

# Envisioning the future empowering the physician

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## Introduction

Sri Lanka has just survived the dangerous tides of the COVID pandemic and economic turmoil and is now at a stand still facing the ominous calm of an unsure future. It is paramount that these insecurities are addressed and a plan of action is put in place to secure our hold on what we have, and build on it further. This editorial intends to address this by focusing on three main areas. Firstly, it explores the gaps in current Sri Lankan practice and futuristic medicine. Then it moves on to discuss the challenges physicians are confronted with in bridging these gaps, finally paving the way to discuss how they can be empowered to do so.

## Sri Lanka and futuristic medicine

We Sri Lankans now standing at the precipice of a new era, are grappling with the aftermath of a monumental pandemic and the resulting economic turmoil. While we may have convinced ourselves that we are on the path to recovery, the harsh reality is that the global landscape has shifted beneath our feet. As we endeavour to regain our footing and re-engage with the world, we are confronted with the stark realisation that others have surged ahead of us. They now thrive in a world dominated by the forces of data science and information technology, posing the challenge of bridging a technological gap in our attempts to reconnect.

At this critical juncture we are compelled to envision the future. To see what it holds and what it has to offer, in our journey to weave ourselves back into the fabric of the global landscape.

The medicine of the future is diverse and complex. It explores various fields and technologies such as gene therapy, stem cell therapy, telemedicine, robotics and automation, synthetic biology and nanotechnology.

The future we see as a developing nation is the present of developed countries where these fields

are flourishing rapidly.

Gene therapy has shown promise in treating conditions like sickle cell anaemia and cystic fibrosis while researchers are exploring the use of stem cells to treat a range of conditions, from heart disease to neurodegenerative disorders.

Telemedicine has transformed the delivery of healthcare to those living in remote or underserved areas elevating their quality of life.

Robotic systems powered by artificial intelligence (AI) have brought about dramatic improvements in the overall efficiency in hospitals and clinics by providing assistance in various functions including complex surgeries.

Nanotechnology has enabled targeted drug delivery to improve treatment outcomes and to reduce side effects.

Artificial Intelligence forms the impalpable infrastructure of future medicine. Although it has a futuristic ring to it, artificial intelligence, imbued with a sense of the unknown and complexity, has been in existence for decades and is the tool that will navigate us through the aforesaid journey. We can no

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longer shy away from or be ignorant of Artificial Intelligence, a phenomenal tool that has metamorphosed over decades and transfigured the way that the world functions.

What is AI? The term was first coined by John McCarthy in 1956, at the Dartmouth conference where the concept of AI was introduced as the attempt to create a machine that could simulate human intelligence.

The field of medicine has witnessed significant advancements with the integration of AI technology. We are at the forefront of a transformative era where the combination of AI and healthcare offers unparalleled potential to re-define medical care.

AI isn't just a tool but a partner in medicine, transforming the landscape of healthcare. It aids in diagnosing diseases, developing personalised treatment plans, streamlining clinical workflows, and delivering healthcare. With AI, interpretation of medical imaging has vastly improved, allowing early disease detection and better patient outcomes. Furthermore, AI has reshaped research and drug discovery by analysing vast medical data and predicting drug effectiveness, accelerating the discovery process.

It also aids hospital administrators by streamlining administrative tasks, analysing patient data, and improving operational efficiency. It can enhance customer care by providing personalised assistance, handling inquiries, and automating routine interactions.

However, it's important to note that while AI augments the physicians' capabilities, human empathy and expertise which are essentially human qualities beyond the scope of a machine, remain crucial in patient care. It is our duty to keep pace with these changes while remaining true to our core values of excellence, compassion, and integrity.

The recent advancements have brought into limelight, the terms "precision medicine" and "personalised medicine".

Precision medicine involves tailoring medical treatment to individual patient characteristics such as genetic makeup, epigenetics, and disease characteristics to optimise effectiveness and minimise side effects.

While related, personalised medicine takes a more holistic view of the individual, considering not only

their biological makeup but also their personal preferences, values, circumstances, such as cultural background, socioeconomic status, and environmental factors. It also includes recommendations for diet, exercise, and lifestyle choices based on an individual's unique physiological profile.

These approaches not only prescribe the targeted precise treatment but also improve disease detection, pre-empting disease progression, and customising disease-prevention strategies.

With AI redefining precision and personalised medicine, we now witness the newer generation of medical professionals rediscovering the true essence of the words spoken by the great Canadian Physician Sir William Osler, "It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has"

### The physician in the face of challenges

As we look to the future of medicine, we are met with great promise and an array of challenges that demand our proactive attention.

Advancements in healthcare bring about both ultra-modern treatment options and unprecedented complications resulting from them. The impact of such evolution is reflected in the shift in disease epidemiology and demographics, and change in patient needs. It is imperative that we prepare ourselves to confront these challenges, emerging stronger and more resilient than ever before.

Let us explore some of these challenges,

Physicians need to be up-to-date with technologies, innovations, and treatment options. On top of it they are required to demonstrate considerable skills in handling these new technologies including new AI applications, maintaining electronic health records (EHRs), and robotics etc.

As virtual consultations become more popular, physicians must develop skills in the art of telemedicine and remote consultations, necessitating familiarity with digital platforms and various communication tools.

The emerging patient population is complex as technology prolongs life and introduces new treatment modalities. Physicians of the future must be prepared to handle these complex cases and collaborate effectively with other healthcare

professionals to ensure comprehensive care.

Ethical considerations in medicine are also evolving, requiring health professionals to navigate dilemmas such as end-of-life decisions, organ donation, and genetic testing, all while maintaining professionalism and empathy.

Changing healthcare policies and introduction of reimbursement models demands agility and adaptability from future physicians to ensure continued provision of quality care.

Physicians who work in low-income countries such as Sri Lanka may encounter a separate profile of challenges in addition to the aforementioned. These are in fact current challenges with high propensity to aggravate further in the future.

Economic constraints in low-income countries often lead to limited healthcare infrastructure, inadequate medical equipment and supplies, and insufficient resources, leaving the physicians with the eternal debate on optimal vs practical care.

The brain drain continues to worsen because of the economic crisis posing challenges in recruitment and retention of physicians which further intensify the problem.

The migration of highly skilled professionals to other countries in search of greener pastures can result in a shortage of specialised healthcare professionals. This will obviously increase the workload of remaining Physicians and reduce the access to specialised care. This effect will be much worse in rural areas and it can further strain the healthcare system. The eventual outcome is the widening of the disparity between urban and rural population.

*There are also patient-related challenges:*

Patient data protection will pose a great concern. Thus, ethical handling of patient records may directly fall on the physicians' shoulders.

A significant subset of patients will access online medical information that will lead to self-diagnosis, self-investigation, and self-treatment. This overwhelming information can be misleading and dangerous. Occasionally, a patient may turn up having more knowledge about a condition than the physician to make the matter worse.

All these challenges will take an emotional toll on Physicians. Eventually, we will lose track of why we

are in this noble profession leading to burnout and compassion fatigue of Physicians.

### Empowering the physician

Physicians must embrace and promote technology in medical practice. We must seek and cherish every opportunity to engage in handling newer technologies such as telemedicine platforms, and decision support tools to improve efficiency, communication, and patient care.

We need to foster creativity and innovation among physicians. Supporting them in proposing novel solutions and bringing innovative discoveries into clinical practice which will lead to a new era.

Investing in research is paramount. The research conducted should be directly pertinent to our specific context, focusing on its potential application and relevance to Sri Lanka. It is crucial to explore cost-effective management approaches tailored to our region. It is imperative that any guidelines we consider are not simply adopted from developed countries, but rather tailor-made to meet the unique local requirements, a process known as "guidelines deviation" or cultural adaptation. This ensures that the guidelines are effectively adapted to our local circumstances and needs.

Prioritising ongoing professional development through continuous learning is crucial to stay updated with medical advancements and ethical considerations.

Building a strong support network is essential. Collaboration with experienced colleagues, mentors, and peers can provide valuable insights and help physicians navigate complex cases and challenging situations.

We need to transform our patients into more receptive partners in managing their own medical conditions. Part of the success of this process lies with how well the patients fulfil their responsibilities (table 1).

This moulding should take place under the guidance of physicians. These are skills that we need to impart to our colleagues.

Effective communication is essential in this regard. Establishing open and transparent communication with patients is vital for building trust. We must address patients' concerns promptly and provide regular updates on their treatment plans. A patient-

centred approach is equally important. Patients should get involved in decision-making, and their values, preferences, and concerns should be considered respecting their autonomy, cultivating empathy and compassion which lead to better patient outcomes.

Setting realistic expectations is essential. Patients may have unrealistic expectations about what medicine can achieve. We must explain the limitations of medical interventions and set achievable goals for their care, to prevent disappointment or frustration.

It is important to enhance physicians' soft skills to improve their communication and patient care. The soft skills of a physician can indeed be considered as part of their armamentarium. While the term "armamentarium" traditionally refers to the tools, techniques, and resources available to a physician for treating patients, the soft skills such as empathy, effective communication, and bedside manner are equally vital in providing holistic and effective patient care. These skills enable physicians to build trust, establish rapport, and better understand their patients' needs, ultimately contributing to improved patient outcomes and overall healthcare experience.

Emotional intelligence is a crucial tool that will empower physicians to address their own emotions and to understand that of others when making decisions.

Cultural competence training is also vital. Providing education on cultural sensitivity and diversity helps physicians understand and respect different cultural backgrounds, beliefs, and perspectives, improving their interactions with patients from diverse populations.

**Table 1** - Patient responsibilities

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- Provide accurate and complete information about yourself and the disease condition
  - Be respectful
  - Control your behaviour
  - Be responsible for your health
  - Adhere to the advices and the prescribed medicine
  - Report adverse effects
  - Be punctual
  - Obey the institutional rules
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Promoting wellness programs, introducing reasonable working hours, workload distribution, supportive healthcare environments, and stress management techniques are essential to prevent burnout.

Celebrating the achievements and contributions of internists, recognizing their commitment, hard work, and dedication through awards, public appreciation, and acknowledgment will have a big impact on their personality development and in turn improve patient care.

Lastly, feedback and self-reflection are essential. Encouraging physicians to seek feedback and engage in regular self-reflection can help to identify areas for improvement and promote ongoing learning.

Addressing the above aspects in empowering the physician will equip them with the knowledge and tools to overcome the aforesaid challenges, bridging the gap, connecting Sri Lanka with futuristic healthcare.