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Communication Gaps in Interprofessional Collaboration between Medical and Welfare Professionals

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ABSTRACT

The purpose of this study is to alleviate difficulties with interprofessional collaboration in between medical and welfare professional settings by better understanding what sort of communication gaps occur and identifying how such gaps can be filled. Questionnaire responses from 401 doctors, nurses, medical social workers, care managers, and visiting nurses are statistically analyzed. Results suggest significant differences by profession: “I find it difficult to say things depending on the profession” ($p < .001$), “Patient discharge schedules are often decided suddenly” ($p < .001$), “We consult across specialties when we cannot resolve an issue within our own field.” ($p < .001$), “I feel that people in other fields look down on my own field of specialty” ($p < .001$). Although “I use terminology that is familiar to people in other fields” had a high average value across all professions and did not present a significant difference by profession (n.s.), there was a significant difference by profession ($p < .001$) for “The language used across different specialties has a lot of technical terms and is difficult to understand”. This suggests communication gaps due to a difference in perception, wherein respondents say “I use terminology that is familiar to people in other fields” but at the same time report that “The language used across different specialties has a lot of technical terms and is difficult to understand” when they are on the receiving end. To fill in such communication gaps as much as possible, it is important to understand what knowledge and information is wanted or needed by counterparts in other professions and to convey such information in understandable language.

<Key-words>

interprofessional collaboration, communication, communication gap

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I . INTRODUCTION

The number of older adults has been increasing and social values have become diversified in recent years. Under these conditions, it has become necessary to provide medical care by taking the “quality of life” of older adults into consideration, which necessitates supporting ill older adults to live in the places where they are used to living according to their own values for as long as possible. To help older adults live an independent life in local communities, “Community-based integrated care systems” have been developed through which medical care, elderly care, disease prevention, residential services, and life support services are continuously provided (Ministry of Health, Labour and Welfare, 2012). Effective communication is expected to become increasingly more important for interprofessional collaboration among health care and welfare workers in the future. The Ministry of Health, Labour and Welfare (2015) has inaugurated the “Project for developing human resources responsible for home team medical care through interprofessional collaboration.” This project is based on the idea that it is essential to develop systems for supporting patients and their families by teams of doctors, dentists, pharmacists, nurses, rehabilitation-related professionals, care managers, and care workers, among others, by mutually utilizing professional knowledge.

In another study by Han, Kwon & Kim (2013) explains, As health, medical and welfare services is indispensable to improve the quality of life of the elderly, it is critical that organizations to be in responsible for systemically connecting health, medical and welfare services need to be expanded.

In a survey of nurses engaged in community medical care, Yazawa (2009) pointed out a disconnect between reality and hospital promotion of team medical care in that almost 80% of respondents understood the purpose of team medical care but were not satisfied with implementation. In another study by Higuchi, Harada & Ooki (2009), one of the difficulties experienced during collaborative work between various home care and medical service providers was “interpersonal relationships within the team” specifically in relation to consultation across professions: “finding it difficult to consult with doctors” and “not being able to communicate well between medical and nursing care staff”. Subjects thus understood both the indispensability and difficulty of communication in interprofessional collaboration for team medical care. Sano (2014) discusses how confrontations, discord, disputes and other friction are encountered across professions and departments, and Shinoda (2010) explains how interprofessional conflicts often arise from differences in educational background, training method, and value systems. These conflicts include irreconcilable differences in beliefs, values or objectives, or conscious conflicts surrounding different desires related to control, status, affection, etc. between two or more individuals in a mutually dependent relationship (Northouse & Northouse, 2010).

With respect to interprofessional collaboration for team medical care, difficulty in

communication may be due in part to differences in how “collaboration and cooperation” is understood across professions and to a lack of measures that can be taken in response to confrontation and conflict. Issues related to consistency between team approach structures (status and role) and systematic structures (status and role) are noted by Kikuchi (2000); Kamiyama & Sasaki (2011) discuss an urgent need to address communication gaps between care professionals and medical professionals who come from different knowledge foundations but work in related fields and areas of expertise. Such communication gaps refer to discrepancies stemming from different understandings or values, or lack of information (Matsumura, 2012). They can be “information gaps” arising from differences in the amount of information available, or “understanding gaps” arising from differences in the values, experiences or perceptions of the speaker and the receiver (Japan Contact Center Education and Certification Association, 2014). In collaborative practice, information gaps occur due to differences in the amount of information that is conveyed or heard but not understood, as well as the degree of consultation and sharing that takes place; gaps in understanding occur due to different approaches to collaboration and professional role as well as different approaches and models (medical versus lifestyle) with respect to patients and how they should be prepared for discharge from the hospital. Such gaps in understanding explain why essential information is not conveyed, leading in turn to information gaps.

This study widely surveys the specific substance and attributes by profession of information gaps and understanding gaps in communication to consider what methods can be used to fill them.

II. RESEARCH PURPOSE AND METHODOLOGY

The purpose of this study is to understand communication gaps in interprofessional collaboration for team medical care and identify hints that may help to fill them.

1. Research design

Cross-sectional study using self-administered independent questionnaire of the International University of Health and Welfare.

2. Respondents

Total 2,500: 500 each of doctors, discharge support nurses, medical social workers (MSW), care managers, and visiting nurses employed nationwide at acute care hospitals with less than 400 beds.

3. Research period

July to August 2017

4. Content

The questionnaire was developed based on the results of preceding research to identify the nature and causes of communication gaps in interprofessional collaboration. For communication in interprofessional collaboration tied to information gaps, there are 7 items for [[Speaking / Conveying]], 5 items for [[Listening / Not Understanding]], and 5 items for [[Consultation & Information Sharing]]. For communication in interprofessional collaboration tied to understanding gaps there are 10 items for [[Approach to interprofessional collaboration and discharge]], and five items for [[Perceptions of interprofessional collaboration]]. A 10-point Likert scale from 1) Strongly disagree to 10) Strongly agree was used, and attributes were age, sex, specialty, qualification, and years of service.

5. Data collection

Surveys were sent to hospitals listed on the Japan Hospital Association roster, home care support service providers listed on nationwide rosters, and visiting nurse service providers listed on rosters maintained by prefectural health and welfare offices. Selections were made so as to avoid overlap between municipalities and achieve a balance in managing organizations. Requests for participation were sent by mail together with questionnaires and return envelopes to the director at each hospital or facility. Responses were collected on an anonymous basis by individual return envelope. Consent of the director was assumed upon distribution of the questionnaires to respondents, and consent of the respondents was assumed upon return of the questionnaires by mail.

6. Analysis

Collected survey data was statistically analyzed using SPSS 23 software (one-way ANOVA, multiple comparison).

7. Ethical considerations

All researchers involved in this study have abided by the Declaration of Helsinki and the Ethical Guidelines for Medical and Health Research Involving Human Subjects. The letter of request sent to respondents stated the purpose and method of research and explained that the study would be conducted only with permission of the respondent, that results would be strictly kept in locked storage until being shredded and destroyed after the later of 5 years following the conclusion of the study or 3 years from final presentation of research, that results would be used only for purposes of this study, and that, although results would be presented at symposiums and in academic journals, data would be statistically processed so that no individual information would be unidentifiable. The letter further explained that participation was voluntary, that there were no unfavorable consequences to not responding, and that responses should be posted only with consent. There are no conflicts of interest associated with this research, and this study has been approved by the International University of Health and Welfare IRB (Approval Number: 17-Ig-24).

III. RESULTS

1. Respondents

There were 401 respondents in total: 38 doctors, 69 nurses, 71 MSWs, 134 care managers and 89 visiting nurses (16.0% response rate). Doctors ranged in age from their 30s to 70s, with most in their 50s, while nurses and MSWs ranged from their 20s to 60s with most nurses in their 40s and 50s and most MSWs in their 30s. Visiting nurses and care managers ranged from their 20s to 70s with most in their 40s and 50s. Breakdown of sex, specialty and qualification is shown in Table 1.

<Table 1> Basic attributes

Item	Doctor (n=38)		Nurse (n=69)		MSW (n=70)		Care manager (n=134)		Health visitor				
	number (person)	rate(%)	number (person)	rate(%)	number (person)	rate(%)	number (person)	rate(%)	number (person)	rate(%)			
Sex	Female	37	97.4	5	7.2	25	35.7	39	29.1	3	3.4		
	Male	1	2.6	64	92.8	45	64.3	95	70.9	86	96.6		
Age	20s	0	0	1	1.4	9	12.9	1	0.1	1	1.1		
	30s	3	7.9	12	17.4	31	44.3	14	10.4	4	4.5		
	40s	5	13.2	25	36.2	20	28.6	36	26.9	36	40.4		
	50s	16	42.1	27	39.1	10	14.3	63	47	39	43.8		
	60s	11	28.9	3	4.3	1	1.4	20	14.9	9	10.1		
	70s	1	2.6	0	0	0	0	1	0.1	1	1.1		
	Unknown	0	0	1	1.4	0	0	0	0	0	0		
Specialties	Physician	13	34.2	Nurse	69	100	Nurse	20	14.9	Care manager	38	42.7	
	Surgeon	2	5.3	Nurses' aide	0	0	Care worker	92	68.7	Social worker	2	2.2	
	Orthopedist	2	5.3	Others	4	5.8	Social worker	21	15.7	community health nurse	5	5.6	
Qualification	Specialist in brain	6	15.8					Others	15	11.2	Others	7	7.9
	Neurologist	6	15.8										
	Others	9	23.7	*Multiple answers				*Multiple answers		*Multiple answers			
Length of service (years)	>10	0	0	1	1.4	44	62.9	61	45.5	3	3.4		
	10-20	5	13.2	18	26.1	18	25.7	68	50.7	14	15.7		
	20-30	11	28.9	25	36.2	9	12.9	1	0.1	41	46.1		
	30-40	19	50.0	21	30.4	—	—	—	—	24	27.0		
	40<	3	7.9	1	1.4	—	—	—	—	5	5.6		
Unknown	0	0	3	4.3	0	0	4	3	3	3.4			

2. Communication tied to information gaps in interprofessional collaboration

1) [[Speaking / Conveying]]

Average value and standard deviation for each item are shown in Table 2. Average value for 4) “I lose motivation when people in other fields express strong opinions to me” was somewhat low at 5.3 (SD=2.61) with a large degree of variation. One-way ANOVA across profession indicated significant differences for 3) “I am confident that I can accurately convey things to people in other fields” ($p < .001$), 6) “I try as much as possible not to get into disputes with people in other fields” ($p < .05$), and 7) “I find it difficult to say things depending on the profession” ($p < .001$) (Table2).

<Table 2> Communication in Interprofessional Collaboration [Speaking / Conveying]
 Average and Standard Deviation All Professions

	n	Average	SD	
1) I use terminology that is familiar to people in other fields.	401	7.6	1.60	
2) I express my opinion to people in other fields who have differing opinions.	401	7.3	1.68	
3) I am confident that I can accurately convey things to people in other fields.	401	6.2	1.96	***
4) I lose motivation when people in other fields express strong opinions to me.	401	5.3	2.61	
5) I adjust the way I speak to conform to people in other fields.	401	7.7	1.71	
6) I try as much as possible not to get into disputes with people in other fields.	400	7.6	1.94	*
7) I find it difficult to say things depending on the profession.	400	6.6	2.34	***

one-way ANOVA *p<.05 **p<.01 ***p<.001

For 3) “I am confident that I can accurately convey things to people in other fields”, multiple comparison indicated significant differences at 5% level (F value 5.075, $df=4$, $p<.05$) for doctors 7.2 (SD=1.68) and visiting nurses 6.1 (SD=1.80), and 0.1% level (F value 5.075, $df=4$, $p<.001$) for doctors 7.2 (SD=1.68) and care managers 5.7 (SD=1.99). That is, doctors were more confident in their ability to accurately convey things to people in other fields compared to care managers and visiting nurses. For 6) “I try as much as possible not to get into disputes with people in other fields”, there was a significant difference at 0.1% level (F value 2.799, $df=4$, $p<.001$) for MSWs 8.0 (SD=1.69) and doctors 6.7 (SD=1.52), indicating that, compared to doctors, MSWs tried to avoid conflict with people in other fields.

For 7) “I find it difficult to say things depending on the profession”, there was a significant difference at 0.1% level (F value 5.075, $df=4$, $p<.001$) for MSWs 7.2 (SD=2.11), care managers 6.79 (SD=1.99) and doctors 5.1 (SD=2.12) and at 5% level (F value 6.672, $df=4$, $p<.05$) for nurses 6.4 (SD=2.48) and doctors 5.1 (SD=2.12). In other words, compared to doctors, MSWs, care managers and nurses responded that it was difficult to say certain things to other professions (Table3).

<Table 3> Differences in Interprofessional Collaboration by Profession
 Communication [Speaking / Conveying]

		n	Average	SD	F	
1) I use terminology that is familiar to people in other fields.	Doctor	38	7.3	1.31	.756	n.s.
	Nurse	68	7.6	1.37		
	Visiting Nurse	90	7.5	1.70		
	Care Manager	134	7.7	1.71		
	MSW	71	7.7	1.58		
2) I express my opinion to people in other fields who have differing opinions.	Doctor	38	7.6	1.24	1.160	n.s.
	Nurse	68	7.6	1.17		
	Visiting Nurse	90	7.3	1.69		
	Care Manager	134	7.1	1.89		
	MSW	71	7.3	1.84		
3) I am confident that I can accurately convey things to people in other fields.	Doctor	38	7.2	1.68	5.075	* ***
	Nurse	68	6.5	1.77		
	Visiting Nurse	90	6.1	1.80		
	Care Manager	134	5.7	1.99		
	MSW	71	6.2	2.15		
4) I lose motivation when people in other fields express strong opinions to me.	Doctor	38	4.9	2.53	2.386	n.s.
	Nurse	69	5.9	2.63		
	Visiting Nurse	89	4.7	2.68		
	Care Manager	134	5.4	2.58		
	MSW	71	5.5	2.49		
5) I adjust the way I speak to conform to people in other fields.	Doctor	38	7.5	1.31	1.948	n.s.
	Nurse	68	7.7	1.42		
	Visiting Nurse	90	7.8	1.51		
	Care Manager	134	7.4	2.06		
	MSW	71	8.1	1.62		
6) I try as much as possible not to get into disputes with people in other fields.	Doctor	38	6.7	1.52	2.799	***
	Nurse	68	7.6	1.88		
	Visiting Nurse	90	7.6	1.99		
	Care Manager	134	7.6	2.09		
	MSW	70	8.0	1.69		
7) I find it difficult to say things depending on the profession.	Doctor	38	5.1	2.12	6.672	* ***
	Nurse	68	6.4	2.48		
	Visiting Nurse	89	6.2	2.06		
	Care Manager	134	6.9	2.44		
	MSW	71	7.2	2.11		

Verification after one-way ANOVA (multiple comparison) *p<. 0.5 **p.<. 01 ***p.<. 001

2) [[Listening / Not Understanding]]

Average value and standard deviation for each item are shown in Table 4. Average value for 2) “The language used across different specialties has a lot of technical terms and is difficult to understand” was somewhat low at 5.1 (SD=2.40), indicating that respondents did not find language difficult to understand. One-way ANOVA across professions, however, indicate a significant difference for 2) “The language used across different specialties has a lot of technical terms and is difficult to understand” (p< .001) and 3) “Prepared summaries, etc. are useful for each specialty” (p< .05) (Table 4).

<Table 4> Communication in Interprofessional Collaboration
 [Listening / Not Understanding] Average and Standard Deviation for All Professions

	n	Average	SD	
1) I listen carefully to what people in other fields say.	401	7.5	1.67	
2) The language used across different specialties has a lot of technical terms and is difficult to understand.	401	5.1	2.40	***
3) Prepared summaries, etc. are useful for each specialty.	401	7.2	2.10	*
4) Information is not conveyed accurately when there are a lot of professions collaborating together.	401	5.6	2.49	
5) The content of what I say is accurately conveyed to people in other fields.	401	6.0	1.62	

one-way ANOVA *p<. 0.5 **p.<. 01 ***p.<. 001

Multiple comparison for 2) “The language used across different specialties has a lot of technical terms and is difficult to understand” indicates significant differences at 0.1% level (F value 6.838, $df=4$, $p < .001$) for care managers 5.8 (SD=2.61) and visiting nurses 4.3 (SD=1.90) and 5% level (F value 6.838, $df=4$, $p < .05$) for doctors 4.7 (SD=1.79) and nurses 4.7 (SD=2.31). There was also a significant difference at 5% level (F value 6.838, $df=4$, $p < .05$) for MSWs 5.4 (SD=2.53) and visiting nurses 4.3 (SD=1.90). That is, compared to visiting nurses, doctors, nurses, and MSWs, care managers perceived that the language used across different specialties has a lot of technical terms and is difficult to understand.

For 3) “Prepared summaries, etc. are useful for each specialty” there was a significant difference at 5% level (F value 2.781, $df=4$, $p < .05$) for care managers 7.6 (SD=2.04) compared to nurses 6.7 (SD=2.05). That is, compared to nurses, care managers perceived that summaries were useful (Table 5).

<Table 5> Differences in Interprofessional Collaboration by Profession
 Communication [Listening / Not Understanding]

		n	Average	SD	F	
1) I listen carefully to what people in other fields say.	Doctor	38	6.8	1.50	1.922	n.s.
	Nurse	68	7.7	1.51		
	Visiting Nurse	90	7.5	1.70		
	Care Manager	134	7.6	1.77		
	MSW	71	7.5	1.62		
2) The language used across different specialties has a lot of technical terms and is difficult to understand.	Doctor	38	4.7	1.79	6.838	* * * **
	Nurse	69	4.7	2.31		
	Visiting Nurse	90	4.3	1.90		
	Care Manager	134	5.8	2.61		
	MSW	70	5.4	2.53		
3) Prepared summaries, etc. are useful for each specialty.	Doctor	38	7.0	1.90	2.731	* * * * *
	Nurse	68	6.7	2.05		
	Visiting Nurse	90	7.1	2.14		
	Care Manager	134	7.6	2.04		
	MSW	71	7.0	2.22		
4) Information is not conveyed accurately when there are a lot of professions collaborating together.	Doctor	38	5.3	2.42	2.226	n.s.
	Nurse	69	5.7	2.65		
	Visiting Nurse	89	5.9	2.44		
	Care Manager	134	5.1	2.49		
	MSW	71	6.0	2.31		
5) The content of what I say is accurately conveyed to people in other fields.	Doctor	38	6.3	1.55	1.101	n.s.
	Nurse	68	6.2	1.44		
	Visiting Nurse	90	6.1	1.64		
	Care Manager	134	5.9	1.70		
	MSW	71	5.8	1.66		

Verification after one-way ANOVA (multiple comparison) *p<.05 **p.<.01 ***p.<.001

3) [Consultation & Information Sharing]

Average value and standard deviation for each item are shown in Table 6. Average value for 2) “I can consult people in other fields when I need help” was high at 8.0 (SD=1.61). One-way ANOVA across professions indicated a significant difference for 2) “I can consult people in other fields when I need help” (p<.05) and 4) “We take ample time to discuss preparation for discharge across fields of specialty” (p<.01) (Table 6).

<Table 6> Communication in Interprofessional Collaboration
 [Consultation & Information Sharring] Average and Standard Deviation for All Professions

	n	Average	SD	
1) Respective professions consult each other with mutual respect.	401	7.6	1.94	
2) I can consult people in other fields when I need help.	401	8.0	1.61	*
3) The atmosphere is good when having discussions between professions.	400	7.4	1.69	
4) We take ample time to discuss preparation for discharge across fields of specialty.	399	6.0	1.93	**
5) Relevant information is shared across professions.	400	7.4	1.76	

one-way ANOVA *p<.05 **p.<.01 ***p.<.001

Multiple comparison indicated a significant difference at 5% level (F value 2.650, $df=4$, p<.05) for 2) “I can consult people in other fields when I need help” for MSWs 8.4 (SD=1.24) and doctors 7.4 (SD=1.53). That is, compared to doctors, MSWs perceived that they could consult people in other fields.

For 4) “We take ample time to discuss preparation for discharge across fields of specialty” there was a significant difference at 5% level (F value 5.111, $df=4$, $p < .01$) for visiting nurses 5.3 (SD=1.95), doctors 6.6 (SD=1.81), and nurses 6.4 (SD=1.93) and at 5% level (F value 5.111, $df=4$, $p < .05$) for MSWs 6.2 (SD=1.73). That is, compared to doctors, nurses and MSWs, visiting nurses perceived that ample time was not taken for discussion across professions (Table7).

<Table 7> Differences in Interprofessional Collaboration by Profession Communication

		n	Average	SD	F	
1) Respective professions consult each other with mutual respect.	Doctor	38	7.3	1.72	.853	n.s.
	Nurse	69	7.6	1.79		
	Visiting Nurse	90	7.6	2.02		
	Care Manager	133	7.5	2.08		
	MSW	71	7.9	1.78		
2) I can consult people in other fields when I need help.	Doctor	38	7.4	1.53	2.650	*]
	Nurse	68	8.1	1.58		
	Visiting Nurse	90	8.1	1.73		
	Care Manager	134	7.9	1.70		
	MSW	71	8.4	1.24		
3) The atmosphere is good when having discussions between professions.	Doctor	38	7.0	1.70	.596	n.s.
	Nurse	67	7.4	1.49		
	Visiting Nurse	90	7.3	1.82		
	Care Manager	134	7.4	1.80		
	MSW	71	7.5	1.49		
4) We take ample time to discuss preparation for discharge across fields of speciality.	Doctor	38	6.6	1.81	5.111]**]
	Nurse	68	6.4	1.93		
	Visiting Nurse	88	5.3	1.95		
	Care Manager	134	6.0	1.93		
	MSW	71	6.2	1.73		
5) Relevant information is shared across professions.	Doctor	38	7.1	1.83	1.200	n.s.
	Nurse	69	7.5	1.67		
	Visiting Nurse	89	7.2	1.69		
	Care Manager	133	7.4	1.90		
	MSW	71	7.7	1.63		

Verification after one-way ANOVA (multiple comparison) * $p < 0.5$ ** $p < .01$ *** $p < .001$

3. Perceptions tied to gaps in understanding in interprofessional collaboration

1) Perception of collaboration and discharge

Average value and standard deviation for each item are shown in Table 8. Average value of 8.0 (SD=1.83) for 3) “We consult across specialties when we cannot resolve an issue within our own field” was high compared to 6.9 (SD=1.91) for 1) “I leave other specialists to handle the role of their particular fields”. Average value was low at 4.9 (SD=2.13) for 8) “Roles overlap with other professions and are unclear” and 4.0 (SD=2.17) for 9) “It is difficult to exhibit my own profession’s expertise”, but no significant difference was indicated for interprofessional collaboration. One-way ANOVA across professions indicated significant differences for 3) “We consult across specialties when we cannot resolve an issue within our own field” ($p < .001$), 4) “We consult across specialties when there is a discrepancy in information obtained in each field” ($p < .05$), and 6) “Patient discharge schedules are often decided suddenly” ($p < .001$) (Table 8).

<Table 8> Perception in interprofessional Collaboration [perception of collaboration and discharge] Average and Standard Deviation for All Professions

	n	Average	SD	
1) I leave other specialists to handle the role of their particular fields.	401	6.9	1.91	
2) We consult between professions when there is overlap in our roles.	399	7.6	2.03	
3) We consult across specialties when we cannot resolve an issue within our own field.	401	8.0	1.83	***
4) We consult across specialties when there is a discrepancy in information obtained in each field.	402	7.7	1.85	*
5) Necessary information differs depending on profession.	401	7.0	2.19	
6) Patient discharge schedules are often decided suddenly.	399	6.7	2.23	***
7) I have a good understanding of the roles of other professions.	401	7.2	1.66	
8) Roles overlap with other professions and are unclear.	399	4.9	2.13	
9) It is difficult to exhibit my own profession's expertise	398	4.0	2.17	
10) We consult across specialties when it is unclear which profession is to implement certain roles.	401	7.5	1.98	

one-way ANOVA *p<.05 **p<.01 ***p<.001

Multiple comparison indicated significant differences for 3) “We consult across specialties when we cannot resolve an issue within our own field” at 1% level (F value 4.964, $df=4$, $p<.01$) for MSWs 8.8 (SD=1.38), doctors 7.6 (SD=1.62) and care managers 7.7 (SD=2.02) and 5% level (F value 4.964, $df=4$, $p<.05$) for visiting nurses 7.9 (SD=1.98). That is, compared to doctors, care managers and visiting nurses, MSWs consult across professions when they cannot resolve issues within their own field.

There was also a significant difference at 5% level (F value 2.924, $df=4$, $p<.05$) for 4) “We consult across specialties when there is a discrepancy in information obtained in each field” for MSWs 8.3 (SD=1.57) and doctors 7.2 (SD=1.62) and care managers 7.6 (SD=2.00), indicating that MSWs more than doctors and care managers consult across professions in the event of discrepancies in information.

For 6) “Patient discharge schedules are often decided suddenly”, there were significant differences at 0.1% level (F value 7.462, $df=4$, $p<.001$) for visiting nurses 7.3 (SD=1.97) and doctors 5.6 (SD=2.25), 1.0% (F value 7.462, $df=4$, $p<.01$) for care managers 7.1 (SD=2.25) and 5% (F value 7.462, $df=4$, $p<.05$) for nurses 6.2 (SD=2.18). There were also there were significant differences at 1% level (F value 7.462, $df=4$, $p<.01$) for care managers 7.1 (SD=2.25) and doctors 5.6 (SD=2.25) and 5% level (F value 7.462, $df=4$, $p<.05$) for MSWs 6.2 (SD=2.17). In other words, compared to other professions, visiting nurses and care managers perceived that patient discharge schedules are often decided suddenly (Table 9).

<Table 9> Differences in Interprofessional Collaboration by Profession Perception [perception of collaboration and discharge]

		n	Average	SD	F	
1) I leave other specialists to handle the role of their particular fields.	Doctor	38	7.3	1.65	2.092	n.s.
	Nurse	68	7.0	1.58		
	Visiting Nurse	90	6.5	1.97		
	Care Manager	134	6.9	2.05		
	MSW	71	7.1	1.90		
2) We consult between professions when there is overlap in our roles.	Doctor	38	7.6	1.78	2.266	n.s.
	Nurse	69	7.7	1.82		
	Visiting Nurse	89	7.4	1.99		
	Care Manager	133	7.2	2.25		
	MSW	70	8.1	1.85		
3) We consult across specialities when we cannot resolve an issue within our own field.	Doctor	38	7.6	1.62	4.964	***
	Nurse	69	8.2	1.49		
	Visiting Nurse	90	7.9	1.98		
	Care Manager	133	7.7	2.02		
	MSW	71	8.8	1.38		
4) We consult across specialities when there is a discrepancy in information obtained in each field	Doctor	38	7.2	1.62	2.924	*
	Nurse	69	7.7	1.66		
	Visiting Nurse	90	7.6	2.00		
	Care Manager	134	7.6	1.98		
	MSW	71	8.3	1.57		
5) Necessary information differs depending on profession.	Doctor	38	6.9	2.33	1.108	n.s.
	Nurse	69	7.0	2.05		
	Visiting Nurse	90	6.9	2.16		
	Care Manager	133	6.9	2.33		
	MSW	71	7.5	1.97		
6) Patient discharge schedules are often decided suddenly	Doctor	38	5.6	2.25	7.462	***
	Nurse	68	6.2	2.18		
	Visiting Nurse	88	7.3	1.97		
	Care Manager	134	7.1	2.25		
	MSW	71	6.2	2.17		
7) I have a good understanding of the roles of other professions.	Doctor	38	7.0	1.73	.665	n.s.
	Nurse	68	7.3	1.60		
	Visiting Nurse	90	7.1	1.69		
	Care Manager	134	7.3	1.68		
	MSW	71	7.4	1.63		
8) Roles overlap with other professions and are unclear.	Doctor	38	4.6	1.87	1.452	n.s.
	Nurse	68	5.2	2.00		
	Visiting Nurse	90	5.0	2.21		
	Care Manager	132	4.6	2.20		
	MSW	71	5.0	2.10		
9) It is difficult to exhibit my own profession's expertise.	Doctor	38	3.8	2.17	.887	n.s.
	Nurse	68	4.1	1.94		
	Visiting Nurse	89	3.7	2.24		
	Care Manager	132	4.2	2.18		
	MSW	71	4.2	2.26		
10) We consult across specialities when it is unclear which profession is to implement certain roles.	Doctor	38	7.3	1.75	1.191	n.s.
	Nurse	69	7.7	1.72		
	Visiting Nurse	89	7.4	2.03		
	Care Manager	134	7.3	2.14		
	MSW	71	7.9	1.94		

Verification after one-way ANOVA (multiple comparison) *p<. 0.5 **p.<. 01 ***p.<. 001

2) Perception in interprofessional collaboration

Average value and standard deviation for each item are shown in Table 10. Average value for 4) “I feel that people in other fields look down on my own field of specialty” was low at 3.7 (SD=2.24), indicated that respondents did not feel looked down upon. One-way ANOVA for each profession indicated significant differences for 1) “I am satisfied with my current job” ($p < .001$), 2) “I am highly motivated by my job” ($p < .05$), and 4) “I feel that people in other fields look down on my own field of specialty” ($p < .001$)(Table10).

<Table 10> Perception in interprofessional Collaboration [awareness in interprofessional collaboration] Average and Standard Deviation for All Professions

	n	Average	SD	
1) I am satisfied with my current job.	401	6.7	2.12	***
2) I am highly motivated by my job.	401	7.1	1.94	*
3) I believe people in other fields are motivated about their jobs.	400	6.9	1.87	
4) I feel that people in other fields look down on my own field of specialty.	401	3.7	2.24	***
5) I believe there is a need for training across specialities.	398	7.8	1.88	

one-way ANOVA * $p < .05$ ** $p < .01$ *** $p < .001$

Multiple comparison indicated a significant difference for 1) “I am satisfied with my current job” at 0.1% level (F value 6.894, $df=4$, $p < .001$) for visiting nurses 7.6 (SD=2.05) and care managers 6.3 (SD=2.16) and 1% level (F value 6.894, $df=4$, $p < .01$) for nurses 6.4 (SD=1.95) and MSWs 6.3 (SD=2.12). That is, visiting nurses were satisfied with their current jobs more than nurses, care managers, and MSWs. Job motivation was also high with a significant difference at 5% level (F value 63.169, $df=4$, $p < .001$) for 2) “I am highly motivated by my job” for visiting nurses 7.7 (SD=1.84) and nurses 6.8 (SD=1.74).

For 4) “I feel that people in other fields look down on my own field of specialty”, average value was generally low, but there were significant differences at 0.1% level (F value 7.447, $df=4$, $p < .001$) for MSWs 4.6 (SD=2.39) and doctors 2.6 (SD=1.93), and visiting nurses 3.2 (SD=1.95) and at 1% level (F value 7.447, $df=4$, $p < .01$) for care managers 3.9 (SD=2.16) and doctors 2.6 (SD=1.93). That is, compared to doctors, visiting nurses and care managers, MSWs felt that people look down on their profession compared to doctors (Table 11).

<Table 11> Differences in Interprofessional Collaboration by Profession Perception [perception of interprofessional collaboration]

		n	Average	SD	F	
1) I am satisfied with my current job	Doctor	38	7.2	1.74	6.894]***]***]**
	Nurse	68	6.4	1.95		
	Visiting Nurse	90	7.6	2.05		
	Care Manager	134	6.3	2.16		
	MSW	71	6.3	2.12		
2) I am highly motivated by my job	Doctor	38	7.5	1.61	3.169]*
	Nurse	68	6.8	1.74		
	Visiting Nurse	90	7.7	1.84		
	Care Manager	134	7.0	1.98		
	MSW	71	6.9	2.18		
3) I believe people in other fields are motivated about their jobs.	Doctor	38	7.2	1.80	.345	n.s.
	Nurse	68	6.9	1.67		
	Visiting Nurse	90	6.9	1.96		
	Care Manager	133	6.8	1.95		
	MSW	71	6.9	1.84		
4) I feel that people in other fields look down on my own field of speciality	Doctor	38	2.6	1.93	7.447]**]***]**
	Nurse	68	3.6	2.34		
	Visiting Nurse	90	3.2	1.95		
	Care Manager	134	3.9	2.16		
	MSW	71	4.6	2.39		
5) I believe there is a need for training across specialities.	Doctor	38	8.1	1.47	1.520	n.s.
	Nurse	68	8.2	1.74		
	Visiting Nurse	89	7.5	1.98		
	Care Manager	132	7.8	2.01		
	MSW	71	7.9	1.83		

Verification after one-way ANOVA (multiple comparison) *p<. 0.5 **p.<. 01 ***p.<. 001

IV. DISCUSSION

1. Communication gaps in interprofessional collaboration due to profession

1) Communication tied to information gaps

Under [[Speaking / Conveying]], more doctors responded “I am confident that I can accurately convey things to people in other fields” than visiting nurses and care managers. In addition to establishing treatment plans and conducting treatments and exams, the role of doctors is to instruct other professionals regarding treatment (All Japan Hospital Association, 2017). Their position also often requires explaining informed consent and other matters to patients and their families as well as other professions. In medical sociology, a doctor’s work is considered a “profession” because i) doctors have an independent framework of knowledge that is deemed socially relevant, and ii) doctors have “autonomy” (independent, free and not under the control of others) as part of an expert professional group (Freidson, 1992). These factors may contribute to self-perception among doctors of having a profession as opposed to an occupation, as well as confidence backed by the approval of others.

Compared to doctors, MSWs responded “I try as much as possible not to get into disputes with people in other fields”. In addition to collaborating with patients and their families as well as related organizations and professions as part of the support they provide for discharge, social re-entry and community involvement, MSWs collaborate

with social welfare and social insurance offices to resolve financial issues (Ministry of Health, Labour and Welfare, 2002). This may lead them to tailor their language and manner to various professions and communicate in such a way as to avoid friction as much as possible. Further, compared to doctors, MSWs, care managers and nurses responded “I find it difficult to say things depending on the profession”. Care managers are tasked with identifying social issues related to patients and providing them with guidance to effectively benefit from health services (Inoue, 2006) as part of total care management. They may perceive difficulty with expressing their opinions because, like MSWs, they frequently interact with a wide range of people and professionals that include care providers, hospital and clinic staff, government clerks, and families and patients.

Under [[Listening / Not Understanding]], care managers and MSWs perceived that “the language used across different specialties has a lot of technical terms and is difficult to understand” compared to doctors and visiting nurses. As Northouse and Northouse (2010) explain, true communication issues arise when there is no common, shared language between two people, and the language barrier presented by technical terms is a growing issue in the medical field (Trill & Holland, 1993). Difficulties are partly due to differences in foundational training and variance in the jargon used within each profession, and partly due to experience and the location and nature of work performed. Technical terms related to treatment are constantly added as new knowledge and technologies are developed, and such technical terms often tend to be abbreviated or include English or German. Abbreviated terms often have different meanings in depending on the work setting and can lead to confusion.

Difficulties in communication also stem from conflicting perceptions: despite the perception that there are a lot of technical terms that are difficult to understand, all professions responded “I use terminology that is familiar to people in other fields.”

Compared to care managers, nurses did not respond “Prepared summaries, etc. are useful for each specialty”. Patient conditions often vary prior to and after being admitted to the hospital, so rather than relying on written summaries, nurses provide care upon seeing the patient in person rather than written summaries. This may explain why they do not find summary reports to be helpful. In addition, the contents of such summaries may not necessarily match the information that is required for a particular profession. Reevaluating the form and content of summary reports is an important task considering how much information is now required to safely provide medical care, and considering how the quality of patient care can be improved when information is shared between care providers (Mayumi, Ota & Maeda, 2006).

Under [[Consultation & Information Sharing]], MSWs more than doctors responded “I can consult people in other fields when I need help”. This may reflect how the nature of MSW work necessitates collaboration with other professions and how not having many MSW colleagues in the workplace may make it difficult to resolve issues independently. In contrast, doctors have both initiative and authority with respect to treatment and tend

not to confer with other professions even if they do confer with other doctors. For “We take ample time to discuss preparation for discharge across fields of specialty”, average value was low for all professions and, compared to doctors, nurses, MSWs, visiting nurses perceived that ample time is not taken to have discussions between professions. Abe & Morita (2014) point out how information sharing presents the foremost barrier to collaboration in the field between medical, health care and social welfare professions. The data likewise suggests that it is difficult to confer, discuss and share information among practitioners as part of interprofessional collaboration. Conferences provide opportunities to share information in that medical and health and welfare practitioners with varying specialties can discuss a shared theme in a shared space, understand the strengths, weaknesses and limitations of each profession, experience the mutual benefits of collaboration and cooperation, and realize the ways in which the quality of services can be improved. Since they serve as very real simulations that can lead to team-building when repeated over time (Shinoda, 2011), efforts should be made to accommodate even the shortest of discussions.

2) Perceptions of collaboration and discharge tied to gaps in understanding

Interprofessional collaboration consists of “cooperation”, in which each party contributes its own part, and “collaboration”, in which the contributions of various parties overlap. Average values were higher for “We consult across specialties when we cannot resolve an issue within our own field” compared to “I leave other specialists to handle the role of their particular fields”, suggesting that there was a strong perception of collaboration among respondents. That said, as suggested by differences among MSWs and doctors, care managers, and visiting nurses for “We consult across specialties when we cannot resolve an issue within our own field”, there may be differing perceptions of “collaboration” depending on profession.

With respect to patient discharge from the hospital, visiting nurses perceived most strongly that “Patient discharge schedules are often decided suddenly”, followed by care managers, with doctors having the weakest perception. Since schedules are determined by doctors based on the treatment program, they do not perceive that patients are discharged suddenly. For practitioners that have to follow the doctor’s orders and make arrangements for discharge with families and other parties outside of the hospital, however, the perception is that there is not enough time to prepare.

With respect to perception of interprofessional collaboration, visiting nurses more than MSWs, care managers, and nurses responded “I am satisfied with my current job”, and visiting nurses more than nurses expressed higher values for “I am highly motivated by my job”. Nurses are in charge of multiple patients at the instruction of doctors and under tight timeframes, and are unable to provide care tailored to the needs of each particular patient. In contrast, visiting nurses decide on nursing programs and methods upon thorough consultation with patients and their families and are able to provide personalized nursing services. They can also maintain a consistently high level of

motivation when they believe that they can best understand the patient's condition and circumstances because they make visits and provide care directly. Compared to working at a hospital, they must be proactive rather than waiting for instruction, and this wider degree of discretion and responsibility may tie into stronger job satisfaction as reflected in higher average value.

Compared to doctors and visiting nurses, MSWs and care managers responded "I feel that people in other fields look down on my own field of specialty". As Kobayashi (2014) explains, care managers handle complicated and time-consuming tasks yet perceive that their work is not fully appreciated. They are also aware of having low pay considering the volume of work they perform, and this fact may contribute to the perception that their occupation is not more highly regarded.

2. Filling communication gaps in interprofessional collaboration

Practitioners must learn how to engage in basic communication. Responses to "The language used across different specialties has a lot of technical terms and is difficult to understand" demonstrate how even if a practitioner believes that he has verbally communicated patient information to other practitioners, such information will not actually be communicated properly unless knowledge is also conveyed. In other words, communication cannot be achieved unless the receiver understands what the sender intended to convey. How the receiver interprets the message is more important than what the speaker said. As Arita & Mizumoto (2011) discuss, words are nothing more than sounds to patients who do not understand what they mean, and they may lead to completely incorrect interpretations. Their advice to medical practitioners to use easy-to-understand, every day words to share meaning is applicable not only for communication with patients, but in interprofessional collaboration as well. Whether technical or not, it is essential to have a shared understanding of the words used in communication.

Further, Drucker (2001) discusses how communication depends on using the language of the receiver. Words should be selected based on the experience of the receiver. Explaining with words does not work because un-experienced words are outside the scope of that person's powers of perception. For better communication, the speaker must respect the receiver and use words that consider the receiver's position. Drucker goes on to say that communication issues will not be resolved with more information, or even better quality information. Communication gaps will remain, and in fact widen rather than shrink with more information unless the speaker employs the language of the receiver. To fill in the information gaps in communication, practitioners must understand what their counterparts in other fields want and to know, and then use understandable language to convey the information that is actually needed.

Drucker (2001) also notes that successful communication depends on knowing what the receiving party needs and why. Information gaps include gaps in understanding in the sense that people have mutually different understandings of what information is

necessary; the speaker may not communicate information if he does not believe it is necessary. Although it is impossible to completely avoid such communication gaps, it is important to make an effort to reduce them.

As discussed by Shinoda (2011), another issue is that practitioners are confused about how to cooperate and work in interprofessional settings because they lack experience in their basic training. For future training programs and clinical experiences, it will be important to develop ways for people to participate in interprofessional collaboration and become aware of communication gaps and how to fill them.

V. FINDINGS

The data show significant differences by profession as demonstrated with “I find it difficult to say things depending on the profession” ($p < .001$), “The language used across different specialties has a lot of technical terms and is difficult to understand” ($p < .001$), “We take ample time to discuss preparation for discharge across fields of specialty” ($p < .01$), as well as “Patient discharge schedules are often decided suddenly” ($p < .001$), “We consult across specialties when we cannot resolve an issue within our own field.” ($p < .001$), “We consult across specialties when there is a discrepancy in information obtained in each field” ($p < .05$), and “I feel that people in other fields look down on my own field of specialty” ($p < .001$).

Although “I use terminology that is familiar to people in other fields” had a high average value across all professions and did not present a significant difference by profession (n.s.), there was a significant difference by profession ($p < .001$) for “The language used across different specialties has a lot of technical terms and is difficult to understand”. This suggests communication gaps due to a difference in perception, wherein respondents say “I use terminology that is familiar to people in other fields” but at the same time report that “The language used across different specialties has a lot of technical terms and is difficult to understand” when they are on the receiving end.

VI. CONCLUSION

Communication is “a process that includes the transfer of information from one system to another through verbal and non-verbal signals” (Fukuda, 1998), but besides transmitting information, it is an essential process for forming interpersonal relationships. Beyond their own communication skills, it is important for professionals to use understandable language and carefully consider what their counterparts in other fields want to know, what kind of information they need. As specialists, they must strive to bridge communication gaps as much as possible to provide better support to patients and their families,

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TOTAL REHABILITATION RESEARCH
VOL.7 JUNE 2019

CONTENTS

ORIGINAL ARTICLES

Communication Gaps in Interprofessional Collaboration between Medical
and Welfare Professionals

Miki ARAZOE 1

Research on the Meaning of Support for Promotion of Self-understanding for
Persons with Psychiatric Disorder at Vocational Rehabilitation;
Integrative Analysis with Text-mining

Kazuaki MAEBARA 22

Development of Questionnaires for High-School Students and Adults Version
of Scale for Coordinate Contiguous Career (Scale C³);
Focusing on Verification of Construct Validity Using Structural Equation
Modeling

Changwan HAN 34

Influences of Depression and Self-esteem on the Social Function of
Autobiographical Memory

Kyoko TAGAMI 45

REVIEW ARTICLE

Basic Study for the Development of the Teaching Method based on the
Relationship between Psychology, Physiology and Pathology of Children
with Health Impairment

Haruna TERUYA et al. 61

SHORT PAPERS

Developing an ICT-based System to Support Care-dependent Older Persons
to Continue to Live in Their Own Homes;
User Interface Evaluation

Kazutoshi FURUKAWA et al. 70

Basic Study for Development of Assessment INDEX of Psychology,
Physiology and Pathology for Intellectual Disability Children;
From Point of Change of Diagnostic Criteria and the Definition of the
Concept of Adaptive Behavior

Mamiko OTA et al. 83