

HEALTH NEWS DAILY

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Cutting-edge digital diagnostic devices in South Africa's public hospitals now enable on-the-spot testing for diseases like cancer and HIV, improving the efficiency, accuracy, and accessibility of healthcare services nationwide.

Increased pregnancy risks during extreme weather

Sipokazi Fokazi | Bhekisisa Centre for Health Journalism | 28 June 2024

THE risk of miscarriage or stillbirth can be up to 8% higher during extreme weather events like floods and heatwaves, according to recent studies. This alarming statistic has prompted the South African Health Department, in collaboration with the Clinton Health Access Initiative (CHAI), to launch a pilot project that will send weather warnings to pregnant women and mothers of young children via the MomConnect messaging service. Climate scientists warn that extreme weather events will become more frequent as global temperatures rise due to the burning of fossil fuels. The world's average temperature has increased by at least 1°C over the past 150 years, contributing to more frequent and severe weather patterns.

Long periods of heat are linked to higher chances of early births, low birth weight, stillbirths, and congenital disabilities. Pregnant women already struggle to regulate their body temperature due to physiological changes, and extreme heat exacerbates these difficulties, potentially leading to dehydration and increased stress on the heart and kidneys. To mitigate these risks, the CHAI and the Health Department are rolling out a pilot project to send early warnings about dangerous weather through MomConnect, a mobile maternal health messaging service. This service is used by 95% of public sector clinics in South Africa and had around 420,000 active users as of September 2023. Elizabeth Leonard, a researcher from CHAI, announced that the pilot will begin in Limpopo in the second half of 2024, with plans to expand to other provinces. The service will advise handling extreme weather conditions, such as seeking medical help, staying hydrated, and avoiding heat stress.

Early warnings can help pregnant women take preventive actions to protect their health and their babies. In regions like Ohangwena in Namibia, early warnings have enabled healthcare workers to provide necessary medications in advance, ensuring continuity of care during floods. Effective communication strategies are crucial for the success of this initiative. Consideration must be given to literacy levels and gender roles within communities. For example, voice notes or loudspeakers may be more effective than text messages in some regions. The initiative aims to reach pregnant women as well as their families and communities to encourage supportive behaviours. When women's partners, mothers-in-law, and other family members understand the risks of extreme weather, they are more likely to take collective action. As extreme weather events become more frequent due to climate change, initiatives like the MomConnect pilot project are essential to protect pregnant women's and their babies' health. By providing timely information and support, the Health Department hopes to mitigate the risks associated with extreme weather and improve maternal and child health outcomes.

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Robotic surgery revolutionises public healthcare in SA

Biënné Huisman | Spotlight | 28 June 2024

IN A GROUNDBREAKING development for public healthcare, two hospitals in the Western Cape have introduced cutting-edge robotic surgery systems. The da Vinci Xi systems, known for their precision and advanced capabilities, are now operational at Tygerberg Hospital and Groote Schuur Hospital, marking a first for public hospitals in South Africa. The da Vinci Xi system allows surgeons to perform complex procedures with enhanced precision through a console that controls three robotic arms with tiny surgical instruments and a fourth arm with a video camera (the laparoscope). This technology translates the surgeon's

hand movements into real-time actions, offering superior range and visuals compared to traditional manual surgery. Dr Tim Forgan, a colorectal specialist and da Vinci robotics coordinator at Tygerberg Hospital, described the experience as “next level,” emphasising the improved visibility and manoeuvrability. He said you can see 10 times better with this robot than with the naked eye; you can see tiny, tiny nerves you wouldn’t normally see. And you can manoeuvre surgical instruments so much better. This capability allows major surgeries to be performed through small incisions, resulting in less bleeding and faster recovery times. Since the introduction of the da Vinci robots in 2022, over 600 minimally invasive surgeries have been performed, including colorectal operations, prostatectomies, cystectomies, and gynaecological procedures. The Western Cape department of health and wellness highlighted the system’s significant impact on patient outcomes and the health system. Traditional open cystectomy patients, for example, typically require extended ICU stays and recovery periods, whereas robotic surgery patients experience shorter hospital stays and fewer complications.

The acquisition of the da Vinci systems, each costing R40 million, was made possible by budget surpluses during the COVID-19 pandemic. Dr Forgan explained that elective surgeries were halted during the pandemic, freeing up funds that would otherwise revert to the central government if unspent. The journey to mastering the da Vinci system involved extensive training, including simulations, emergency protocols, and hands-on experience under the guidance of international experts. Dr Roger Gerjy, a renowned robotic surgeon from Sweden, played a crucial role in training the Tygerberg team.

The introduction of robotic surgery is a significant step forward for public healthcare in South Africa, offering advanced surgical options to more patients. Dr Forgan, who is passionate about colorectal surgery, emphasised the importance of skilled professionals in this field, given the rising incidence of colorectal cancer. The implementation of da Vinci robotic systems enhances surgical outcomes and underscores South Africa’s public healthcare sector’s commitment to embracing innovative solutions for better patient care. As the Western Cape continues to pioneer advanced medical technologies, the successful integration of robotic surgery in public hospitals stands as a testament to the potential of healthcare innovation to improve lives and set new standards for patient care.

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Digital diagnostics bring precision medicine to underserved communities

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ADVANCES in digital diagnostic devices are transforming healthcare by allowing patients to be tested on the spot in clinics and hospitals for various health conditions. These devices can analyse samples such as sweat, saliva, faeces, tears, and breath for signs of major diseases like cancer and HIV, providing immediate results without the wait times associated with traditional laboratory testing. Testing at the point of care saves significant time. It allows for the immediate storage of results in digital medical records, keeping healthcare providers up-to-date on a patient’s status. This real-time data integration is crucial for efficient patient management and treatment adjustment. A research group at the University of Pretoria, has conducted extensive studies on point-of-care diagnostics in sub-Saharan Africa, focusing on areas with limited resources and underserved populations. The group’s research is particularly relevant as South Africa approaches universal health coverage. The group’s recent study, which drew lessons from the Covid-19 pandemic, identified several key areas needing improvement for effective implementation of point-of-care diagnostics. These include the ability to share data instantly, system interoperability, data security, and

infrastructure. Data connectivity is essential for efficient point-of-care testing. Devices with bluetooth low energy technology, like the Abbott FreeStyle Libre system used for glucose monitoring, can send data over short distances. This capability allows remote clinic healthcare workers to instantly transmit test results to specialists in urban centres for further analysis and guidance, especially in emergencies. These devices can regularly update patient data for chronic disease management, enabling healthcare providers to monitor disease progression and adjust treatments as necessary. This ongoing monitoring is critical for managing conditions such as diabetes, hypertension, and HIV/AIDS. Despite these advancements, only about a third of South Africa's population (22 million) use smartphones, leaving two-thirds without access to this technology. Rural areas are particularly affected, risking exclusion from the benefits of digital health technology.

Interoperability

Interoperability, or the ability of different healthcare systems and devices to work together, is vital. Diagnostic devices must communicate seamlessly with electronic health records, hospital information systems, and other healthcare databases to provide a comprehensive view of patient health. The study highlighted several devices demonstrating good interoperability, such as fitness trackers and a mouth guard biosensor for monitoring salivary glucose. However, many South African communities face challenges due to limited access to electricity and the internet, hindering system linkage. Protecting patient data from unauthorised access, breaches, and misuse is paramount. Compliance with data protection regulations, such as South Africa's Protection of Personal Information Act, is necessary to safeguard privacy and build trust in digital health initiatives.

Infrastructure and investment

Investments in expanding network coverage and improving connectivity are essential. In regions with frequent power outages or limited access to electricity, alternative power solutions, such as solar panels or battery backups, are necessary to ensure reliable diagnostic services. Healthcare facilities must also have trained personnel available to address technical issues promptly, ensuring the continuous operation and reliability of diagnostic devices. Integrating point-of-care diagnostics into South Africa's healthcare system requires addressing real-time data transmission, interoperability, security, and infrastructure challenges. By overcoming these barriers, South Africa can enhance the efficiency, accuracy, and accessibility of its healthcare services, ultimately improving patient outcomes and advancing towards universal health coverage.

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