

【短報】履修証明プログラム「多職種連携メディカルスタッフ教育プログラム」 CoMSEP-CP (Coordinated, Continuing, Medical Staff Education Program - Certificate Program) 多職種連携医療専門職養成プログラム / 筑波大学・茨城県立医療大学



【Short Report】 Development of a postgraduate continuing education program for allied medical professionals, designated the coordinated, continuing, medical staff education program (CoMSEP), in a collaboration between University of Tsukuba & Ibaraki Prefectural University of Health Sciences.

CoMSEP: Coordinated, Continuing, Medical Staff Education Program (Program Leader, Haruhiko NINOMIYA) <http://www.md.tsukuba.ac.jp/comsep/>

Correspondence to: [ninomiya\\_haruhiko.ft@u.tsukuba.ac.jp](mailto:ninomiya_haruhiko.ft@u.tsukuba.ac.jp)

### Abstract

A postgraduate continuing education program for allied medical professionals, designated Coordinated, Continuing, Medical Staff Education Program-Certificate Program (CoMSEP-CP), was developed in cooperation of two universities with different undergraduate education courses with grant-in-aid by MEXT, Japan, in 2015. CoMSEP-CP, a postgraduate interprofessional education (IPE) program, was objected mainly to medical laboratory technologists (MT), radiological technologists (RT) and physiotherapists (PT), one-year curriculum of which provides them basic and common knowledges and skills and prompts a personal network formation. Faculty members of University of Tsukuba and Ibaraki Prefectural University of Health Sciences, having undergraduate education courses for MT and RT/PT, respectively, collaborated to develop the curriculum. The curriculum is comprised of 40 introductory titles (e-learning), 36 advanced titles (schooling or e-learning) and 4 hrs annual joint meeting. Two-year implementation

from 2015 provoked us to revise the curriculum. The updating mechanism of the e-learning contents has been established by a coordination with an undergraduate IPE subject, which enables a renewal of the introductory titles every 4 years.

### Introduction

Coordinated, Continuing, Medical Staff Education Program (CoMSEP) by University of Tsukuba (UT) and Ibaraki Prefectural University of Health Sciences (IPU) is one of the programs accepted as a Problem-Solving Oriented Training Program for Advanced Medical Personnel with grant-in-aid for 5 years by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan, in 2014. One of the main structures of CoMSEP is a certificate program (CP), which is comprised of a 120 hr, one-year, curriculum for allied medical professionals including medical laboratory technologists (MT), radiological technologists (RT) and physiotherapists (PT). CPs are education programs with a more than 120 hr curriculum,

mainly targeting postgraduate workers, and approved by MEXT; differing from bachelor degree programs with more than 124 credits. Interprofessional initiatives in postgraduate and continuing professional education have been established for many years, mainly for nursing staff over a short period [Shakespeare et al., 1989; Parsell & Bligh 1998]. CoMSEP-CP is unique in its multiprofessional targets, professionals other than nurses. MT and RT work in the diagnostic process; PT work in the therapeutic aspect. These allied medical staff members have a tendency to join the patient-oriented team independently of each other. For the patient-oriented team to achieve the best outcome, understanding of the knowledge and skills of other professions is important, especially across the boundary between the diagnostic and therapeutic aspects. The aims of CoMSEP-CP are to provide these allied medical professionals with an opportunity to acquire basic and common knowledge and skills and to encourage communication in the medical/care team. We originally expected that, in addition to the sharing of knowledge and skills, a personal network, spontaneously organized by CoMSEP-CP learners, would help participants to lead the medicine/care team with novel visions in the future.

## Methods

Scheme of CoMSEP - CP ( Figure 1 )

In 2015, we developed a 120 hrs CoMSEP-CP curriculum for allied medical professionals at UT in collaboration with IPU faculty members. It included 40 introductory e-learning titles (60 hrs) and 36 advanced titles comprised of lectures or practical subjects (56 hrs). Advanced titles, including schooling, were scheduled for learning after the accomplishment of the introductory titles for each four categories. Attendance at the annual meeting held by UT and IPU (4 hrs) was also required. Because CoMSEP-CP is for working allied medical

professionals, all introductory titles and a significant part of the advanced titles were provided through the internet. A learning management system, named “manaba”, managed by Office of Educational Cloud, UT, supported CoMSEP-CP. UT and IPU, both located in Ibaraki prefecture, have undergraduate education courses for MT and RT/PT, respectively. Faculty members of both universities collaborated to develop this program. Tsukuba Medical Laboratory of Education and Research (TMER) also supplied e-learning titles as optional advanced titles under the agreements of copyright holders (Table 1).

E - learning contents ( Table 1 )

Introductory titles: MT included 3 titles of laboratory medicine, 3 clinical hematology, 2 pathology, 2 microbiology, 2 clinical chemistry, 3 immunology, 1 genetics, 3 clinical physiology, and 1 medical engineering (I-1-10; III-1-10); RT included 1 title of clinical radiology, 7 radiological diagnosis, 1 radiotherapy, and 1 radiological protection (II-1-10); PT included 1 title of introduction, 3 muscles and nerves, 4 respiratory rehabilitation, and 2 heart rehabilitation (IV-1-10),

Advanced titles including schooling: MT included 3 titles of hematological practice, 3 pathological practice, 3 clinical microbiology, 3 clinical chemistry, 3 chromosome and genetic examination, 3 clinical physiology (I-1-10; III-1-10); RT included 6 titles of diagnostic radiology, 3 safety, protection, and radiotherapy (II-1-10); PT included 3 titles of muscle and nerve practice, 3 respirator rehabilitation, and 3 heart rehabilitation (IV-1-10).

Submission of reports on every title, and an evaluation of grade C or higher, were required for the certification.

Updating of e - learning contents ( Table 1 )

In 2015 and 2016, we constructed archives of the e-learning contents. From 2017, we started a video

recording of an undergraduate subject, “Introduction to interprofessional medicine/care”, at UT. These video-recorded lectures will replace 1/4 of the introductory titles in CoMSEP-CP next year. From 2016, advanced titles (12 titles/ year) recorded at schooling were used as advanced e-learning titles for the next year. Therefore, the introductory and advanced titles of CoMSEP-CP will be refreshed fully every 4 and 3 years, respectively.

## Results

In 2015, of 29 allied medical professionals enrolled, 24 were granted the certificate. In 2016, of 19 allied medical professionals enrolled, 18 were granted the certificate. The main reason for failure was learners were too busy in their core business. An assessment of the program by the CP achievers was conducted and the results were analyzed by grade point average (GPA) scoring system (A 4, B 3, C 2, and D 0); GPAs assessed by 2015 and 2016 CP achievers were  $3.9 \pm 0.3$  (mean $\pm$ SD, n=13) and  $3.6 \pm 0.8$  (mean $\pm$ SD, n=9), respectively.

CoMSEP-CP has been approved as a Brush up Program (BP) for professional by MEXT from 2016. For the assessment as a BP, we asked the 2016 achievers’ supervisors in their institutions to assess the effectiveness of the program for the achiever. Although small in the number, some supervisors found visualized positive effects in CP achievers on aspects of team medicine/care, and on instructive manner towards undergraduate trainees.

A secondary but significant effect of the CoMSEP-CP is the spontaneous organization of a multiprofessional study group led by the CoMSEP-CP achievers. They have started to hold a regular workshop on team medicine/care with some support from the faculty members of CoMSEP.

## Discussion

In 2010, a global independent commission on Education of Health Professionals for the 21th Century was organized. It put forward a vision: all health professionals should be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in health systems as members of locally responsive and globally connected teams [Frenk et al. , 2010]. The Commission proposed a series of instructional and institutional reforms to be guided by transformative and interdependence in education [Frenk et al. , 2010]. A CAIPE (UK Centre for the Advancement of Interprofessional Education (IPE)) survey of IPE in the UK in 1988 showed the majority of shared learning initiatives were in the field of postgraduate continuing education, 96% involving district nurses and/or health visitors, and of less than four-day terms [Shakespeare et al. , 1989; Parsel & Glich, 1998]. CoMSEP-CP, a postgraduate IPE program with unique targets, potentially triggers an instructional reform by crossing the boundary of the professions, i.e. , transformation from “experts” to “professionals”.

Although the importance of multiprofessional health education in undergraduates has been proposed and has been introduced to recent medical and allied health science education with some evidence of their effectiveness [Reeves et al. , 2008], continuing postgraduate IPE programs especially for allied medical professions have been barely developed. CoMSEP-CP encourages allied medical professionals to acquire border-crossing knowledge and skills, potentially contributing to team medicine/care with novel visions.

Advanced information and communication technology has a central role in postgraduate continuing education. The learning management system “manaba” efficiently provides e-learning titles to the learners through the internet, and they submit reports through the same medium. The balance of e-learning and schooling is

critical to get the best outcome from postgraduate IPE programs. We provided 56 hrs schooling titles on weekends in 2015, however the attendance rate was low (46.8%) as participants were too busy. We modified the advanced titles from 2016, by reducing the schooling to 18 hrs/year, to collect more learners from geographically larger areas than 2015. The cost/effectiveness of this revision is to be clarified by surveys on the 2016 and 2017 learners. Schooling provides a good opportunity for different professionals to learn or work together and then prompt a spontaneous formation of personal networks in a one-year learning period. Although schooling may have some, but not statistically significant, effects on continuing IPE programs as suggested by the 2015 and 2016 learners' assessment, we must consider also the cost/effectiveness as a postgraduate continuing education program managed by universities whose primary aim is in developing these professionals. The second problem of e-learning is how to update the e-learning contents. We employed coordination with undergraduate education subjects provided by multiprofessional faculty members of UT and IPU. This coordination enables sustainable refreshment of the introductory titles.

### **Conclusion**

We are at the beginning of the development of continuing IPE programs for postgraduate allied medical professionals. CoMSEP-CP has established sustainability as an IPE program for allied medical professionals through the collaboration of two universities' faculty members. Hopefully, the activities of CoMSEP-CP achievers with novel visions for team medicine/care will produce a unique and significant contribution to the transformation of medicine/care in hospitals and communities.

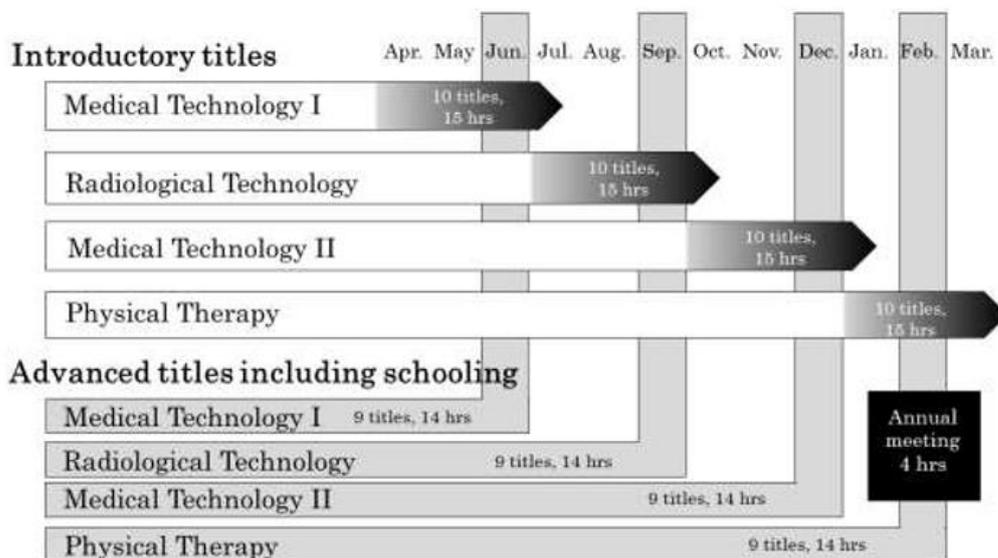
### **Acknowledgements**

We thank all the faculty members at the School of Medical Sciences, UT, and the Departments of Radiological Sciences and of Physical Therapy, IPU, who contributed as lecturers. CoMSEP-CP was developed under support of grant-in-aid (Problem-Solving Oriented Training Program for Advanced Medical Personnel) by MEXT from 2014 to 2018.

### **References**

- Shakespeare, H., Tucker, N., & Northover, J. (1989) Report of a national survey on inter - professional education in primary health care. London: Centre for the Advancement of Inter-professional Education in primary health and Community Care , Institute of Community Studies.
- Parsell, G. & Bligh, J. (1998) Interprofessional learning. *Postgraduate Medical Journal*, 74, 89-95.
- Frenk, J., Chen, L., Bhutta, Z.A., et al. (2010) Health professionals for a new century : transforming education to strengthen health systems in a interdependent world. *Lancet*, 376, 1923-1958.
- Reeves, S., Zwarenstein, M., Goldman, J. et al. (2008) Interprofessional education: effects on professional practice and health care outcomes (Review). *Cochrane Database Systematic Review*, 23;(1):CD002213.

**Fig.1 Scheme of CoMSEP-CP**



**Table.1 Scheme of the curriculum of CoMSEP-CP.**

1) Introductory titles/ e-learning (2015 ~)						
	I. MT-I	II. RT	III. MT-II	IV. PT	renewal	undergraduate curriculum at UT
	Apr. - Jun.	Jul. - Sep.	Oct. - Dec.	Jan. - Mar.		10 titles/y (year)
1	1		1	1		
2		2	2	2	← 2018, +4n	2017, +4n
3		3	3	3		
4		4	4	4	← 2019, +4n	2018, +4n
5		5	5	5		
6		6	6	6	← 2020, +4n	2019, +4n
7		7	7	7		
8		8	8	8		
9		9	9	9	← 2021, +4n	2020, +4n
10		10	10	10		
2) Advanced titles/ e-learning or schooling (2015 ~)						
	I. MT-I	II. RT	III. MT-II	IV. PT	schooling (year)	
	Jun.	Sep.	Dec.	Feb.		
1	1		1	1		
2		2	2	2	2015/	
3		3	3	3	2016, +3n	
4		4	4	4		
5		5	5	5	2015/	
6		6	6	6	2017, +3n	
7		7	7	7		
8		8	8	8	2015/	
9		9	9	9	2018, +3n	
Options	↑					
	lecture video contents from TMER.					

【和文翻訳】

【短報】メディカルスタッフのための卒後教育プログラム CoMSEP-CP：筑波大学と茨城県立医療大学との共同事業

CoMSEP: Coordinated, Continuing, Medical Staff Education Program

(Program Leader, Haruhiko NINOMIYA) <http://www.md.tsukuba.ac.jp/comsep/>

【要旨】

Coordinated, Continuing, Medical Staff Education Program-Certificate Program (CoMSEP-CP) という履修証明プログラムは、文部科学省の課題解決型高度医療人材養成事業の補助金を受け、2015年から筑波大学に開設された。CoMSEP-CPは、臨床検査技師、診療放射線技師、理学療法士を主な対象とした卒後教育プログラムであり、1年間の履修期間、120時間の教育課程で構成され、上記のメディカルスタッフに共通する基礎知識や基本的技能を履修し、共に学ぶ機会を通じて履修生同士がネットワークを形成することを目的としている。この教育課程の運営には筑波大学（医療

科学類）と茨城県立医療大学（診療放射線科学科、理学療法学科）の教員が協力してあっている。教育課程は40コマの概論（e-learning）と36コマの特論（スクーリングあるいはe-learning）、4時間の合同公開講座、合計120時間で構成される。2015、2016年度の実践を経て、2017年度には教育課程を改訂し、医療科学類に開設した多職種連携講義科目（多職種連携医療学概論）との連携によって、CoMSEP-CPの概論科目コンテンツが4年間で漸次更新される。Continuing Educationに求められる仕組みが構築された。

筑波医療科学 第13巻 第3号	
編集	筑波医療科学 編集委員会 磯辺智範 二宮治彦
発行所	筑波大学 医学群 医療科学類 〒305-8575 茨城県つくば市天王台1-1-1
発行日	2017年12月29日