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How can TCM be better integrated into Singapore's healthcare system?

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Abbreviations

CAM	Complementary and Alternative Medicine
HCP	Healthcare Professionals
MOH	Ministry of Health
T&CM	Traditional and Complementary Medicine
TCIM	Traditional, Complementary and Integrative Medicine
TCM	Traditional Chinese Medicine
WHO	World Health Organisation
WM	Western Medicine

1. Background

Given the increasing scale and complexity of health challenges in the 21st century, there has been a revival of interest and adoption of T&CM in the past two decades. Around 100 countries have developed T&CM-related national policies and strategies, up from 25 in 1999 (WHO, 2019).

2. Research Motivation

It is imperative that Singapore integrates TCIM into its national health strategy, in line with the ongoing movement of Healthier SG and shift towards preventive care. Thus, our research question is: How can TCM be better integrated into Singapore's healthcare system?

3. Introduction

This paper first discusses macro trends in T&CM, followed by TCM in Singapore, and finally proposes recommendations for a path towards *Integrative Medicine* in Singapore.

4. Research Methodology

We reviewed WHO's Traditional Medicine Strategy 2014-2023 and WHO Global Report on Traditional and Complementary Medicine 2019 to understand macro trends in the T&CM landscape. Additionally, a literature review of scientific papers was done to uncover insights about different stakeholder's views regarding TCM. Other forms of online research, such as review of government policies (through government websites, press releases and parliamentary replies), hospitals and news websites were also conducted.

5. Author's note

We use Complementary and Alternative Medicine (CAM) as a replacement term to T&CM, which is used by WHO, as it bears similarity to both TCM and TCIM, to avoid confusion.

6. Trends in CAM

6.1 Global Outlook on CAM

WHO's first Traditional Medicine Strategy was released in 2002. Since then, it has conducted two additional surveys, a *second global survey* from 2010-2012 and an *update survey* from 2016-2018. WHO's latest Traditional Medicine Strategy 2014-2023 has three strategic objectives: 1. Active management of CAM through national policies, 2. Regulate products, practices and practitioners, 3. Promote universal health coverage through CAM integrations (WHO, 2013).

CAM has shown remarkable maturity in the past two decades. The growth in the number of countries with a national programme for CAM jumped from 23 to 79, while the number of countries with a national research institute increased from 19 to 75. However, regulation has been moving at different pace amongst the various subdomains. For example, there has been faster regulation of herbal medicine (124 in 2018), whilst regulation for CAM providers is advancing slower (78 in 2018) (WHO, 2019). Globally, acupuncture and herbal medicine are the top two types of CAM used (Figure 1).

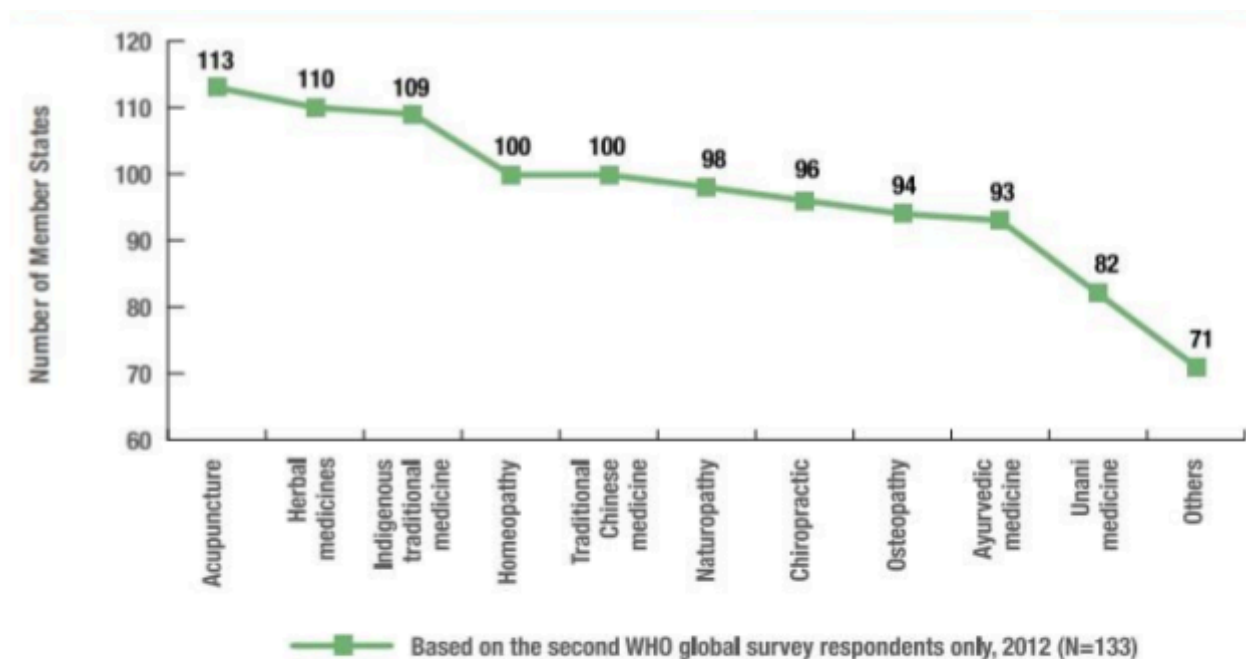


Figure 1. Types of CAM used by Member States' populations, in decreasing order (WHO, 2019)

Significant challenges lie ahead for countries to regulate CAM. Top difficulties that countries face include a lack of research data, financial support for research on CAM and mechanisms to monitor the safety of CAM practice (WHO, 2019).

6.2 The state of CAM in Singapore

Singapore's healthcare landscape, predominantly based on the Western Biomedicine model, is experiencing a notable transformation as both the populace and government display a growing interest in expanding the healthcare approach to CAM. This shift is underscored by a significant adoption rate

for CAM at 76% (Chew, 2023). The utilisation of CAM in Singapore exhibits variations along ethnic lines, with Chinese (84%) being the most frequent users, followed by Malays (69%), and Indians (69%). Unsurprisingly, TCM (88%) is the most widely used CAM modality, followed by traditional Malay Medicine (Jamu) and Ayurvedic Medicine (Lim, 2016).

Furthermore, the significance of CAM in healthcare delivery has gained recognition from the nation's health authorities. Regulatory frameworks have been launched to support and ensure the safe implementation of traditional healthcare practices (Lim, 2016). However, it should be noted that the initiatives have been predominantly focused on TCM and have yet to be extended comprehensively to include other CAM modalities. This highlights Singapore's need for a more inclusive approach to traditional healthcare, particularly in light of the growing interest and adoption rates observed within the multi-ethnic communities in the country.

7. TCM in Singapore

Within Singapore's diverse CAM landscape, TCM takes the lead with an 88% usage rate (Lim, 2016), thus serving as the central focus of this paper. In recent years, TCM has garnered increased attention due to the ongoing shift towards preventive and holistic medical approaches, notably marked by the initiation of the Healthier SG program. However, the integration of TCM into the mainstream healthcare system is not without challenges.

Although there is a higher level of adoption of acupuncture (one of the key components of TCM) being observed in public hospitals and nursing homes, other TCM practices are still mainly limited to private and charitable Chinese Medicine Clinics (Goh, 2022). These clinics are also not required to be regulated under the Healthcare Services Act (HCSA) (MOH, 2020), a contrast to the stringent oversight experienced by Western medical counterparts which cause the quality of TCM services to vary and be vulnerable to abuse.

7.1 Challenges of TCM in Singapore

7.1.1 Societal View of TCM

An increasing inclination towards a holistic healthcare approach is observed among the elderly population in Singapore. A study reveals that patients possess a nuanced understanding of both WM and TCM (Chang & Basnyat, 2015). They perceive each modality as a component of a complete healing process, suggesting that both can complement each other in a continuous pursuit of health. TCM is characterised as embodying attributes of slowness, thoroughness, long-term focus, and internal emphasis. Conversely, WM is described as embodying qualities of quickness, immediacy, short-term efficacy, and external focus. This nuanced perspective shared among the older generations in Singapore leads to advocacy for a dualistic approach that recognizes the coexistence of WM and TCM, avoiding a hierarchy where one system is regarded as superior to the other. The distinction lies in recognising that intrusive treatments and swift recoveries may not always be preferred over long-term use and gradual recuperation. Instead, medical choices are context-dependent, demanding a holistic healthcare system.

However, within the younger generation, there exists a spectrum of acceptance of healthcare approaches beyond the mainstream WM. While some are receptive to such approaches, others express a preference for WM over TCM. This inclination is influenced by a prevailing stereotype that perceives TCM as inferior due to its divergence from the widely accepted biomedical model of WM, grounded in empirical data and logical reasoning (Allchin, 1996). TCM practices, in contrast, often lack scientific explanations for their observed efficacy (Zhou et al., 2019). This divergence in preference holds implications for older patients who participated in the aforementioned study. Faced with the need for discretion, these individuals conceal their choice to seek TCM services from their younger family members who predominantly endorse Western medical approaches. This nuanced generational disparity in healthcare preferences underscores the complexity of navigating diverse attitudes within families and emphasizes the importance of fostering understanding between traditional and contemporary medical paradigms.

7.1.2 Healthcare Professionals' View of TCM

In terms of HCPs, there seems to be a different view from the public. From a study published in 2009 on paediatricians' views on TCM for children, 39% of them deemed Chinese herbal medicine to be safe while 42% deemed acupuncture to be safe in children (Loh, 2009). Compared to a study in 2005 on local medical students, 33% perceived acupuncture and 16.8% perceived herbal medicine as not harmful (Yeo et al., 2005). Paediatricians who participated in the study had a median rating of 2.63 in terms of knowledge of TCM while 58.2% and 58.6% of medical students who participated in the other study were unsure of the harmful effects of acupuncture and herbal medicine respectively. Overall, there seemed to be a lower perception of the safety of acupuncture and herbal medicine among HCPs. A possible explanation could be attributed to their lack of knowledge of the subject matter which could result in hesitation in referring patients to TCM for treatment. Furthermore, paediatricians who are more well versed with TCM prefer to refer children with symptoms without a cure to TCM than those suffering from chronic illness, suggesting that they might only rely on TCM when there are no other alternatives. As a result, the lack of knowledge of HCPs on TCM could be the main issue as to why TCM is slow to be integrated into Singapore's healthcare.

7.2 Current Approach to TCM in Singapore

7.2.1 Singapore Government Approach

In Singapore, TCM practitioners (TCMPs) are regulated by the Traditional Chinese Medicine Practitioners Board (TCMPB, 2023), a statutory board set up after the Traditional Chinese Medicine Practitioners Act was passed in 2000. TCM products - Chinese Proprietary Medicine are regulated by the Health Science Authority (HSA) (MOH, 2021a).

TCM is currently treated as a complementary medicine. When compared to WM, TCM receives lesser recognition and funding from the government. This has implications in several areas. For example, under the Employment Act, employers are legally required to recognise MCs issued by doctors or dentists but have the discretion to accept MCs issued by TCMPs (MOM, 2019). Moreover, because of TCM's complementary status, there is limited access to TCM services via the CHAS scheme, as well as limited Medisave claimable options (MOH, 2021c). Currently, TCMPs are governed separately from WM, and the government has stated that it does not intend to regulate them together (Chew, 2023). The disparity in regulations was seen during COVID, when the government relaxed rules on businesses such as ice-cream shops, but only allowed TCM shops with a resident TCMP to reopen. Eventually, all TCM halls were allowed to reopen after an MP raised the issue in parliament (Elangovan, 2020).

In recent years, the government has taken steps to improve the credibility of TCM in Singapore. In 2013, MOH set up the TCM Research Grant (TCMRG) to encourage local collaboration in TCM (MOH, 2021b). It aims to leverage TCM principles and scientific research methods to provide more evidence-based treatment options. As of 2023, based on the available figures, only 20 research projects have been conducted, with a total funding of S\$8 million earmarked under this grant (Teo, 2023).

The government believes TCM can play a greater role in Singapore's healthcare system. In 2022, Health Minister Ong Ye Kung announced MOH is working on how TCM can support Healthier SG in preventive care (Teo, 2022). The government established two workgroups to improve career development and enhance TCM clinical training to raise the professionalism of the TCM sector (Teo, 2023). However, the government does not intend to impose WM-equivalent regulations on TCM. Instead, it is looking to strengthen self-regulation, as it believes TCM has a strong traditional and cultural background, hence self-regulation is more appropriate.

7.2.2 TCM Integration in Hospitals

Currently, five public hospitals in Singapore offer acupuncture services for pain relief. The hospitals are Singapore General Hospital (SGH), National University Hospital (NUH), Tan Tock Seng Hospital (TTSH), Khoo Teck Puat Hospital (KTPH) and Alexandra Hospital (Zhao, 2018). The application of these acupuncture services is provided by medical practitioners who are well-versed in both WM and TCM. These acupuncture treatments are provided to patients after they have received a doctor's referral (SGH, 2017). Having acupuncture facilities within hospitals suggests that acupuncture is seen as a verified alternative to WM. If doctors are the ones who initiate the treatment rather than the patients, it allows doctors to follow up on patients who are referred to these acupuncture treatments. This increases transparency between patients and doctors. Therefore, beyond just an alternative

method, acupuncture can be deemed as integrated into the current healthcare system. In addition to acupuncture, some of these hospitals also provide other TCIM services (Table 1).

With an increase in doctors who are well-versed in both WM and TCM, it allows doctors to make clearer judgments on the efficacy of TCM, which was the main issue brought up in 7.1.2. Doctors can better communicate with patients who are more familiar with TCM, even if these doctors do not actively practise TCM techniques (SGH, 2017). Doctors and physicians can take a degree in TCM at the Singapore College of TCM which offers lessons on both TCM and WM. This allows for cross-referencing between the two spheres which enables doctors to incorporate both drugs and herbal medicines as treatments.

Table 1: TCIM services provided in 5 public hospitals. These hospitals include SGH, NUH, TTSH, KTPH and Alexandra Hospital.

Hospitals	TCIM Services provided
SGH	Acupuncture (SGH, 2021)
NUH	Acupuncture, Cupping, Electro-acupuncture, Acupoints Electro-stimulation, Ear acupuncture therapy, Consultation on Traditional Chinese Medicine (TCM) (NUH, 2023)
TTSH	Acupuncture, Cupping, Dietary medicine (Herbs), Western-based therapies (Therapies which combine both Western and Eastern approaches such as laser acupuncture) (TTSH, 2023)
KTPH	Acupuncture, Vacuum Cupping (KTPH, 2023)
Alexandra Hospital	Acupuncture

The increase in the number of public hospitals having acupuncture services as well as other TCIM services together with the increase in the number of doctors who are knowledgeable in both WM and TCM suggests that Singapore's healthcare is slowly integrating TCM into its predominantly WM system.

8. Recommendations

8.1 Government

Instead of forcing employers to legally recognise TCMPs issued MCs, the government can either encourage a mindset change amongst employers or make it mandatory to provide sick leave without MC. The civil service has adopted this, which was partly driven by changes during COVID. Where evidence-based treatment options are available, the government should integrate them into public hospitals and reclassify them as integrative instead of complementary medicine (More in 7.2). In addition, bilateral cooperation (MOH, 2023) and international cooperation (WHO, 2007) would allow Singapore to tap into other countries' expertise and set TCM standards and norms. Chew pointed out that the lack of governance and frameworks is currently hindering the TCM industry (Chew, 2023), whereas increased regulation will help increase the professionalism, and serve as guidelines for future subsidies, such as through CHAS or Medisave.

8.2 Hospitals

TCM is being integrated into hospitals, but more can be done. With the integration of acupuncture and other TCM techniques into hospitals, they are still seen as complementary. Rather than just utilising TCM for mild symptoms and WM for more severe diseases, hospitals can consider using TCM together with WM. For example, for patients who suffered traumatic brain injuries, cold normal saline is given intravenously to patients to control the potentially high internal body temperature (Badjatia, 2009). Gypsum fibrosum, which is found in cooling water and frequently used in TCM, has proven to have antipyretic effects, and can also be given intravenously together with cold normal saline (Wang et al., 2009). TCM can also be used in cancer therapy by decreasing mortality and conferring palliative care (Liu et al., 2019). If more concrete clinical trials can be conducted, it is possible to see TCM being utilised more frequently and eventually being fully integrated into Singapore's hospitals and healthcare.

9. Conclusion

To sum up, this paper laid out trends in the CAM field. An analysis of various stakeholders' views was presented, revealing tensions between society, HCPs and the government. Given the ongoing progress in global policy for standardising terminology for TCM and increased evidence-based validation of TCM, recommendations were laid out to further allow TCM to move from a complementary medicine status towards an Integrative Medicine in Singapore, and in line with WHO's goal of TCIM.

10. References

- Allchin, D. (1996). Points East and West: Acupuncture and Comparative Philosophy of Science. *Philosophy of science*, 63(3), S107-S115. <https://doi.org/10.1086/289942>
- Badjatia, N. (2009). Hyperthermia and fever control in brain injury. *Critical Care Medicine*, 37(7), S250-S257. <https://doi.org/10.1097/CCM.0b013e3181aa5e8d>
- Chang, L., & Basnyat, I. (2015). Negotiating Biomedical and Traditional Chinese Medicine Treatments Among Elderly Chinese Singaporean Women. *Qualitative Health Research*, 25(2), 241-252. <https://doi.org/10.1177/1049732314551991>
- Chew, S. Y. (2023). Challenges and Opportunities in the Practice of Chinese Medicine in Singapore. *Chinese Journal of Integrative Medicine*. <https://doi.org/10.1007/s11655-023-3703-z>
- Elangovan, N. (2020). *Covid-19: All TCM halls allowed to sell products from May 12 following review*. Retrieved November 12, 2023 from <https://www.todayonline.com/singapore/covid-19-all-tcm-halls-allowed-sell-products-may-12-following-review>
- Goh, C. T. (2022). *Commentary: Where does traditional Chinese medicine fit into Singapore's healthcare reform plan?* Retrieved November 12, 2023 from <https://www.channelnewsasia.com/commentary/healthier-sg-tcm-traditional-chinese-medicine-acceptance-healthcare-reform-future-3100591>
- KTPH. (2023). *Acupuncture*. Retrieved November 12, 2023 from <https://www.ktph.com.sg/services/clinical-support/acupuncture>
- Lim, K. S. (2016). *Complementary and Alternative Medicine: Myths and Truths*. Retrieved November 12, 2023 from <https://www.pss.org.sg/whats-happening/e-bulletin/issue-no-123-pss-e-bulletin-october-2016/complementary-and-alternative>
- Liu, J., Mao, J. J., Wang, X. S., & Lin, H. (2019). Evaluation of Traditional Chinese Medicine Herbs in Oncology Clinical Trials. *The Cancer Journal*, 25(5), 367-371. <https://doi.org/10.1097/ppo.0000000000000404>
- Loh, C. (2009). Use of traditional Chinese medicine in Singapore children: perceptions of parents and paediatricians.
- MOH. (2020, November 7, 2023). *Healthcare Services Act (HCSA)*. Retrieved November 11, 2023 from <https://www.moh.gov.sg/hcsa/about-hcsa>
- MOH. (2021a, August 29, 2023). *TCM PRACTITIONERS*. Retrieved November 12, 2023 from <https://www.moh.gov.sg/hpp/tcm-practitioners>
- MOH. (2021b, October 5, 2023). *TRADITIONAL CHINESE MEDICINE RESEARCH GRANT*. Retrieved November 12, 2023 from <https://www.moh.gov.sg/policies-and-guidelines/research-grants/traditional-chinese-medicine-research-grant>
- MOH. (2021c, November 7, 2022). *USE OF MEDISAVE AT TCM CLINICS*. Retrieved November 12, 2023 from <https://www.moh.gov.sg/news-highlights/details/use-of-medisave-at-tcm-clinics/>
- MOH. (2023). *SINGAPORE TO FURTHER COOPERATION WITH CHINA IN TRADITIONAL CHINESE MEDICINE*. Retrieved November 12, 2023 from <https://www.moh.gov.sg/news-highlights/details/singapore-to-further-cooperation-with-china-in-traditional-chinese-medicine>
- MOM. (2019). *My employee visited a Traditional Chinese Medicine Practitioner (TCMP). Are they eligible for paid sick leave?* Retrieved November 12, 2023 from <https://www.mom.gov.sg/faq/sick-leave/my-employee-visited-a-tcmp-are-they-eligible-for-paid-sick-leave>
- NUH. (2023). *Facilities*. Retrieved November 12, 2023 from <https://www.nuh.com.sg/our-services/Specialties/Anaesthesia/Pages/Facilities.aspx>
- SGH. (2017). *More Doctors and Dentists Sharpen Up on Acupuncture*. Retrieved November 12, 2023 from <https://www.sgh.com.sg/news/others/more-doctors-and-dentists-sharpen-up-on-acupuncture>

- SGH. (2021). *Acupuncture @ PMC: All You Need to Know*. Retrieved November 12, 2023 from <https://www.sgh.com.sg/patient-care/specialties-services/pain-management-centre/pages/acupuncture.aspx>
- TCMPB. (2023). *Traditional Chinese Medicine Practitioners Board*. Retrieved November 11, 2023 from <https://www.healthprofessionals.gov.sg/tcmpb/en>
- Teo, J. (2022). *MOH will look into the possibility of incorporating TCM in Healthier SG: Ong Ye Kung*. The Straits Times. Retrieved November 12, 2023 from <https://www.straitstimes.com/singapore/politics/moh-will-look-at-the-possibility-of-incorporating-tcm-in-healthier-sg-ong>
- Teo, J. (2023). *New TCM board chairman prioritises safety, efficacy of treatments, best practices*. The Straits Times. Retrieved November 12, 2023 from <https://www.straitstimes.com/singapore/health/new-tcm-board-chairman-prioritises-safety-efficacy-of-treatments-best-practices>
- TTSH. (2023). *Complementary Integrative Medicine*. Retrieved November 12, 2023 from <https://www.ttsh.com.sg/Patients-and-Visitors/Medical-Services/Complementary-Integrative-Medicine/Pages/default.aspx>
- Wang, H., Wang, M., & Li, X. (2009). Evaluation of the antipyretic activity of Gypsum Fibrosum and its constituents. 4.
- WHO. (2007). WHO international standard terminologies on traditional medicine in the western pacific region.
- WHO. (2013). *WHO traditional medicine strategy: 2014-2023*. World Health Organization.
- WHO. (2019). *WHO global report on traditional and complementary medicine 2019*. World Health Organization.
- Yeo, A. S., Yeo, J. C., Yeo, C., Lee, C. H., Lim, L. F., & Lee, T. L. (2005). Perceptions of Complementary and Alternative Medicine Amongst Medical Students in Singapore – a Survey. *Acupuncture in Medicine*, 23(1), 19-26. <https://doi.org/10.1136/aim.23.1.19>
- Zhao, W. (2018). *Five public hospitals provide acupuncture services*. Lianhe Zaobao. Retrieved November 12, 2023 from <https://www.zaobao.com.sg/zlifestyle/beauty-health/story20180417-851391>
- Zhou, X., Li, C. G., Chang, D., & Bensoussan, A. (2019). Current Status and Major Challenges to the Safety and Efficacy Presented by Chinese Herbal Medicine. *Medicines (Basel)*, 6(1). <https://doi.org/10.3390/medicines6010014>