

# A cooperative support model for cancer therapy and employment balance: from focus-group interviews of health and business professionals

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**Abstract:** This study aimed to obtain a comprehensive collection of ideas and opinions from the perspective of various professionals and support providers for cancer treatment and employment balance. We performed a focus group interview, and a model diagram was created using categories created via classification of important items. The focus group interview revealed six strategies aligned with seven issues concerning the support needed to balance cancer treatment and employment. These strategies suggested the importance of not only the way of directly connecting among several specialists but also the presence and the role of the coordinators with their own specialties. Workers with cancer need supportive advices after their initial diagnosis, when returning to work, and after returning to work. After returning to work, a number of problems resulted from the lack of advice at the time of diagnosis or when returning to work. These results emphasized the necessity for the development of early comprehensive system for integrated collaboration between medical institutions, workplaces and other occupational health institutions. The results suggest that a multi-profession collaboration model is necessary to support cancer patients staying at work, which includes the cooperation between medical institutions and their counterparts from occupational health and the patients' employers.

**Key words:** Occupational health, Cancer, Balance between work and disease treatment, Focus group interview, Cooperative support model

## Introduction

Every year in Japan, 850,000 people are newly diagnosed with cancer. According to the information service from the National Cancer Center (NCC) Japan, the 5 yr

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relative survival rate for those diagnosed with cancer from 2006 to 2008 was 62.1% (men: 59.1%, women: 66.0%)<sup>1)</sup>. One of the most important lifestyle issues for patients during cancer treatment is employment, which means their staying at work and return-to-work<sup>2-6)</sup>. Not only does employment have economic significance in terms of personal finances, it also includes elements of self-realization and purpose. Yet, according to the 2nd conference for promoting work style reforms in 2016<sup>7)</sup>, in Japan, approximately 30% of workers diagnosed with cancer spontaneously leave their employment before starting treatment, approximately 4% are dismissed, and approximately 13% terminated their own business (i.e., self-employment). Based on data from 2011, the estimated loss of income among cancer patients exceeded 1.1 trillion yen, indicating a huge loss to social productivity<sup>8)</sup>.

Against this backdrop, Japanese government has enacted various policies for supporting a balance between cancer treatment and employment. One initiative within healthcare institutions is the Japan Ministry of Health, Labor, and Welfare's "Comprehensive support project concerning the employment of cancer patients (Project to reinforce the functions of Designated Cancer Care Hospitals)." Here, employment specialists (social insurance labor consultants, social workers, etc.) are placed in Designated Cancer Care Hospitals (DCCCHs). These workers collaborate with consultants within Cancer Consultation Support Centers and are engaged in providing counseling and advice for supporting reasonable employment<sup>9)</sup>. Since 2013, Hello Work (Public Employment Security Offices) specialist consultants have been assigned as part of an employment-support project for long-term care recipients, including cancer patients. These experts also work in collaboration with DCCCHs<sup>10)</sup>.

However, in 2016, employment-support systems established within medical care institutions were limited to 150 out of 400 (38%) DCCCHs throughout Japan. Of these, only 32% had assigned employment specialists, 16% engaged in collaborations with Hello Work, and only 10% had both employment specialists and engaged in collaborative work with Hello Work<sup>7)</sup>. Thus, there appear to be insufficient systems in place for the collaboration between employment-support facilities and medical institutions although the collaborative system between oncologists at medical institutions and occupational physicians or nurses in large scale companies through medical information exchanges is partly effective in Japan<sup>11)</sup>.

The Japan Organization of Occupational Health and Safety, an incorporated administrative agency, is currently

performing a model project for treatment and employment balance support<sup>12)</sup>. The purpose of this project is to create and disseminate systems for supporting employment balance within four areas of treatment: cancer, diabetes, stroke rehabilitation, and mental health. A special characteristic of this project is the assignment of "job reinstatement coordinators" who are tasked with sharing intervention and coordination information between three concerned parties: patients and their families, medical care staff (including primary doctors, nurses, psychiatric social workers), and institutional representatives (including occupational physicians, hygiene management staff, and human resource managers)<sup>12)</sup>.

Meanwhile, the Japan Ministry of Health, Labor, and Welfare has encouraged private companies to outline aspects to consider regarding support for continued employment<sup>13)</sup>. Guidelines have been created and promulgated for employers intending to hire individuals with a disease that is recurring or requires continued treatment. These guidelines describe appropriate employment-related measures, considerations regarding treatment, and outline additional procedures to be undertaken within worksites<sup>7)</sup>.

As described above, efforts are underway, in a variety of forms within hospitals and private companies, to provide cancer treatment and employment balance support. Furthermore, research has been performed regarding the status of such efforts. For instance, Hisamura and colleagues<sup>14)</sup> conducted a focus group interview (FGI) study of psychiatric social workers and social insurance labor consultants working at Cancer Consultation Support Centers (employment-related consultation liaisons). Another study assessed occupational health staff that provided balance support for specific work entities. Here, Okahisa and Nishikido<sup>15)</sup> performed semi-structured interviews with occupational health nurses in order to investigate the coordination of work being performed by these nurses who were supporting workers with cancer. In order to integrate opinions among concerned parties within several fields and professions, Takahashi *et al.*, recently completed an FGI with multiple individuals from different professions who were involved in supporting cancer patients' employment at various workplaces and within the healthcare sector<sup>16)</sup>. In this study, seven issues concerning balance support were considered.

There are a variety of government-led programs in Japan underway to support treatment and employment balance for cancer patients. Furthermore, various within-organization surveys have been performed on the healthcare side, the private company side, or both, which

have identified issues of importance for multi-job (multi-profession) collaborations<sup>11, 17–19</sup>). However, to the best of our knowledge, no research has examined potential strategies to resolve these issues.

Therefore, the purpose of the present study was, to review data collected from a prior study<sup>16</sup>) and the relevant issues that were extracted, and to investigate possible strategies to address collaborative issues. To obtain a comprehensive collection of ideas and opinions from the perspective of various professionals and support providers, we conducted an FGI and extracted six solutions for the issues to balance support.

## Subjects and Methods

### *Preliminary survey and prior preparation*

To refine an interview guide, a preliminary interview was completed by the first author (a clinical psychologist) and a university graduate student that lasted for approximately 1 to 1.5 h with a social insurance labor consultant and physical therapist. As a result, the interview guide was completed, and it was determined that in order to perform meaningful discussions during this limited time, it would be necessary to share basic information regarding each specialist's job prior to the FGI. Thus, the following was shared with all participants prior to the FGI: (1) the purpose of the survey, (2) participant profiles, (3) the interview guide, and (4) a list of basic information regarding balance support.

### *Survey method*

**Procedures.** In September 2017, the authors performed an FGI with 10 professionals involved in supporting cancer patient employment at various workplaces and within the healthcare sector in a meeting room at their affiliated university. FGI is a qualitative method designed to interview a group that is facilitated and focused on specific topics<sup>20</sup>). The FGI lasted approximately 3.5 h. The FGI was facilitated by the first author with the support of five university graduate students and last author. Upon receiving participant consent, the interview was filmed with a video camera and audio recording using an IC recorder.

**Participants.** Convenience sampling was used to identify specialists involved in cancer treatment and employment balance support, with 10 individuals consenting to participate (participant ages: one in his/her 20s, one person in his/her 30s, five in their 40s, two in their 50s, and one in his/her 70s; Table 1). Three participants were social insurance and labor consultants (one was the same

person for preliminary interview); one was an entrepreneur from a medium-sized business; two were medical social welfare workers (MSWs) from the Japan Organization of Occupational Health and Safety; one was an occupational therapist; one was a physical therapist (the same person who completed the preliminary interview); one was a nurse; and one was an occupational physician and director of an occupational health support center. An occupational health support center is located in every prefecture to provide support to the occupational health staff, including occupational physicians and public health nurses in the work place, and to encourage employers to promote the healthcare management within their business.

**Interview guide.** During the FGI, an interview guide was used as follows:

1) Currently performed balance support for cancer treatment and employment: (1) "At what times, and in what ways, are you involved in balance support?" (2) "Do you collaborate with persons of a different occupation type during balance support, and if so, what kind of collaboration is involved?"

2) Issues related to support for cancer treatment and employment balance: (1) "During your balance support, what issues do you face?" (2) "During your balance support, what issues do you face in your collaboration with persons of different work types?"

3) Solutions to issues faced: "What kind of collaboration model do you think would help you resolve the issues raised in (1) and (2) above?"

4) Solutions: 3) "What can you, yourself, do in your position?"

**Ethical considerations.** This study was performed after receiving approval from the Ethics Review Specialist Committee at The University of Tokyo Life Sciences (17-110).

### *Analysis method*

Transcripts were created from the audio recordings. Using transcriptions as data, with reference to prior literature<sup>16</sup>), an extraction was conducted regarding important items from inputted sentences. Categories were created via classification of these important items, and solution categories and issue categories were compared each other. Finally, a model was created using the generated solution categories. The analysis was performed in consultation with five university graduate students (the second to sixth authors) and one clinical psychology professor (the first author). The analysis process is presented in Fig. 1.

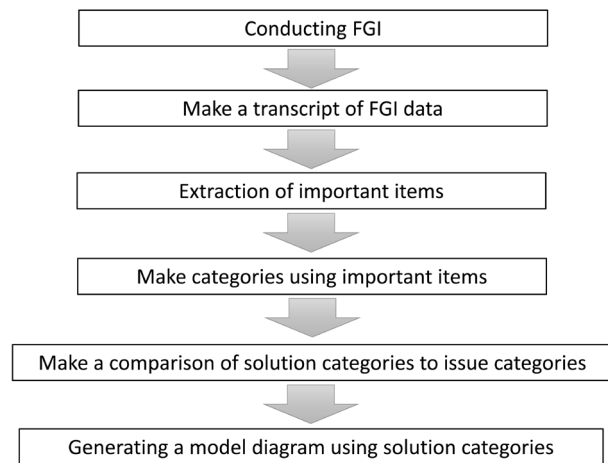
**Table 1. Participant overview**

	Job type	No. of years employed	Experience with cancer and employment balance
1	Certified Nurse Specialist (CNS) in cancer	17 yr	Patient support as a cancer specialist nurse and patient and family support within a nonprofit organization (NPO) .
2	Entrepreneur	8 yr	Balance support for employees as an entrepreneur, member of the Ministry of Health, Labor and Welfare (MHLW) “Investigative commission regarding the status of employment support for cancer patients and persons who have experienced cancer.”
3	Physical therapist	31 yr	Core member of university hospital bone transplant cancer board, member of a cancer rehabilitation training executive committee, instructor, and facilitator.
4	Occupational therapist	12 yr	As a member of an in-hospital palliative care team, performs occupation therapy chiefly for patients with brain tumors.
5	Medical social welfare worker (MSW)	2 yr 5 months	Performs work-reinstatement support as a therapy employment balance support coordinator; acts as a balance support promoter and a dispatched liaison at occupational health support centers.
6	Medical social welfare worker (MSW)	2 yr	Performs work-reinstatement support as a therapy employment balance support coordinator; acts as a balance support promoter and a dispatched liaison at occupational health support centers.
7	Social insurance and labor consultant	12 yr	Supports cancer patients in their applications for disability pensions and creates therapy and employment balance systems as a member of a consulting company.
8	Social insurance and labor consultant	15 yr	Holds in-hospital employment support seminars for doctors, social workers, etc., and creates therapy and employment balance systems as a member of a consulting company.
9	Social insurance and labor consultant	20 yr	Performs employee therapy and employment balance support as a member of a consultation company and cancer patient employment support within a cancer consultation center at a designated cancer hospital
10	Occupational physician	—	As the director of the occupational health support center in B Prefecture, performs coordination work with in-prefecture organizations and structures therapy and occupation balance support.

**Results**

Results indicated six categories and 12 subcategories regarding solutions for cancer treatment and employment balance support-related issues. A total of 61 items were generated (Table 2). Below are explanations of each category and subcategory. Items designated with { } are categories, while those designated with [ ] are subcategories.

Six solution strategy categories (hereafter referred to as a “Strategy”) were extracted as follows: {Strategy (1): Establishment of the relevant medical system}; {Strategy (3): Establishment of a full-service consultation “window” within hospitals}; {Strategy (4): Establishment of in-hospital collaboration}; {Strategy (5): Dispatch specialists from the occupational health support center}; {Strategy (6): Support with balance-support coordinators as “hub” persons}; and {Strategy (7): Support via collaborations with respective balance-support coordinators}. Based on results from our prior study<sup>16)</sup>, the identified issues were as follows: {Issue (1): No in-hospital balance support



**Fig. 1. The process of analysis of the data from the FGI.**

system in place}; {Issue (3): Insufficient collaboration between healthcare and private business personnel}; {Issue (4) Insufficient in-hospital collaboration}; {Issue (5):

**Table 2. List of categories for solution strategies**

Category	Subcategory	Representative important items	(For reference : issue category)
Strategy (1): Establishment of the relevant medical system	Assignment of insurance points to medical opinions	Opinions written by doctors should be assigned insurance points. Just as with care managers in the long-term care insurance system, if a system is put in place such that points are assigned to opinions, then there may be compensation for writing these opinions.	Issue (1) : No in-hospital balance support system in place
	Systemization of screening	In the initial phase after cancer diagnosis, there should be a system created such that the primary doctor takes responsibility and thoroughly communicates necessary information. If all hospitals thoroughly performed screening, then points should be assigned for such. By doing so, no patients will be overlooked or missed. The screening should be included in functional evaluations of each hospital.	
	The necessity for educating doctors from the perspective of patients' daily lives	The primary doctor needs to have a perspective that includes the patient's daily life. There is a need for training and educating healthcare workers. There must be education, from student education on, so as to teach industrial doctors and primary doctors the importance of balance support.	
Strategy (3): Establishment of a full consultation services "window" within hospitals	The hospital as the entrance point for support	In the case of cancer, it is better to place coordinators within designated hospitals than in occupational health support centers. On the hospital-side, personnel at the cancer consultation site should play "hub" roles. The hospital should take the initiative in performing care related to mood swings and perform all necessary initial procedures. During the stage where the individual is considering job reinstatement, they should go to the in-hospital consultation site. When medical information is needed, or when there is a relapse or worsened condition, the patient should return to where MS nurses or the consultation support center is located.	Issue (3) : Insufficient collaboration between healthcare organization and private business
	The hospital as a place to return for further assistance	In reports, the primary doctor should incorporate ideas and opinions from OTs and PTs It would be ideal for the rehabilitation doctor's opinions to be communicated to the primary doctor. In the future, persons educated as balance support coordinators should be dispatched to hospitals from occupational health support centers. Dispatches from occupational health support centers should be made to small hospitals. A future aim is the possibility of dispatching personnel from occupational health support centers, with salary paid by the dispatching site.	
Strategy (4): Establishment of in-hospital collaboration	Importance of rehabilitation doctors' opinions	In reports, the primary doctor should incorporate ideas and opinions from OTs and PTs It would be ideal for the rehabilitation doctor's opinions to be communicated to the primary doctor.	Issue (4) : Insufficient in-hospital collaboration
	Balance support coordinators attached to occupational health support centers are dispatched to hospitals	In the future, persons educated as balance support coordinators should be dispatched to hospitals from occupational health support centers. Dispatches from occupational health support centers should be made to small hospitals. A future aim is the possibility of dispatching personnel from occupational health support centers, with salary paid by the dispatching site.	
Strategy (6): Support with balance-support coordinators as "hub" persons	Support that transcends one's affiliated organization	As a working facilitator, it is important to consider where one's services can best be used and to maintain a neutral and fair attitude. Free-lance facilitators are also a possibility. Against expectations, it is difficult to work when one is based at a single institution or facility. Anywhere is a good place to work, and perhaps it is even better to be able to go anywhere to work.	Issue (6) Absence or over-abundance of organizational hub functions
	Expertise of the balance support coordinator	Persons in intermediary positions must have good knowledge and a high level of expertise. We need to increase the number of persons who have fundamental knowledge regarding balance support. The education system needs to improve the quality of coordination skills.	
Strategy (7): Support via collaborations among respective balance-support coordinators	Active use of the diversity among balance support coordinators	It adds something when a social insurance labor consultant can actively utilize special knowledge derived from their other roles. A patient should be surrounded by persons from a variety of jobs and for these persons to collaborate with each other whenever necessary. It is better for a person with one job type to also have expertise in other areas.	Issue (7) : Difficulty with long-term support
	Collaborations between balance support coordinators	Certain staff should have the ability to link up the hospital consultation "window" with the occupational health support center. There should be strong and workable ties between the hospital consultation "window" and the occupational health support center. (about the company) and can forge firm links with the company.	
Flexible support along the time axis while utilizing the diversity among balance support coordinators	Flexible support along the time axis while utilizing the diversity among balance support coordinators	In regards to positions along the time axis, these should not be considered as return points but as part of a single horizontal continuum. Coordinators are always necessary who will be able to find and arrange support appropriate to the medical situation and disease status of each patient. While all involved professionals work with the patient in parallel, the relative weight (importance) of each professional should change according to the status of the patient.	



Insufficient functioning of the occupational health support center}; {Issue (6): No organization with hub functions or too many organizations}; {Issue (7): Difficulty with long-term support}. Here, no solution strategy was extracted for Issue (2) {In-company balance support system not functioning}. Thus, since 6 solution strategies were extracted, the solution strategies were 1 through 7, with the exception of two.

Strategy (1) {Establishment of the relevant medical system} was comprised of three subcategories and 11 important items. This was defined as “Creation of a nationwide system to promote balance support on the health-care side,” which includes allocating insurance points incentives for research on balance support and educating doctors on balance support, etc. For example, [Assignment of insurance points to medical opinion documents] written by the primary doctor would enable the costs on the hospital side (i.e., labor of the primary doctor in writing opinion documents) to be reflected in insurance points, which would make it easier for hospital staff to create these documents. If necessary information regarding balance support was communicated to the concerned person and those working for balance support via doctor opinion documents, then these parties would have the opportunity to gain a better outlook regarding prospects for treatment and employment. Furthermore, the [Systemization of screening] would mean that regardless as to whether or not the hospital is a DCCH, screening would “flush out” those patients who, in addition to treatment, require assistance with employment (or have psychological issues, etc.). This screening would thus enable better acquisition of required support. Meanwhile, medical practitioners must be newly infused with a shared awareness of [The importance not only of treatment for the patient’s disease but also the need for daily life support]. To accomplish this there is [The necessity for doctors to be educated from the perspective of a patient’s daily life].

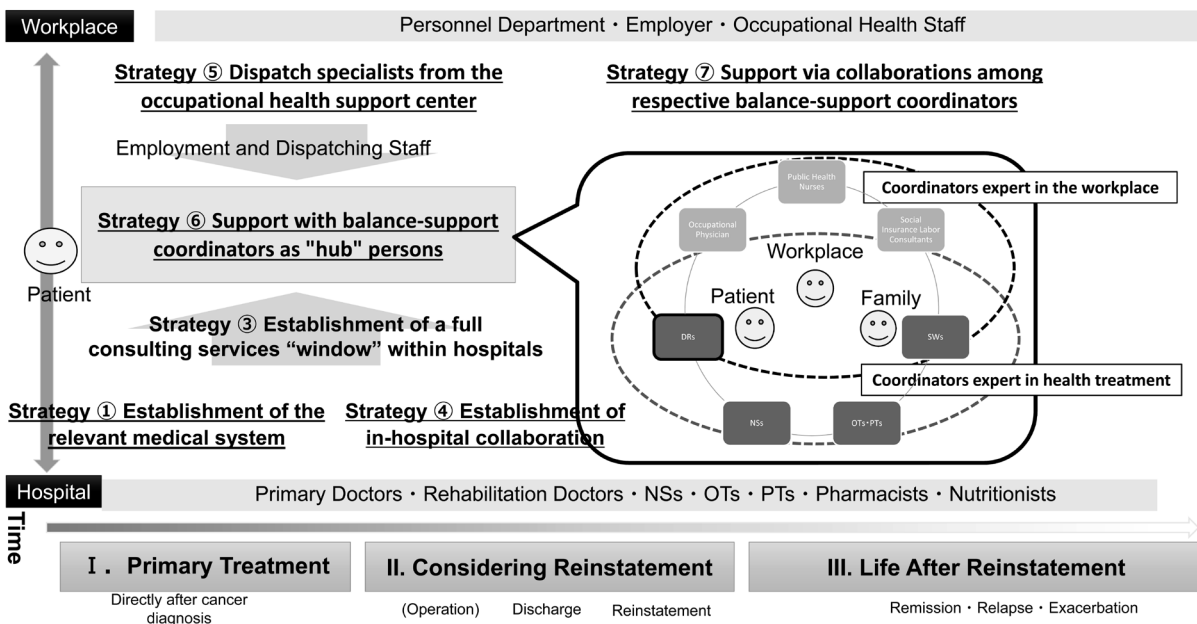
Strategy (3) {Establishment of a full consultation services “window” within hospitals} was comprised of 2 subcategories and 7 important items. This strategy was defined as “Formation within the hospital of a unified site for patients to receive balance support.” By having the patient “pass through” this consultation window, various procedures required for performing psychological care during the early treatment period would be performed for every relevant patient. In this sense, the role of [The hospital as the entrance point for support] is of extreme importance. Another important aspect is [The hospital as a place to return for further assistance]. In other words, after the

patient has been reinstated to his/her job, when changes occur to his/her work or life situation (or when the illness worsens or recurs and s/he once again requires balance support), the hospital will be able to continue providing effective support.

Strategy (4) {Establishment of in-hospital collaboration} was comprised of 1 subcategory and 2 important items and was defined as “In addition to the primary doctor, a variety of specialist opinions regarding rehabilitation are concentrated in the hospital.” Although there exists an awareness of the [Importance of the opinions of rehabilitation doctors] about each patient’s actual activity level and the necessary considerations for her/his activities, opinions are not invariably stated in sufficient detail within documents written by primary doctors. By reflecting upon essential information from rehabilitation doctors and other rehabilitation specialists, all interested parties can share access to information regarding employment and conditions thereof. This allows for perspectives from concerned patients, companies, and supporters, as well as special considerations necessary in each case.

Strategy (5) {Dispatch of specialists from the occupational health support center} was comprised of 1 subcategory and 4 important items and was defined as “The hiring of balance support coordinators by occupational health support centers and dispatching these coordinators to sites as necessary.” MSWs and other specialists currently working at hospital Cancer Consultation Support Centers receive no medical fees for their involvement in balance support, meaning that their consultations (and the accumulated results of their activities) are not directly reflected in their pay. This means that hospitals have limits with hiring balance support coordinators. However, if [Balance support coordinators attached to occupational health support centers are dispatched to hospitals], support could be continuously provided.

Strategy (6) {Support with balance-support coordinators as “hub” persons} was comprised of 2 subcategories and 16 important items and was defined as “Regardless of the specialist abilities among balance support coordinators, they should not be confined to a single affiliated facility but should be able to freely provide support.” Currently there are balance support coordinators at in-hospital Cancer Consultation Support Centers, and there are facilitators at occupational health support centers. However, considering that the position of a balance support coordinator (as envisioned in the present study) should have a neutral and fair attitude between the medical side and company side, then having an affiliated institution where the specialist is



**Fig. 2. Cancer treatment and employment balance support coordination model.**  
The professionals in the workplace are different depending on the scale of the business.

always posted could make it difficult for this coordinator to perform his/her work. Thus, during the FGI, opinions were expressed whereby it would be best for these coordinators to have a degree of freedom, such that they can provide [Support that transcends one’s affiliated organization]. While in one sense this means that coordinators not be constrained by their affiliated organization, it also indicates the importance of being mobile without organizational restraints. What is important is not the affiliation but the professional skills that are distinctly required for balance support, including expert knowledge and coordinating abilities. This is the [Expertise of the balance support coordinator]. To accomplish this, education that fosters high professional quality among coordinators was advocated.

Strategy (7) {Support via collaborations of respective balance-support coordinators} was comprised of three subcategories and 20 important items and was defined as “Coordinators with diverse professional expertise should collaborate together, at the appropriate time, to provide support.” They are referred to as, “balance support coordinators” once they completed the training. However, they were expected to fulfill their roles using the expertise which they had acquired in a field before becoming coordinators. This means that coordinators who come from a variety of backgrounds will display a level of professionalism such that there is an [Active use of the diversity of balance

support coordinators]. Each balance support coordinator performs support using their own special expertise; thus, it would appear logical to utilize multiple balance support coordinators with different professional backgrounds and skills. Within connections between diverse supporters, all focused on a particular patient, it is essential that there be [Collaborations between balance support coordinators]. Furthermore, since balance support is expected to continue long after job reinstatement, it would be effective to provide [Flexible support along the time axis while utilizing the diversity of balance support coordinators]. This entails the continued interaction of a concerned person with multiple balance support coordinators, even while the main coordinators working for that person may change in accordance with changes that occur along the reinstatement/reintegration timeline. Another possibility is to have parallel support provided by diverse coordinators, all who are working collaboratively. This could also include a lead coordinator who is in charge of assigning different tasks to each balance support coordinator.

Table 2 shows a list of categories for solution strategies.

*Relationships between concepts*

Regarding the 6 issues extracted as categories, relationships were assessed between cancer treatment and employment balance support, and a hypothetical model was generated (Fig. 2).

The x-axis refers to time, with time progressing from left to right. As explained above, three phases were identified: I. Primary Treatment, II. Considering Reinstatement, and III. Life After Reinstatement. Meanwhile, the y-axis includes the support domains. The upper portion shows the employment workplace where the patient was employed and lists supporters from the company side: Personnel Department, Employer, and Occupational Health Staff. In the lower portion is the hospital. The medical care-side supporters include primary doctors, Rehabilitation Doctors, Occupational Therapists (OTs), Physical Therapists (PTs), Pharmacists, and Nutritionists. The central portion is dedicated to the patient, which is divided into time period and support site.

In Phase I, solutions for the hospital side included Strategy (1) and Strategy (3). Solutions for the company side included Strategy (5), while Strategy (6) was located along the extended line of the patient. In Phase II, Strategy (4) was noted as a solution on the hospital side, while Strategy (7) straddled both Phases II and III.

## Discussion

### *Creation of a “window” for providing consultation services*

We previously described issues for early-period treatment on the hospital side<sup>16)</sup>, which included Issue (1) and on the workplace side, which included Issue (2). Furthermore, due to a lack of firm tie-ups between hospitals and worksites, there is Issue (3), indicating that patients need to make their own efforts toward collecting required information. We pointed out that this may also be a further burden on patients.

Thus, the first issue that requires a solution is the situation where patients have to seek out relevant information. One possible solution is to provide an appropriate “window” where patients can obtain all the information they require at one specific site. This would establish a site within the hospital where all patients will surely pass through in order to acquire all required procedures. If balance support can be firmly established once a patient is diagnosed with cancer, there is less of a risk that pertinent information is missed or overlooked.

Here, it will be necessary to create mechanisms that enable patients to visit a consultation services window. To ensure this, a solution is needed for Issue (1), which could be aided by Strategy (1). This requires a reform to the current medical system, such that there is an [Assignment of insurance points to medical opinions] and a system that “flushes out” patients with high support needs via the

[Systematization of screening]. Furthermore, there must be a realization and inclusion of [The necessity for education of doctors from the perspective of a patient’s daily life]. Takahashi also indicated that the hospital admissions process, and outpatient check-ups, provide good opportunities for taking action<sup>21)</sup>. Here, easy-to-understand explanations provided to employed patients regarding their illness status and treatment plan could serve to improve the patient’s awareness as to his/her options, along with the motivation and ability to be proactive in the process. The primary doctor plays a very important role in this context. Thus, in order for primary doctors to fulfill their roles, they must adopt a perspective that encompasses the patient’s daily life concerns, as well as ensure that the patient is connected with the consultation services window. To do so, as the doctors are put at the entrance of the collaborative circle, the education of physicians is required so as to deepen their understanding regarding these matters.

### *Operating a consultation services window*

As described above, for Issue (1), it was proposed that a “site” within the hospital be established to serve as a consultation services “window.” Additionally, “personnel” and “funds” are required to perform these consultation activities. It was revealed that, at present, the access to these resources varies greatly by the area. The present study offered one potential solution, Strategy (6), and revealed that the appropriate person for performing assistance would be a balance-support coordinator(s). This also helps address Issue (6). Currently, job reinstatement coordinators are located within Cancer Consultation Support Centers at DCCBs. Also, within company occupational health support centers, there are facilitators who serve as “hubs” for balance support. Such coordinators might be expected to serve inter-organization coordinating functions. However, the reality is that in some cases, such individuals do not in fact exist, or there is overlap between different institutions; thus, no systematic order regarding the roles for each individual is outlined. As a result, such systems are not currently functioning smoothly<sup>16)</sup>. In fact, currently there is a situation in which an individual healthcare social worker is serving as a job reinstatement coordinator at hospitals, as well as serving as a facilitator at occupational health support centers. Thus, not only should there be a concentration of consultation windows within hospitals, but a system must be set in place that unifies specialists who conduct consultations for balance support so that there is no confusion among service users.

The next problem relates to which entity or entities



should be responsible for personnel expenses and other funds required for balance support coordination. One possible solution was offered: Strategy (5) {Dispatch specialists from the occupational health support center}. This was devised as a solution for Issue (5). Issue (5) comes from the insufficient function of occupational health support center to manage the needs of the occupational health staff, personnel staff and employer in the workplace. In this way, while “hub” collaboration from the company side can continue to be expected, there should be clarification and specification of occupational health support center roles, which are currently inefficient. It might be effective to make a competition by considering the resources of the private sector or other high quality services with fee besides the public organization.

#### *Collaboration within each institution*

Phase II is the period after intensive treatment has been completed, and the patient is prepared to return to his/her ordinary life. This requires preparation, not only for daily life activities, but also employment. This is a time when a response must be undertaken for Issue (4). The solution proposed for this issue was Strategy (4). We previously emphasized not only the importance of the chief doctor’s role but also the role of professional deliberations among medical care specialists across various fields, including nurses, pharmacists, MSCWs, physical therapists, occupational therapists, and nutritionists<sup>12)</sup>. These professionals could be making even greater contributions, and in-hospital collaborations could be of great importance. In the present study, a more concrete indication was highlighted by the [Importance of rehabilitation doctors’ opinions]. In a patient’s actual daily life functioning, including at work, rehabilitation doctors’ evaluations and opinions are essential. Especially since rehabilitation cannot be performed on an outpatient basis after hospital discharge, it is important that the patient receive documentation stating recommendations from a rehabilitation doctor regarding job reinstatement.

Meanwhile, in terms of the company side, we previously<sup>16)</sup> showed that during the early treatment period, Issues (2) and (5) emerged. In the present study, however, no concrete solution strategy was found for company side issues. While certain participants in the FGI group were from the company side, this was limited to social insurance and labor consultants (who form contractual relationships with private companies) and an entrepreneur from a medium-scale business (who was proactively involved, on her own initiative, in balance support work). Also, no

occupational health staff from a private company was included in the FGI. This could have had an impact on our present results. Okahisa and Nishikido<sup>15)</sup> surveyed company-affiliated occupational health nurses and pointed out that after reinstatement following treatment, the occupational health nurses provided detailed analyses of changes in the employee’s work status and health condition to determine the level of support needed. In their study, one subcategory related to post-reinstatement work was, “To serve as a bridge linking the individual patient with the worksite and healthcare specialists.” Thus, it is expected that occupational health staff carry out “hub” functions on the company side. Furthermore, occupational health staff includes multiple professionals playing different roles, including occupational physicians, occupational health nurses, psychological specialists, and hygiene management staff. Therefore, one must be aware of the multiple job types within a company engaging in collaborative work. Future surveys should be performed that include a variety of occupational health staff so as to enable further refinements.

#### *Multiple job-type collaborations between balance support coordinators*

As a solution for Issue (7) extracted for Phase III, Strategy (7) was revealed, which straddled both Phases II and III. Previous theory regarding multiple job-type coordination, as indicated in Takahashi<sup>21)</sup>, involved an image of coordination between multiple professions, including doctors, nurses, pharmacists, MSCWs, PTs, and OTs. The present study also suggested the importance of these multiple job-type collaborations but also highlighted the fact that an effective way for realizing such collaborations was Strategy (7). Coordinators currently performing balance support work include many individuals who have also served in a variety of different backgrounds, including MSWs, nurses, and social insurance and labor consultants. Thus, it could be expected that when individuals with different backgrounds and expertise become balance support coordinators, there will be [Active use of the diversity of balance support coordinators]. This diversity could also stimulate [Collaborations between balance support coordinators] and the realization of long-term support via [Flexible support along the time axis while utilizing the diversity of balance support coordinators].

The realization of collaborations between multiple job types is not limited to methods where there are direct linkages between job types. Having balance support coordinators who have diverse experience and expertise, perform-

ing “hub” functions could lead to collaborations between multiple job types. To realize these collaborations, and while personal skills are often required<sup>22)</sup>, the idea revealed in the present study is that the creation of a bridging system that connects the workplace and healthcare to ensure collaborations could be effective for bringing about multi-professional collaborations.

#### *Timing of balance support*

The last item to consider is the timing of solution strategies. We previously presented<sup>16)</sup> 7 issues currently facing balance support. Three issues were extracted for Phase I, 3 for Phase II, and 1 for Phase III. Furthermore, due to insufficient support provided during the early treatment period and during reinstatement, Issue (7) emerged. This indicates the need to consider primary care, the reinstatement period, and post-reinstatement when designing middle- and long-term support plans.

From among the 6 solution strategies extracted in the present study, four strategies that were not aligned with the four issues presented within Phase I through Phase II, which were concentrated on the primary treatment phase. Thereafter, the strategies that are observed primarily for Phase II were on the hospital side. Previous studies have revealed that there are significant differences in the duration of absenteeism due to illness and treatment among several cancer survivors in Japan<sup>4, 5)</sup>. However, a systematic review showed that multidisciplinary interventions, especially in medical institutions, are effective for higher return-to-work rates than usual care<sup>23)</sup>. Considering these factors with our current results, we can emphasize that a collaborative system which originates in medical institutions should be developed to provide supportive social care at the timing of Phase I and II. Finally, there was one strategy that appeared to straddle Phases II and III, which means that a collaborative bridge between medical institutions and workplaces should be promoted<sup>11, 17)</sup>.

Instead of focusing on the period where the issue is occurring, creation and establishment from an early period likely enables responses to issues that could emerge thereafter. This involves preventions and systematic interventions for issues; an effective means of resolving specific problems is to perform the appropriate intervention at the appropriate time.

#### *Study limitations and future issues*

A few study limitations should be noted. For purposes of outlining strategies for providing balance support, the present study performed an FGI with multiple specialists actu-

ally involved in such support. However, to enable participation from various specialists, the number of participants from each specialty was limited. Thus, there could be some bias concerning the representation we obtained. It may also have been the case that those who agreed to participate had a higher awareness of balance support issues as compared to others within relevant specialties. Hence, we must be cautious as to the generalizability of our results.

Another plausible limitation could be that regional differences exist at administrative (government) levels, while at the hospital level, there are considerable differences regarding function and scale. There are also major differences within private companies as a function of scale and industry type. In future studies, interviews should be performed separately, with each specialist work type. Additionally, it would be prudent to conduct quantitative nationwide surveys so as to gather a broader range of ideas and opinions.

Finally, we performed an FGI with the expectation that there would be a lively discussion among individuals from a range of job types. It is possible that this dynamic could have facilitated certain biases. Future detailed investigations could more carefully solicit individual opinions through personal interviews so as to avoid confounds related to group relationships.

#### *Conclusion*

The present study identified six strategies to address seven issues concerning the support needed to balance cancer treatment and employment. These strategies suggested the importance of not only directly connecting different specialists but also the importance of the role of an available coordinators with their own specialties and training. Workers with cancer need supportive guidance at the time of their initial cancer diagnosis, when they return to work, and after returning to work. The interview revealed that many of problems after returning to work resulted from lack of advice and support at the time of diagnosis or when they were first returning to work, which emphasized the necessity of the development of early comprehensive system with integrated collaboration between medical institutions, workplaces and other occupational health institutions. A multi-profession collaboration model is necessary to support cancer patients remaining at work. Not only do staff inside medical institutions need to provide support to cancer patients, but they need to be able to collaborate and cooperate with their counterparts in the collaborative bridge, occupational health staff and employers of patients in companies.

## Authors' Contributions

M.T., K.M., and H.O. planned the research for this study. M.T., C.U., G.M., and M.E. collected information on previous studies. M.T., C.U., N.N. A.E., N.Y., and Y.K. conducted the FGI and performed data analysis. M.T., C.U., N.N., and G.M. drafted the manuscript. M.T., H.O., and K.M. arranged the FGI including the recruitment of study participants. M.E., K.K., and T.F. reviewed and edited the manuscript. K.M. supervised and provided advice on this study. All authors read and approved the final manuscript.

## Conflict of Interest

None declared.

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