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how many doctors are available that day. Another Chatbot can be used for screening of mental illness. One can be created for diabetic patients asking them about their eye and foot screening as well as any hypoglycemic symptoms. These are automatically captured in the electronic medical records with the appropriate interventions suggested for the doctors. A nurse may create one with appropriate screening tests and vaccinations recommendation for each age group and profile. The best part is that all these Chatbots can be

combined in voice and language, and individualised to each user's comfort and linguistic ability, and the patient will not even realise that he is "talking" to a different Chatbot.

Chatbots can and will be used in a wide range of services in healthcare. The challenges are not insurmountable. How well we can embrace the technology will decide how soon and how much of the daily grind can be placed in the hands of these bots.

### References:

<sup>i</sup> D'Alfonso S, Santesteban-Echarri O, Rice S, Wadley G, Lederman R, Miles C, Gleeson J, Alvarez-Jimenez M. Artificial Intelligence-Assisted Online Social Therapy for Youth Mental Health. *Front Psychol*. 2017 Jun 2;8:796. doi:10.3389/fpsyg.2017.00796. eCollection 2017. PubMed PMID: 28626431; PubMed Central PMCID: PMC5454064.

<sup>ii</sup> Lokman, A. S., and Zain, J. M. (2009). "An architectural design of virtual dietitian (ViDi) for diabetic patients," in 2nd IEEE International Conference on Computer Science and Information Technology (Beijing), 408–411. doi: 10.1109/iccsit.2009.5234671

<sup>iii</sup> Mikic, F.A., Burguillo, J. C., Llamas, M., Rodríguez, D.A., and Rodríguez, E. (2009). "CHARLIE: an AIML-based chatterbot which works as an interface among INES and humans," in IEEE Xplore Conference: EAEEIE Annual Conference.

<sup>iv</sup> Fitzpatrick KK, Darcy A, Vierhile M. Delivering Cognitive Behavior Therapy to Young Adults With Symptoms of Depression and Anxiety Using a Fully Automated Conversational Agent (Woebot): A Randomized Controlled Trial. *JMIR Ment Health*. 2017 Jun 6;4(2):e19. doi: 10.2196/mental.7785. PubMed PMID: 28588005; PubMed Central PMCID: PMC5478797.

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## The State of Managed Care in Singapore

by Dr Lim Khong Jin Michael, Editorial Board Member

Concern regarding how Managed Care operates in Singapore is not new. As we look at the ideas and expectations expressed in publications as early as 1994, we can sense the concerns of various stakeholders regarding the way Managed Care was developing in Singapore even at that time, and which called for legislation to monitor and control this new healthcare delivery model.

A certain Dr Chern who was then with the Ministry of Health pointed out in an article published in the *Singapore Medical Journal (SMJ)* in 1994 that the rise of the HMO (Health Maintenance Organisation) model in the United States was a result of escalating healthcare costs and the indiscriminate use of healthcare services by the insured. In other words, Managed Care grew in the United States as a strategy against the failure of the insurance system to control utilisation and cost. He then pointed out that within primary care in Singapore, the access to polyclinics and private general practitioners was widely available and at reasonable cost. Likewise in hospital care, he noted that domination by the government as public healthcare provider had been cost-conscious and effective in keeping prices

affordable. Dr Chern contended that Singapore needed more time to establish legislation for the monitoring and controlling of these new healthcare financing products and also address potential ethical issues involved.

Fast forward to 2001, concerns and important take home points on Managed Care were again raised at the Practice Management Seminar and reported by the *SMA News*. One of the concerns surfaced was that certain HMOs had been offering doctors contracts with unreasonably low payments. The speaker asserted that the payment to the doctor had to be adequate for delivery of sustainable care with reasonable quality that would not put both the doctor and the patient at risk of maltreatment. He went on to caution that the risk of being complained against and charged for poor quality care was a very real danger. Secondly, he pointed out that doctors needed to unite in rejecting participation in schemes that were clearly exploitative and so put both the doctors and patients at risk. A proposal was also made by seminar participants to set up an SMA Standing Committee on Managed Care to unite doctors and provide professional guidelines.

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In the SMA Managed Care Survey 2003 published in the SMA News it was noted that more than half the respondents were dissatisfied with the Managed Care schemes that they were on, and 69% of respondents felt that Managed Care should not continue to operate in Singapore. In the same issue of the SMA News, a writer highlighted the problem of Managed Care setting low consultation rates in order to build market share, and the lack of transparency over how the Managed Care providers conducted their business.

In the same survey 3 years later in 2006, "Managed Healthcare Singapore 2006: Report and Reflections" noted that the percentage of respondents who were dissatisfied with the Managed Care schemes dropped from about 50% in 2003 to about 30-35% in 2006, and the percentage of respondents who felt that Managed Care should not continue to operate in Singapore dropped from 69% in 2003 to 55% in 2006. In addition, the survey found that Managed Care entities in Singapore charged their doctors an administrative fee of between 10-15% of the doctor's bill. In that same article, the writer expounded on some lessons that could be learned from the experience of Singapore and the United States. He recommended that, firstly, enough must be given to the healthcare provider to provide a service without undue risk, and secondly, the appetite of the end-user for services needs to be moderated by co-payments. In addition, the premium that Managed Care needed to collect per capita to cover primary care, specialist outpatient care, and hospital expenses was at least S\$450, and advised that doctors needed to be cautious of Managed Care providers that only exercised cost control with scant regard for the quality of patient care.

Concerned with the underpayment of the doctors in the Managed Care schemes, he urged the medical profession to support the SMA in pushing for regulators such as the Ministry of Health (MOH), Singapore Medical Council (SMC) and the Monetary Authority of Singapore (MAS) to re-examine the terms and conditions of Managed Care schemes so as to allow for a more equitable, ethical and flexible delivery of medical services. Another contributor emphasised that the GP Task Force Committee had proposed that an independent authority was necessary to balance the needs of all parties and provide a platform for quality control, audit, as well as arbitration when required.

In her speech published in the SMA News that same year, then Permanent Secretary for Health, Ms Yong Ying-I mentioned that Managed Care had not been a key thrust in the MOH's national strategy for healthcare, and that the Singapore Government had been firm in not authorising Medisave contributions for such payments. Ms Yong instead introduced her ministry's national effort [Chronic Disease Management Programme] to enable General Practitioners

(GP) to better manage chronic diseases with large-scale adoption of treatment protocols to improve quality of patient care.

In the SMA News in 2008, it again surfaced that many Managed Care companies often passed most, if not all, of their business risk to doctors, and that doctors still bore all the professional risk and duty of care owed to the patients despite whatever rules and restrictions that Managed Care providers imposed on them. He expressed concern that the Managed Care providers were not subjected to the ethical and legal requirements of healthcare professionals or licensed healthcare institutions, although they had all the powers of a healthcare entity or professional to affect the standard of patient care through financial incentivising and disincentivising.

Simonet noted in "Managed Care Expansion to Asia: a critical review" (2009) that Managed Care in Singapore had so far been competing on costs, functioning as agents, processing claims and offering fee-for-service payment with caps on consultations and procedures, rather than truly managing care. He noted that Managed Care in Singapore had too few employed clinical directors and disease management programmes to confer credibility and efficacy.

In the SMA Managed Care Survey done in 2015 and published in 2016, it was noted that the percentage of respondents that were dissatisfied with the Managed Care schemes had increased again to 56%, and the percentage of respondents who felt that Managed Care should not continue to operate in Singapore increased to 60%. In addition, the report noted that 66% of respondents felt that the payment received from the Managed Care was not commensurate with the standard of care provided to patients. In 2 decades, it seemed that privately funded healthcare in Singapore had gone a full circle, with a whole lot more disillusionment and bitterness in the practice community.

For Managed Care to continue operating in Singapore, it should not be simply driven by profit and concerned only with the interests of the payers at the expense of doctors and patient care. It needs to reinvent itself to add value to the healthcare system at large and to individual doctors and patients, and to be seen as such. There is also room for Managed Care in Singapore to improve its relationship with doctors and highlight its role in rationalising healthcare expenditure by moderating consumption. Finally, it may be timely for the Ministry of Health to look into the regulation of Managed Care in Singapore so that ethical issues and the challenge of maintaining standards are sufficiently studied and addressed and enforced by an appropriate authority.

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