

「Asia-Pacific Medical Network Project in
Kyushu University Hospital」 TEMDEC
(Telemedicine Development Center of Asia)
Annual Report : Vol.14

<https://doi.org/10.15017/4403551>

出版情報：「超高速ネットワークを利用したアジア遠隔医療プロジェクト」 TEMDEC活動報告. 14, 2018-
03. TEMDEC事務局
バージョン：
権利関係：



8. Engineer Training Program

8-1. Train-the-Trainer (TTT)

We organized a telemedicine technology training program entitled “Train-the-Trainer” (TTT) in last August 14 to September 8, 2017. The aim of this program was to train the participants to develop their skill to conduct telemedicine as a chief engineer in their own country’s institution. Six engineers from five countries -Brazil, Colombia, Mexico, Vietnam, and the Philippines, participated in this program. Trainees worked with TEMDEC engineers to understand:

1. How the telemedicine event is organized
(Flow of staff: doctors, engineers, coordinators and all)
2. Required audiovisual quality level for telemedicine
3. Teleconferencing systems
4. Technical preparations
5. How to troubleshoot

During the training period, trainees were added to the mailing lists for teleconferences to better understand the sequence of events on how a telemedicine event is conceptualized and eventually organized. We explained and demonstrated three telemedicine systems used in this center (DVTS, H.323, and Vidyio). Trainees were allowed to set-up and control each systems by themselves (Figure 8-1, 8-2) They joined set-ups, tests and some telemedicine programs. A tour of operating and server rooms was conducted (Figure 8-3, 8-4).



Figure 8-1 Training scene



Figure 8-2 Training scene



Figure 8-3 Operation room tour



Figure 8-4 Server room tour

They also connected to the centers of their country from TEMDEC during one of the test sessions. Finally, each participant was able to perform their own teleconference, connecting hospitals and universities in their countries (Table 8-1.); they functioned as the chief engineer, wherein they presented and discussed their achievements during the training program (Figure 8-5, 8-6).

(Kuriko Kudo)

Table 8-1 Training Report Teleconference

Date	Title	Method	Venues (Country)
2017.09.05	Training Report of Endoscopy and Engineering with Mexico	H.323, PEXIP	Kyushu University Hospital (Japan), National Cancer Institute of Mexico(INCan) (Mexico), Hospital Civil of Guadalajara Dr. Juan I. Menchaca (Mexico), Mexican National Polytechnic Institute Medical School (Mexico), Corporacion Universitaria para el Desarrollo de Internet (Mexico), High Specialty Regional Hospital Ixtapaluca (Mexico), University of Costa Rica (Costa Rica)
2017.09.06	Training Report of Endoscopy and Engineering with Brazil	H.323, Vidyo, Streaming	Kyushu University Hospital (Japan), University of Sao Paulo, Sao Paulo (Brazil), Brazilian National Cancer Institute (INCA) (Brazil), Rede Universitaria de Telemedicina(RUTE) (Brazil), Faculty of Medicine of Sao Jose do Rio Preto (FAMERP) (Brazil)
2017.09.07	Training Report of Endoscopy and Engineering with Colombia	Vidyo	Kyushu University Hospital (Japan), University Javeriana Cali (Colombia), Imbanaco Medical Center, Sede Principal (Colombia), University Libre, Colombia (Colombia), University of Costa Rica (Costa Rica), Universidad Catolica de Chile (Chile)
2017.09.07	Training Report of Engineering with the Philippines	Vidyo	St. Luke's Medical Center Quezon City (Philippines), Advanced Science and Technology Institute (Philippines), University of the Philippines Manila General Hospital (Philippines), Kyushu University Hospital (Japan)
2017.09.07	Training Report of Engineering with Vietnam	H.323, Vidyo	Kyushu University Hospital (Japan), Hue University of Medicine and Pharmacy (Vietnam), University Medical Center HCMC (Vietnam), NASATI Office (Vietnam), Cho Ray Hospital (Vietnam), Hue Central Hospital (Vietnam), Viet Duc Hospital (Vietnam), St. Luke's Medical Center Quezon City (Philippines)



Figure 8-5 Presented slide



Figure 8-6 Scenes of training report teleconference

8-2. Telemedicine Engineer Training (TET)

TEMDEC organized a Telemedicine Engineer Training program (TET) last August 27 (Sunday) to September 1 (Friday), 2017 which was supported by TEIN* CC. It was attended by 21 engineers from 11 countries. The engineers learned how to organize programs, make technical preparations, and do troubleshooting, by supporting 13 medical teleconference sessions, connecting 89 institutions in 21 countries.

The engineers were divided into 5 teams: red, blue, green, pink, and yellow. Each team was composed of 1 to 2 trainers and 2 to 3 trainees. Badges were distributed to members of each team for identification. In a regular telemedicine conference, only 1 to 2 engineers are needed to support a session, however, during this training, 4 teams worked together during a session. Every team was given a task: venue engineer (responsible for all the technical aspects in the venue), network (streaming) support, audio/image support, and presentation support. The engineers and their respective teams successfully supported all the scheduled sessions assigned to them. I remotely supervised the training program from TEMDEC, Japan for 4 days. I travelled to Dalian, China on August 31, for the Engineering Workshop the next day.

Several issues were identified during the review sessions. First, is about information sharing, some organizers did not use the mailing list which caused miscommunication to some members. Using the mailing list may have its own disadvantage, like copying many unnecessary messages or email address errors, however, it minimizes the miscommunication among members. Second issue tacked was on “patient confidentiality/privacy”, some speakers included the patient’s information in their presentation, probably they are not aware of the policy. It was recommended that policy on “patient confidentiality/privacy” should be reminded to all organizers/speakers.

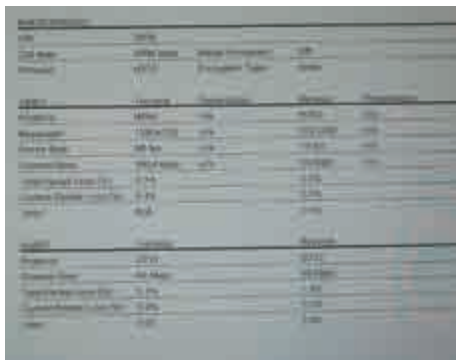


Figure 8-7 Call status at venue H.323



Figure 8-8 Training scene

Team	Trainer		Trainee		
Red	Zahir	Quy	Niraj (NP)	Pramod (NP)	Alexei (KG)
Blue	Chiang	Chakaphan	Xu (PK-CN)	Chunhui (CN)	Xipeng Lin (OI-PK)
Green	Satya	Nishi	Zhenyuan (TH-CN)	Shweta (JJ-SP)	
Pink	Tunggal	Aris	Yamamoto (ID)	Peggy (ID)	Aqua (ID)
Yellow	Minh		Thai (VN)	Loan (BM-VN)	

Figure 8-9 5 teams



Figure 8-10 Team badges

Third issue was the system of the training program. There were some instances that the trainer was the one who troubleshoots instead of the trainee, which should not be the case. It was recommended that a “Trainer’s Training” must be given before the program. Also we should make a simpler system for scheduling and technical review.

After that, we had a welcoming session for the new institutions. The “Peking Union Medical College Hospital” was introduced by Mr. Wang Xu and Ms. Xiaolu Lin (from Olympus China) and “Nanfang Medical University” by Mr. Zhenyu Chen. We also had the great opportunity to meet a team from Kyrgyz Republic from the “National Center Cardiology and Internal Medicine named after Mirsaid Mirrakhimov” which was introduced by Mr. Alexi Seremov.

Through this one-day workshop, we were able to share our experiences, problems, and was able to have a meaningful discussion. We were able to bond and learn about each other’s experiences. We may encounter problems during a session, but through cooperation and teamwork, we were able to overcome it. I hope that this collaboration will continue to grow and expand further in the future.

(Kuriko Kudo)



Figure 8-11 Training scene



Figure 8-12 Training scene



Figure 8-13 Group photo

APAN MEDICAL WORKING GROUP ENGINEERING TRAINING WORKSHOP at APAN44

DATE : 1st (FRI) September 2017, 11:00-17:00

VENUE : Room 9 (Medical WG room), Dalian International Finance Conference Center



11:00-11:10	Opening remarks	Dr. Shuji Shimizu (Kyushu University Hospital, Japan)
11:10-11:20	TEMDEC technical report	Ms. Kuriko Kudo (Kyushu University Hospital, Japan)
11:20-12:30	Session review from chief engineers 1 <small>*Session review from chief engineers (5min presentation + 5min Q & A) 1. Technical review (Network, Audio/Image, Presentation and overall). 2. Problem, action and future plan.</small> <div> <div>Chairs</div> <div>Mr. Satyanarayana Ungarala (Asian Institute of Gastroenterology, India) Mr. Mohamad Zahir Ahmad (University of Malaya, Malaysia)</div> <div>Commentators</div> <div>Mr. Pramod Jnawal (Patan Academy of Health Sciences, Nepal) Dr. Aqsa Sjuhada (Airlangga University, Indonesia) Mr. Le Minh Thai (Viet Duc Hospital, Vietnam)</div> </div> <div> <div>Technology</div> <div>Mr. Cao Duc Minh, Mr. Mohamad Zahir Ahmad</div> <div>Rural Healthcare</div> <div>Mr. Niraj Acharya, Mr. Nirajan Parajuli</div> <div>Fetus</div> <div>Mr. Hiroki Kazama, Mr. Shunta Tomimatsu</div> <div>MIS-JIPMER</div> <div>Mr. Mohamed Ishaq, Mr. Alvin M. de Gracia</div> <div>Endocrine Surgery</div> <div>Mr. Rezu Daman Chand, Mr. Satyanarayana Ungarala</div> <div>HPB</div> <div>Mr. Inho Lee, Mr. Shunta Tomimatsu</div> <div>Discussions (15min)</div> </div>	
12:30-13:30	Lunch	
13:30-15:00	Session review from chief engineers 2 <small>*Session review from chief engineers (5min presentation + 5min Q & A) 1. Technical review (Network, Audio/Image, Presentation and overall). 2. Problem, action and future plan.</small> <div> <div>Chairs</div> <div>Dr. Aria Kekalih (University of Indonesia, Indonesia) Mr. Cao Duc Minh (Vietnam Research and Education Network, Vietnam)</div> <div>Commentators</div> <div>Mr. Yuto Shimizu (Johnson & Johnson, Japan) Mr. Yanuarten Trianto Budiman (Gadjah Mada University, Indonesia) Mr. Pogygy Indra Aditya (Dr. Moewardi General Hospital, Indonesia) Mr. Alvin M. de Gracia (PREGINET, Philippines)</div> </div> <div> <div>Dental 1</div> <div>Mr. Tunggul Laksono</div> <div>Endoscopy(ECE)</div> <div>Mr. Mohamad Zahir Ahmad, Mr. Shunta Tomimatsu</div> <div>Endoscopy-PUMCH</div> <div>Mr. Nai Xi, Mr. Wang Xu, Mr. Zhenyu Chen, Ms. Yoshiko Houkabe</div> <div>Ophthalmology</div> <div>Mr. Tran Viet Quang Minh, Mr. Cao Duc Minh</div> <div>Dental 2</div> <div>Mr. Tunggul Laksono, Mr. Kuswindarto</div> <div>Endoscopy- AIG</div> <div>Mr. Satyanarayana Ungarala, Mr. Mohan Shanmugam</div> <div>MIS-Siriraj</div> <div>Mr. Wiraphon Manatarinat, Mr. Ti-Chaung Chiang, Mr. Chakaphan Sookcharoen</div> <div>Discussions (15min)</div> </div>	
15:00-15:30	Break	
15:30-16:50	Presentation from institutions <small>*Presentation from institutions (5min presentation + 5min Q & A) 1. Updated information such as network, systems, engineering staffs, etc (if any). 2. What you learned during this APAN meeting. 3. Future plan.</small> <div> <div>Chairs</div> <div>Mr. Ti-Chaung Chiang (National Taiwan University, Taiwan) Mr. Le Vuong Quy (108 Military Central Hospital, Vietnam)</div> <div>Commentators</div> <div>Mr. Chakaphan Sookcharoen (The Thai Red Cross Society, Thailand) Ms. Chunhui Xiao (Tsinghua University, China) Mr. Le Minh Thai (Viet Duc Hospital, Vietnam)</div> </div> <div> <div>Peking Union Medical College Hospital, China</div> <div>Mr. Wang Xu, Ms. Xiaolu Lin</div> <div>Nanfang Medical University, China</div> <div>Mr. Zhenyu Chen</div> <div>National Center Cardiology and Therapy named after Mirsaid Mirrakhimov, Kyrgyz</div> <div>Mr. Alexei Semenov</div> <div>Bach Mai Hospital, Vietnam</div> <div>Ms. Loan Dang Phuong</div> <div>Discussions (20min)</div> </div>	
16:50-17:00	Closing remarks	Ms. Kuriko Kudo (Kyushu University Hospital, Japan)



TRAINERS



TRAINEES



TEMDEC



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