

NEXUS² US

CONNECTING WITH
OUR PARTNERS



JULY 2013

Reaching Out Internationally

Engage Enhance Collaborate



A NEWSLETTER *for our* HEALTH PRODUCTS INDUSTRY & COMMUNITY

From the Editor-in-Chief

Dear readers,

The first half of 2013 has seen fast-moving changes and exchanges at HPRG as we restructured internally and connected with our local and international partners in constant conversation.

These times of interaction are highly valued as they enable us to keep abreast of global developments and align ourselves with international best practices. As health products become increasingly novel and complex, the engagement with stakeholders, including local clinicians, also prepares us to anticipate new challenges and opportunities in health product regulation, so that we can be future-ready and be better equipped to serve you and the Singapore public in a wiser way. In this issue of NEX2US, we are pleased to share with you Associate Professor William Hwang's insights on the future of cell and tissue therapy.

As a key player in ASEAN and positioned at the crossroads between East and West, HPRG was privileged to play host to several regulatory meetings as local and international experts converged at the Asia Regulatory Conference in January, the Medical Device Regulatory Symposium in March and the World Health Summit Regional Meeting in April. It is however, not all one-sided traffic. Our people also stepped out, reached out and shared the HSA experience at international meetings on Traditional Chinese Medicines (TCM) and herbal medicines.

On the sidelines of the Asia Regulatory Conference, yet another important milestone was attained as HSA inked a Memorandum of Understanding with the Medicines Evaluation Board of the Netherlands (MEB). Being like-minded in many ways and similar in size, we are excited at the prospect of strengthening our competencies in regulatory science and objective regulatory decision-making through HSA's collaboration with the MEB.

Back on home ground at HPRG, I am pleased to announce the birth of the Therapeutic Products Branch (TPB) in April 2013, culminating from the union of the Pharmaceuticals & Biologics Branch (PBB) and the Generics and Biosimilars Branch (GBB). This merger provides opportunity for streamlining and alignment of work processes among the clinical evaluation, quality evaluation and regulatory support teams as we prepare for the impending port-over of Therapeutic Products under the Health Products Act.

The way forward will continue to be fraught with challenges and excitement as we look to implementing new regulations and new processes as we regulate new health products. We greatly appreciate your continued partnership and feedback as we journey and grow together towards excellence in safeguarding public health and optimising access to quality health products.

Happy reading.

Yours sincerely,

Raymond



*Assistant Professor Raymond Chua
Group Director, HPRG, HSA*

contents

- 3 Special Feature**
 - World Health Summit Regional Meeting, Asia 2013 (WHSRMA2013)
- 4 Event Highlights**
 - Asia Regulatory Conference 2013
 - Memorandum of Understanding with Medicines Evaluation Board, Netherlands
- 5 Hot Off-The-Press**
 - Report on Medical Device Regulatory Symposium: Global Update of Pre- and Post-Market Medical Device Regulations
- 8 Regulatory Updates**
 - Harmonisation of HSA's post-approval variation framework with the ASEAN Variation Guideline
 - CFDA Establishes International Platform for the Modernisation and Globalisation of TCM for Regulators and the Industry
 - WHO-related Initiatives on Herbal Medicines
- 10 In Conversation**
 - Interview with Associate Professor William Hwang on Cell Tissue Therapy
- 12 HPRG Service ICONS**
- 14 Upcoming Events**
- 15 Announcements**
 - Advisory Notice
 - Introducing the Therapeutic Products Branch
- 16 Fun Learning**
 - Word Hunt Game

editorial team

Editor-in-Chief

Asst Prof Raymond Chua

Executive Editor

Angie Tan

Assistant Editors

Adena Lim,
Diana Koh,
Valerie Wee

Contributing Authors

Asmah Bte Pardi, Choo Peck Lin, Chua Siew Wei, Diana Koh, Dinesh Khokal, Dr Srinivasan Nadathur Kellathur, Jerlyn Tan, Jessica Kuah, Julia Ji, Lam Sook Yin, Lee Li Lim, Linda Chen, Mae Mah, Mark Wong, Pang Tit Keong, Serene Ang, Sivalingam Rasiah, Valerie Wee, Dr Yvonne Koh, Dr Zhang Qian

**Corporate
Content Contributors**
Sophus Chong,
Wang Yunshi

Advisors
Lee Hui Keng,
Suvarin Chaturapit

Special Feature

World Health Summit Regional Meeting, Asia 2013 (WHSRMA 2013)

The World Health Summit held its first regional meeting outside of Berlin, at Ritz Carlton Singapore, from 8 to 10 April 2013. The WHSRMA 2013 was supported by Singapore's Ministry of Health (MOH) and jointly hosted by the National University of Singapore, MOH Holdings Pte Ltd and the M8 Alliance. The Summit gathered about 900 delegates and speakers from over 46 countries across different segments - government, academia, industry, civic society and media.



Prime Minister of Singapore, Mr Lee Hsien Loong giving the Opening Address at the World Health Summit. Photo courtesy of the National University of Singapore



(Left to right) A/Prof John Lim, Chief Executive Officer, HSA; Prof Ranga Krishnan, Dean, Duke-NUS Graduate Medical School Singapore; Prof Sir Alasdair Breckenridge, Chair of the Department of Health's Emerging Science and Bioethics Advisory Committee (ESBAC); Dr. Ling Su, President of Drug Information Association; Dr. Tatsuya Kondo, Chief Executive of Pharmaceuticals and Medical Device Agency, Japan



Mr Gan Kim Yong, Minister for Health giving the Opening Address at the Welcome Dinner on 8 April 2013. Photo courtesy of the National University of Singapore

Key regional and global leaders gathered contributed to in-depth cross-sectorial discussions based on the summit's theme, 'Health for sustainable development in Asia'. The theme underscores the importance of pre-empting and dealing with health issues as a key factor in the continued dynamic growth in Asian economies. Four major areas discussed at the regional meeting were: the impact of

health on Asian economies; innovations in health in Asia; financing healthcare; and emerging health threats in Asia.

Singapore's Prime Minister, Mr Lee Hsien Loong officiated the opening ceremony and shared about Singapore's healthcare experience in making services accessible, affordable and of high quality. He emphasized the need for sound policies and effective delivery across multiple areas, including preventive and public health; primary, secondary and tertiary care; traditional and complementary treatments. PM Lee noted that international cooperation is useful for sharing information and experiences. He reiterated that conferences like the World Health Summit provided the platform for such discussions. In his words, "By bringing the Summit to Asia, we can bring our collective wisdom to bear on the diverse challenges and opportunities we face in Asia."

The Health Sciences Authority (HSA) was invited by the Summit organisers to convene a session on "**Challenges in Drug and Device Regulation**" under the conference track of "Financing Healthcare in Asia". The session aimed

to attain a global perspective of the challenges and gaps in the regulation of drugs and medical devices from regulators (in UK, North Asia and Singapore), industry and academia, and to explore strategic partnerships and the way forward to assure better and safer access to drugs and devices.

National drug and device regulators are facing a landscape that is dynamically changing in response to globalization, technological advancements, rising stakeholder expectations, and greater resource and expertise demands. Various key challenges were discussed, such as less productive pharmaceutical industry pipelines prompting regulatory changes to support innovation, drug development not addressing the real medical needs in the world today, differential interpretation of the benefit risk profile of drug products by different stakeholders, as well as a growing trend towards globalization of clinical trials.

In conclusion, regulatory collaboration is critical to address the various challenges in drug and device regulation. The formation and strengthening of strategic partnerships will assist in advancing global regulatory convergence.

Event Highlights

Asia Regulatory Conference 2013

The Asia Regulatory Conference 2013 was successfully held from 28 to 30 January 2013, at the Raffles City Convention Centre in Singapore. The theme of this conference was “Regulatory Convergence and Cooperation to Improve Access and Quality”.

It offered an excellent platform and a valuable opportunity for the 362 attendees, who were from health authorities, pharmaceutical companies and academia, to exchange views and identify specific areas to enhance patient access to new and improved medicines. Internationally renowned experts spoke at this conference.

Taking on a thematic approach, the conference started off with topics on research and development, then moved on to good regulatory practice and stepping foot into 21st century global regulatory challenges. Many interesting topics were shared over the three days, interspersed with three breakout sessions to cater to individuals who were interested in specific topics like clinical and CMC (Chemistry, Manufacturing and Controls) reviews, biosimilars, supply chain integrity,

counterfeit and pharmacovigilance and risk management.

Highlights of the conference included discussions on common issues in regulatory and technical areas in Asia; how to go about achieving greater convergence of regulatory requirements in Asia and the strengthening of co-operation between Asian regulatory authorities and the pharmaceutical industry. The discussion showed that there were ample opportunities for convergence, co-operation and collaboration across the various phases of the product life-cycle in Asia. However, it was also agreed that for such convergence and collaboration to be successful, there should be a healthy dose of flexibility to cater for regionalisation and localisation of requirements.



Dr Amy Khor, Minister of State for Health and Manpower giving the Opening Address at the Asia Regulatory Conference 2013

Memorandum of Understanding with Medicines Evaluation Board, Netherlands

The regulatory conference also marked another milestone event in the signing of a Memorandum of Understanding (MOU) between the Health Sciences Authority (HSA) and the Medicines Evaluation Board (MEB) of the Netherlands on 28 January 2013.

The MOU was jointly signed by Associate Professor John Lim, CEO of HSA, and Professor Hubert Leufkens, Chairman of the Dutch MEB, in the distinguished presence of Dr Amy Khor, Minister of State for Health and Manpower.

The objective of this MOU is to allow the establishment of a suitable framework for the mutual exchange of information and co-operation in the area of regulatory science. The two agencies will collaborate on improving and harmonising methods on decision making in the area of benefit-risk of medicinal products, as well as share pharmacovigilance and risk management strategies.



Left to right: Prof Hubert Leufkens, Chairman MEB; Dr Amy Khor, Minister of State for MOH and MOM; A/Prof John Lim, CEO, HSA at the MOU signing ceremony

Hot Off-The-Press

Medical Device Regulatory Symposium: Global Update of Pre- and Post-Market Medical Device Regulations

Recent global changes in medical device regulatory processes, increasing transparency, and recognition of the need for international collaboration and cooperation to optimize post-market surveillance – these were the common themes that emerged at a half-day regulatory symposium held on 16 March 2013.

Hosted by the Health Sciences Authority's (HSA) Health Products Regulation Group (HPRG) and the HSA Academy at the Matrix Auditorium at Biopolis, 380 participants from the industry and healthcare sector had the opportunity at this symposium to receive updates on the latest international developments in medical device regulation from representatives of the US Food and Drug Administration (FDA), the UK Medicines and Healthcare Products Regulatory Agency (MHRA), Australia's Therapeutic Goods Administration (TGA), Japan's Pharmaceutical and Medical Devices Agency (PMDA) and Singapore's HSA.

Ms Wong Woei Jiuang, Director of the Medical Device Branch of HPRG, HSA, Mr. John Wilkinson, Director of Devices, MHRA, Dr Jane Cook, Head of the TGA's Office of Product Review, and Dr Madoka Murakami, Unit Chief of the Division of Regulatory Cooperation at the PMDA provided information on recent updates and reforms in their respective jurisdictions.

Singapore's regulatory approach

To optimise medical device regulation in Singapore, the HSA has leveraged on best practices from established agencies such as the US FDA, Health Canada, EU, Australia's TGA and Japan's MHLW.

Pre-market medical device regulatory controls were phased in over 5 years from 2007 to 2012, to allow all stakeholders, including industry members and healthcare institutions, to transit into the regulated environment and to minimise disruption to device supply. Using a confidence-based approach, the regulatory framework has been enhanced over the past year to shorten review times and lower registration fees to facilitate timely access of devices to the market. The lowest risk Class A devices, except sterile devices, were exempted from registration from 1 May 2012. Two additional immediate



EU	Japan	US	Brazil	Canada	Singapore
Pre-market review					
Notified body certification (requirements depend on device classification)	Class III, IV: Minister's approval	Class III: PMA approval	Class III, IV: Registro* to ANVISA	Class II, III, IV: License from Health Canada	Class B, C, D: Registration to HSA
	Class II: Notified body certification	Class II: 510(k) clearance			
	Class I: Self-declaration	Class I: exemption	Class I, II: Cadastro* to ANVISA	Class I: exemption	Class A (except sterile devices): exemption

Governmental approval/license

Notified body review/certification

Self declaration/exemption

*Register

Conceptual overview of global medical device regulation practices, showing how responsibilities carried by national regulatory authorities vary between countries (Courtesy of Dr Madoka Murakami)

Hot Off-The-Press

and expedited routes were introduced on 1 September 2012 for moderate-risk Class B devices, and a new expedited route for Class C and D devices was implemented on 1 January 2013. From 1 April 2013, two new routes intended to enhance and streamline the Change Notification (CN) procedures for Class A and B devices will be implemented.

Singapore has in place vigilance, surveillance and compliance monitoring frameworks as post-market controls to complement pre-market product processes to safeguard the safety of marketed devices.

Australia: focus on safety and compliance

Since 2002, medical device regulation by the TGA has been based on a framework developed by the Global Harmonisation Task Force, which uses a risk-based classification system for medical devices.

In the pre-market context, key steps to the Australian market can be found on the TGA website. The TGA differentiates between a manufacturer (responsible for the design, production, packaging and labelling of the device, who can be located anywhere in the world) and a sponsor (responsible for the export or import of a device into or from Australia, who must be based in Australia). Current regulatory reforms include reclassification of joint implant devices from Class IIb to Class III, and additional scrutiny for in vitro devices (IVDs) commensurating with their risk.



Ms. Wong Woei Jiuang, Director, Medical Device Branch giving her presentation



(Left to right) Ms Wong Woei Jiuang, Director, Medical Device Branch, HSA; Dr Jane Cook, Head, Office of Product Review, TGA; Asst Prof Raymond Chua, Group Director, HPRG, HSA; Dr Madoka Murakami, Unit Chief, Division of Regulatory Cooperation, Office of International Programmes, PMDA; Mr John Wilkinson, Director of Devices, MHRA

Post-marketing monitoring in Australia is designed to ensure that manufacturers comply with the TGA's post-market surveillance system, and includes compliance monitoring and vigilance programs. The TGA's safety monitoring system relies on reporting from health professionals and consumers, and mandatory reporting from industry sponsors. The TGA reviews the Annual Reports of high-risk products for at least three years following registration, as well as data trends from adverse incident report databases. The agency also exchanges vigilance information with other regulators globally.

In line with the rest of the world, the TGA has recently adopted several reforms aimed at increasing transparency. These include publishing decisions on medical device assessment, Adverse Incident Reports, and recall notifications. The TGA is considering merging with New Zealand's equivalent regulatory agency to become one of the first joint agencies in the world.

Japan: moving towards international collaboration

Japan's medical devices are classified according to risk, as in Australia and Singapore, with PMDA pre-market approval required only for Class IIb-IV devices. Pre-market review processes include inspections of manufacturing sites. Clinical data from Japan is generally required, with the exception of foreign clinical data that is able to demonstrate clinical safety and efficacy when the device is used in Japanese medical practice. One condition of approval for new medical devices

is that manufacturers must ensure that the device is used only by trained personnel at qualified facilities.

Post-market surveillance is conducted for all categories of devices by the PMDA and Japan's Ministry of Health, Labour and Welfare (MHLW). Post-market regulation of medical devices in Japan includes evaluation of data from new devices for 3-7 years after launch; re-evaluation for safety, efficacy and quality when needed; and adverse event reporting. Similar to Australia's requirements for a Sponsor, Japan requires foreign medical device companies without a local office to appoint a Marketing Authorisation Holder (MAH), which must be based in Japan and formally licensed by the MHLW. The MAH has obligations to report adverse events, to provide safety and efficacy information, to take safety measures such as recall or discontinuation, and to track designated medical devices.

Japan's PMDA is also responding to the global trend towards international cooperation and collaboration, and

"In line with the rest of the world, the TGA has recently adopted several reforms aimed at increasing transparency."

recently established the post of International Coordination Officer for Medical Devices within its Office of International Programmes. In June 2012, Japan adopted the 'Life Innovation Five-year Strategy', aimed at improving all aspects of the medical device regulatory process. Proposed are a new licensing system for medical device manufacturers, accelerated approval for generic devices, a Quality Management System (QMS) audit system, and regulation of standalone software and combination products. Improvements to the pre-market review process will be based on users' feedback, while the PMDA will be increasing resources to shorten review and consultation times. Market expansion will be aided by support for new medical devices from overseas.

Upcoming changes to medical device regulation in the US and Europe

Driven by the understanding that robust post-market surveillance is vital, the US FDA is responding to the evolving requirements of device regulation, said Dr Thomas Gross, Director of the Office of Surveillance and Biometrics at the US FDA, in a pre-recorded video. Post-market surveillance enables rapid identification of poorly performing products, characterisation of real-world performance, and leverage of post-market data to support premarket evaluation and earlier product market access. In addition to their existing post-market surveillance strategies, four new tools will be implemented to strengthen US national systems:

- a unique device identification (UDI) system
- national and international device registries for selected products
- modernised adverse event reporting and analysis
- development and use of new methods for evidence generation, synthesis, and appraisal.

In Europe, medical device regulatory legislation is also undergoing review, explained Director of Medical Services at the MHRA, Mr John Wilkinson. Joint auditing of Notified Bodies is one of these planned changes, as is a larger role for Notified Bodies in vigilance and post-market surveillance. Rules will be implemented to prevent high-risk

devices from being approved on an equivalence basis. Publication of safety and performance data will be required, as will more formalised requirements for post-marketing clinical follow-up.

Pre-market regulatory changes include additional scrutiny for high-risk devices, a move towards 'common technical specifications', and the mandating of a 'qualified person', i.e. someone who is held legally accountable for the safety of a device. To address the problem of fragmented and independent databases, IT systems will be built to enhance vigilance data sharing, trend reporting and coordination of responses between EU member states.

In keeping with the global trend of greater transparency and traceability, UDIs (Unique Device Identifier) and central registration of devices and economic operators are seen as the key to identifying products and tracking them in patients.

"In June 2012, Japan adopted the 'Life Innovation Five-year Strategy', aimed at improving all aspects of the medical device regulatory process."



A symposium participant at the panel discussion

Emerging challenges to regulatory implementation

Challenges that are faced by medical device regulators around the world include:

- Increasing stakeholder expectations for transparency and inclusiveness, particularly with the advent of social media
- Globalised supply chains, with increased requirements for online transactions and pressure to provide traceability
- Gaps in current global regulatory processes
- Increasing range and complexity of medical devices
- Increasing numbers of counterfeit devices and devices of substandard quality

Regulatory practices must be constantly updated to ensure their relevance in this fast-changing world, and to maintain a fine balance between public safety and ease of access.

HSA rises to the challenge

In Singapore, the HSA has increased the frequency of inspections, sampling and audit checks, and implemented more stringent penalties on companies that contravene the law. Healthcare professionals and the public have also been encouraged to report adverse events associated with medical devices.

Ms Wong concluded that successful implementation of medical device regulatory strategy requires active participation by all stakeholders. To improve stakeholders' engagement and to enhance transparency around medical device regulation, the HSA has implemented the following:

- focus group sessions
- dialogue sessions with industry associations and healthcare professionals
- email blasts / briefing sessions / published E-guides on the MEDICS submission process
- NEX2US newsletter
- Talks and road-shows at healthcare institutions
- Singapore Medical Device Register (SMDR).



Regulatory Updates

Harmonisation of HSA's post-approval variation framework with the ASEAN Variation Guideline

The ASEAN's Pharmaceutical Product Working Group (PPWG) has been working towards the harmonisation of classification and documentation requirements for post-approval variation applications among ASEAN Member States (AMS).

The goal is to complement and facilitate the objective of the ASEAN Free Trade Area (AFTA), particularly the elimination of technical barriers to trade that may result from national regulations, without compromising drug quality, safety, and efficacy. In the 19th PPWG meeting held in Thailand in July 2012, AMS agreed to adopt the ASEAN Variation Guideline (AVG) and planned for its implementation by 31 July 2013, with flexibility to adjust in accordance with national procedures after its adoption.

The adopted AVG covers chemical pharmaceutical products for human use and excludes biological medicinal products. HSA is currently working on the mapping of the Minor Variation Application (MIV-1 & MIV-2) classification and documentation requirements to align with AVG. At the same time, HSA is also working on mapping classification and documentation requirements for variations on biological drug products, applying the same concept as the adopted AVG. When the internal mapping exercise is completed, HSA will organise industry consultation sessions to gather feedback and comments from stakeholders prior to the finalisation of the mapping. The industry consultation is targeted to be held in the second quarter of 2013. Please stay tuned for the upcoming announcement.

You may contact us at **HSA_MedProd_Registration@hsa.gov.sg** should you require further clarification.

"The goal is to complement and facilitate the objective of the ASEAN Free Trade Area particularly the elimination of technical barriers to trade that may result from national regulations, without compromising drug quality, safety, and efficacy."

China Food and Drug Administration (CFDA) Establishes International Platform for the Modernisation and Globalisation of TCM for Regulators and the Industry



Panel Discussion at the 1st International Symposium on Regulation of Traditional Chinese Medicines (TCM) on 4 December 2012

Traditional Chinese Medicines (TCM) is used widely in China's fully-integrated healthcare system. Just like Western Medicines, TCM has made significant contributions to the national healthcare system and in the promotion of health. However, due to the holistic nature of TCM which makes the standardisation of TCM quality complicated, it is a big challenge for TCM to enter the mainstream Western Medicine system in global markets.

As part of its ongoing efforts to recognise TCM and strengthen its international collaboration activities on TCM, the China Food and Drug Administration (CFDA) organised the 1st International Symposium on the Regulation of TCM in December 2012 in Beijing, China. The three-day Symposium was attended by more than 200 participants from 18 different countries and regions. This included industry representatives from multi-national companies (MNCs) operating in China and local Chinese companies, China Food and Drug Administration (CFDA) regulators as well as delegates from international organisations and regulatory agencies such as the European Union (EU), World Health Organisation (WHO), Korea Food and Drug Administration (KFDA), Singapore's Health Sciences Authority (HSA), Malaysia's National Pharmaceutical Control Bureau (NPCB) etc.

At the symposium, CFDA introduced its administrative system, laws and regulatory framework of TCM. Several topics ranging from China's Good Agriculture Practice (GAP), Good Laboratory Practice (GLP), Good Manufacturing Practice (GMP) and Good Clinical Practice (GCP) polices to

Regulatory Updates

the pre-market registration procedures and requirements (administrative & technical), as well as post-market Adverse Drug Reaction (ADR) monitoring on TCM were presented. Insights on the current TCM quality standards and its management, analytical methodology and quality control of TCM in China, CFDA's international collaboration in scientific research and quality controls of TCM to promote the modernisation and globalisation of TCM were also shared during the symposium.

Besides the sharing from international delegates from WHO, EU and KFDA on their insights and views on herbal medicines, HSA also presented on the regulation in Singapore on Chinese Proprietary Medicines (CPM). The showcase on the regulatory systems of the various countries provided the industry with a clear overview on the current and future regulatory requirements on the safety, quality and efficacy for TCM in the China market as well as other international markets. Industry representatives also sought clarification and provided feedback on the regulations of TCM to the respective regulatory agencies. This in turn served as an excellent platform for both the regulator as well as the industry to promote the modernisation and globalisation of TCM in future.

WHO-related initiatives on herbal medicines

As part of HSA's international collaboration efforts, HSA participated in the 10th Standing Committee Meeting of the Western Pacific Regional Forum for the Harmonisation of Herbal Medicines (FHH) and the 6th Meeting of the International Regulatory Cooperation for Herbal Medicines (IRCH) in November and December 2012 respectively.

Supported by the World Health Organisation (WHO), the FHH was formed in 2001 with the objective of

establishing common technical standards for herbal medicines in the Western Pacific region to improve their quality, safety and efficacy. Singapore is among the founding members, together with Australia, China, Hong Kong, Japan, Korea and Vietnam. There are also three sub-committees under the FHH, namely, Sub-committee I: Nomenclature & Standardisation, Sub-committee II: Quality Assurance & Information, and Sub-committee III: Adverse Drug Reactions.

The member countries, together with Canada as an observer, convene yearly meetings. The last one, which was the 10th Standing Committee Meeting, was held in Hanoi from 27 to 28 November 2012 and hosted by Vietnam. The members shared updates on the regulation of herbal medicines in their countries, as well as research related to the standardisation of herbal materials.

HSA will be hosting the next FHH Standing Committee Meeting in Singapore in the last quarter of 2013.

The IRCH was set up in 2005 as an initiative driven by WHO to protect and promote health and safety through improved regulation of herbal medicines. As of now, there are 28 IRCH members consisting of 25 member countries and three regional bodies, including ASEAN, Brazil, Canada, China, Oman, Saudi Arabia, United Kingdom and Singapore. There are also eight Working Groups (WG) formed under IRCH, of which Singapore is co-leading with Malaysia for WG1 on Identification of Adulteration of Products. Other WG are responsible for tasks related to topics such as evidence, vigilance and communications pertaining to herbal medicines.

The IRCH holds annual meetings to identify issues to be addressed by the WG. Members also exchange expertise regularly via MedNet, the online networking tool for information-sharing among countries. The 6th Meeting was hosted by Brazil from 10 to 12 December 2012, in the city of Curitiba.



Delegates and participants of the 10th FHH Standing Committee Meeting

In Conversation

Interview with Associate Professor William Hwang on Cell and Tissue Therapy

Dr William Hwang is Head and Senior Consultant at the Department of Haematology, Singapore General Hospital, Cell and Tissue Transplant Director of SingHealth transplants, Medical Director of the Singapore Cord Blood Bank as well as Associate Professor of the Cancer and Stem Cell Biology Program at the Duke-NUS Graduate Medical School. He is also currently the President of the World Marrow Donor Association and President of the Singapore Society of Haematology.



Prof William Hwang (right) with HSA interviewers Dr Ong Lee Lee and Dr Srinivasan Nadathur Kellathur (centre) from the Advanced Therapy Products Unit, HSA

Prof Hwang, could you tell us about your interest and research in cell therapy?

My interest in cell therapy started with bone marrow transplantation (BMT) because it completely changes the patient's blood system and gives him/her a new life where all other chemotherapy regimens have been tried and found ineffective for tumour remission. Now, traditional BMT has evolved and haematopoietic stem cells (HSC) can be obtained from the peripheral blood as well as umbilical cord blood. My group's current research involves the expansion of haematopoietic progenitor and stem cells in culture. This has great potential for cord blood transplantation. Dr Linn Yeh Ching of my department has also explored the use of immune cells like cytokine-induced killer (CIK) cells that have immunopotentiating and antineoplastic activities which, when re-infused, may recognise and kill tumour cells. In my own experience, I have seen good long-term remission in several patients treated with CIK cells. The cells are grown at the Cell Therapy Facility, Blood Services Group,

Health Sciences Authority (HSA) and we have published the results. We are currently offering it in clinical practice but under close monitoring by the Institutional Review Board. Furthermore, we and others in different parts of the world are researching on other types of immune cells such as Natural Killer cells and mesenchymal stem cells (MSCs) for various haematological indications.

Could you describe the status of cell therapy in Singapore?

Cell therapy is a very rapidly evolving field. With advancements in our understanding of stem cell biology and with novel technologies, I see continued growth in this area of research both locally and globally. I have performed *in vitro* and animal experiments on the use of MSCs for treatment of various illnesses. My colleagues in other departments have also worked on the use of fibroblasts, keratinocytes and many other cell types.

As the Medical Director of the Singapore Cord Blood Bank what are the potential applications of allogeneic cord blood transplant? Is it the future 'miracle drug' for treating various diseases?

Science progresses very rapidly and the area of umbilical cord blood transplant (UCBT) is still evolving. UCB has been an excellent source of blood stem cells for transplantation especially when no sibling or unrelated bone marrow donor can be found. However, we believe standard UCBT will change since its use is largely limited to paediatric subjects and smaller adults owing to the number of cells that can be obtained from a single unit of cord blood. UCB expansion is one way of overcoming this limitation for adult patients.

We have initiated a pilot trial in collaboration with the Massachusetts Institute of Technology on clinical *ex vivo* expanded cord blood for haematological malignancies. The trial was approved by the Health Products Regulation Group of HSA. Expansion of the cord blood stem cells will be performed at the Cell Therapy Facility, Blood Services Group, HSA.

There are several other on-going research activities on cord blood and its application in regenerative medicine. However, this is still empirical and UCB is not the best source of MSCs. As such, while public cord blood banking has a big role as an alternative source of haematopoietic stem cells from unrelated donors, there is probably little role for banking these cells for personal use for a future unknown role in regenerative medicine.

Bone marrow could be considered the first cellular therapy product. As a haematologist and the President of the World Marrow Donor Association (WMDA), how do you see the future of cellular therapies in the next 5-10 years?

Bone marrow is probably the first widely-used cell therapy product, and over the years, peripheral blood stem cells and UCB have been used as good alternative sources as well. To-date, over 1 million of these transplants have been carried out around the world. Unrelated donor registries have also grown at a phenomenal rate and, amongst the WMDA member bone marrow donor registries around the world, there are currently over 22 million donors available. This helps to increase the chances of patients finding a match for transplantation. Presently, over 50,000 haematopoietic transplants are being performed annually around the world, and the number is increasing as we speak. In Singapore General Hospital (SGH) alone, we have performed over 1000 haematopoietic stem cell transplants to-date.

As mentioned earlier, the field of cell-and tissue-based therapy is rapidly evolving. With the Nobel Prize in Medicine and Physiology 2012 awarded to Prof Shinya Yamanaka from Kyoto University for his work on induced pluripotent stem cells (iPSCs), we can anticipate clinical trials on the use of iPSCs in regenerative medicine in the coming years in this region.

Within SingHealth, the different groups working on cell and tissue therapy (SGH Haematology, NCCS, SNEC, NHCS, SGH

Burns Centre, SGH Orthopaedics) meet on a regular basis to share our challenges and initiate synergistic collaborations.

In light of the current socio-political climate, two-way communication is important to gather feedback from the stakeholders. What would you suggest to be the two most important points/perspectives from clinicians that HSA would need to consider in order to ensure that the CTT regulatory framework does not impede access of CTT products to patients, while safeguarding public health and safety?

Any new regulation is expected to have teething problems. Two-way communication and constant dialogue sessions are very important in this area to manage expectations and also because it is a learning experience for both doctors and regulators. One of the most critical challenges in cell therapy is the cost associated with manufacturing if production is expected to be carried out in an establishment that complies with Good Manufacturing Practice (GMP) standards. GMP is important to ensure that the product is safe and of good quality; however, the initial set-up and continuous maintenance of such a facility is expensive. Hence, the option for the Ministry to build a national facility that complies with GMP standards would certainly be more financially viable and for sustainable future. Currently for our needs we have been engaging the Cell Therapy Facility, Blood Services Group, HSA to manufacture our cell therapy products.

" We have initiated a pilot trial in collaboration with the Massachusetts Institute of Technology on clinical ex vivo expanded cord blood for haematological malignancies. The trial was approved by the Health Products Regulation Group of HSA. Expansion of the cord blood stem cells will be performed at the Cell Therapy Facility, Blood Services Group, HSA."

HPRG Service ICONS

Health Products Regulation Group Service Icons

The Health Products Regulation Group (HPRG) aims to recognise individuals who had, throughout their interface with our stakeholders, displayed and delivered quality service and exemplified excellent service customer behaviour. In our February issue of NEX2US, the name “Service Icons of HPRG” was born. Now, we are proud to reveal who they are. In this issue, our Service Icons would like to share with you what makes them our HPRG SERVICE ICONS.



Asmah Pardi, Service Champion of OSCA 2012, from Tobacco Regulation Branch

With Singapore’s changing landscape and the public getting increasingly vocal and knowledgeable, handling customers becomes more challenging.

Taking into heart, our Group Director Assistant Professor Raymond Chua’s message to be a “regulator with a heart”, I feel that to be an excellent customer service provider in HPRG, HSA, we have to be professional and at the same time possess a good attitude which enables us to serve the public with our heart, mind, and soul. To cope with these challenges and to engage the public fruitfully, I have developed a strategy (SMILE) to guide myself in my everyday work to make me a better customer service officer.

SMILE =)

SMILE:

Which stand for: **S**erious, **M**anageable, **I**ntegrity, **L**istening, and **E**xcellence.

Serious - Provide the customer the assurance that I will try my best to help in areas which he needs. Our seriousness in handling the customer’s concern will make him feel confident that his concern is receiving attention and also conveys confidence in the way HSA conducts its operations.

Manageable - Be patient in any situation which is complex and always be ready to go an extra mile. Having a mindset that every problem is manageable and can be resolved, it helps me to set aside initial difficulties and overcome the problem with a positive outlook.

Integrity - Be firm on what we are doing and uphold the integrity of the Public Service. Always remember that we are fulfilling our duties as an HSA / Public officer, first and foremost.

Listen - Always be there to listen to customers’ difficulties and problems that they face, so as to better understand how I can help them. It will also help to build trust between the customer and HSA.

Excellence - To always provide the customer with an excellent experience. The final result may be important but equally important is the experience that the customer has with HSA, which also helps in the branding and building the reputation of HSA as an excellent organisation.

This “SMILE” had guided me through my years in HSA and had worked well for me.

I would like to share it with my fellow HSA staff in further improving their service standards.



Lam Sook Yin, Service Champion of OSCA 2012, from Complementary Health Products Branch

Our Key To Better Customer Service - Think Customer + Prompt & Effective Communication

In HSA, we strive to achieve customer satisfaction. We have always put priority in ensuring effective communication with all health product dealers and members of the public. There are many channels through which dealers/public can communicate with HSA: Email, telephone, website online feedback, etc. which have enabled us to keep our communications with you in an open manner. We strive to be clear and prompt in our communications because we 'Think Customer'!



Lum Mei Kuen, Dr Zhang Qian, Pang Tit Keong, Yuen Oi Mei and Liu Yichun from Complementary Health Products Branch

Our Key To Better Customer Service: Team work and five tips

In HSA, we strive to fulfill customers' satisfaction. Most of the time it's no problem accommodating customers and making sure that they are well looked after. Inevitably though, there will be times when we have to deal with very difficult customers who are upset. To cope with the challenges, effective teamwork is very important. It stretches each member's potential to the fullest and helps to achieve targets on time. Upon each team member's inputs, we have worked out five things to bear in mind when addressing difficult situations with customers.

Empathise. Demonstrate that we understand the customer's situation. Make sure you are sincere though as platitudes are usually evident.

Listen. And then, listen more. Customers like to see that we take them seriously, that we care and that we are committed to doing something about it.

Stay focused. Always remember that we represent HSA. Being hostile or impatient with a customer certainly won't help. Don't take things personally, even when provoked.

Be positive. Try and build rapport with the customer if the situation allows it. Reiterate that we want to help and will do our best to resolve his problem. Demonstrating that we are professional and helpful is important. Make sure the customer knows that we appreciate him bringing the problem to our attention as he is part of the solution after all.

Communicate. Be open and transparent, and make sure the customer understands what we are doing about his needs. Check to make sure that our solution is acceptable to him and that it resolves his issue. Use all possible channels to contact the customer if necessary: email, telephone, online feedback, etc. which have enabled us to keep the communications with customers in an open manner.

If you would like to acknowledge and recognise our staff as HPRG's Service ICONS, please let us know via these channels:

Website portal  ² to access the Customer Service Feedback webpage

Download HSA's 'Customer Service Feedback Form' via  ³ and email to HSA_HPRG_NEX2US@hsa.gov.sg or mail the form to the following address:

**Service ICONs of Health Products Regulation Group (HPRG)
NEX2US Newsletter, Health Products Regulation Group
11, Biopolis Way, #11-01 Helios, Singapore 138667**



Upcoming Events

Watch Out for HSA's Upcoming Events!

HSA will be organising regulatory seminar and communication events in the upcoming months. These events are listed below and we would like to give our stakeholders a heads-up on some of our upcoming events.

9-10 September 2013	
Conference Theme : Enhancing Scientific and Regulatory Collaboration on Safeguarding Public Health	
Name of Event	HPRG Health Products Regulatory Conference 2013 (previously known as Joint Regulatory Workshop)
Purpose of Event	<p>The inaugural Health Products Regulatory Conference (HPRC) will be held in September 2013 over a span of 2 days. Previously, HPRC was known as HPRG Joint Regulatory Workshop (JRW).</p> <p>The theme "Enhancing Scientific and Regulatory Collaboration in Safeguarding Public Health" signifies our goal to strengthen communication and collaboration with all stakeholders to protect and advance public health.</p> <p>This conference aims to update industry stakeholders on the latest global & local developments and challenges on health product regulations from international and scientific experts in other regulatory authorities, academia, industry and local partner agencies. In addition, HPRG speakers will also share new or revised regulatory policies and regulations and solicit feedback from stakeholders.</p>
Target Audience	Industry

November 2013 (To be confirmed)	
Name of Event	HPRG's Excellent Stakeholders and Partnership Awards 2013
Purpose of Event	To recognise and encourage stakeholders who have been meeting and adhering to high standards of health products regulatory requirements and have been willing partners in contributing to the improvement of the public health system.
Target Audience	Industry, healthcare professionals, associations and other public agencies (to be confirmed).



Announcements

Advisory Notice

It has come to HSA's attention that some members of the industry have been quoting HSA's name, logo and test reports in their promotional materials, including websites. Such inaccurate representations are misleading and can cause confusion to the public.

A case of interest is where an advertisement of a cosmetic product carried HSA's logo and claimed that the advertised product was approved by HSA. Another case was one that involved a popular online website which carried HSA's logo and claimed that their health supplements were HSA-approved. HSA also came across an individual who advertised medicinal products using his name card and which also carried HSA's logo.

Members of the industry are reminded that the use of the HSA logo or any other non-factual statements suggesting that HSA has accredited or approved their health products is strictly prohibited under section 38 of the Health Sciences Authority Act which states that 'The Authority shall have the exclusive right to the use of such symbol or representation as it may select or devise and thereafter display or exhibit such symbol or representation in connection with its activities or affairs. Any person who uses a symbol or representation identical with that of the Authority, or which so resembles the Authority's symbol or representation as to deceive or cause confusion, or to be likely to deceive or to cause confusion, shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$10,000 or to imprisonment for a term not exceeding 6 months or to both.

You are advised to report to HSA via **Tel: 68663485** or email at **HSA_IS@hsa.gov.sg** should you come across cases of unauthorised use of HSA's name or logo. HSA values your partnership in safeguarding public health and safety.



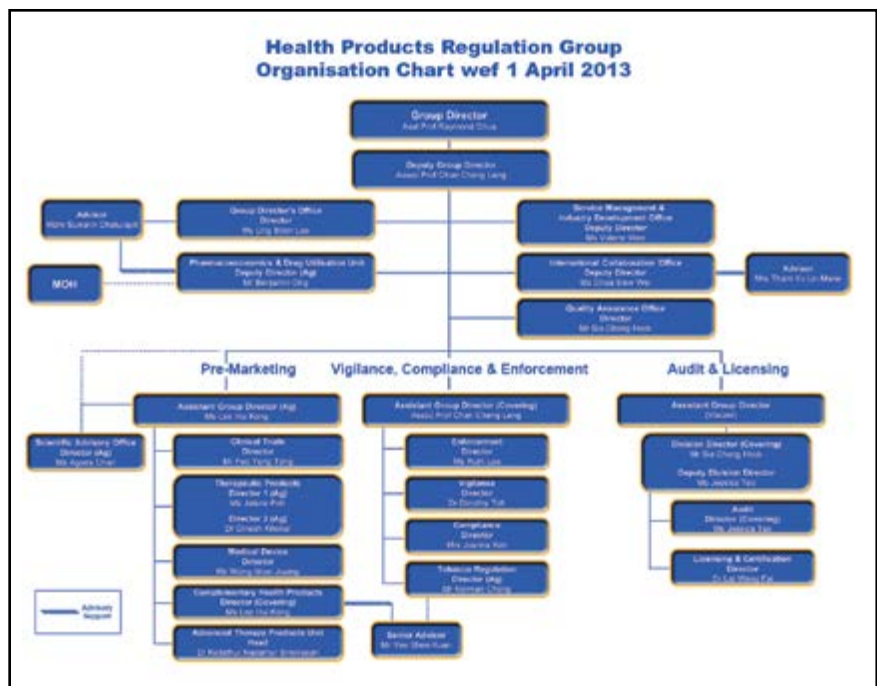
Introducing the newly-formed Therapeutic Products Branch in HPRG

With effect from 1 April 2013, the *Pharmaceuticals & Biologics Branch (PBB)* and the *Generics & Biosimilars Branch (GBB)* in *Health Products Regulation Group* have merged to form the *Therapeutic Products Branch (TPB)*.

The main objective of the restructuring is to streamline and align policies, processes and operations amongst the two branches in the registration and approval of western medicinal products (new chemical drugs & biologics, generics and biosimilars).

The TPB is headed by Ms Jalene Poh (Acting Director 1) and Dr Dinesh Khokal (Acting Director 2), who will oversee the clinical/non-clinical and quality evaluation of drug applications respectively. Ms Lee Hui Keng, Acting Assistant Group Director, Pre-Marketing, will now oversee the pre-marketing approval of existing and new health products in Singapore.

Please visit the TPB website at the following link for more information.  ⁴

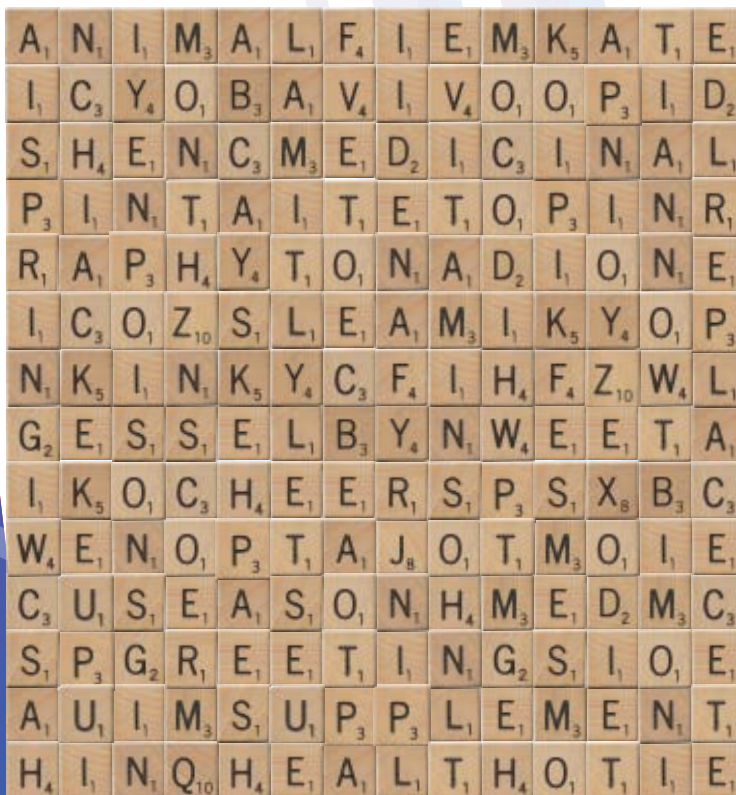


Fun Learning

FIND THE HIDDEN WORDS!

Look for the underlined words in the maze of jumbled letters. Words can be found spelled horizontally, vertically, diagonally, forward, or backwards but always in a straight line.

1. Retinol, cholecalciferol, pyridoxine, alpha tocopherol are all vitamins.
2. Phytonadione is a form of vitamin K that is allowed for use in some health supplements.
3. Health Supplements are used to supplement a diet, with benefits beyond those of normal nutrients and/or to support or maintain the healthy functions of the body.
4. Health supplements should not be used to replace any meal.
5. Health supplements may not be used to treat or prevent a disease and so may not make medicinal claims.
6. Transmissible Spongiform Encephalopathy (TSE) risk minimisation should be considered when using substances of animal origin in health supplements.
7. N-Acetylcysteine may not be used in health supplements.
8. Health Supplements cannot contain substances listed in the Schedule of Poisons Act.



We welcome your feedback!

Please email the Editorial Team at hsa_HPRG_NEX2US@hsa.gov.sg or mail us at the following address:

**NEX2US Newsletter,
Health Products
Regulation Group,
11 Biopolis Way,
#11-01 Helios,
Singapore 138667.**

Your Newsletter
Your Comments

Previous Issue's Fun Learning Answers

2. HSA has issued more than (88+88) CPM importer licences, [(8+8+8) x (8+8) x 0.8 x 0.8] CPM wholesale dealer licences and (8+8+8+8+8) CPM manufacturer licences, of which 11 are ___ certified.

(a) GAP, (b) GDP, (c) ISO, (d) GMP
- correct answer (d) GMP

4. A new CPM listing application has a processing timeline of ___ working days, starting at the point when the application is accepted for evaluation.

(a) 30, (b) 60, (c) 90, (d) 88
- correct answer (b) 60

5. All CPM new and amendment applications are currently _____!

(a) free of charge, (b) charged differently, (c) charged exorbitantly, (d) not done online

- correct answer (a) free of charge

6. HSA conducts regular post-market sampling of CPM for _____, as well as compliance checking of CPM product labels.

(a) oranges, (b) prosperity, (c) testing, (d) snakes

- correct answer (c) testing

URL Address Listings < 1 > <http://www.hsa.gov.sg/publish/hsaportal/en/services/medics/smdr.html> **< 2 >** http://www.hsa.gov.sg/publish/content/hsaportal/en/health_products_regulation/RateServiceIcons.html **< 3 >** http://www.hsa.gov.sg/publish/hsaportal/en/health_products_regulation.html#page=tab11 **< 4 >** http://www.hsa.gov.sg/publish/western_medicines.html