

Report on Comprehensive Review of
The Hong Kong Jockey Club Institute of Chinese Medicine

Executive Summary

This Report covers:

- A. *Background and scope of current review*
 - B. *History and institutional framework*
 - C. *Roles, functions and achievements of the Hong Kong Jockey Club Institute of Chinese Medicine (HKJCICM) in the last decade*
 - D. *Analysis of problems encountered*
 - E. *Developments on other fronts in Chinese Medicine (CM) over the years*
 - F. *Options explored and recommendations*
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A. Background and Scope of Current Review

1. The Hong Kong Jockey Club Institute of Chinese Medicine (HKJCICM) was set up under the Companies Ordinance in May 2001 as a subsidiary of the Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI), with the Hong Kong Jockey Club Charities Limited (HKJCCL) and ASTRI each holding 50% of the shares. The main reason for putting HKJCICM under ASTRI was that HKJCICM could benefit from ASTRI's administrative and housekeeping support. Its recurrent cost is funded by ASTRI while its project cost is funded by HKJCCL.

2. After a decade, there are concerns that such an institutional arrangement may no longer be appropriate given that ASTRI has increasingly focused its work on information and communications technologies (ICT) which is not related in any way to the promotion of CM. Furthermore, it would also be opportune for ITC to review the role and future of HKJCICM taking into account its work in the past years, cost effectiveness, latest developments in the area of CM in Hong Kong, etc. The objective is to ensure there will be a mechanism to best promote CM in Hong Kong. In view of this, the Board has engaged two experienced administrators to conduct a comprehensive review with the following terms of reference -

- (a) take stock of the work and achievements of HKJCICM since its establishment;

- (b) revisit HKJCICM's roles and functions having regard to the changing landscape of the CM sector over the past decade; and
- (c) examine the most appropriate and effective way for providing continued support to the development of CM in the coming years in the best interest of the community.

B. History and Institutional Framework

3. HKJCICM's mission is "to spearhead the development of Chinese medicine as a high value added industry for Hong Kong through promotion and coordination of related activities and strategic support for scientific and evidence-based development programmes."

4. Under a Deed governing donation from HKJCCL signed among HKJCCL, ASTRI and HKJCICM in 2001, HKJCCL committed to donate \$500 million to HKJCICM for the purposes of promoting the development of Chinese Medicine in Hong Kong and supporting the Institute's research and development projects. As at 30.9.2010, HKJCICM has received a total of about \$108 million from HKJCCL for funding 18 research projects and expended a total of about \$93.8 million.

5. HKJCICM is governed by a Board of Directors, which steers the activities of the Institute and formulates strategic directions, roles and functions in pursuit of its mission. The Board currently comprises the Chairman, Deputy Chairman, six non-official Directors and two official Directors. A representative from HKJCCL attends the Board meetings as observer. A Technical Sub-Committee assists the Board in considering funding proposals and monitoring progress of on-going projects.

6. Headed by an Executive Director (ED), HKJCICM is located in Science Park and Hong Kong Institute of Biotechnology (HKIB) occupying a total floor area of around 600 M². It has an establishment of 24 staff, of whom 11 (46%) are technical staff working in the CM Laboratory and 13 (54%) are administrative staff (including the ED).

C. Roles, Functions and Achievements of HKJCICM in the Last Decade

7. Over the years, HKJCICM has explored and undergone several changes in strategic direction, roles and functions in pursuit of its mission. During the inception stage of the Institute in 2001, HKJCICM was assigned the roles and functions to support CM standardization and value-added product development; to co-ordinate and manage R&D projects in the CM field. In October 2006, it moved towards a new direction to strengthen support to the local CM industry. The Institute then aimed to differentiate itself further from operating or being seen

purely as a funding body by putting the emphasis on selecting and incubating projects for value-added commercialization and technology transfer. HKJCICM's development directions and strategies were further refined in June 2009, focusing on the provision of greater support to the CM industry by conducting projects to facilitate development of the CM industry and assisting the industry to meet the requirements of the regulatory framework.

8. Achievements made by HKJCICM since its inception include –

(a) Project incubation

- A total of 18 projects have been funded, of which 10 have been concluded, five are on-going and three have been terminated.
- Arising from the concluded projects, a total of 12 patents have been obtained, 5 from HKSAR, 6 from the Mainland and one from USA.
- On new drugs development, two Clinical Trial Licenses (藥物臨床試驗批件) have been obtained from the State Food and Drug Administration (SFDA), PRC.

(b) Technical intermediary

- A CM Laboratory was set up in 2003 to provide a research and service platform for quality-related research and testing of CM to support industry initiatives. Its scope of work includes research and provision of Quality Control (QC) analytical methodologies and tools (including chemical markers) to facilitate standardization of CM. Testing services are provided to support the needs of the industry, Government departments and universities.
- Since 2007, HKJCICM has extended its business scope to cover the provision of CM chemical markers to support the needs of the industry. As of August 2010, some 260 chemical markers have been prepared and 375 purchase orders have been received, bringing in a total income of about \$388,000.

(c) Information repository

- The Encyclopedia on Contemporary Medicinal Plants 《當代藥用植物典》 was published under a funded project.
- A web-based “Chinese Medicine Hong Kong” information portal has been developed, featuring separate sections for CM news, Industry Forum, Market Research Report, Publications, CM Conference, CM Exhibition and CM Regulation.
- Some 16 thematic forums were hosted by HKJCICM between June 2006 and September 2009.
- HKJCICM has been included as an author for some 144 funded-project publications for the period from 2003 to 2010 (July).

D. Analysis of Problems Encountered

9. While much effort has been made by the Institute to further its objectives over the years, it has not achieved as much as it desires for various reasons including the following:

(a) Intrinsic difficult nature of CM

10. Unlike western medicines which usually comprise single chemical ingredient with defined drug target, and well-established testing standards and methodology, CM is usually made up of multiple ingredients and drug targets, and there is no universally accepted set of standards for CM. Although there are many standards for herbs which can be used for reference, most of these standards are still being refined and updated. Moreover, its treatment mechanism has yet to be fully explained in modern science terms, as the efficacy of most CM products is not supported by clinical research. It will take a very strong commitment in R&D to overcome this challenge.

(b) Changes in direction over the years not conducive to sustainability

11. The changes of the Institute in strategic direction over the years though supported by justifications at the time, were not conducive to sustainability and long term development.

(c) Small organization lacking a critical mass

12. With an organization size of 24, around 12 staff are involved in routine administration, e.g. servicing of Board, audit, preparation of budget, staff management, arrangement for publicity and promotional activities, procurement etc. As a result, the percentage of technical staff vs administration staff is almost 1:1 which is high. Also for the same reason, the Institute has not been able to establish a critical mass leading to great impact to the CM sector.

13. As a result of the above, the cost-effectiveness of the Institute has not been as good as envisaged when it was first set up. For instance, while the amount of project funding over the last decade was around \$108 million (or around \$10 million/year), the recurrent cost of running the Institute in 2009/10 was \$10 million. This has led to a ratio of almost 1:1 which is undesirable.

E. Developments on Other Fronts in CM Over the Years

14. On the other hand, over the last decade, there have been various developments in the CM landscape which are positive. These include:

(a) Increased R&D capabilities in local universities

15. In 2004, the 6 local universities involved in R&D of molecular sciences together formed

the Hong Kong Consortium for Globalization of Chinese Medicine to promote high quality R&D of Chinese medicine through joint effort. Two CM formulations for treatment of insomnia and post-stroke rehabilitation respectively, were selected for joint research, with funding support by Innovation and Technology Fund (ITF). Since 1998, Chinese medicine education has been provided by three universities, viz. HKBU, CUHK and HKU. The medical schools of HKU and CUHK also each runs a clinical trial centre and conduct clinical trials in compliance with Good Clinical Practice (GCP). The trial data for 10 designated disease areas collected by these clinical trial centres are recognized by SFDA for drug registration in China.

16. In Hong Kong University (HKU), the School of Chinese Medicine is under the Faculty of Medicine such that R&D of Chinese medicine and Western medicine are well coordinated. The research capability of HKU in molecular and functional mechanisms, genomics, animal model and clinical trial study can help to translate basic CM research into human clinical application in the form of "full supply chain".

17. In Chinese University of Hong Kong (CUHK), the Institute of Chinese Medicine was awarded "Partner State Key Laboratory of Phytochemistry and Plant Resources in West China" status by the Ministry of Science and Technology in 2009. It partners with the Kunming Institute of Botany, Chinese Academy of Science in Yunnan.

18. In Hong Kong Baptist University (HKBU), besides the professional training of CM practitioners, there is a focus in R&D of multiple components in CM formulations for multiple targets in disease treatment. The technological advancement in mass spectrometry and proteomics is valuable in the research of CM in Hong Kong.

19. In conclusion, there are strong technical capabilities and infrastructure in the local universities for conducting CM research using western scientific approach.

(b) Setting up of the Hong Kong Council for Testing and Certification – with CM as one of the four selected trades

20. The testing and certification industry has been identified as one of the six economic areas where Hong Kong enjoys clear advantages and has good potentials for further development. Government established the Hong Kong Council for Testing and Certification (HKCTC), an advisory body, in September 2009 to spearhead the promotion of the industry. Noting that Hong Kong is a well-established market and trading hub for Chinese medicines, and in view of the expertise being built up on the testing side, HKCTC considers that the CM industry has a high potential demand for testing and certification services and as such decided it should be one of the four selected trades to be focused upon. In September 2010, HKCTC established a Panel on CM with members coming from the testing and certification industry, the CM industry, universities, relevant Government departments and public organizations. The Panel provides a

forum to facilitate stakeholders to work together in identifying how to leverage on the strengths of the testing and certification industry to promote development in CM. Apart from the need for enhanced promotion to the CM industry on the testing and certification services currently available in Hong Kong, the Panel also identified two key areas to focus its future work, i.e. the development of a product certification scheme for authentication of CM and the enhancement of technical capabilities (e.g. development of new testing methods for high-value CM). The promotion of testing and certification services for CM has been well received. For instance, HKBU set up the Hong Kong Chinese Medicine Authentication Centre in 2007.

21. The statutory requirement for registration of proprietary Chinese medicines (pCm) to ensure safety and quality has been in place since 2003 and brings demand for pCm testing. Separately, the Department of Health has been developing standards, i.e. Hong Kong Chinese Materia Medica Standards (HKCMMS), which provide good references for laboratories in Hong Kong to follow when conducting testing for Chinese herbal medicines. HKCMMS now cover some 60 types of Chinese herbal medicines and will be extended to about 200 in 2012. With these developments, Hong Kong has gradually built up local capacity and capability in the testing of CM. In support of development in authenticity testing of CM, Hong Kong Accreditation Service has recently introduced accreditation services to laboratories on authentication testing of Chinese herbal medicines according to HKCMMS.

(c) Setting up of clinics by Hospital Authority

22. In 2000, the Hospital Authority (HA) was tasked to provide a total of 18 public sector CM clinics in HK. HA has now set up 14 modernized CM clinics which are served by computerized CM information systems to support clinic administration, consultation records and pharmacy management; modernized CM pharmacy systems which are comparable to Western Medicine (WM) pharmacy standards; and centralized purchase and testing of herbs to ensure safety and quality. Different forms of CM/WM collaboration are being introduced via the HA CM clinics. Research into the subject of interactions between Chinese and Western medicines/treatment is also being undertaken.

(d) Increasing interest from western pharmaceutical companies

23. With its demonstrated efficacy and less side effect, CM is increasingly accepted as a form of alternative medicine in the western world. Multi-national pharmaceutical industry has shown a growing interest in capturing the wealth of knowledge of CM in new drug development. They have been setting up R&D centres in the Mainland for development of chemical drug products for the lucrative Mainland market. The western pharmaceutical companies reckon that Hong Kong, being a place with long history of practising both Chinese and western medicine, and credible track record in embracing high international standard in conducting basic research and clinical trials, can play an important part in their efforts in expanding into CM

research.

(e) Introduction of policy to develop Hong Kong into an international clinical trial centre

24. In the Budget speech of 2011-12, it is stated that Hong Kong is well-placed to develop into an international clinical trial centre and a translational research centre. To advance the development of the pharmaceutical and biopharmaceutical industries, the Hospital Authority will set up Phase I clinical trial centres in Queen Mary and Prince of Wales Hospitals to conduct preliminary clinical trials for new drugs, with a capital cost of about \$42 million. The clinical trial centre in Prince of Wales Hospital is expected to come into operation first in 2011-12. Government will also map out its way forward for different phases of clinical trials for drugs and strengthen the organization, management and planning for clinical trials to promote development in this area. The above measures will help attract more relevant professionals to Hong Kong, lay the foundation of advanced medical research here and provide more training opportunities. A range of scientific research-related jobs, such as professional researchers, scientists, medical technology professionals and pharmacists, will also be created.

25. The above demonstrates that in the last decade, interest in CM has greatly increased and more parties have indicated intention/enhanced their capability to contribute. As such, it would be desirable to make use of the positive development and establish a new and comprehensive mechanism to better promote CM.

F. Options Explored and Recommendations

26. The following options on the future direction of HKJCICM have hence been explored –

(a) Option 1: Maintaining the status quo

Under this option, no significant changes are proposed. The Institute will continue its present mode of operation.

Pros:

- This option requires minimal changes and causes least disruption to the set-up and operation of HKJCICM.

Cons:

- It does not provide an effective way to support the development of CM in the coming years, having regard to the deliverables of HKJCICM over the past decade.
- It does not help to improve the present situation where HKJCICM does not have the capacity to align its roles and functions with its mission.
- It does not change the present situation where the recurrent funding is high and its

cost-effectiveness is not meeting shareholders' expectation.

(b) Option 2: A complete revision of HKJCICM's roles and functions

Under this option, the present roles, functions and mode of operation of HKJCICM will be significantly revised. This will lead to new strategic directions, roles and functions of HKJCICM, followed by new processes, procedures and mode of operations. The membership of the Board will also be enhanced to make it more representative. New staff of the right skill-set will also be recruited. In other words, it is keeping the name of the organization, but largely revamping its "content".

Pros:

- This option provides the opportunity for the Institute to "revitalize" and revamp according to present day needs.

Cons:

- If the "content" has been so drastically changed, there would be no point for just keeping the name. ASTRI, being its shareholder and funding its recurrent operation, has already indicated that it is not appropriate for the HKJCICM to remain as its subsidiary, given that it is now an organization which focuses on ICT.

(c) Option 3: Setting up of a new committee under Government to coordinate the development and promotion of CM and consequently disbandment of HKJCICM

With the passage of time, coordination of work on promotion of CM has become increasingly complex, in particular in regard to inter-party collaboration (among government departments, public bodies, universities and industry). In preparing this report, we have sought the views of ITC which is the housekeeping department for HKJCICM. ITC has expressed that under the prevailing circumstances, a quasi-government organization like HKJCICM will no longer be suitable for undertaking such a role. ITC believes that it may be more desirable for a new committee to be set up under Government to take charge of the important tasks of developing and promoting CM. The committee, if set up, will be chaired by Commissioner for Innovation and Technology with representatives from all sectors including:

- Government departments (e.g. DH, ITC);
- public bodies (e.g. HA);

- other relevant committees involved in promotion of CM, e.g HKCTC;
- universities actively involved in CM;
- industry;
- lay members; etc.

As a result of the above, HKJCICM will be disbanded. However, to maintain continuity and ensure experience/expertise will be retained, ITC intends to invite all Board members of HKJCICM to join the new committee. Secretariat support for the new committee should be provided by ITC. As for projects, the Innovation and Technology Fund and Jockey Club Charities Fund can continue to provide support.

Pros:

- A Government-led committee, with its authority and set up, would be in a better position to engage all parties concerned and provide better coordination than HKJCICM.
- It will provide a mechanism capable of meeting current day needs.
- It can resolve the problem of HKJCICM being a subsidiary of ASTRI which is increasingly inappropriate.
- In the long run, recurrent costs of running the Institute can be saved.

Cons:

- There will no longer be a single executive body to promote CM.
- This option will entail a large amount of follow-up work. For instance, staff contracts will have to be dissolved in accordance with provisions in the employment contracts and the relevant legislation in Hong Kong; ASTRI and HKJC's consent will have to be sought in due course; etc.

27. Taking into account all relevant factors including the latest developments in the field of CM, work of HKJCICM in the last decade, current nature of ASTRI's core business, wish of stakeholders like ITC, ASTRI etc., it is recommended that Option 3 should be adopted. In addition, more effort should be devoted in future to creating greater synergy among the Government, industry, academia and research sector.

In preparing this Report, we have gauged the views of relevant parties. We would like to take the opportunity to express our deepest gratitude to them for their valuable contribution.

Chronology of Major Events Relating to
Hong Kong Jockey Club Institute of Chinese Medicine (HKJCICM)
Since June 2010

<u>Item</u>	<u>Date</u>	<u>Events</u>
1.	3 June 2010	Anonymous complaint containing various complaints against the Management of HKJCICM received.
2.	21 July 2010	Complaint signed by 12 staff of HKJCICM against the Management received.
3.	22 July 2010	Findings of investigation conducted by the Innovation and Technology Commission (ITC) on the anonymous complaint circulated to the HKJCICM Board.
4.	23 July 2010	ITC and Applied Science and Technology Research Institute (ASTRI) met HKJCICM staff on the anonymous complaint and listened to staff's views on the operation of the HKJCICM.
5.	28 July 2010	Staff A reported to the HKJCICM Board on a threat incident by Staff B.
6.	30 July 2010	HKJCICM Board met to discuss the complaints from staff. It was agreed that two directors should meet Staff B before the Board discussed the matter further.
7.	1 August 2010	Another letter by Staff A to the HKJCICM Board on the inappropriate behavior of Staff B.
8.	4 August 2010	Two Directors met with Staff B as agreed by the Board of Directors. On the same day, the two directors also met other staff of HKJCICM.

<u>Item</u>	<u>Date</u>	<u>Events</u>
9.	10 August 2010	<p>HKJCICM Board met and discussed the investigation report on the anonymous complaint, staff complaints as well as the latest actions taken regarding the staff complaints.</p> <p>The Board invited ASTRI to conduct investigation to the complaints received.</p> <p>It was agreed that ASTRI and ITC would meet all staff of HKJCICM, and ASTRI would meet Staff A and B separately.</p>
10.	19 August 2010	<p>ASTRI and ITC met staff of HKJCICM.</p> <p>ASTRI met Staff A and B.</p>
11.	25 August 2010	<p>Another complaint letter signed by 12 staff members of HKJCICM against the Management was received.</p>
12.	31 August 2010	<p>Staff A reported that a complaint letter dated 25 Aug 2010 had been widely circulated using email accounts that carried his/her name without consent. Staff A reported the case to the Police.</p>
13.	28 September 2010	<p>The HKJCICM Board discussed the staff complaints and accepted the investigation report by ASTRI.</p> <p>The HKJCICM Board agreed to proceed with a comprehensive review and to engage two experienced administrators for the task.</p>
14.	29 September 2010	<p>ITC and ASTRI briefed HKJCICM staff on the Board's deliberations on the investigation report.</p>
15.	October 2010	<p>9 HKJCICM staff resigned.</p>
16.	8 November 2010	<p>Consultants made a progress report on the comprehensive review to the HKJCICM Board.</p>

<u>Item</u>	<u>Date</u>	<u>Events</u>
17.	10 March 2011	HKJCICM Board met. Consultants submitted the Report on Comprehensive Review of the Hong Kong Jockey Club Institute of Chinese Medicine to the HKJCICM Board. Management tabled Management's Comments on Report on Comprehensive Review of the Hong Kong Jockey Club Institute of Chinese Medicine at the meeting.
18.	18 March 2011	Consultants submitted their Response to Views and Comments made by the Management and the Board of Directors.
19.	28 April 2011	HKJCICM issued Management's Comments on Consultants' Response.

Innovation and Technology Commission
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