

From Hospital Denizen to Corporate Citizen

A Personal Journey

Text by Dr Andrew Green

The unorthodox physician in a public health world

The medical curriculum at large has always focused on skills to produce physicians who can deliver care that reflects disease knowledge, evidence-based treatment and professional patient communication. However, to believe that these doctor skills are non-applicable outside of clinical practice is a grave insult to the current medical education system that is based on principles advocated by Flexner and Osler. Physicians are not mere healers; they have been trained to be distinguished leaders, analysts,

negotiators, teachers, innovators and so much more – all of which are traits highly sought after in virtually any industry. Yet, a doctor outside of clinical practice remains to be rare as hens' teeth.

I happen to be a hen's tooth, which is why I was invited to write this article.

My journey in medicine has been unorthodox, to say the least. Having completed my medical degree, I was accepted into the Preventive Medicine Residency Programme, a national residency programme offered by the National University Health Systems.

While the training starts off with basic clinical rotations like other residencies, the curriculum quickly sets itself apart after two years to concentrate on public health. Public health does not work by treating one patient at a time but accepts the population in its entirety in the "consult room" as its patient. For this, preventive medicine residents are formally equipped with epidemiology, biostatistics, ethics, economics, health policy and management to complement the application of their clinical knowledge into solving the population's most pressing health concerns. This is not to say that doctors

in other specialties are not equipped with such skills, nor is it to say that they do not dabble in public health matters. They are, and they do. However, their exposure to public health usually happens at a much later stage as training to become a clinical specialist demands years of undivided attention and dedication to complete.

Contrary to popular belief, public health is not a domain that is exclusive to governments. Public health is achieved through the collective efforts of organisations in the society, be it governmental or private, large or small, commercial or non-profit, clinical or otherwise. Humour me please: "If a private company can deal with public health problems" and "a physician can play a central role in solving public health problems," then through simple Socratic deduction, one can safely conclude that "there is room for physicians in private companies."

The next logical question is, of course, which company?

I knew medically trained colleagues who have bravely left medicine for careers completely unrelated, such as banking or finance. But for me, I knew I was not ready to completely part ways with medicine. Truth be told, I had to be convinced that whichever new occupation I took up in the private sector would still allow my medical knowledge to be applied and remain up to date. More importantly, however, I had to be certain that public health would always be an integral component of my work. I found both in the pharmaceutical industry.

Pharmaceutical public health

Having been posted to Singapore's Health Sciences Authority during my senior residency, I had been acquainted with the world of pharmaceutical medicine, understanding the great impact pharmaceuticals have on people. Every now and then comes a new

drug that revolutionises medicine. Take the Hepatitis C virus (HCV), for example. Prior to 2014, HCV treatment centred around the use of an interferon-based regimen which had poor tolerability and low cure rates. The treatment landscape changed dramatically with the introduction of a new group of oral medications called direct-acting antivirals. They were highly efficacious, well-tolerated and short in the duration of treatment. The cure rates were so encouraging that in 2017, the World Health Organization set a target to eliminate chronic HCV infection by the year 2030.

Like it or not, innovative medicines are inextricably linked to the pharmaceutical industry. In fact, almost all the innovative medicines launched to the market in the last decade were produced by the top pharmaceutical companies. This is no coincidence; the industry makes it a point to commit a large proportion of its revenues on research and development (R&D). To put things into perspective, the global annual pharmaceutical R&D spending is expected to reach over USD 200 billion (SGD 283 billion) within the next five years. The fruits of this capital-intensive labour are visible in terms of an increasing number of novel drugs that have become available in the last decade. Making such life-saving drugs available is just one part of the industry's commitment to public health. A natural extension of this mission is the industry's participation in myriad public-health initiatives around the world to make essential and innovative drugs widely accessible and affordable. The pharmaceutical industry genuinely believes that such a vision is attainable – one data set at a time.

It is a common misconception to think that the pharmaceutical industry's strengths lie only in its ability to produce pills, tablets, or ointments. The industry is, first and foremost, in the business of producing data, for without data, every decision made is a stab in

the dark. To launch a new drug into the market, data on the drug's efficacy, safety and manufacturing quality must be present. Similarly, to convince payors that a drug is worth covering, data on its value must be generated. Having said that, not all data can be translated into good business or clinical insights, let alone positively impact public health. To do so, the data in question must be produced in high quality and disseminated in a systematic manner. This is medical affair's cue to enter.

Medical affairs, my drug of choice

I joined a leading pharmaceutical company last year and landed a position in medical affairs. For all intents and purposes, the medical affairs team functions as custodians of the company's scientific and clinical data. The job description came to be as the need to separate R&D (the creator of data) from commercial functions arose to reduce the commercial influence on R&D efforts. In the pharmaceutical industry, scientific truth must always prevail, and no misleading claims, especially for marketing purposes, should ever be derived from it. Unfortunately, data produced by R&D often come in a format that is difficult to interpret: statistics. Coupled with the rate in which data quickly becomes outdated and obsolete, it comes as no surprise that misinterpretation (whether intentional or not) frequently occurs. With in-depth knowledge in clinical trials methodology and disease understanding, members of the medical affairs team are adept in translating complex statistics into medically-accurate implementable strategies for the commercial team and the rest of the organisation.

The stewardship of data flow to external stakeholders is also under medical affairs' oversight. From the point of view of the data lifecycle, the aim is to enrich and mature a

product's data through information exchange with healthcare workers, policymakers, patients and even caregivers. Throughout the interactions, a rapport is built, which culminates in an understanding of the clinical needs in the field. This, in turn, allows the medical affairs team to improve current data or create new ones to address these needs. In the process, medical affairs often partners with physicians by supporting their research and evidence generation efforts. Subsequently, as the data mature, medical affairs will also be able to stake a bold claim for upgrading the physician and patient decision-making process. Towards policymakers, medical affairs must be capable of clearly articulating clinical and economic value to accelerate access to treatment in support of universal healthcare coverage. As you can see, medical affairs physicians, backed with data as their weapons, act as agents of change towards a world with better drug armamentarium.

The spread of data to the outer world is an enormous undertaking and can be prone to misuse. Medical affairs activities are thus bound by law, as well as industry codes. In Singapore, medical affairs activities are governed by the Health Products Act, and to a lesser degree, by a set of industry guidelines established by the Singapore Association of Pharmaceutical Industries. Similar to clinical practice, the codes that apply to medical affairs also stem from the four pillars of medicine (patient autonomy, beneficence, non-maleficence and justice) with the addition of guidance for the proper conduct in the marketing and promotion of medicines. A breach in the code of conduct may result in monetary and reputational loss. Therefore, a physician in medical affairs will need to have a thorough knowledge of the laws in place and to maintain this through professional development as updates arise.

As a career, medical affairs also promises continuous learning, personal growth and thought leadership. With sophisticated novel molecules (eg, gene therapy), new data sources (eg, real-world evidence and big data), tighter market barriers (eg, Health Technology Assessment), and emerging information channels (eg, virtual conferences) coming up at unprecedented rates, learning is a continuous undertaking. It is to be understood that pharmaceuticals is a for-profit industry, and medical affairs is not exempt from that. Hence, as a medically-trained person, a steep learning curve is expected in order to catch up with critical business skills such as strategic planning, finance, regulatory affairs and even legal matters. In this industry, excellent bedside manners are not sought after but expected. One must be sure that his/her business etiquette, communication, cultural savviness, conflict resolution and problem-solving skills are in top form. Fortunately, large pharmaceutical companies make it a point to ensure that formal training resources for both hard and soft skills are available for their employees.

How does one get a job in medical affairs?

The role of the medical affairs physicians is constantly evolving well beyond the usual support to internal regulatory and commercial functions. In the future, collaboration with key opinion leaders will extend beyond communicating medical evidence to also include generating evidence and leading medical education. Increasing responsibilities in the various facets of the industry, such as public health initiatives and empowering patient associations, make the field of medical affairs a vibrant one. Of course, one is not expected to master all domains in medical affairs. As in clinical medicine, medical affairs physicians also specialise. Some specialise in

the clinical trials aspect of it, while others in healthcare policy or access to medicine.

If you have a passion for medicine and bringing life-saving drugs to the right patient at the right time while charging a fair price, then medical affairs may just be the job for you. All you need is a medical degree and a willingness to learn. A word of advice: not liking the work in clinical medicine is not a good enough reason to join Big Pharma; you may not like it here either. The pharmaceutical industry is an entirely different milieu with its own set of challenges and pain points. However, a career in medical affairs may offer fulfillment to many healthcare professionals by enabling them to respond to public health challenges with the ultimate goal of improving patient care and outcomes – one data set at a time. ♦

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