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# Spending more for health in 2017

The prospects for the health sector in 2017 look promising. The proposed budget for the health sector in 2017 is N303.8 billion, with recurrent expenditure at N252.8 billion and capital budget rose to N51 billion. Obviously, it's an improvement on the overall allocation to health, although it still hovers around 4% of the total budget proposal of N7 Trillion, and needs to notch upwards if we must reach 15% mark as prescribed by the 2001 Abuja Declaration.

And after months and weeks of delay, President Buhari on 10 January finally green flagged the Primary Health Care (PHC) Revitalisation Programme, while commissioning the newly-renovated Kuchigoro Primary Health Care Centre within the Abuja Municipal Area Council. Stakeholders had hoped the commissioning would be done on the 12 December 2016 as part of the activities to mark the Universal Health Coverage (UHC) Day. The renovation of the Kuchigoro PHC facility was a collaboration between the Federal Ministry of Health (FMOH) and National Primary Health Care Development Agency (NPHCDA), with support from partners such as Sterling Bank and General Electric — which provided the equipment at the refurbished PHC. About N7 million was reportedly spent on the renovation of Kuchigoro PHC, and about N550 million is to be spent on the revitalisation of 110 PHCs.

Notwithstanding the initial delays, it is heartening to see Prof. Isaac Adewole's plan to revitalise 10 000 PHCs across the country back on track. The initial plan of revitalising 109 PHCs (one per senatorial zone) had suffered some setbacks in 2016 after the Minister of Finance expressed reservations on the financing of the initiative by the Federal Government, amidst the recession. But it appears 2017 will be different as the Federal Government has made a budgetary provision of N3 Billion for the revitalisation and functionality of 1000 PHCs in the country. It would be great for the FMOH and NPHCDA to publicly share the plans for the PHC revitalisation to ensure proper accountability as the implementation proceeds.

An important question to be addressed would be the role of States and local government areas in the PHC Revitalisation Programme considering that the Federal Government does not statutorily own or manage PHCs. Earlier in December 2015 during a site visit, the Minister of Health, Prof. Adewole promised the volunteer nurses and midwives that worked at Kuchigoro PHC, permanent appointments, but PHC staff are not under the remuneration of FMOH, save for those employed under the Midwives Service Scheme (MSS). The FMOH also promised to provide seed grants to run the Kuchigoro PHC, and one wonders if all the revitalised PHCs will depend on the Federal Government for running costs? The Federal Government earlier disbursed US$1.5 million to each of the 36 States and federal capital territory for the provision of basic healthcare services, and it's critical that the states use the funds judiciously to support the PHC Revitalisation Programme.

In his speech during the commissioning of Kuchigoro PHC, President Buhari had promised to implement the Basic Health Care Provision Fund (BHCPF) as created by the 2014 National Health Act. To be true to his words, the President needs to publicly launch the BHCPF and ensure it is included in the statutory transfers in the 2017 budget. The Senate Committee on Health had earlier warned that the budget defense for the health might be stalled if the BHCPF is not included in the 2017 budget. Over the years, experts and advocates of improved access to quality and affordable healthcare had focused on the health spending at the federal level. In 2017, this needs to change, and State Governments need to do more to ensure adequate provision of PHC services.

*Felix Obi*

# How should we train health professionals for the digital future?

Tarry Asoka assesses how medical training needs to adapt to add value to the internet savvy generation

In the last two decades or so, the combined power of the ubiquitous mobile phone and the Internet has dramatically changed the lives of Africans from banking to commerce, entertainment etc. And infrastructural challenges notwithstanding, from Cape Town to Cairo — there is plenty of talk about 'tech hubs', 'leapfrogging technology', and 'incubating start-ups'.[1] In sub-Saharan Africa, there is also an urgent need for countries to reach their health service objectives at the lowest possible cost — more so with the myriads of healthcare challenges and the changing healthcare environment. Policy advocates and government officials across the continent now hope to bring the benefits of enhanced information and communications technology (ICT) to healthcare.[2] Given that this technology is bound to have significant impact on healthcare, some bit of retooling for all health professionals is expected. The question is how prepared are these health professionals in the context (the emerging digital healthcare setting) within which they are expected to function properly?

## Changing role of health professionals

Up until the recent past, health professionals (doctors, nurses, pharmacists etc.) were often the only source of medical and health information in Africa. Nowadays, many individuals (or their friends and relatives) with smartphones linked to the Internet, are much more likely to be informed about their health problems before they even see a health professional. Already, in an environment where many healthcare consumers are having direct access to medical technology and where self-medication is very rampant,[3,4] it is only natural that Internet health information should engender a greater sense of empowerment and personal responsibility among individuals for their health and that of family members.[5]

Moreover, by being able to research their symptoms, explore treatment options, and learn what to do to keep themselves healthy, people who use the Internet in this manner are able to make the best of their time during their encounters with health professionals.

### Medicalisation of the smartphone

Generally conceived as 'digital medicine', there is a further dimension that involves the pairing of smartphones to wearable biosensors that can capture clinical data such as electrocardiogram, continuous blood glucose, blood pressure etc., and passively stream many vital signs in real time to doctors' offices.[6] Though it is noted that for some time people have been monitoring their blood pressure and blood sugar levels at home, now this data can be automatically synced to smartphones and doctors' databases. Similarly, physical examination tools are being connected to phones and used to interrogate ears, eyes, throat, and lungs. Data collected from such devices can be interpreted through embedded or cloud-based algorithms to give the patient an immediate answer about their health metrics before consulting their doctors.[6]

Additionally, apart from computer software
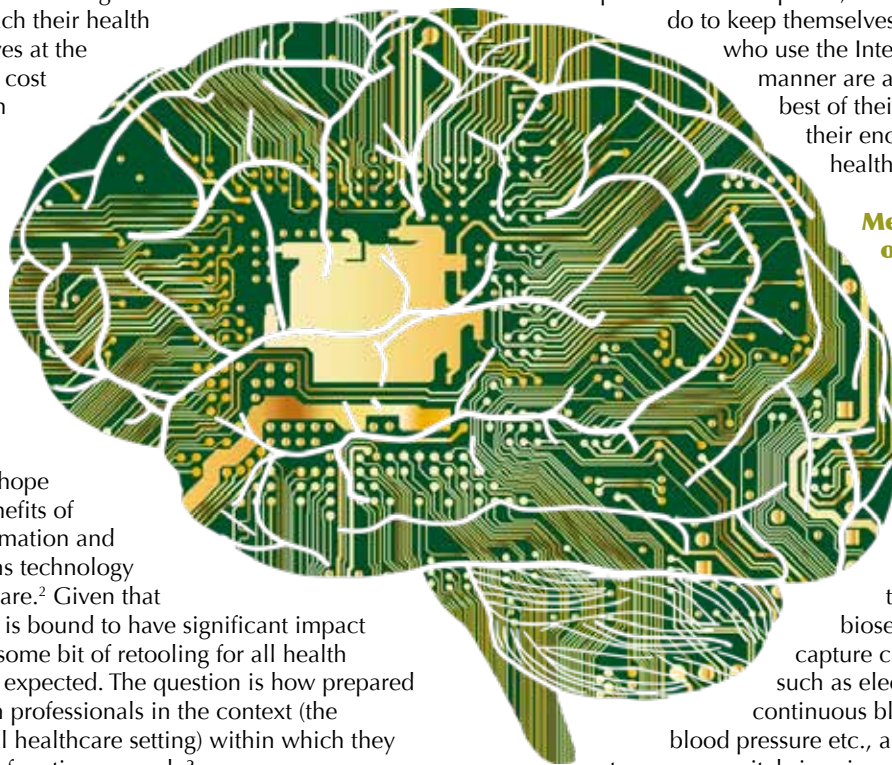
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applications (apps) that enable patients to generate their medical data, record and analyse the data; these digital tools also make it possible for patients to reach their doctors online, and talk to their physicians over the phone and video conference. These apps also permit their doctors to prescribe medicines, track and see patient data. Apart from the convergence of smartphone-enabled mobile computational and connectivity capabilities; another aspect of digital medicine includes genomics, information systems, wireless sensors, cloud computing, and machine learning that can all be incorporated into new systems of health management built around real-world patient-generated data.[6]

Some readers may be concerned that given poverty levels and poor technology base, these are not likely scenarios in Africa. But we have already seen the impact of mobile phones on the continent, which has enabled these countries to rapidly extend social and economic benefits of telephone networks without the need for physical infrastructure of landline telephones.[7,8] As Topol[6] also noted: 'unlike some previous medical technologies, digital medicine is a global story since low-income and middle-income countries have access to this low-cost, cutting edge technology'. In 2015, 20% of Africans already had access to mobile broadband connection — a figure that is projected to triple within the following five years.[1]

And while tech start-up companies have been very active in the digital health apps space, it has been observed[9] that mainstream ICT companies such as Apple and Samsung that cater to the needs of all consumers are also offering health-tracking apps. Therefore, the medicalisation of the smartphone as an inevitable path forward is also upon Africa.

### Social and cultural advancement

Although the discussions so far may seem to have been overtly focused on mobile phone-enabled technologies as applied to healthcare, in reality it is the convergence of medical, technology, and social advancements that has shifted the discourse around the practice of medicine[10] and the provision of healthcare even in resource-poor environments. As the same technology gives more powers to millions of consumers in Africa to undertake online shopping and banking within hectic daily schedules, attend online courses while still keeping a job, and deal with government agencies that help to bypass bureaucratic bottlenecks; it is inevitable that the same consumers using similar technology would demand more and more control over their medical decisions. At the same time, this cultural progress, which has enabled service providers in business, education and public administration in Africa to make the great leap forward, also stand to empower medical and healthcare providers to capture the benefits of the social change.

Therefore, if we remove the 'things' associated with digital medicine (whether they are wired or wireless), the digital future of healthcare in Africa becomes an on-going conversation that tends to address the basic human concern for better health in a way that enhances the delivery of care that is of good quality, cost-effective, and not harmful.[10] And policymakers and external donors involvement in promoting digital medicine as a strategy for increasing access to healthcare in Africa, is only incidental.

### A new kind of doctor

In the Internet era, digital medicine empowers patients to be more proactive, as it also endows clinicians to be more effective. Yet, psychosocial determinants and experiential dimensions of diseases would remain. Even with the empowered patient somewhat taking the lead, the doctor may still be called upon when things go wrong or when there are perplexing situations. Patients also have a need for someone to listen to their narratives, 'with their nuances and insights into the complexities of human illness – and life'.[11] Moreover, unlike the human mind, computing no matter how intricate and complex, is devoid of sensations such as dreams, imagination, poetry, love, religion, story telling etc. So, 'it is unlikely that humans will be entirely replaced by computers in the foreseeable future'.[12] On these bases, the notion of the 'doctor as mediator' between man and computer in the healthcare arena becomes very important. And medical education has to be reformed to accommodate this new reality.

Traditionally, medical education in Africa has too

often been preoccupied with imparting biomedical knowledge and skills to medical students than worry about professionalising them to become better doctors within a given social and cultural context. Just as the strictly biomedical model has not equipped them well for the challenges of addressing many of the psycho-social problems associated with chronic conditions (such as diabetes, arthritis, heart disease, cancer etc.) that are reaching epidemic proportions in Africa; it is envisaged that they may yet be ill-prepared for the digital future, unless the future training of doctors actively aim to balance digital technology with the humanity of medicine. There is no doubt that all medical students would have to understand the basics of how computers work in a healthcare context, but this is not the issue. Rather as Wachter mentioned,[13] 'students will need to be trained to be leaders in improving systems of care, in working effectively in teams, in partnering with patients in new ways, and in using digital capabilities to enhance all of this work'.

Based on this insight and the appreciation of the social progress (with a spill over effect on healthcare) that the smartphone and the Internet have brought to Africa, there is now recognition that sociological perspectives could play a greater role in the training and development of more humane doctors, in an ever-changing healthcare environment.[14] In practical terms, this involves the incorporation of the arts, humanities, and social sciences into the medical curriculum. Commonly referred to as 'medical humanities', the strategy takes an inter-disciplinary approach in order to make the practice of medicine more humane in the face of incredible scientific and technological advances.[15] Apart from the ability to initiate social innovations in a situation where computers and artificial intelligence have made significant in-roads into medicine, the medical humanities also enables medical students to develop the essential professional qualities required by doctors to function effectively in a digital medical setting. This is crucial in Africa, because generally people's experience and interaction with technology often produces different unexpected results and by-products or side effects. As so much theory making comes from the global North, here is an opportunity for Africa to engage in making its theory about life, illness and what it means to be healthy.[16]

While there may be several ways through which the medical humanities component of the medical curriculum could be delivered, two major approaches are being followed.[17] These are either adding courses in one or more humanities subjects, or integrating social science and humanities content into the entire curriculum. However, irrespective of the model that is adopted, additional learning programmes are also included. The notable ones are: 'community-service learning', and the use of 'living labs'. Aimed at shaping technology for real-life contexts, learners and users are usually involved in co-creation and exploration of emerging ideas within a wider ecosystem of health, care, and social protection - in an experiential learning environment.[18,19]

All these efforts are aimed at ensuring that in the Internet health era, technology is redirected so that it serves man instead of destroying him. And what has been said so far equally applies to the training of all other health professionals, as the 'extended healthcare team', more than the doctor is required to provide care for populations, over time and at different settings in the digital healthcare future in Africa.

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# The biggest threats to Universal Health Coverage in Nigeria is the health system

Paul Adepoju surveys whether UHC has a chance in Nigeria. With systemic change, maybe, but is the system capable of changing?

On 12 December, Nigeria joined the rest of the world to commemorate the Universal Health Coverage (UHC) Day. The ultimate goal for UHC is to enable everyone, people and all communities to have access to healthcare when needed – a very tall and almost impossible target for Nigeria owing to numerous bottlenecks.

The UHC Day in Nigeria came at a time that the country was struggling with an economic recession that made it difficult for the government to allocate more funds towards the country's desired and much needed vibrant UHC that would enable the citizens to access treatment even though financial hardships are ubiquitous. But its non-existence has become one of the major puzzles the country is yet to figure out.

## Inefficient primary healthcare system

According to global health bodies, countries aiming to provide UHC need to build health systems that deliver the quality services and products people need, when and where they need them, through an adequately resourced and well-trained health workforce. In addition to these and more, a critical aspect of the coverage is the existence of strong primary healthcare (PHC) services at community level.

But just a week to last Christmas, Obinna Onwujekwe, a professor at the department of pharmacology and therapeutics at the University of Nigeria, Nsukka, described PHC in Nigeria as a total failure. His submission was hinged on the inability of the system to effectively provide basic healthcare services to the people within the catchment areas; furthermore, the pressure on secondary and tertiary healthcare centres across the country further epitomised the failure of the PHC system in the country.

The Prof's grim assessment was also echoed by President of the Nigerian Medical Association (NMA) Dr. Mike Ogirima. According to him, while PHC is the fulcrum for reducing disease burden and achieve the health-related Sustainable Development Goals (SDGs) in Nigeria, the NGN303.9 billion proposed in the 2017 appropriation bill for health cannot make any impact in the nation's health system.

'We need more funds and efficient utilisation of the fund,' Ogirima said.

Nigerian government has also admitted that the current status of the nation's PHC system has made it inefficient' and is in dire need of a complete overhaul – a critical component of which is financial autonomy for individual health centres.

'Financial autonomy at the primary facility level, making sure money gets to the PHC facilities directly with facilities having full control of how they utilise the money, will help enhance the viability of PHC in the country,' said Minister of Health, Isaac Adewole.

## Confusing and conflicting data

Just four days after the 2016 UHC Day, health management organisations (HMOs) in the country brought their disagreement with government over how much they've received from the National Health Insurance Scheme (NHIS) over the past 11 years to public notice. While the NHIS claimed the amount was NGN351 billion, the HMOs said they got only 10% of the announced sum. This inconsistency in funds spent on health insurance claims made in the country epitomised one of the major challenges that achieving UHC is facing in Nigeria — lack of reliable data.

For 2016 World UHC Day, the World Health Organization (WHO) introduced a channel through which progress towards achieving UHC coverage in various parts of the world could be tracked. The new data portal shows where each country needs to improve access to services, and where they need to improve information.

Emphasising the roles of good reliable data in achieving UHC, Margaret Chan, Director-General of WHO, submitted that it allows countries that are interested in achieving the UHC goal to measure what they are doing.

'Data on its own won't prevent disease or save lives, but it shows where governments need to act to strengthen their health systems and protect people from the potentially devastating effects of healthcare costs,' she said.

The dearth of reliable health data has plagued Nigeria's healthcare with greatest impact being on planning. According to experts, the data situation in Nigeria is so bad that most of them are based on guess work.

'All we have now is data from the various hospitals and these hospitals used different methodologies that will be difficult to bring together as standardised data. In population rules, some of them are so small that we can't even use their data because it doesn't make sense statistically,' said Prof. Folashade Ogunsola, Chair, Scientific Review Committee, AstraZeneca Research Trust.

## Poor integration of dominant undocumented informal space

The undocumented informal space is the most dominant considering the large number of citizens that are catered for in this sector, which is why the inability of

*Prof. Isaac F. Adewole, Honourable Minister of Health, presenting Nigeria's World Cancer Day Press Briefing at Project PINK BLUE World Cancer Day 2016 Commemoration*

the NHIS to bring the sector under its umbrella has become the major setback to the scheme.

Last December, the President of the Senate, Bukola Saraki, at a town hall meeting in the country's capital city of Abuja was petitioned by citizens on issues regarding development of PHC system, implementation and transparency challenges in the health sector, especially in rural communities where they lament low or no access to healthcare facilities and provisions.

When he subsequently met WHO's regional director for Africa, Dr. Matshidiso Rebecca Moeti, Saraki drummed support for informal health insurance scheme to those who are unemployed in rural areas.

'I've always believed that the formal sector can take care of themselves,' he said.

Rebecca stressed the need to go beyond providing coverage for the formal sector; she said the goal should be achieving UHC for everyone.

### Poor health financing model

In February 2016, a final year Office Technology Management student of Yaba College of Technology in Lagos reportedly died as a result of the decision of the medical personnel at Federal Medical Centre (FMC Ebute-Metta) not to treat her until payment was made. Similar stories are regular features in Nigeria's news cycle and underpin the need for a better option for the current out-of-pocket model that is obtained nationwide.

In their research work published in the *Nigerian Journal of Clinical Practice*, Uzochukwu and colleagues noted that the way a country finances its healthcare system is a critical determinant for reaching UHC.

In the paper entitled 'Healthcare financing in Nigeria: implications for achieving UHC', they revealed that healthcare in Nigeria is financed through different sources including, but not limited to, tax revenue, out-of-pocket payments (OOPs), donor funding, and health insurance (social and community).

'The difference in the proportionate contribution from these stated sources determine the extent to which such health sector will go in achieving successful healthcare financing system. Unfortunately, in Nigeria, achieving the correct blend of these sources remains a challenge,' the researchers said.

They recommended a review of Nigeria's health finance system and urged stakeholders to ensure that resources are used more efficiently while at the same time removing financial barriers to access by shifting focus from OOPs to other hidden resources.

Realising this enormous task, various stakeholders are putting forward numerous options aimed at diversifying health financing options in the country. Beyond the NHIS, individual states are rolling out their own health insurance schemes, some of which include compulsory contributory schemes. Several private firms too had attempted to play in the health financing landscape, but the most ambitious was the attempt by telecoms companies to rollout mobile insurance schemes to capture as many Nigerians as possible since the number of mobile subscribers in the country also includes individuals in the informal sector and airtime would be another financing method that is well localised. But a familiar challenge appears to be standing as a stumbling block to major approaches aimed at promoting UHC in Nigeria, one that remains unattended to by the government, regulatory bodies and other stakeholders — trust.

### Trust issues

The UHC ecosystem in Nigeria has been plagued with a subtle lack of trust among the players and this was brought to the fore recently with the disagreement between the NHIS and the HMOs in the country.

According to Lekan Ewenla, Public Relations Officer of the Health and Managed Care Association of Nigeria, since inception of the NHIS scheme, 'there has been cat and mouse relationship and subtle competitions between the NHIS and HMOs'.

There has also been a call for the close monitoring of the activities of the NHIS owing to some inconsistencies in the scheme, according to federal lawmaker Dennis Amadi.

He said: 'If I reflect on what has been going on, you discover that most employees are compliant in their contributions to the scheme. But when junior staff of organisations fall ill with issues that are beyond dif-

ferential diagnosis, they are not allowed to undertake further treatment. For example, if they have physical disabilities caused by accident or other serious health challenges, this level of staff have limited access to medical treatment. If there is a health insurance coverage for an employee, he or she should have full access to the scheme.'

He also drew attention to suspicious fund management by the HMOs.

'There is need for introduction of control and increased checks both on the organisations and the HMOs. Some of the HMOs get their funds upfront, if people do not access them they tend to invest in banks to make profit. Some of them even undertake capital projects which is outside what the scheme is meant for.'

With several of these conversations happening in the full glare of the public, the reluctance of several citizens to be part of the NHIS or other insurance schemes becomes understandable.

Eunice Adah is one such citizens. She is a patient at Abuja-based Kubwa General Hospital, and she clamored for close monitoring of the activities of the NHIS and HMOs.

'There is need for the committee to investigate them to find out their suppliers and what they do with the money government pays them. Some of the operators indulge in scams if there are no effective checks on their activities,' she said.

## A journey

As far as Adewole is concerned, achieving UHC is a journey that entails three critical components — accessibility, affordability and quality.

'And that's why we then say how do we deliver it? We must revitalise PHC Centres. When Nigerians are sick today, because they don't trust the primary system which has more or less collapsed, they walk into a Teaching Hospital or a Federal Medical Centre and say I have headache, I have skin rashes, I am having nausea and vomiting. And we say that it's not what a Teaching Hospital or Medical Centre is meant for,'Adewole said.

'We want to reposition it properly so that it can sit at the base. We want a base which is the PHC, Secondary and Tertiary. Seventy per cent of Nigerians will access health at the Primary: those who want to deliver, those who have malaria, those who have diarrhoea and vomiting, those who have skin rashes, those who want to immunise their children, they don't have to go to a specialist hospital. Twenty per cent will access healthcare, those who cannot deliver and need caesarean section will go to Secondary; accidents, bad cases will go there. Then the super complex cases like the girl with cystic hygroma, the liver cancer, cervical cancer, renal failure, stroke, will go to a tertiary centre. So within the lifespan of this administration, we want to reposition this pyramid,' Nigeria's Health Minister concluded.

# Eternity doesn't beckon

## Shima Gyoh looks at the fairy tale world of cryogenic preservation which some 300 'patients' have paid huge sums to subscribe to

I left home as a boy to continue schooling in England. When I arrived there, the cells of my body were derived from atoms that came from the yams, the vegetables and all the foodstuffs I had been eating for months. Because we continually shed and change our skin every few weeks, after a few years in England, the atoms of the cells of my skin were eventually all derived from the British potatoes, biscuits, chicken and other foodstuffs I had eaten since my arrival. When I flew back home after a number of years, my mother had literally never seen the body that appeared before her, made up of atoms from foodstuffs in a faraway country as it was. Neither had I ever seen her — that is, if the body makes the person. Yet we had no problem falling into each other's arms, mother and son! I kept asking myself, what or who exactly was I? Neither 'what' nor 'who' correctly represented the question in my mind.

'As 14-year-old JS lay in hospital, waiting for her terminal cancer to claim her life, she found comfort, and hope, in the idea that science might help her to cheat death.' I quote from the story that appeared in the UK's *Daily Telegraph*[1] news online.

'After spending months online researching the theory of cryonics, the freezing of bodies in the hope that they could one day be brought back to life, JS made up her mind.

'I'm dying, but I'm going to come back again in 200 years,' she told one relative.

'I want to live and live longer and I think that in the future they might find a cure for my cancer and wake me up.'

Patients who die of cancer under the care of doctors are not bumped off at the time the cancer is considered 'curable' and 'operable', when it has not yet done significant observable damage to the body. Even when considered highly malignant, it would be unethical to give up at the time when victory is also highly hopeful. Some surgeons say once you can make a clinical diagnosis, the disease is already systemic. Nevertheless, the medical world does have many spectacular and increasing numbers of successes to its credit when discovered early. Yet, this would be the most suitable period for suspended animation if it is just the cure for cancer we wish to wait for.

Neither doctor nor patient surrenders before the battle starts. The relentless progression of the tumour

and the doctors' persistent attempts to extirpate it lead to damage within the body, compromising the integrity of vital organs such as the kidneys, the liver, the lungs, the heart, and the brain. Cryonic suspension could be ethically considered only after surgical, chemotherapeutic and radiotherapeutic efforts have all failed. The availability of cancer cure 200 years later would not even be the most remarkable invention needed to restore life; near magical discoveries would be needed to either reverse the severe, terminal changes in the vital organs or replace them with new ones.

The brain would pose the greatest challenge. Its death has become the criterion for giving up on a life; how would we now redefine death? It looks like freezing off people who have early cancer long before they are anywhere near the corridors of death; the law would call it murder. The bodies so far preserved at the three cryogenic centres of the world (Michigan, Arizona and Moscow) all died prior to freezing. Curiously, cryopreservation is accepted as irreversible by the present technology that produces it, but future advances would change that. This is unsatisfactory and vague, yet there are over 300 'patients' (not bodies!) under the process, costing US$200 000 each and many subscribe for it.

Every time I travel long distances by road, I see small isolated villages in the middle of nowhere, with grass-thatched mud houses, no power, no domestic water supply, the only roads are footpaths. I say to myself, would I be happy living there? Of course I would! I started life in such an environment. Our world is composed of our parents, relatives, friends and memories! We are devoted to habits formed in childhood, and many are frequently unbelievable to others brought up in different cultures. If you died and were resurrected after 200 years, your memories — your world — would be gone! You would wake up as a zombie and a clone of yourself[2] having to learn to walk, speak, go to primary school and get to know everyone. You would not have the same 'mind', as JS probably thought she would.

On the whole, cryogenic preservation works only for gametes and embryos. There is no scientific evidence that, for adults, it would remain more than a romantic fairy tale of comfort and hope.

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**Shima Gyoh has held many posts ranging from village doctor to DG of Nigeria's Federal Ministry of Health and Chair of the Medical and Dental Council of Nigeria.**

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