



# President's Message

## Back to the Future of Pharmacy

Sarel Malan, President: PSSA

Imagine the following scenario as sketched by R. Christian Moreton: *The patient is interviewed by the GP (via the internet, possibly by a GP avatar) and is prescribed a medicine. The prescription is sent electronically to a central dispensary where it is robotically picked, labelled and checked against the patient's records for drug interactions, etc. The dispensed medicine is then packed into a shipper, loaded on to a drone and delivered to the patient's address. Before the medicine can be taken from the shipper, the patient would complete a 'medicines awareness' test, via the internet on how to use their medicine properly.*

With everything we see on YouTube and on television this doesn't even sound as futuristic as it would have 5 years ago – automated dispensing units (ADU) are used widely throughout the world and remote automated dispensing units (RADU) will probably be rolled out for dispensing chronic medicine in rural areas of South Africa. We have also seen how drones are being used to deliver medicine to inaccessible places all over the world. If the pharmacist is thus limited to procurement and dispensing, we like fighter pilots, could be relegated to computer screens and remote controls.

We all know and accept that we live in a fast developing world and it is fast becoming impossible for the normal person to keep up with new discoveries and trends in medicine and pharmaceutical sciences. Genomics and personalised medicine are coined to be the future in terms of therapeutics; biological medicines are moving to the forefront with monoclonal antibodies (mAbs), mAb-toxin/enzyme conjugates, fusion proteins, gene therapy and cell therapy being mentioned in the same environment as the small molecule medicines that we have dispensed and used for decades; test kits for everything from allergens through *Helicobacter* to malaria, TB and HIV are seen on pharmacy shelves and soon TB drug resistance test kits could be available; 3D printing of medicines are discussed as a solution for individualised dosing and controlled release; and wearable health technologies are becoming the order of the day.

In addition to changes and developments, our patients or clients have evolved, or maybe regressed, into health consumers ever expecting more, wanting it all in terms of expertise and dispensing and clinical services, whilst demanding convenience and accessibility. The

pharmacist of the future will thus have to be some kind of accessible wizard – a combination of a scientific professional and tech guru or IT specialist – able to take a specific place in society, knowing or having access to his/her patients' histories, providing basic care for minor ailments using appropriate medicines, deciphering or interpreting data from health technology and wearables, and providing advice on lifestyle and medication based on this data. Naturally, all of these will have to be done with the emphasis on wellness and preventing disease or illness. While still treating minor ailments, dispensing medicine and referring patients to the appropriate health professionals, the pharmacist should thus take on the role of health and medication manager; assisting patients in managing their own health and medicines or therapy.

In South Africa we also have to strive towards international best practice, embracing scientific advances and the fast changing medical and pharmaceutical technology on the one hand, while never compromising on local need, locally relevant and unique health patterns, culture and indigenous knowledge on the other. Our pharmacists should thus be knowledgeable about biological medicines, but accept that small molecules will remain the mainstay for treatment in the foreseeable future and that few of us will see the use of fusion proteins, cell therapy or gene therapy in our practices; we will need to learn about the omics and the use of test kits for screening, filtering, referral and individualising or personalising dosages and for medicine adjustments in cases of drug resistance or metabolism polymorphism; we will have to embrace technology where available and utilise robotics and IT to enhance our services and medicine therapy management; and while it will probably not happen overnight in our local environment, the concept of utilising 3D printing technology is gaining ground internationally and could find application in individualised dosing and for controlled release and faster dissolution and bioavailability.

With all this said, we should not tie ourselves in knots about what might come our way. We can trust in our scientific education, augmented by continuing education and professional development, and work with what we have and need to supply world class pharmaceutical services in South Africa.