**APAMI**

**Asia Pacific Association for Medical Informatics (APAMI)**

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**APAMI Membership**

The Asia Pacific Association for Medical Informatics (APAMI) current, active eleven (11) member societies include: (1) the Health Informatics Society of Australia (HISA), (2) the Hong Kong Society of Medical Informatics (HKSMI), (3) the Indian Association for Medical Informatics (IAM), (4) the Japan Association for Medical Informatics (JAMI), (5) the Korean Society of Medical Informatics (KOSMI), (6) the Health Informatics New Zealand (HiNZ), (7) the Philippine Medical Informatics Society (PMIS), (8) the Health Informatics Society of Sri Lanka (HISSL), (9) the Association for Medical & Bioinformatics Singapore (AMBIS), (10) the Taiwan Association for Medical Informatics (TAMI), and (11) the Thai Medical Informatics Association (TMIA). APAMI has a number of observer members including societies from Bangladesh, Indonesia, Malaysia, and Nepal. Although Kazakhstan, Pakistan, and Vietnam had APAMI member societies in the past, APAMI leadership has been unable to elicit any updates recently from these member societies. The current APAMI website is available at: https://www.apami.org/.

**APAMI 2021 Activities**

The COVID-19 pandemic has led to significant changes in the way people work. One of these changes involves increased use of video conferencing as a means of holding work meetings. APAMI secretariat facilitated a number of engagements in the region. The Asia Pacific Association for Medical Information will jointly host the “2022 APAMI and TMU Joint International Conference: Precision Care: Current and Future Trends of Technology Application and Interdisciplinary Integration” next year at Taipei Medical University (TMU), Taiwan. This agreement between APAMI and TMU has already been signed.

The “FHIR for Smart Medicine” was an international conference (Webinar) representing a broad array of data sciences held on October 14, 2021. The theme of the conference was “Fighting the Pandemic”. This conference was organized by the Graduate Institute of Biomedical Informatics (GIBI) of Taipei Medical University (TMU) in association with the Asia-Pacific Association for Medical Informatics (APAMI) and International Medical Informatics Association (IMIA) – the world’s largest association for the advancement of medical informatics. APAMI’s president, Professor Naoki Nakashima, was one of the speakers in this conference.

APAMI also conducted two executive committee (EC) meetings and three general assembly (GA) meetings in 2021. Almost all members joined in the GA and discussed on the annual financial statement, last year activities and future directions. The GA also officially selected Taiwan to be the host country for organizing the APAMI 2022 conference and Professor Chien Yeh Hsu will be the President.

![Fig. 1 The General Assembly (GA) Meeting of APAMI held on April 26, 2021.](image-url)
Information on IMIA Regional Groups

APAMI Publishing Journals
The Journal of Computer Methods and Programs in Biomedicine (CMPB) and BMJ Health & Care Informatics (BMJ HCI) have been attached with APAMI as official journals.

Reports of APAMI Member Societies
The Health Informatics Society of Australia (HISA)
In Australia, 2020 was referred to as a 'dumpster fire' of a year. We started 2021 finally out of lockdowns and looking forward to year where COVID was put behind us as we were back at zero cases. But of course, the global pandemic had other ideas. Melbourne, where the AIDH is headquartered, received global recognition as the most lock downed city on the planet – 263 days in lockdown. But despite the hardships, the community have rallied around each other and around our healthcare workers and we are so proud that at the time of writing 93% of people aged over 16 are double-vaxxed and we are all lining up for our booster shots now with Omicron on the march.

Even as the pandemic continued to be the health system’s greatest burden, the healthcare sector’s interest in digital health strengthened – as evidenced by our membership growth of 36% since the beginning of the pandemic. Some of our long-held goals (and dreams) came to fruition at the Institute this year and our members, by and large, had a good year.

This year we saw the opportunity for our community to be a catalyst for change. The pandemic brought into sharp focus the pressing need for health’s ecosystem to be accessible and seamless for consumers, wherever they live. The focus on virtual care and telehealth, the emergence of digital public health and the increased need for sharing secure health data converged to provide a new impetus for health reform. From hospitals to primary and aged care, rural and remote, mental health and social care, the Institute believes digital health will be the way to bring together this fragmented environment.

Some of our key achievements this year include:
• In December 2021, the Institute was named among 21 health groups to receive a share of $23.7 million funding over three years as part of the National Preventative Health Strategy. This is the first time we have received government funding and it will be a game-changer for us;
• A voice for members! We put advocacy and the digital health workforce agenda front and center in the 2021-25 strategic plan, which was endorsed by our expert Fellows, Members, and supporters;
• Membership at all levels grew strongly. Health professionals are telling us they value the knowledge and the networking. They are signing up for certification, taking part in think tanks, and looking for digital health connections across healthcare;
Members voted Bettina McMahon, Damian Green, Belinda Lange and Gillian Mason on to the Board, where Bettina was re-appointed Chair;
- We launched a national leadership program for Women in Digital Health, the first of its kind in Australia, designed to enable women to advance their careers in digital health. This will be modelled from the successful program begun in the USA with AMIA’s Women in AMIA Leadership program and we are eternally grateful for Professor Wendy Chapman for spearheading this program in Australia.
- The first gender diversity in digital health survey was launched in collaboration with Telstra Health, Digital Health Cooperative Research Centre (DHCRC) and CSIRO’s Australian e-Health Research Centre (AEHRC). The results of this survey will help direct some of our activities in 2022 and beyond;
- We contributed a digital health perspective and submission to the discussion paper for the Australian government’s Primary Health Care 10 Year Plan.
- A member-led submission was made into the review of the National Health Privacy Rules 2018 by the Office of the Australian Information Commissioner;
- We took a position on the use of digital vaccine passports and the need for Australia to be on the front foot in managing returning travelers’ records, and we endorsed a standards-based solution and infrastructure based on SMART Health Cards and HL7 FHIR resources. Of course, the inimitable Grahame Grieve is leading this effort.
- A new partnership was forged with the Aged Care Industry Information Technology Council (ACIITC) to support the national agenda for aged care reform;
- The 2021 national cybersecurity survey was launched and will strengthen our national agenda for aged care reform;
- A new partnership was forged with the Australian Nursing and Midwifery Council (ANMC) to support the National Nursing and Midwifery Digital Health Capability Framework which has now gone global, with our work forming the basis for the ‘all Ireland’ digital health capability framework;
- Our Industry Genomics Network Alliance, InGeNA had a very productive year. We published the InGeNA strategic plan, as well as a key report on genomics data and a whitepaper on the impact of genomics on healthcare. Two other reports are in the pipeline and will be released early in 2022. InGeNA is supported by more than 15 industry bodies and organisations along the value chain of genomics and digital health. The aim of InGeNA is to integrate genomics into healthcare. We will have more to report on our contributions to that goal in next year’s report.

While we had a successful 2021, 2022 will continue to pose challenges for the Institute due to the disruption to our traditional revenue streams making it difficult to meet the rising expectations of our members and the health community. We will meet these challenges by continuing to evolve and by putting our people at the heart of everything we do.

We send our condolences to all who have lost someone, who are dealing with ongoing personal and professional hardships. We wish our IMIA friends and colleagues all the best for 2022 and look forward to being able to see you, in-person, in 2023 at MedInfo in Sydney. In the meantime, we also send you virtual, socially distanced hugs.

[2] Hong Kong Society of Medical Informatics (HKSMI)
The COVID-19 pandemic has badly hurt the economy, social and health situation in Hong Kong. It also urges the health informatics activities to adapt to a new normal. In the last year, the Hong Kong Society of Medical Informatics members are busy dealing with arrangement and logistics work for zoom meetings, google teams, working from home, etc. COVID-19 tracing and vaccination scheduling and records dealings are busily haunting the community. All social and educational activities are halted, and we are looking for a brighter future when the pandemic hopefully subsides.

[3] The Indian Association for Medical Informatics (IAMi)
India has been able to weather the ongoing COVID-19 Pandemic in a systematic manner through evidence informed decisions. India used the pandemic as an opportunity to leverage health information systems in particular the Integrated Disease Surveillance Program and the electronic vaccine information network towards augmenting the public health response to the pandemic. Overall health statistics from India have indicated a huge scope for improvement since long. With the pandemic level outbreak of COVID-19, there was a feeling of gloom and a possibility of an impending catastrophe. Efforts were made to improve the health infrastructure across the country riding on a Health IT platform which had huge positives directly in stemming the ill effects of the pandemic but also promise to stand India in good stead in the future.

We outline the countrywide healthcare provision and within it, the adoption of health information systems.

For the bottom 40% of the population which depended on public healthcare were allowed a widening of possible solutions by the provision of a new government funded health insurance program titled Prime Minister’s Jan Ayushman Yojna or PMJAY in short. Payouts were direct to the healthcare providers and automated through a massive online claims platform. Even public hospitals too could shore up their funds situation by claims for care availed by possible beneficiaries. Not all states adopted this scheme, but these...
were early years. Side by side the rigid claims platform was increasingly showing the value of IT based checks in exposing fraud:

A. 10 - 15% could avail of specific employer based or private insurance schemes. Here too, most healthcare IT was for servicing claims;

B. However, still for a large majority roughly 40-50% healthcare was still funded by the patient’s own pockets with sometimes catastrophic expenses.

The attempts since many years to expand telehealth services and its facility had been frustrated by poor adoption, more so by the healthcare providers who were worried about legal implications. To circumvent this issue, in March 2020, the newly resurrected National Medical Council released a set of Telemedicine Practice Guidelines (TPG). The release was early enough and had a great impact on widespread usage of Teleconsultations and helped protection against and also provide remote care for COVID by many care providers as well as patients, a mobile App titled Arogya Setu created an early warning system for exposure to COVID.

In January 2021, India launched the world’s second biggest COVID vaccination program using indigenous vaccines. The national electronic vaccine intelligence network (eVIN) was upgraded as COWIN - An online appointment system with strict checking of the appropriate beneficiaries and an instant barcode enabled vaccine certificate have showcased how largescale Information technology enablement is possible even in a country housing one sixth of the world’s population.

The National Health Policy 2017 had outlined the establishment of a National Digital Health Mission and the operational plan was articulated in the National Digital Health Blueprint (NDHB). It outlined the need for creating an electronic health record (HER) for each and every individual of the country. India launched the Ayushman Bharat Digital Mission in the middle of the pandemic with an ambitious goal of generating health identifiers (Health ID) as the pivotal intervention towards operationalizing the program. PMJAY is a testament of the growing recognition by the government towards strengthening health information systems. These large health informatics initiatives are not without the inherent risks, for example centralization of large amounts of health data across insurance providers into health data repositories amplify potential for data breaches and cyber security threats. While many steps towards interoperability through EHR standardization had been undergoing from as early as 2013, a major advance has recently been added. This is to create a Unique Health IDentity (UHID) for every individual, as well as Provider and Facility IDs [1]. Creation of over 150,000 wellness centers for delivery of comprehensive primary healthcare leveraging a telehealth platform are another showpiece of the healthcare Infrastructure of our country. A collaborative effort by leading health information systems experts in close partnership with the Ministry of Health witness the development of a conceptual framework for enterprise architecture for delivering comprehensive primary health care [2].

[4] Japan Association for Medical Informatics (JAMI)

As of December 31, 2021, the Japan Association for Medical Informatics (JAMI) has more than 3,750 members consisting of about 2,490 regular members, 390 affiliate members, and more than 2,870 members in other categories. Professor Naoki Nakashima has been leading the board members as the president since 2019. JAMI has tried new style of academic congresses in 2021 following 2020 due to COVID-19 pandemic. The Annual Spring Conference was held on June 11-12, 2021 in Yonago, city of Tottori prefecture, as a hybrid conference (both online and onsite). The theme of the conference was “The Beginning of Medical Transformation”. Besides the onsite participants, more than 1,500 attendees remotely participated in this conference from JAMI and other societies, and discussed various hot topics in biomedical informatics.

The 41th Joint Conference on Medical Informatics (JCMII41) was held on November 18-21, 2021 in Nagoya, city of Aichi prefecture, also as a hybrid conference. More than 2,900 attendees joined to this conference. The theme of the conference was “Medical Service in New Normal style after DX”. Regarding JAMI Healthcare Information Technologists, it was a matter of great pleasure that we could restart the certification examination in 2021, which we had to cancel due to COVID-19 in 2020.

Now we have 4,155 and 131 candidates of Health Information Technologist and Senior Healthcare Information Technologist respectively for the examination in 2021.

The Japanese Ministry of Health, Labour and Welfare has been promoting healthcare/ medical information infrastructure development under the project “Data Health Innovation Plan” by HL7 FHIR with other standards since 2020. The project includes nationwide reformation of Electronic Health Record (EHR) and Personal Health Record. JAMI is involved in this project and exerts all possible efforts on it.


South Korea announced the amendments of the Personal Information Protection Act ("PIPA") to develop a ‘data economy’ by introducing the concept of ‘pseudonymized data’ and a legal basis upon which data may be utilized more flexibly (to an extent reasonably related to the original purpose of collection. The Personal Information Protection Commission (the “PIPC”) also published its “Comprehensive Guidelines on Processing Pseudonymized Data”. In addition, Ministry of Health and Welfare (MOHW) and PIPC published the specific guidelines on de-identification process and utilization of healthcare data.

As of November 17, 2020, the Korean Society of Medical Informatics (KOSMI) has more than 9,653 different types of members consisting of 265 life time members, 545 full members, 126 student members, 8,714 Web members, and 3 institute members. KOSMI is organizing biannual academic conferences, seminars on different topics, and publishing the Health Informatics Research (HIR), an official journal of KOSMI four times per year.

The spring conference was held at Bundang Cha Medical Center in Kyunggido from July 8 to July 9. The theme of the conference...
was “Voyage to the Medical One Patient, One Record” and 819 members participated in the conference. Keynote speakers are from Health Insurance Review & Assessment Service. There were four tutorials, 23 symposiums, 17 paper presentations, and 38 poster presentations. Three papers, three posters were awarded as the best papers and poster respectively at the conference. The fall conference was held at Yongin Severance Medical Center from November 4 to November 5. Keynote speakers are Soonman Kwon from Korea Health Industry Development Institute. Totally, 864 members participated in the conference. Also, BIT medical information academy prize, by BIT computer company, also awarded.

KOSMI published the 27th volume of the Health Information Research (HIR) in 2021. The HIR publishes four issues in English including four editorials, six review articles, 23 original research articles, six case reports, three tutorials, and two communications. The Journal was accredited by the Korea Research Foundation in 2006 and registered as one of prestigious academic journals in Korea.

[6] Health Informatics New Zealand (HiNZ)
The ongoing lockdowns in New Zealand led to the cancellation of our annual conference for the second year in a row. Between lockdowns, we managed to run two in-person events in early-mid 2021, but otherwise we went fully virtual. To keep our members informed and connected, we transformed our organisation into a media company, moving away from our historical reliance on event revenue. We now deliver regular webinars, podcasts, and a digital/print magazine called 'Digital Health CONNECT' to our community. Our online news service 'eHealthNews.nz' has continued to keep our community informed with daily news updates.

In 2021 we launched a fellowship programme (FHiNZ), appointed our first 35 Fellows, and launched an online forum 'eHealthFORUM'. We also launched a new service 'HiNZ Media Management', which enables us to generate revenue by supporting other health-related associations who wish to run professional webinars, but who don’t have suitable in-house capability.

[7] Philippine Medical Informatics Society (PMIS)
On November 9, 2019, the Philippine Medical Informatics Society (PMIS) with support from the University of the Philippines Manila - Medical Informatics Unit co-organized the Electronic Health Records (EHR) Summit at the Philippine Heart Center. With more than two hundred guests, the one-day event featured leaders from the public and private sector discussing current trends and challenges with digital health from their respective agencies. Foremost in the exchanges was the importance of governance in managing the complexity of digital health design and implementation.

In the context of the newly passed Universal Health Coverage law, it is anticipated that digital health will be one of the levers by which UHC can be achieved.

The year 2020 was marked by the emergence of the coronavirus pandemic. While almost all sectors of society ground to a halt, health informatics activities were at a flurry having been one of the sectors that had been regularly holding webinars even before the crisis. PMIS leaders were invited to give lectures and participate in online panels. Health IT applications such as telemedicine platforms and electronic medical records proliferated the health sector. Specialized applications such as contact tracing were submitted for consideration by a government-led national inter-agency task force. Amidst all of these, PMIS leaders led the development of telemedicine guidelines which became a resource for the Department of Health in their issuance to all telehealth practitioners in the country.

Still challenged with the pandemic, the Philippine Medical Informatics Society (PMIS), now operating under the governance and management of the Philippine Society for Digital Health (PSDH), created an advocacy program to ensure that all sectors of society are prepared to undertake their respective roles in the upcoming Universal Health Care Act. To this end, PMIS offered two events crucial to the success of this law. The Department of Health led the webinar on “Mandatory Adoption of National Health Data Standards” explaining the recently released policy. This was followed by a webinar on “Telemedicine and Primary Care” from the University of the Philippines Manila and selected community doctors from remote areas of the country. Both webinars aimed to gather all the relevant stakeholders in the country and encourage them to take a whole-of-society approach in crafting digital health solutions to the health problems of the country.

Of note, the national health data standards included local data elements (such as national health identifiers and organizational unit codes) and international ones (such as ICD-10, CPT 2011, and SNOMED, and HL7 FHIR). The policy also included a process flow for the addition and deletion of standards opening up the catalog to as many stakeholders as possible. The PMIS through PSDH aims to build capacity on how to use these standards effectively to respond to the urgent needs of government (universal health coverage) but also facilitate research through standardized observational health data studies. In summary, the work of PMIS will expand from just clinical informatics to digital health as defined by the World health Assembly in their 2018 resolution [3].

[8] Health Informatics Society of Sri Lanka (HISSL)
The year 2021 was a busy year for the Health Informatics Society of Sri Lanka (HISSL). The members of HISSL, which is the main technical partner of the Ministry of Health, Sri Lanka, were involved in various projects in the health sector of Sri Lanka.

These projects included the following:

(i) The online learning platform of the Non-Communicable Disease (NCDs) Unit of the Ministry of Health funded by the World Health Organisation (WHO). Platform consists of 14 online courses on NCDs targeting doctors and other healthcare providers;
(ii) The front of the package food labelling database funded by the WHO and developed as part of the food labelling campaign of the Ministry of Health;
(iii) The eLMS project which aims at transforming nursing, midwifery and other paramedical training courses into blended programs in partnership with the WHO and the Sri Lankan College of Medical Educationists.
At international level, HISSL continues to be the main technical partner of the Commonwealth Centre for Digital Health (CWCDH) supporting all its activities including the Commonwealth Digital Health Awards. CWCDH and HISSL developed and implemented the Self Shield App as a home monitoring solution as a part of the national COVID-19 patient home monitoring programme of the Ministry of Health. HISSL also participated in the projects supported by Vital Strategies, CDC foundation, and AeHIN in Sri Lanka.

The members of HISSL, many of whom are academic staff of the University of Colombo, are the driving force behind the MSc in Biomedical Informatics and MSc Health Informatics Programs of the University. In spite of the pandemic the programmes continued. The landmark achievement of the programme this year was the board certification of the first batch of specialists in Health Informatics. They are all members of HISSL.

[9] Taiwan Association for Medical Informatics (TAMI)
The Taiwan Association for Medical Informatics (TAMI) supports research based on medical informatics, improving the quality of medical information, and augmenting international relations in the medical community. TAMI has nearly 300 active members, including clinical workers, information technology office members, academic researchers, and industrial engineers. TAMI contributes to enhancing communication and collaboration with international medical organizations, as well as promoting the exchange of a wide spectrum of medical information in Taiwan.

Events that took place in 2021 and those are to be organized hereafter as follows:
1. The Joint Conference on Medical Informatics in Taiwan (JCMIT) was organized by TAMI, National Taipei University of Nursing and Health Sciences, Taipei Veterans General Hospital, on September 25th - October 3rd, 2021. The main topic of the conference was “Information and Communication Technology of Digital Healthcare in the era of Epidemic” and it was attended by medical experts, researchers, and scholars from various countries with whom we discussed issues in medical information systems;
2. Taiwan Healthcare CIO Summit was organized by TAMI, iHome, New Taipei City Tucheng Hospital, on November 4th and 5th, 2021. The main topic of the conference was “Telehealth and Smart Health care” and it was attended by Taiwan hospital director and deputy director, chief information officer, chief information security officer, and hospital information director. Build an interactive bridge for hospital information managers and IT solution providers, accelerate the follow-up of the latest medical information trends, and make strides towards the goal of a smart hospital;
3. TAMI continuously holds licensing examinations for assessment-based certification. We provide Medical Informatics Manager and Analyst Certificates for participants who meet the standards of knowledge of health information technology and management of the complex social organizational issues surrounding it. In 2021, we provided 201 and 497 such certificates, respectively, with a total pass rate of 68.2%;
4. We are going to host the 20th World Congress on Medical and Health Informatics, MedInfo 2025, in Taipei, Taiwan. Therefore, we will be ready to integrate advanced networks, assemble patient data, and promote the development of telehealth to demonstrate Taiwan’s achievements in Smart Medicine and eHealth;
5. We are going to host the Asia Pacific Association for Medical Informatics, APAMI conference 2022 in Taipei, Taiwan. The Asia Pacific Association for Medical Informatics is an important regional group within the International Medical Informatics Association (IMIA) and it represents an extension of IMIA’s global interests in promoting IT in healthcare.

[10] Thai Medical Informatics Association (TMIA)
In 2021, similar to every country, Thailand was hard hit with the third wave of the COVID-19 pandemic. At the height of the epidemic more than 30,000 infected cases and more than 200 deaths are reported per day. Most of the association activities are conducted online. However, TMIA annual conference 2021 was able to convene in hybrid fashion both limited onsite and unlimited online participations. The theme of this year conference was “Healthcare Digital Transformation in Pandemic Era”. The deputy minister of Ministry of Public Health, Dr. Satit Pitutacha, came and gave the keynote speech on “Thailand’s health System in digital health era”. The minister also bestowed the TMIA’s Hospital Accreditation on Health IT (HAIT) certification to two hospitals that achieved the TMIA’s Hospital IT Quality Improvement Framework (HITQIF) certification criteria. There were 132 participants from all provinces across Thailand attended the conference. Twenty-three percent were clinicians (doctor/nurse), 51% were IT professionals and 26% were health management information system officers and coders. Throughout the year 2021, TMIA could also provide several workshops and training most of them conducted online. They are basic and advance healthcare analytics workshops, health IT project management workshops and the basic ICD-10 training and workshop.

TMIA has played a crucial role in the field of biomedical and health informatics in Thailand by working with both local and international health communities and industries for sharing and exchanging news, information and knowledge in the field. This year TMIA and many IT partners co-organized “Health Tech 2021 Thailand Conference” with The National Science and Technology Development Agency (NSTDA). The agency is affiliated to the Ministry of Higher Education, Science, Research and Innovation and reports to the NSTDA Governing Board, chaired by Minister of Higher Education, Science, Research and Innovation. As of December 2021, TMIA has 450 registered members and around 50% are health care professionals.

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