD (EHR)

Systematic Collection of clinical information in digital format



Demographics



Problems



Allergies



Repeat Scripts



Vital Signs



Notes



Lab Tests etc.

Can be shared across networks, exchanges etc.

# WHY KEEP RECORDS?

Basis for  
historical record

Communication  
among providers

Anticipate future  
health problems

Record standard  
preventive measures

Identify deviations  
from the expected

Legal record

Basis for  
clinical research



1

WHAT IS AN **EHR**?

# WHAT CONSTITUTES A **GOOD** CLINICAL RECORD?



**Comprehensive**



**Contemporaneous**



**Comprehensible  
and accurate**



**Attributable**



**Accessible**

**1**

WHAT IS AN **EHR**?

# BUT... A GOOD EHR IS SO MUCH MORE THAN JUST A GOOD CLINICAL RECORD

**HELP** manage and streamline workflows



**HELP**

**PROVIDE**



**PROVIDE**  
adjustable care  
plan management

**SERVE** as a communication tool between patients, all providers and funders



**SERVE**

**ASSIST**



**ASSIST** in a continuous cycle of care

**ENABLE** data tracking, analysis and reporting so as to encourage continuous improvements in care



**ENABLE**

1

WHAT IS AN **EHR**?



**No more endless searching for paper based files.**



**Improving medication management, preventing adverse drug events (ADEs), automatic billing functionalities.**



**Getting the right information to the right people at the right time leading to improved diagnosis and decision making.**



**Improving long term care and reducing hospital re-admissions.**



**Increasing compliance, mitigating risk, and improving relationships with funders.**



**Turning data into information: pull out data points and locate usable information to improve performance, programs and outcomes for patients.**

# SOME ON-THE-GROUND EXAMPLES OF HOW THE EHR HELPED...



HC 291873  
Healthcare Center

PATIENT 132-54/B

HISTORY RECORDS EXAM: DIAGNOSIS RESULTS PRESCRIPTIONS

NEW DATA AVAILABLE

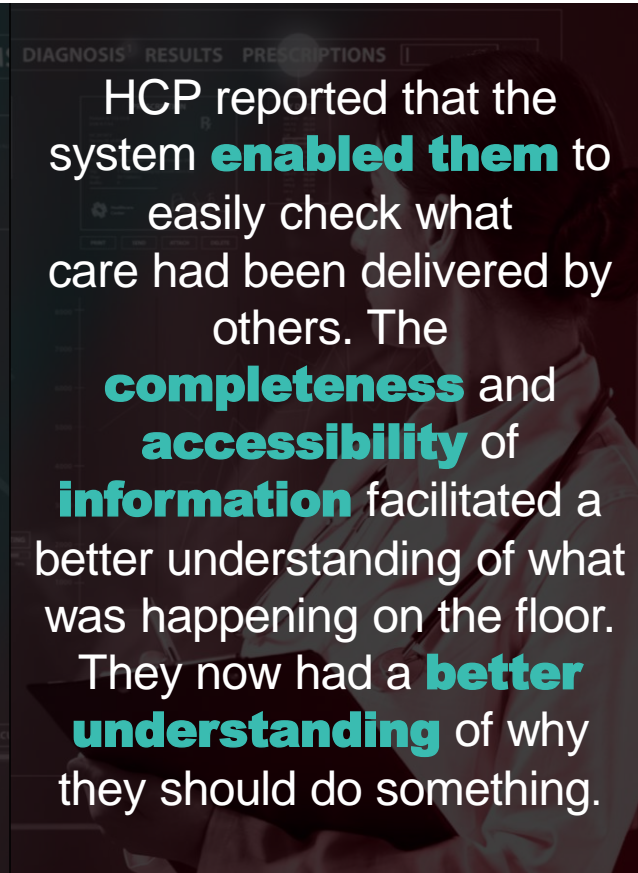
BLOOD RESULTS

CONTACT

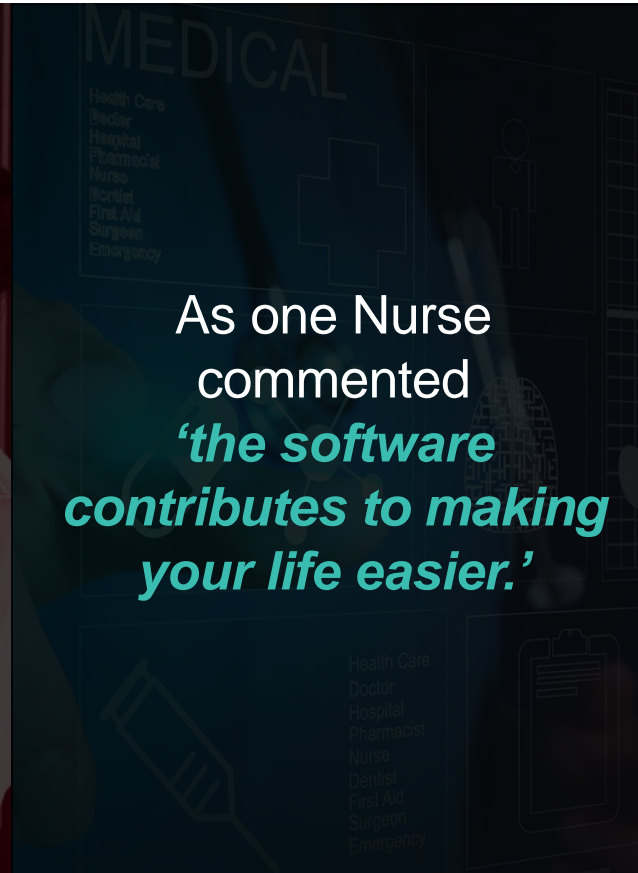
MAIL

INFO

By **viewing the photos** of a patient in the EHR, a new staff member was able to **call a patient by name** at their first encounter and start a conversation on a more **personal basis**.



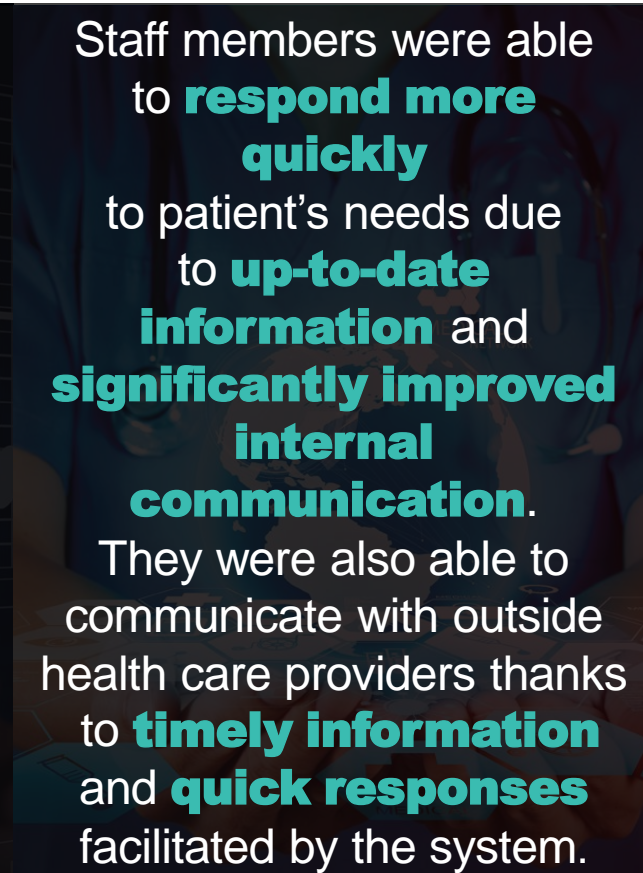
HCP reported that the system **enabled them** to easily check what care had been delivered by others. The **completeness** and **accessibility** of **information** facilitated a better understanding of what was happening on the floor. They now had a **better understanding** of why they should do something.



MEDICAL

Health Care Provider  
Hospital  
Pharmacist  
Nurse  
Dentist  
First Aid  
Surgeon  
Emergency

As one Nurse commented **'the software contributes to making your life easier.'**



Staff members were able to **respond more quickly** to patient's needs due to **up-to-date information** and **significantly improved internal communication**. They were also able to communicate with outside health care providers thanks to **timely information** and **quick responses** facilitated by the system.

# UNDERSTANDING THE CRITERIA FOR A GOOD EHR

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# CRITERIA FOR A GOOD EHR



## THE EHR:

- Must meet the standards of good record keeping.
- Should **help, provide, serve, assist** and **enable** your workflow, administration, patients and staff.



## IN ADDITION:

- A good EHR must adhere to certain architecture, communication and security standards and requirements.

# INTEROPERABILITY IS CRITICAL



## FUNCTIONAL INTEROPERABILITY

The ability of one system to send information *without loss (of meaning)* to a second system

Second system must be able to use that information *without loss of meaning*

- Computable Semantic Interoperability

Necessary but not *sufficient*



# INTEROPERABILITY IN HEALTHCARE

“ Historically, health information systems in South Africa have been characterised by **fragmentation** and **lack of co-ordination**, prevalence of **manual systems** and **lack of automation**, and where automation existed, there was a **lack of interoperability** between different systems ”

*Dr Aaron Motsoaledi, Minister of Health 2014*

# INTEROPERABILITY IN HEALTHCARE

## Health Normative Standard Framework (HNSF)

“ The framework represents the first step towards a complete health enterprise architecture specification for South Africa. When fully developed, this enterprise architecture will define how eHealth solutions, across all levels of healthcare in both the public and private health systems, will interoperate with each other to support person-centric continuity of healthcare. ”

# INTEROPERABILITY IN HEALTHCARE



# SELECTING THE RIGHT EHR FOR YOUR ORGANISATION

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# SELECTING THE RIGHT EHR

Once you have confirmed that the potential EHR meets good record keeping requirements and complies with international standards for architecture, security and interoperability then ask the following questions:



What are our organization's short, medium and long term needs and can this EHR meet these needs?



Will the EHR help create more care time for our staff rather than more administrative load?



Can the EHR help streamline our workflows and reduce costs?

# IMPLEMENTING AN **EHR** – DRIVERS, CHALLENGES AND SUGGESTIONS

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# IMPLEMENTING

To successfully implement an EHR you need to carefully consider:

**1**  
Drivers for adoption

**2**  
Barriers to change and potential solutions to these barriers

**3**  
Careful planning and management of the change

# DRIVERS

It is also important to understand patient drivers:

## CHANGING NEEDS OF PATIENTS:

Patients are living longer but many present with multiple chronic conditions.

**In the USA half of today's assisted living residents have three or more chronic conditions, and 42% have Alzheimer's or another form of dementia. In South Africa chronic medical conditions are increasing annually.**

Being readily able to access these complex medical histories is important for good care.

Patients want to be more involved in their care. If you don't involve them they will look elsewhere, to another facility.

Patients are tech savvy; they want to adopt and use technology in all aspects of their life including their health.

Patients are more informed than ever before.

## DRIVERS

### MATURING OF TECHNOLOGY



Computer hardware has become **cheaper**, processing power has **increased**, and above all, computing platforms have become **a lot more stable**.



Internet connectivity is **more accessible** than ever before and connection speeds have **increased proportionately**.

# BARRIERS AND POTENTIAL SOLUTIONS

Buy-in from staff and users.	<b>This is critical.</b> Involve staff from the very beginning in helping to design work flow. Make sure they view it as a help and not a hindrance.
Technology factors like making sure the EHR can integrate with widely used systems and computer software for ease.	Carefully investigate this up-front to prevent late surprises and choose the EHR most likely to meet this need.
Training time required to use the new system and understand the capabilities of this technology.	Carefully plan for this. Create super-users in your organisation who are knowledgeable and drive the change internally; an internal champion of the EHR.
Security matters including keeping the information safe.	Careful planning and good understanding of the EHR.
Legal issues such as privacy and confidentiality of records, who should and could have access to the important data and information.	Careful planning and good understanding of the potential EHRs confidentiality architecture and ensure it meets your legal and confidentiality needs and complies with international standards.
Cost to upgrade to the EHR such as buying software and hardware.	Careful planning of budget and consideration of long term ROI.

## BEFORE STARTING IMPLEMENTATION CAREFUL PLANNING IS NEEDED:



Determine what you want to achieve as your short, medium and long term goals

Define stages for implementation



**Type of Application:**  
Local Server Application solution | Cloud based solution

# HARDWARE

Purchase the highest specification hardware that you can afford



ADSL is essential,  
Fibre is ideal

Wired  
Network



Printers

Scanner



Choose a vendor  
that offers a  
complete solution

Redundancy  
plans – backup  
drives or online



## STARTING THE PROCESS

### TRY AND MAP YOUR REQUIRED WORKFLOW

**Step-by-step processes**

involved in  
delivery of your  
healthcare

**Involve your staff** in this  
process to  
ensure buy-in

Map out the **typical patient journey**.

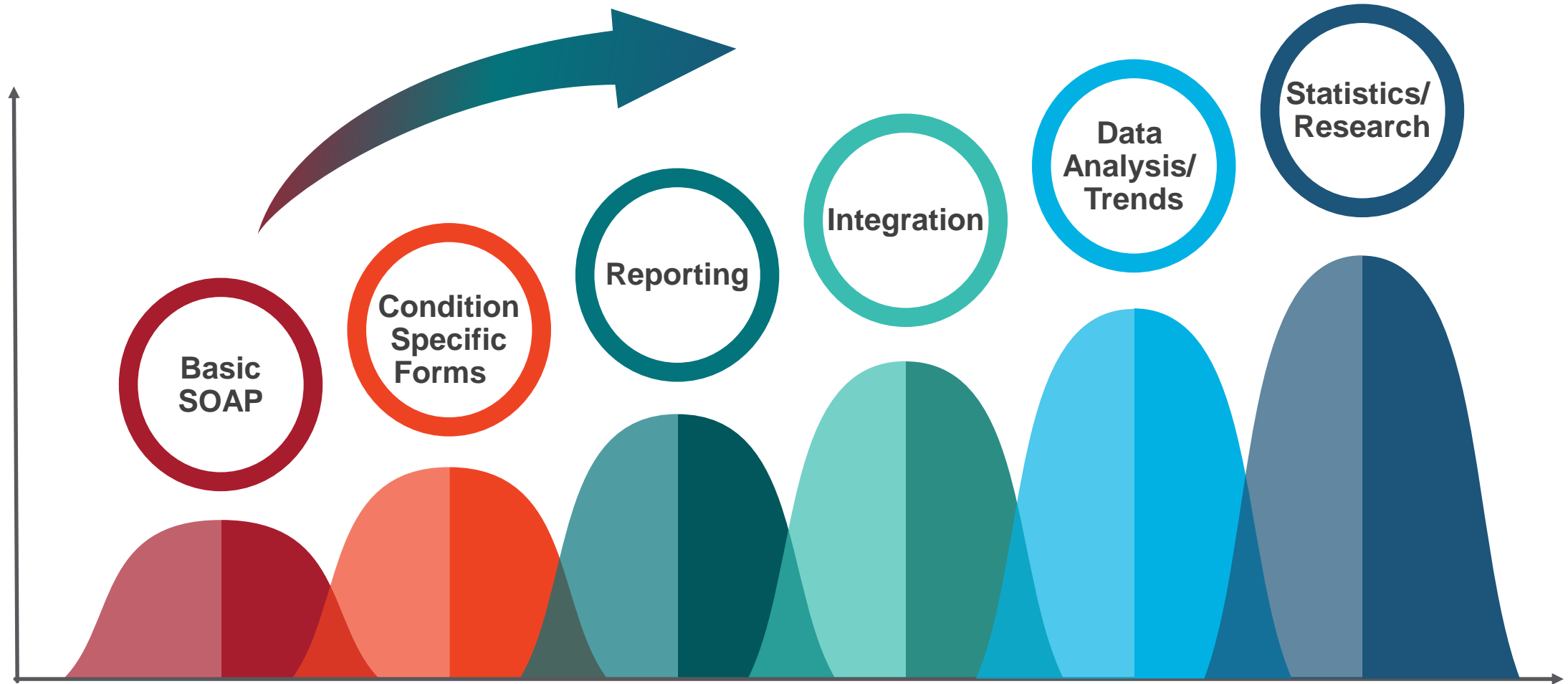
## STARTING THE PROCESS

Determine the levels of complexity associated with each process

Plan the phased introduction of these processes

This allows users to get accustomed to basic functions and then progress to more complex ones

# WORKING TOWARD MASTERY



# CONCLUSION

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The road to a paperless environment can be a long one

With planning, forethought and commitment it can be an enjoyable and enriching experience.

Get advice from colleagues using EHRs

If done properly, you will wonder in years to come how you ever managed without an EHR

## A FINAL INSIGHT



Many centres **combine paper** and **electronic systems**. Mixing systems and processes often creates **poor data integrity** and **inconsistent workflows**, which leads to **compliance issues**, **inaccurate documentation**, and potential **health risks** for your patients.

**DO IT PROPERLY OR DON'T DO IT AT ALL**



# QUESTIONS?

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