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Special Feature Article

Current Status and Prospects of Psychiatric, Mental Health, and Psychosocial Support (MHPSS) for Local and Wide-Ranging Natural Disasters

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Abstract

Natural disasters have been occurring more frequently in recent years. Each disaster is different and varies in scale and features. The level of the scale, such as with floods confined to a single region, floods with many localized disasters, and the Great East Japan Earthquake, which was a complex disaster that included radiation disasters in addition to the natural disasters of earthquakes and tsunamis, can be determined.

Public mental health and welfare support systems have been established in each region and may become temporarily vulnerable in the case of a disaster. In the acute phase, the Disaster Psychiatric Assistance Team (DPAT) may be called in to assist. Various other mental health and psychological support groups may also enter the affected areas to provide assistance.

The administration of the affected area must consider how to most efficiently receive and support such assistance. In the case of a localized disaster, the affected area or prefecture may be able to handle the situation on its own and provide follow-up services starting with the initial stage and continuing through the medium- or long-term.

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In contrast, in the case of a major disaster across a wide area, if the existing administrative and medical care systems in the affected prefecture do not function in the early stages, it will become necessary to receive support from outside the prefecture.

Recently, hospitals, psychiatric hospitals, and other mental health and welfare institutions have been required to prepare a business continuity plan (BCP). The BCPs of various locations collectively become the BCP for the region and can be used to determine the region's adeptness to withstand a disaster. Existing preparedness systems need to be developed to build a mental health and psychological support system for local and wide-ranging natural disasters that has sufficient capacity to respond to the rapidly increasing needs at the time of a disaster and to make assumptions and preparations to cope with future disasters.

Keywords: local and wide-ranging natural disasters, natural disasters, Disaster Psychiatric Assistance Team (DPAT), business continuity plan (BCP), psychiatric, mental health and psychosocial support (MHPSS)

Introduction

In recent years, the number of natural disasters has been increasing. No two disasters are the same, and the scale and variation in the number of disasters differ markedly. They are diverse in scale, including localized and large-scale disasters, floods that are localized to a region, floods with many localized disasters, and complex disasters, such as the Great East Japan Earthquake, which can include radiation disasters in addition to natural disasters such as earthquakes and tsunamis.

What kind of support systems are in place to cope with such disasters? Currently, various support groups go to

disaster-stricken areas to provide assistance. The administrations of affected areas have begun to consider and devise ways to receive support; in other words, more efficient ways to receive support in such a situation.

In the case of a limited local disaster, the affected area or prefecture alone can handle the situation and provide initial and medium- to long-term follow-up services. On the other hand, in the case of a wide-area disaster, especially in the early stages, the existing administrative, medical, and other systems in the affected prefecture may cease to function due to the disaster, and support from outside the affected

prefecture will be necessary. Regular advance preparation is essential to know how to efficiently receive support at that time.

Recently, not only companies but also hospitals have begun to prepare a business continuity plan (BCP). The same trend has been observed in psychiatric hospitals. If **BCP** is established in a local hospital, it is possible to determine in advance how well the local BCP can withstand a disaster. This paper discusses the current status and future prospects of support systems to cope with natural disasters, both local and wide-area.

I. Mental Health Problems in Local and Wide-ranging Disasters

Based on the lessons learned from recent large-scale earthquakes and floods, psychiatric facilities are required to establish BCP to rapidly restore medical treatment functions after a disaster. First, we will discuss the situations that can be expected in evacuation centers, and affected psychiatric hospitals and clinics in the event of a disaster.

1. Evacuation Centers

When a disaster occurs, disaster headquarters such as coordination headquarters, base headquarters, and healthcare coordination headquarters are set up by prefectural and municipal governments to confirm the damage suffered by residents and medical and healthcare facilities. Municipal governments set up evacuation centers in various locations, and affected citizens gather at these centers. Local government officials and public health nurses will intervene, organize the situation, and begin providing support to disaster victims.

In the initial stages, various measures required. including health are handling counseling. of infectious diseases, handling of people in need during disasters such as the disabled, elderly, pregnant and nursing mothers, and infants, maintaining privacy and toilets, and appropriate temperature control. After these physical and hygienic measures are taken, mental health needs gradually increase, and mental health care is often provided.

In the event of a disaster, there is a need to respond to the maladjustment of victims with mental illness, dementia patients, the elderly, and the mentally ill due to extreme fatigue in evacuation centers. There are many cases of adjustment disorder, depression, and acute stress disorder that only partially meet the diagnostic criteria. However, there are cases that develop into psychiatric disorders, and there are also cases that improve spontaneously, so careful follow-up is necessary. Sleep disturbances are often observed in

association with depression, PTSD, and alcohol-related disorders. In addition, it is common for victims with psychiatric disorders to experience worsening symptoms due to lack of access to their usual medications, so it is necessary to establish a system for temporary access to prescription medications as one of the support activities at evacuation centers as part of advance preparations during normal times.

In addition, administrative staff, public health nurses, and medical staff in disaster-stricken areas are markedly fatigued because they are victims of the disaster themselves, but they give up their own time to respond to the disaster. It is also important to provide support to help them with mental and practical tasks so that they can rest as much as possible.

2. Affected Psychiatric Hospitals

If a psychiatric hospital itself has already been severely damaged by a large-scale earthquake and is likely to collapse during the next aftershock, it is possible that many patients and other people may lose their lives. To avoid this, it is necessary to quickly and safely transport patients to a hospital in a safe area that has been less affected by the disaster before it collapses.

In the Great East Japan Earthquake, there were many cases in which elderly and vulnerable patients died during transportation. In order to transport patients safely, it is advisable to simulate practical plans such as actual transportation methods, selection of passengers, selection of equipment, and preparation of copies of medical records in advance. It is difficult to use a copier to copy medical records in the event of a power outage, so it is necessary to make preparations such as printing the first record in the electronic medical record and compiling a file of prescription details in advance.

In addition, it is difficult for a hospital to function if lifelines are cut off in the event of a disaster. The hospital will not be able to provide the necessary services for in- and outpatients, such as heating and cooling, water, sewage, medical care, meals. In addition, even if commuting to the hospital by private car or train is possible in normal times, in the event of a disaster, roads may be closed to traffic, and especially in the case of flooding, the hospital may be isolated and hospital staff may be unable to assemble because they cannot enter the hospital from the outside. Therefore, for example, in a hospital BCP, a list of employees within 2 km of their homes who can walk to the hospital should be prepared so that they can be assembled in the event of a disaster.

If a disaster occurs during the night or on a holiday, it may be necessary to deal with the situation with only the staff who are on duty at the time of the disaster. Until assistance arrives, fewer staff members than usual must cope with the situation, which may lead to fatigue of staff members, necessitating consideration of a back-up system.

Furthermore, in the event of flooding, if the hospital is surrounded by water and cannot be entered, it is possible to assume a situation similar to a siege. In other words, supplies would have to be provided by air and people would have to wait until the water recedes. Hospitals that have been identified in local hazard maps as being susceptible to flooding should be prepared for inundation by installing generators and critical testing equipment on the second floor or above.

Thus, it is important to consider specific methods of providing material and human support to hospitals in advance, and to prepare in advance during normal times to minimize damage, even in the event of unexpected situations.

3. Clinics

The same applies to clinics. Be sure to check the disaster hazard map of each municipality. It is also advisable to confirm the damage-risk of flood and sediment disasters, which are also published based on previous disasters and current data. It is known from past

experience that flood damage has a fairly high probability of occurring as predicted. It is important to prepare for flood damage and the possibility of flooding, damage, or collapse of the first floor of a building if such a possibility is indicated in advance. It is anticipated that lifelines may be disrupted by a disaster, and outpatient services may not be able to resume. In such a case, medical health care deteriorate because local patients will not be able to receive examinations and prescriptions will not be issued. It is recommended that medical records be digitized and backed up, and that patients be encouraged to take pictures of their own medications and medication registers in advance and store them in their cell phones. It is also important to teach patients and their families how to manage their own medicines. this and should be considered as part of the normal preparation.

Support for patients and clinics is equally important. In this regard, it is desirable to envision who will provide support and how, and who will receive such support, based on previous disaster examples.

II. Support System in Psychiatric Health Care

In psychiatric treatment, mental health and welfare institutions in the disaster area will be the first to act, but the functions of medical and health care are clearly reduced compared with normal times. Therefore, a disaster psychiatric assistance team (DPAT) may provide support to evacuation centers and medical institutions such as psychiatric hospitals that have been affected by the disaster. If there is a possibility of hospital collapse, patients may be transported in cooperation with the disaster medical assistance team (DMAT) and Self-Defense Forces.

DPAT provides support for several days to several weeks in localized disasters, and for about a month in large-scale disasters. After the needs decrease and local stakeholders are consulted, DPAT support activities come to an end. After that, mental health and welfare institutions in the affected area will continue to provide support (Figure 1).

The mental health care team that has provided support is required to share information with public health nurses and administrative officials, taking sufficient care not to leak personal information about the subjects they have examined and responded to. The team should ask appropriate medical institutions in the surrounding area to continue to provide support for the cases that they have responded to. Emphasis should be placed on collaboration with the local community, such as requesting

consultations and hospitalization at medical institutions in and around the affected area. In addition, it is important to consider the normal medical capacity of the affected area and avoid overloading the local medical system with too many cases.

After that, mid- to long-term, support from disaster relief teams, other prefectures, and outside the affected area will be completed, and activities will be conducted under a mental health and welfare system centered on the affected area (Figure 2).

The first activity at evacuation centers is to provide medical care to those in need of psychiatric treatment. Mental which health care. encompasses "psychological support," must also be provided. A trained DPAT and Japan Red Cross Psychological Support Team will respond, and local public health nurses and other disaster relief teams will involved. The **JRCS** he Psychological Support Team is composed of nurses with sufficient experience at the level of a division head who have received training "Psychosocial Support," trained psychologists, and a logistics team to conduct mental health activities²⁾³⁾⁷⁾.

DMAT, Japan Medical Association Team (JMAT), Japanese Red Cross Medical Rescue Team, Disaster Health Emergency Assistance Team (DHEAT), other disaster medical teams that deal with physical illnesses, etc., and other disaster medical teams may be involved in mental health issues at the scene of a disaster from a primary care and public health perspective. In such cases, it is necessary to connect difficult cases with specialized mental health care teams. This kind of preparation related to such coordination is a necessary part of a community's BCP to ensure the continuity of medical care.

Since many other support groups provide support from the perspective of mental health welfare as well, it is for the important regional administration to share information and know which support groups have limitations, strengths. intervention methods, and other special characteristics, so that they know in advance which group to request. This is the idea of the Inter-Agency Standing Committee (IASC) 4Ws, which is already in place overseas⁴⁾. For efficient support, it is necessary to introduce this concept into Japan as well.

After the Great Hanshin-Awaji Earthquake, the concept of "mental health care" became widely known in Japan. "Mental health care" originally means "mental health and psychosocial support," and is abbreviated as MHPSS. There are some differences between the global MHPSS Japanese and perspectives, due to cultural differences the presence or absence of and

viewpoints such as dealing with conflict and racial issues. In the future, it will be necessary to introduce such world-standard MHPSS perspectives and tools such as $4Ws^4$ into Japan.

III. DPAT

Based on the response to the Great East Japan Earthquake, DPAT was established by the Ministry of Health, Labour and Welfare (MHLW), and each prefecture has been training its own DPAT. Since the establishment of DPAT, we have been able to respond to the chaos of a disaster in an organized manner from the very beginning.

Prior to the establishment of DPAT, the mental health care system in the acute phase of a disaster reflected the system in place in each municipality during normal times. Past records indicate that the teams and personnel operating in the acute phase were often the public health teams of the affected area. In fact, the personnel of these teams themselves were sometimes affected by the disaster, making it difficult to conduct sufficient activities during the acute phase.

Conventional mental health care teams (psychiatric teams not regulated by law, or conventional psychiatric teams) did not have training or supervision systems, and thus lacked information-sharing tools, making communication with other disaster

assistance teams difficult. However, DPATs, which have received training in shared coordination, collaboration, and communication, are working to resolve this issue.

In the mid- to long-term, as mental health needs increase, the mental health welfare system under normal circumstances may not have sufficient manpower to carry out support activities on its own. In this regard, after DPAT activities are completed, personnel from the affected area who have been trained in advance by DPAT may actually be used for the activities.

1. DPAT Advance Team

The DPAT advance team enters the affected area within 48 hours after the disaster, during the hyper-acute period, to set up and operate the prefectural coordination headquarters and base headquarters, and to enter evacuation centers to coordinate and conduct activities. In the case of DPATs, cross-prefecture activities will be carried out by advance teams, while DPATs from prefectures and other organizations (DPATs trained in the region that do not cross the affected prefecture) will operate within the affected prefecture.

Since the advance team starts in the hyper-acute phase, the equipment they bring with them is similar to that of DMAT, but they are more specialized and capable of responding to

emergencies. DPATs are trained to operate in the acute phase of a disaster with a higher risk of damage¹⁾⁵⁾.

2. Prefectural DPATs (Regional DPATs)

DPATs that follow the advance team responsible mainly continuation of headquarter functions, provision of psychiatric care in the disaster area, professional support for mental health activities, professional support for medical institutions affected the disaster, and professional support for supporters (local medical personnel, emergency medical personnel, local government officials, etc.). The advance team will then enter evacuation centers and conduct other activities in the affected areas. The difference with the advance team is that they take over the work of the advance team and focus on activities in the disaster area after the hyper-acute phase has passed¹⁾⁵⁾.

3. Disaster Psychiatric Care System in Normal Times

As part of the system in normal times, each prefecture conducts DPAT training to develop human resources for disaster psychiatry. In addition, DPATs and related administrative departments are developing a system for normal times, holding training sessions for DPAT members, and conducting skill maintenance training¹⁾⁵⁾. In addition,

the Mental Health and Welfare Center is responsible for the training of DPAT members during normal times. In addition, during normal times, mental health welfare facilities such as mental health welfare centers, regional psychiatric hospitals, general hospitals' psychiatry departments, psychiatric clinics are preparing disaster responses. The preparation is not uniform and there are regional differences, which is an issue for the future.

4. Prefectural and Municipal Systems

The system should consolidate information on psychiatric institutions prefectural and municipal governments and organize issues of the psychiatric health system in normal times. The establishment of DPAT prefectural coordination headquarters and DPAT base headquarters should be considered during normal times, and a disaster-resistant location should be determined and prepared in advance. In addition, materials and equipment for setting up the headquarters materials to be brought by each team should be secured, and each team member's personal equipment should be prepared. Communication equipment such satellite telephones as particularly important, so they should be purchased in advance, personnel trained to use them reliably, and maintained on a continual basis¹⁾⁵⁾.

IV. Post-disaster Mental Health (DPAT Activities)

1. Post-disaster Start-up Period

As mentioned earlier, the advance team will begin activities within 48 hours ofthe disaster. Vertical coordination coordination among headquarters, base headquarters, and DPATs in operation, as well horizontal coordination with other disaster-assistance teams such as local governments and DMATs, is important. In addition, DPAT members will provide support to local governments, as it is a major effort for the affected local **DPAT** governments to set up coordination headquarters and base headquarters immediately after a disaster. DPAT members will start cooperation with the administrative departments in charge and actively collect information on the damage to psychiatric medical institutions and psychiatric health and welfare facilities. It is important to respond while managing information using **Emergency** Medical Information System (EMIS)¹⁾⁵⁾. Disaster-affected local governments should setup coordination headquarters at the prefectural or other government office.

2. Period of Activity

The headquarters is set up and support

activities initiated. The are headquarters contacts the persons in charge of evacuation centers and public health nurses regarding the content of support, and shares and provides information such as confirmation of needs, the need for continued support, and medical examination information to public health nurses and other persons in charge in the community. In addition, medical examinations and prescriptions are provided as part of the provision of psychiatric care in the affected areas. Triage/screening to determine priorities for responses and casework for needs are conducted as part of psychiatric care activities in the affected areas. As professional support for medical institutions affected by the disaster, opinions and needs of the affected hospitals are sought, and patient transport and assistance are provided as necessarv¹⁾⁵⁾.

3. Withdrawal Period

Depending on the scale of the disaster, the need for psychiatric care will decrease within a few weeks to a month. Although there are needs for mental health care, the team's activities as a medical team will come to an end. The transfer of medical records, hand-offs, disaster medical records, and other information, such as data from the J-SPEED system and EMIS mentioned above, should be carried out

systematically. In addition, the support activities and cases should be handed over to the supporters in the affected areas in phases. A follow-up system after the conclusion of the project will be considered according to local needs. It is also important to have knowledge about support for supporters in advance and provide advice to supporters in the affected areas, since the level of fatigue of local administrative officials and local medical personnel who are providing support is high at this time¹⁾⁵⁾.

V. Mental Health Welfare in the Disaster Area

At public health centers, public health nurses and other personnel are involved from the initial stages of the disaster and continue to provide support within the community afterwards. Mental health welfare centers are central to the mental health welfare system during normal times, and will continue to respond to disasters and even after disaster teams have been dispatched. The size and number of staff at each center varies from region to region. In some areas, the centers are staffed by a small number of people, and in addition to their work during normal times, they also have to respond to disasters. Follow-up is important because these supporters, who are assisting residents in the affected areas and are at the center of the recovery effort, are

becoming fatigued themselves.

In disaster relief, it is important to ensure that the disaster response is handed over to the local community; DPATs enter early after a disaster and, once the affected area has recovered, coordinate activities toward a planned end and support the decision of the affected area in consultation with the affected community (Figure 2).

VI. Post-DPAT Structure

The original center of the community mental health and welfare system in normal times is the prefectural mental health welfare center, public health center, local university hospital psychiatry department, psychiatry hospital, general hospital psychiatry department, clinics, etc. DPAT-trained personnel also learn disaster response and public health perspectives, which can be described as public mental health.

The training of regional DPAT members in each prefecture is a human resource to sustain a planned response to disasters. Then, when normal times resume, they will use that experience for future disaster preparedness. This cycle repeats itself. It is important that psychiatric health and welfare be coordinated during normal times to prepare for the next disaster.

BCPs of each hospital in a region are gathered together to form a regional BCP, which in turn is gathered together to form a prefectural BCP. In other words, the aggregation of these BCPs will create a more specific disaster preparedness plan as a whole.

VII. Formulation of BCPs in Psychiatry

In order to maintain the functions of hospitals and clinics, it is necessary for each hospital and clinic to formulate BCP in advance, basically based on the disaster assumptions of the region. The most prioritized business in continuing operations is called the core business, and what should be prioritized in the event of a disaster should be determined in advance. The problems are identified from the viewpoint of what businesses should be continued with the highest priority when resources such manpower, information, and supplies are limited compared with normal times. For example, imagine what you would do if you had only 30% of the workforce would have under you normal circumstances, and what projects you should continue even under such conditions.

It is difficult to make a perfect plan that covers all possible risks. It is wise to prioritize those that are necessary and develop them little by little, starting with those that can be done. After that, it would be necessary to conduct training, and supplement and revise BCP to address newly discovered shortcomings. In regions that have experienced large-scale disasters, psychiatric institutions are actively and meticulously formulating BCPs.

VIII. Challenges

The following are current issues. As mentioned above, DPATs and other mental health and welfare teams provide support and transport patients to the affected psychiatric hospitals, but it is also important to support the hospitals after transporting patients. In addition to hospital functions, some psychiatric hospitals also have geriatric health care facilities and related welfare facilities. which may have been damaged as well. Therefore, problems related to nursing care and welfare may not be resolved. In addition, it is natural that patients may gather at outpatient clinics even in disaster-stricken areas, so support for these patients must also be considered. On the other hand, since this is disaster relief, there is the issue of termination, such as how long the support should last. Specific issues are expected to accumulate, such as how to provide support to clinics and substitute the duty work in order to enable exhausted medical staff in affected areas take a rest.

Then, continuous, seamless support will be provided, support will be terminated in a planned manner, and the mental health and welfare institutions in the affected areas will continue to respond in the medium to long-term thereafter. It is desirable to have a system in place after support has been completed as part of advance planning. From this perspective, the formulation of BCPs for psychiatric hospitals, clinics, and other mental health welfare institutions is an urgent issue, in order to determine in advance what capacity would be available in the region during normal times.

Conclusion

As mentioned above, BCPs of hospital staff gather to form BCP for the hospital, which gathers to form BCP for regional psychiatric which care. then accumulates and expands into BCP for Japan. This will lead to clarification of the capacity in the region. In order to respond to a sudden increase in needs, it is necessary to know the number of beds available and capacity of outpatient treatment in the region to determine whether the hospital can accept patients in the event of a disaster or emergency situation. If it is known in advance that the hospital will not be able to accept patients, it is possible to make a plan to request outpatient services outside of the area. In addition, disaster preparedness may require a degree of extra preparedness to deal with emergencies, in addition to the usual waste reduction management.

Recently, there have been not only natural disasters, but also radiation disasters caused by the Great East Japan Earthquake and infectious disease disasters caused by a new type of coronavirus infection (COVID-19). With consideration of these, it is necessary to respond to all hazards, i.e., all types of disasters⁶. It is an urgent task in times of disaster and the current Covid-19 pandemic to establish a more integrated and coordinated disaster response system, and formulate BCP in the field of mental health and welfare, assuming an emergency situation even in normal times. We believe that BCP in each region will be one of the most important tools to protect these regions.

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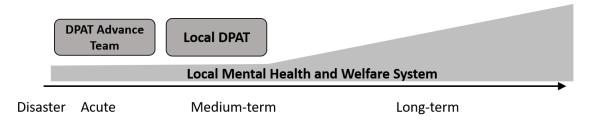


Figure 1 Examples of Post-Disaster Disaster Mental Health and Welfare System Responses

The mental health and welfare system in the affected area temporarily declines, and DPAT provides acute phase support; DPAT support ends, and the medical health and welfare system in the affected area continues to respond thereafter.

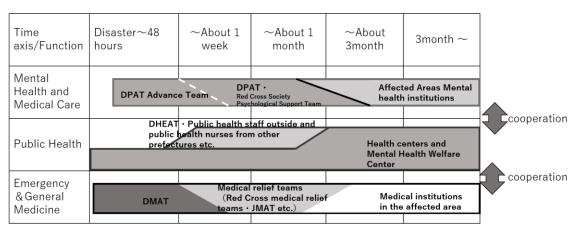


Figure 2: Examples of Cooperation Between Mental Health Care Systems and Disaster-related Support Organizations in Disaster-stricken Areas