

**HEALTHCARE
AND TECHNOLOGY**

BCX

**ICT Challenges and Opportunities
in the South African Healthcare Industry**

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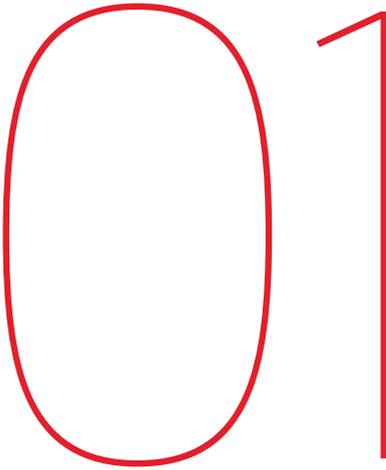
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DEVELOPMENTS IN THE SOUTH AFRICAN HEALTHCARE INDUSTRY EXPENDITURE IN THE HEALTHCARE

Expenditure in the healthcare Industry

The South African healthcare industry is made up of the private and public healthcare sectors.

In 2014, the spending on public healthcare was set to increase to close to R150bn¹ (R52bn - district health services, R27bn for provincial services and R24bn for central health services).

At a growth rate of more than 8% per annum, and considering that private sector healthcare expenditure is at a similar level to public spending in South Africa, it is estimated that the total healthcare expenditure in South Africa is close to R300bn. It is estimated that hospitals and primary care institutions constitute nearly 50% of the industry, while specialists and other providers make up 30%. The balance of 20% covers medical insurance and medical supplies.

Within South Africa, there is a vast array of healthcare service providers servicing all types of healthcare needs across the country. While these providers may differ in size and capacity, they all have common goals, namely:

1. Improving the prevention of poor health.
2. Raising standards in the quality, safety and precision of care and medicine.

3. Making healthcare delivery more efficient and cost effective.
4. Making healthcare more accessible, especially in rural communities as well as 'healthcare underserved areas'.
5. Implementing National Healthcare Insurance.
6. Improving from reactive healthcare to context-aware healthcare and 'eHealth' solutions.

Examples of some of the 'eHealth' solutions include:

- a national master patient index with the unique identification of patients;
- workflow information and near real-time healthcare scheduling and dispatch; and
- remote patient vitals monitoring, remote diagnostics and environmental monitoring.

Some of these eHealth capabilities can help contribute to an unprecedented patient-journey/visitor experience, whether remotely or out-patient or 'in-healthcare facility or in-theatre.

When looking to make improvements in the healthcare industry, the best opportunities are those that create improvements across the entire spectrum of goals. They will range from the development of new shared-risk funding models to the creation of new care-coordination roles to manage the complex interaction between different professionals and patients.

By using information services as the common denominator and leveraging technology, big data analytics, ICT infrastructure (high-speed and broadband network access, whether fixed or mobile) and ICT service provider solutions, technology-enabled healthcare can become an essential platform for this change.

To this end, healthcare providers, healthcare service providers, healthcare OEMs and ICT service providers need to work more closely to develop industry-specific healthcare solutions.

It is estimated that total healthcare expenditure in 2014 is close to R300bn per annum with private healthcare contributing approximately 50% of that cost.

¹ Moneyweb, Budget Speech 2014

Challenges in the Local Healthcare Industry

Some of the major challenges and developments within the local healthcare industry include the following:

Fair Access to Healthcare Services

It is estimated that the private healthcare sector services approximately 15% of the country's population, while the public sector services approximately 85% of the South African population. However, if one also takes into account out-of-pocket expenditure on private healthcare, a revised estimate is that approximately 30% of South Africa's population is served by the private sector². In 2012/2013, approximately 17% of the population was part of a medical aid scheme. The expenditure on public versus private healthcare, however, is still more or less equally split, a skewed expenditure towards those in private healthcare. Part of the challenge is therefore to provide fair access to quality healthcare for all.

There is still a gap between those who qualify for free healthcare and those who are part of a private medical aid scheme, and this gap is being served by health insurance providers. There is still a gap between those who qualify for free healthcare and those who are part of a private medical aid scheme, and this gap is being served by health insurance providers.

Cost of Healthcare

Healthcare costs in South Africa have surpassed general inflation by more than 4% over the past four years. According to Statistics South Africa, these costs have more than doubled their contribution to household expenditure.

Healthcare Inflation in South Africa from 2009-2014

The South African Health Minister has stated that one of the main challenges in South Africa is to reduce the costs of private healthcare. Healthcare inflation for services relating to doctors, hospitals and specifically health insurance is all still above general inflation in South Africa.

Absence of a National Health Records System

In South Africa, there is currently no national system to track health records of individual citizens. A patient's records are generally kept by their local doctor, with no way for this information to be shared quickly and easily with other healthcare providers. This can make it difficult to treat patients effectively, particularly in emergency situations, as doctors may not have all the relevant information needed, such

as the medication the patient is on or any past treatments they may have received.

Business Process Management

A major trend in health services is the ongoing improvement of business process management in healthcare facilities. This involves looking at the entire life cycle of the patient's interaction with the healthcare facility, from intake to discharge and aftercare, medication provision, check-ups and follow-ups. This process has the opportunity to be standardised across all facilities and made as simple, efficient and effective as possible for the patient and the facility.

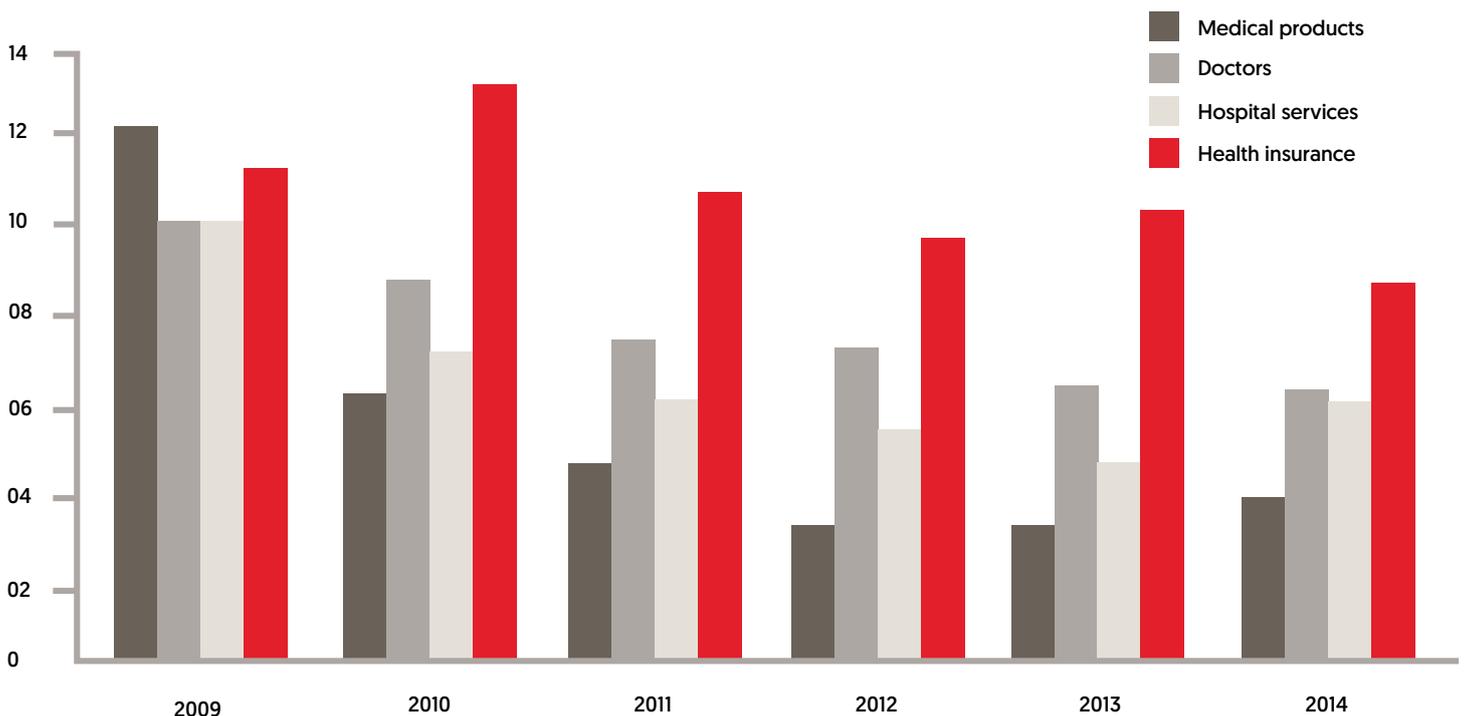
Sharing of Services

Limited access to healthcare facilities is a major problem for many rural areas in South Africa, as the poor infrastructure and small, widely dispersed populations make it difficult to deliver healthcare services. This has led to initiatives that utilise technology to share medical expertise and knowledge across larger and more remote areas. For example, an initiative in the field of radiology allows clinics in rural areas to upload X-rays to an online portal where qualified radiologists in urban areas can view them and offer insight and diagnosis.

National Health Insurance

The Department of Health has also implemented the National Health Insurance (NHI) initiative to make quality healthcare affordable to all South Africans. It has also been stated that this initiative aims to address the challenges of the quality of public healthcare and the high costs of private healthcare. The intention is for the NHI to enter into contracts to deliver health services free of charge to South Africans. However, this is not a short-term initiative. According to the Health Minister, "It will take 14 years to complete the NHI project. The first five years will be a process of building and preparation."

² Econex, The South African Private Healthcare Sector: Role and Contribution to the Economy, 2013



Source: Stats SA



ICT TRENDS AND PRIORITIES IN HEALTHCARE

Addressing the needs of the Market and Customers

From a business and ICT perspective, and taking into account the challenges in the local market, healthcare.

In South Africa, the biggest challenge is the provision of quality and affordable healthcare for all. One of the strategies to support the demands of shareholders, government and customers will be the effective use of ICT and leveraging technology to support profit growth, affordable healthcare, quality healthcare and improved customer service.

To this end, healthcare providers need to leverage the power of ICT to support their key objectives of profit growth, providing affordable, quality healthcare and improving customer service.

Bain & Company, in its Global Healthcare Private Equity Report, summarises the challenges for healthcare organisations by stating that investors are either keeping their current investments and accepting lower returns or investing further into healthcare and expecting higher returns (while taking on more regulatory, reimbursement or technology risks)³.

Healthcare companies need to have a keen understanding of the opportunities and risks in leveraging technology in their industry. At the same time, they need to be aware of what the technology service providers are capable of in terms of size, service quality and healthcare industry focus to support their ICT objectives.

The dual objectives in South Africa of improving the quality of public healthcare and reducing the costs of private healthcare need to be matched in ICT by investing in

improving the capabilities of healthcare information systems, improving the overall efficiency in the healthcare processes that support the healthcare life cycle and the associated direct and indirect costs.

The eHealth Strategy in South Africa

The South African Department of Health created a policy document outlining its eHealth strategy with the focus on improving patient information systems⁴. This strategy also provides reference for the ICT priorities in healthcare and highlights the importance of functional health information systems that are able to produce real-time information.

The strategy is intended to provide a roadmap to achieve the following in healthcare in South Africa:

- An integrated and well-functioning national patient-based information system that is based on agreed-upon scientific standards for interoperability and an architecture that is able to interface into other systems used in the health sector.

This information system should address the following requirements:

- improvement of the efficiency of clinical care production of the indicators required by management; and
- facilitation of patient mobility.

The eHealth strategy attempts to align with the World Health Organisation's definition of eHealth and covers the following areas:

- electronic health records (enabling sharing of patient data between points of care);
- routine health management information (e.g. web-based surveillance systems, electronic disease registers, electronic district health information systems);
- vital registration (the use of computerised systems for the registration of deaths and births);
- consumer health informatics (access to information on health by healthy individuals or patients);
- health knowledge management (e.g. best practice guidelines managed and accessed electronically);
- mHealth (e.g. the use of mobile devices, such as cellphones, to share information or to collect aggregate patient data);
- telemedicine (e.g. use of ICT to provide care at a distance);
- virtual healthcare (e.g. teams of professionals working together via ICT); and
- health research (e.g. use of high-performance computing to handle large volumes of data).

³ Global Healthcare Private Equity Report - Bain & Company - 2014

ICT Focus Areas in Healthcare

ICT and Information Security (IS) professionals within healthcare companies are faced with the challenge of making sure their information technology stays in line with the latest technology developments and management practices in the broader ICT industry, while addressing the key healthcare business expectations or business drivers:

- customer first acknowledges that the customer or patient is always the core focus in a healthcare service. Healthcare companies will therefore always be looking for solutions that help them serve their patients better, whether it is better care, more streamlined services or more accurate diagnosis, etc;
- reducing costs in order to alleviate the burden on overall healthcare costs as all healthcare providers are looking at ways to reduce expenditure. This could be through updating cumbersome legacy systems or by implementing new innovations to provide more efficient services;
- optimising and automating healthcare processes to improve the quality of healthcare and customer service levels and customer experience;
- implementing digitalisation into the healthcare system to improve the volume and availability of health data and information for practitioners, patients, researchers, service providers and policy decision makers;
- protecting information security and patient confidentiality, health data integrity and availability;
- increasing patient education and the ability to self-diagnose and manage their healthcare;
- reducing risk and addressing industry compliance requirements;
- enabling mobile initiatives such as providing remote healthcare workers with mobile technology to enable them to keep better records, make more accurate diagnoses and track and dispense medication more effectively; and
- implementing healthcare awareness campaigns that utilise technology to speak to the population at large and which can create awareness around healthcare issues and aid patient education and self-management.

The University of Illinois in Chicago has, in its overview of Health Informatics programmes⁵, provided a useful overview of the field of informatics within the healthcare industry, which explains how the convergence of patient data, computer applications and expertise of health professionals is driving a push for higher quality patient management, enabled by better management and availability of information.

The overview also acknowledges the two primary focus areas for healthcare information technology:

- the communication infrastructure that connects and supports information transfer between those involved in healthcare delivery; and
- the information systems that support the various healthcare practice areas, including nursing, clinical and hospital care, pharmacy and pharmaceuticals, primary care, telemedicine, patient management and education, insurance and reimbursement and medical research, etc.

eHealth in Action: International Case Studies

Many international healthcare providers and institutions are beginning to leverage the power of technology in order to address the priority focus areas for the health industry. The successful implementation of technology solutions within the healthcare environment has the potential to improve service delivery, increase efficiency and reduce costs. The following case studies show the results of some successful eHealth initiatives.

Walgreens Mobile Health initiatives

A Payments Source case study "Walgreens' Mobile Strategy Combines Payments, Health Care and Rewards" looked at the new mobile strategy at Walgreens, and how it affected their patient interaction.

Walgreens is the largest pharmacy chain in the US with over 8,200 outlets across the country, which service 8 million customers a day, 6 million in store and 2 million through online or digital channels⁶.

Walgreens has begun offering a suite of mobile-based, pharmacy and healthcare service apps. This includes one app that recommends and schedules immunisations, and another one that notifies users when to take medications and in what doses. "This helps with medication adherence, one of the biggest opportunities we have in the healthcare system — not just here in the U.S. but right across the world," says a Walgreens spokesperson.

Another app, called Pharmacy Chat, allows customers to talk to Walgreens' pharmacists using their smartphones, providing 24/7 access to trusted professionals who can share knowledge and advice.

Currently, Walgreens conducts more than 9,600 pharmacy chats a week, which are free to customers.

Walgreens has also launched a telemedicine solution that gives Walgreens' website users 24/7 access to U.S. board-certified physicians through its mobile app. It allows customers to initiate virtual visits with doctors on demand and is expected to have a large impact on patient outcomes.

Ottawa Hospital Goes Mobile First

Ottawa Hospital is one of the largest teaching hospitals in Ontario and is aspiring to be in the top 10% of North American academic hospitals. A recent IBM case study shows how they implemented mobile solutions to improve patient care⁷.

Within the hospital, healthcare professionals were finding that the time they spent searching for information and resources within the hospital's servers was affecting how much time they spent delivering patient care. The hospital therefore needed to implement process changes to manage its levels of care.

In order to do this, the hospital decided to adopt mobile technology, building a clinical mobile app (CMA) that "put mobility at the centre of its process infrastructure". The hospital launched a tablet-based Electronic Medical Record app and a Care Process Management app so that previously closed-loop transactions became shared social-business interactions, allowing multiple departments to collaborate and communicate on patient care.

These apps were supported by a wireless platform which could manage all of the hospital's work flows with a focus on patient outcomes, while integrating seamlessly with the existing infrastructure.

The apps resulted in improved process standardisation which helps to manage accountability as well as identify and clear bottlenecks. It also improved customer care as the process enables increasing levels of contact between the doctors and patients. Physicians are also able to better co-ordinate information and services by exchanging notifications and instant messages around patient care.

Upgrading the Medicaid Management Information System

A recent Wipro case study⁸ showed how the company responsible for the processing of Medicaid claims in a state that has 890,000 Medicaid participants and 38,000 Medicaid providers (covering hospitals, physicians, pharmacies, clinics and nursing homes) wanted to upgrade its Medicaid Management Information System (MMIS).

The objective was to achieve a paperless and automated system for claims processing in order to reduce the time it took to process claims and improve ineffective self-service channels that deterred electronic submission of claims and led to higher call centre volumes.

According to the case study, "One of the strategic priorities was to modernise the legacy IT system for keeping electronic records of patient profiles. The idea was to implement a flexible and agile IT system and business service".

The company upgraded its entire application landscape for enrolment, verification, point of sale (PoS) and claims payment, with service-orientated architecture and replaced its legacy IT backbone with a Commercial Off-The-Shelf (COTS) system to automate its claims processing. The company also implemented a full set of e-submission services to address self-servicing by providers and overhauled their network capabilities with improved privacy and security provisions.

This resulted in 99.75% paperless claims submission with the average time for paper claims processing decreasing to 0.69 days from 2 days and an annual savings of \$2.9 million by automating provider claims submission.

It also improved process performance and reliability with reduced clinical and business error rates and helped process 27 million annual claims via PoS development and maintenance.



Healthcare and Digitalisation

BCX has identified six key technology levers that represent the current leading technology trends impacting all industries and are driving digitalisation in the healthcare sector. Organisations, such as healthcare providers, need to understand how they acquire, deploy and integrate these technology trends to support their key objectives and drive digitalisation strategies.

These technology levers include the following:

- 1. Pervasive Connectivity** – new technology allows for constant and all-encompassing connectivity. It is now possible for hospitals, doctors, pharmacies, suppliers and mobile outposts to communicate with each other and process information in real time, even across widely dispersed geographical locations.
- 2. Machine-2-Machine/Internet of Things** – M2M and IoT can be utilised in a number of ways to increase organisational efficiency. For example, it can be used for condition monitoring across such areas as utilities measurement, employee behaviours, time pattern monitoring, logistics, stock control and asset tracking.
- 3. Mobility and Unified Communications** – the integration of mobile with other real-time communication services such as IM, presence, video and data sharing with non-real-time communication services such as SMS, email, voice mail and fax, can enable mobile clinics, telemedicine, patient communication and follow up.
- 4. Social Media** – engaging effectively with patients on social media platforms, healthcare providers can increase awareness of health issues and educate patients on self-care.
- 5. Cloud Computing** – Cloud computing can enable core IT services and solutions such as security or data centre services, including hosted applications, backup and storage. Leveraging the power of cloud computing can increase system uptime and make necessary information or systems available across all areas of healthcare provision, even remotely.
- 6. Big Data** – the volume of data being produced by healthcare providers is constantly expanding. By collecting and analysing big data sets, healthcare providers can spot trends, track patient performance and make better decisions with regard to patient care.

Healthcare CIOs will need to understand how their role and priorities address the business drivers within the healthcare system. At the same time, they will need to keep abreast of the latest trends in technology and balance internal capabilities and skills with outsourced service provider offerings.

The following table is illustrative of the high-level mapping of business objectives against technology levers that healthcare CIOs would need to plot.

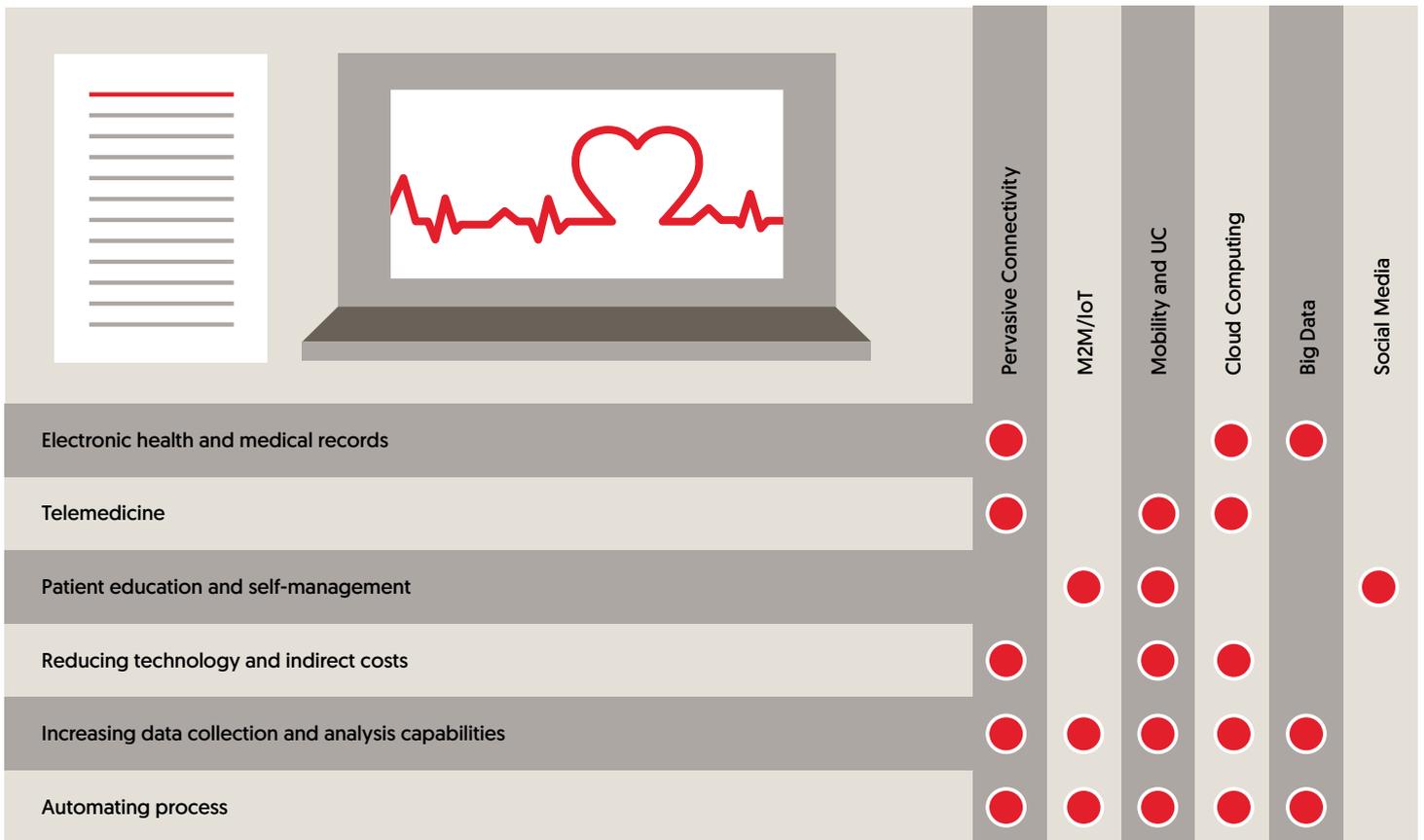
⁴ National eHealth Strategy, South Africa 2012/13-2016/17, 2012

⁵ <http://healthinformatics.uic.edu/>

⁶ Walgreens' Mobile Strategy Combines Payments, Health Care and Rewards - paymentssource.com 2015

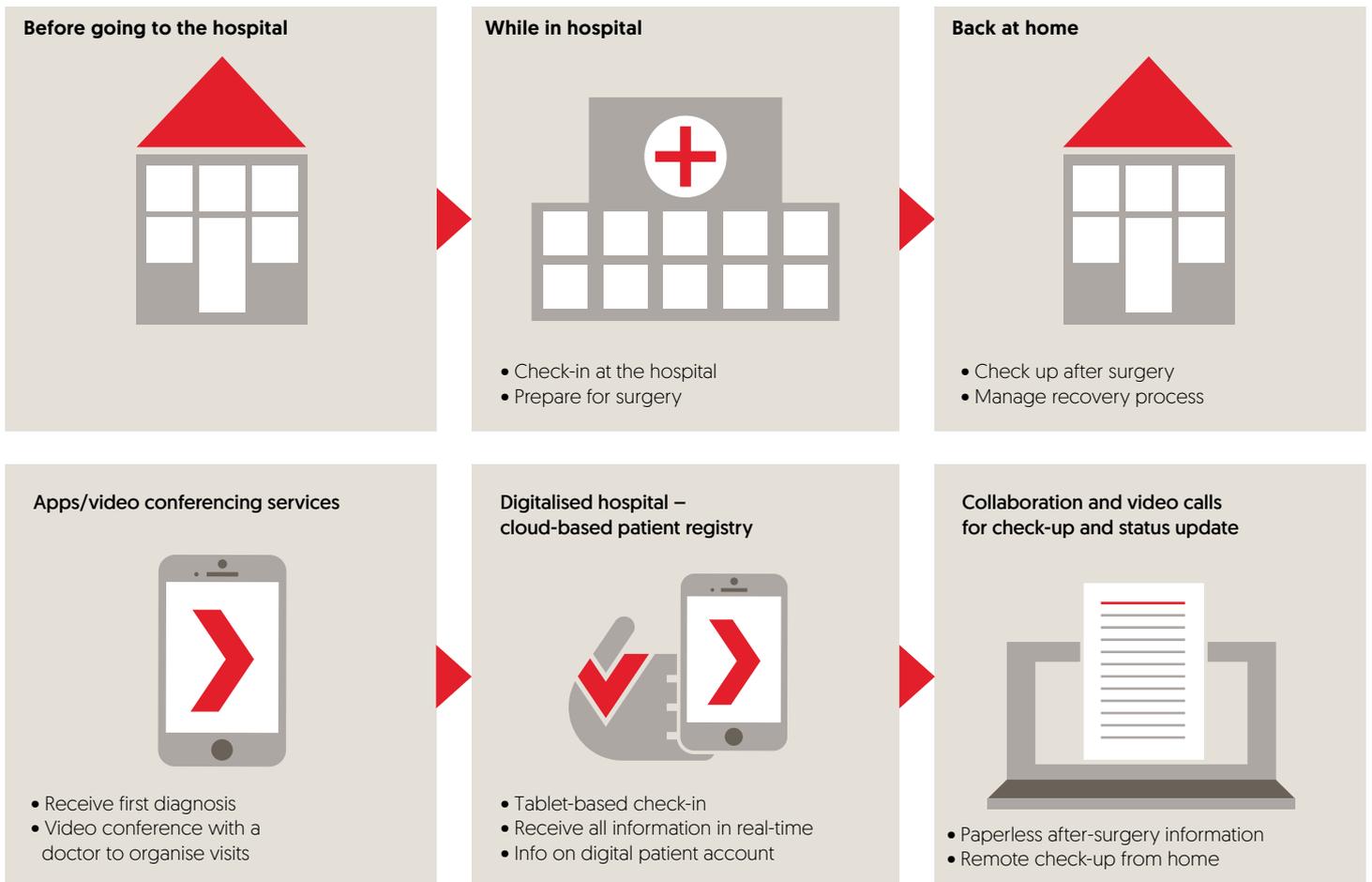
⁷ Mobile Puts Patients First – IBM – 2013

⁸ Putting Medicaid Claims Processing on Fast Track - Wipro - 2014



Implementing Digitalisation in Healthcare: the Patient Journey of the Future

A fully digitised patient experience will result in higher quality and more efficient medical services throughout every stage of the patient journey.





BCX'S VALUE PROPOSITION

BCX is ideally suited to provide digitalisation technologies to the healthcare industry to address its key business drivers of improving the patient's experience, reducing costs, providing affordable healthcare, providing quality healthcare and improving customer service.

Solution Orientation

BCX has decided to orientate towards a 'Solutions Business' focus to address the needs of the health industry.

- we are aligned to serving the health industry with specially designed solutions and services;

- we can reduce the complexity and costs of dealing with multiple vendors; and
- we can reduce the risks inherent in health providers self-constructing and managing solutions.
- We can reduce the dependence on internal, scarce skills.
- BCX provides a closer link between ICT solutions and the objectives of the health industry.

BCX Innovation Roadmap to Support Healthcare Long-term Vision

BCX ICT roadmap for the healthcare sector

BCX will proactively drive service innovation and improvement towards healthcare of the future.



2015	2016	2017	2017+
One Service Provider <ul style="list-style-type: none"> • Roll out priority sites • Single point of contact 	Convergent network <ul style="list-style-type: none"> • Roll out additional sites • UC capable infrastructure • UC pilots to reduce service disruption 	Full convergence <ul style="list-style-type: none"> • Video conferencing on fixed and mobile • UC solutions for doctors and practitioners • Mobile device management • Virtualised cloud services for data sharing 	Digital hospital experience <ul style="list-style-type: none"> • Enabled NHI Health records • Fully digitalised patient journey • E-health and telemedicine applications • High-speed connectivity • Tablet to enhance patient experience

Capabilities

BCX is a leading provider with extremely wide geographical coverage and is the only service provider that offers true and affordable convergence across fixed, mobile, data and cloud.

Largest, most reliable fixed network	Leading POP infrastructure & backup	World-class unified communication services	Best mobile data network in South Africa
<ul style="list-style-type: none"> Largest, most reliable fixed network 	<ul style="list-style-type: none"> Most extensive POP infrastructure – IP net, exchanges, fibre distribution points, internet POPs, internet breakout, international investment in undersea cables 	<ul style="list-style-type: none"> Hosted/virtual PBXs 	<ul style="list-style-type: none"> 98% population coverage in SA
<ul style="list-style-type: none"> 147,000km of fibre across South Africa 	<ul style="list-style-type: none"> Data centre backup [9,700 square metres of hosting] 	<ul style="list-style-type: none"> UC ready network [rich media capable] 	<ul style="list-style-type: none"> Sites: LTE, 3G
<ul style="list-style-type: none"> Multiple redundancy, best availability and uptime in SA 		<ul style="list-style-type: none"> Device management 	<ul style="list-style-type: none"> High data quality and speed with extensive LTE coverage
<ul style="list-style-type: none"> MDNS sites: 45,000+ 		<ul style="list-style-type: none"> Advanced UC with collaboration and telepresence 	<ul style="list-style-type: none"> "Best mobile broadband operator in SA", 3rd consecutive year: MyBroadband
<ul style="list-style-type: none"> Internet subs: 574,000+ 		<ul style="list-style-type: none"> End-to-end SLA and network prioritisation 	
<ul style="list-style-type: none"> World-class network monitoring and management [24x7] 			
<ul style="list-style-type: none"> Application performance monitoring 			
<ul style="list-style-type: none"> "Best fixed broadband service provider in SA", 4th consecutive year 			

BCX's key differentiators distinguish it from other providers and make it the partner of choice for fully converged coverage of communications, cloud, mobile and integrated business solutions for the health industry.



Network and application performance management	Converged Communications	Cloud and IT Services	Wi-Fi hotspots
<ul style="list-style-type: none"> Manage user-experience, networks and applications Deliver QoS classes for applications Manage IT assets in the data centre and cloud 	<ul style="list-style-type: none"> Introduce Unified communication platform and services Hosted IP contact centre 	<ul style="list-style-type: none"> Provide all integrated data centre and cloud services Move to virtualised infrastructure and cloud computing [IaaS, SaaS] 	<ul style="list-style-type: none"> Campus Wi-Fi roll-out in customer locations Free access to BCX's existing Wi-Fi hotspots as part of mobile data offer

Because of its capabilities and expertise in these areas, BCX is perfectly positioned to provide a holistic digitalisation solution to the healthcare industry. With its solutions-based approach, BCX is able to work with healthcare providers, assess their needs and provide solutions to address those needs.

BCX Health Services Technology Case Study: High Speed and Reliable Connectivity

Overview

Given the technological nature of the business, hospitals are becoming increasingly dependent on robust connectivity to power equipment and services such as digital radiology, PACS, patient monitors, mobile X-ray machines and other medical devices.

With this in mind, a large Southern African hospital group was facing connectivity challenges, which were putting it at a disadvantage in a highly competitive market. It needed a better, more reliable ICT platform from which it could power transactional and transformational processes across the business. Such a network functions as the foundation for service delivery, and therefore the hospital group required a robust, scalable, flexible and secure ICT infrastructure.

The Solution

The solution came in the form of BCX's WAN Virtual Private Network Solution (VPNS) with MPLS, providing high-speed optic fibre metro ethernet links, enterprise VSAT backup and data-centre hosting services – which resulted in a dramatic increase in connection speeds (from 2Mb/s to 10Mb/s) and a significant decrease in network downtime for the hospital group.

BCX provided a contract that was competitively priced, with improved service levels and value-added offerings. This resulted in IT staff productivity gains and infrastructure cost reduction, through data centre consolidation, as well as cost savings through employing video conferencing across the hospital network.

This placed the hospital group in a strategic position to offer additional, reliable telecommunications to partners and clients.

Implementation

The hospital group sent out requests for five of the top Internet service providers in South Africa to offer solutions. After reviewing the proposals, the group decided to move its MPLS network to BCX.

According to the group, to provide the business with an infrastructure that could support its strategy, the most important thing was connectivity. With everything going electronic, the hospitals needed a robust, scalable, highly redundant network that needed to be up 99.9% of the time.

BCX implemented a WAN virtual private network (VPNS) with MPLS over several months in 2012. The solution incorporates a 2MB metro ethernet link which offers high bandwidth and flexibility. BCX also provided VSAT satellite access as a backup. Previously, the hospital's capacity hosting was split between two on premises locations. These two data centres were consolidated into BCX Cybernest's tier IV data centre in Bellville.

The data centre forms an integral part of the hospital group's daily operations. It provides a variety of hosted solutions, such as patient administration, pharmacy systems and email and is critical to the business. Given the business-critical nature of connectivity, the move was considered high risk, especially within the tight timeframe.

BCX was able to seamlessly cut over and move 67 sites and two data centres in one month.

Benefits

BCX provided significantly improved network speeds, from an average of 512k lines to more than two or three megabyte lines.

Along with this enhanced connectivity, the scalability of the network allows for upgrades in 48 hours and, in the case of network downtime, there is rapid VSAT fail-over at every hospital.

Previously, network outages generated IT Help Desk calls, tying up IT resources, but the VSAT redundancy means any outages are brief and unnoticeable. The flexibility of the network also allows for quick and easy upgrades and changes, freeing IT resources to support value-added services.

Time spent on vendor management activities was also reduced, thanks to utilising a single supplier which owns, manages and deploys all components of the solution.

Faster connectivity and more robust network performance are having a positive impact across the hospital group's operations.

Reduced downtime means that all employees are more productive, and it is helping hospitals reduce delays in authorising patient admittance and pharmacy stock orders.

Other business benefits:

- reduced downtime had a positive impact on hospital administration productivity;
- having a centralised data centre reduces the risk inherent in a non-customised, on-site facility;
- there was a saving for the group in not having to provide UPS power to the data centre at Corporate Office, as well as the ergonomic benefit of additional office space, with area previously occupied by the data centre being transformed into meeting rooms and offices; and
- reporting on network tools is now available on demand, resulting in informed and real-time decision making.
- the move also offered the opportunity for a review of general ICT procedures.
- reliable and affordable wireless technology throughout a healthcare facility makes it possible to access or send information regardless of location.
- remote and mobile workers have also reported significant network performance improvement, with the ability to access emails remotely without having the need to access a VPN.





THE BCX KEY DIFFERENTIATORS

BCX is one of the largest ICT services providers on the African continent with a clear focus to serve the enterprise, public sector and Medium market segments across the continent.

Our passion is to seamlessly connect every business with its digital future. All the solutions are offered end-to-end, ensuring that your business benefits from economy of scale and superior service quality.



Unmatched Data Centre and Network Infrastructure	Telkom's footprint includes 3 Tier 4 data centres, 147 000 kms of fibre and over 2700 mobile sites integrated throughout South Africa.
Unrivalled ICT Solutions Set	Proven ICT capabilities, with market leadership positions on both IT and telecommunication services.
Industry-Vertical Leadership	Market leader in retail, mining & manufacturing, banking & financial services (Gartner). Also key solutions provider for the public sector.
Leader in Service Excellence	Leading IT service management with an ITIL maturity rating of 4.25 – The highest on the African continent (Pink Elephant: 2014)
Unparalleled Geographical Reach	Extensive geographical reach with trained IT field engineers in multiple locations across Africa.
Strategic Vendor Relationships	Strong relationships with key technology vendors to ensure best technology solutions.



GLOSSARY OF TERMS

2G

Second-generation wireless telephone technology

3G

Third-generation wireless telephone technology

4G

Fourth-generation wireless telephone technology
(also called LTE)

ICT

Information and Communications Technology/ies

IM

Instant messaging

IoT

Internet of Things

LTE

Long-Term Evolution (also called 4G)

M2M

Machine to Machine

MPLS

Multiprotocol Label Switching

POS

Point of Sale

UC/Unified Communications

the integration of real-time, enterprise, communication services

VPNS

Virtual Private Network Solution

VSAT

Very Small Aperture Terminal

WAN

Wide Area Network

ABOUT BCX

BCX is one of Africa's leading premier ICT solutions and service provider with the technology, capability and skills to deliver end-to-end digital solutions for large and medium enterprises in the public and private sectors. BCX leads with an unrivalled ICT solutions embedded on the foundation of unmatched Data Centre and Network Infrastructure and include world class solutions in ICT consulting and digital readiness assessments; a complete range of managed solutions that include both LAN and WAN; unified communications and connectivity solutions. In addition, cloud computing technologies underpinned by best in class security solutions and a host of value added services that include enterprise mobility services and analytics software with a specialised competency in the IOT (Internet of Things) and big data solutions.

BCX is a leader in Service excellence and boasts the largest pool of ICT skills in Africa, unparalleled geographic reach and points of network presence across the continent. Our strategic vendor relationships with leading multinationals enable BCX to deliver best in class solutions across industry verticals with skills and expertise seamlessly deliver integrated services to our customers. BCX is committed to providing ICT solutions that reduce the cost of doing business, increase overall business productivity and empower businesses to use technology as a competitive advantage.

Migrate your business into the digital future – contact thoughtleader@bcx.co.za

Find us:
[BCX/@BCXworld](#)



www.bcx.co.za

The BCX logo, with 'BC' in black and 'X' in red.