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Special Feature Article

Mental Health Care Activities in the Hokkaido Eastern Iburi Earthquake

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Abstract

The Hokkaido Eastern Iburi Earthquake struck on September 6, 2018, with a magnitude of 6.7 and a maximum seismic intensity of 7. It was a major disaster causing great human and physical damage, including landslides in mountains and forested hills, as well as power outages in nearly all areas of Hokkaido.

The Hokkaido prefectural government dispatched Disaster Psychiatric Assistance Teams (DPATs) to provide disaster mental health services immediately after the disaster. As providers of mental health services for disaster victims (residents), psychiatric care facilities functioned as usual even after the disaster occurred, and the DPAT operations were concluded within a short period of time. However, DPATs have continued to provide technical support for mental healthcare as part of municipal health services to date. In addition, they have regularly been dispatched to provide mental healthcare services, such as individual interviews and health education, to public servants of disaster-stricken municipalities.

In Hokkaido, a delay in organizing DPATs caused confusion about their operation procedures and communication structure in the initial phase, and the prefectural government was forced to request other prefectural governments to dispatch DPATs. One year after the disaster, a review of the DPAT operations revealed issues unique to the large land area of Hokkaido. In the future, through cooperation with the Hokkaido prefectural government and pertinent organizations, we intend to establish a system that

can cope with future disasters.

Keywords: mental health, DPAT

Introduction.

The Hokkaido Eastern Iburi Earthquake, which struck at 3:07 a.m. on September 6, 2018, had a magnitude of 6.7 and a maximum intensity of 7 on the Japanese scale, causing 42 deaths and 47 serious injuries (March 6, 2019, Hokkaido Crisis Management Division). The TV images of landslides in mountains and forests were also shocking. In addition, the Tomatom-Asuma Power Plant, which supplied half of the electricity used in Hokkaido, was shut down, causing a blackout of approximately 2.95 million households in almost all areas of Hokkaido, which was a major disaster involving psychiatric institutions throughout Hokkaido.

It has been one year since the disaster struck, and this paper reports on the mental health care activities that Hokkaido has conducted so far in the aftermath of the disaster, with some discussion.

I. Support for disaster victims (medical institutions and residents)

1. Hokkaido DPAT event (September 6–)

The activities of the Disaster Psychiatric Assistance Team (DPAT) during the Hokkaido Eastern Iburi Earthquake are shown in Table 1.

Approximately one hour after the disaster, the Hokkaido DPAT Coordination Headquarters (hereinafter referred to as the "Coordination Headquarters") was set up in the Mental Health Group of the Health and Welfare Division for Persons with Disabilities of the Hokkaido Government (hereinafter referred to as the "Main Office") and checked the damage situation at psychiatric hospitals and stockpiles of food and medicine, and coordinated with the Agency and the DPAT secretariat. On the other hand, in Hokkaido, although DPAT had been specified in the regional disaster prevention plan since 2013, the development of operational guidelines and activity manuals had been stagnant, and there had been no human resource development (e.g., DPAT training), so there was no registration system and no DPAT advance team. Therefore, on the morning of the disaster, we made a request to the DPAT secretariat to

dispatch a DPAT advance team. Many prefectures responded to the request and made preparations for the dispatch of DPATs. However, all psychiatric institutions in Hokkaido suffered little damage and were able to maintain their medical functions, so there was no need for support such as transporting patients. As a result, only Iwate and Akita teams were dispatched. The DPATs from both prefectures arrived at the Hokkaido Prefectural Office on the 7th, the day after the disaster, and began field activities on the 8th. Because we did not set up a local base headquarters, the Coordination Headquarters was in charge of giving instructions to the DPATs, but this made the chain of command unstable and placed a burden on the active teams. Under such circumstances, each team carried out acute mental health care activities.

In the days immediately following the disaster, it was also a time of recovery from the blackout, and the Coordination Headquarters was responsible for confirming the damage status of all psychiatric institutions in Hokkaido (including stockpiles of food, medicine, fuel), not only those in areas with severe human and building damage. In the case of medical institutions where power outages continued on a daily basis, it was difficult to input the disaster status into the Emergency

Medical Information System (EMIS), and there were some cases where the status had not been input or updates were delayed. For this reason, the Coordination Headquarters called these medical institutions to confirm their status and input the information on their behalf. In addition, dispatched staff from the DPAT Secretariat provided support for the confirmation and reporting of the situation from the MHLW and DPAT secretariat.

On September 13, the Medical Counselor of the Head Office, who was in charge of the DPAT, went to the disaster area to check the situation of the disaster and psychiatric institutions. They found that many disaster victims were forced to live in evacuation centers due to damaged houses and severed lifelines, and that psychiatric functions were being maintained as normal. For this reason, DPAT activities were terminated on September 15 and reorganized into mental health care team activities, considering that the future support needed is not disaster psychiatry but post-disaster mental health care (health management).

2. Psychological care team activities (September 15–)

In order to reorganize the activities of the psychological care team, the local base headquarters was set up in the Atsuma Town General Care Center

Yukuri, where the medical relief and Health Coordination Headquarters for the three eastern towns of East Bilihuri was located and organized as shown in Figure 1, for the purpose of liaison and coordination with the Coordination Headquarters, each activity team, and other local teams.

In the three towns in the eastern part of the East Bilihuri region (Atsuma, Mukawa, and Anpei; hereinafter referred to as the three towns affected by the disaster), the teams provided counseling and support to those who needed psychological care due to the mental damage caused by the disaster and the mental anguish caused by prolonged living in evacuation centers, and in order to provide particularly strong psychological care for children, a team targeting children (the Children's Psychological Care Team) was dispatched. In addition, under the coordination of the medical relief and Health Coordination Headquarters for the three eastern towns of East Bilihuri, the team was engaged in mental health care in cooperation with the Mental Health Care Team of the Japan Red Cross.

The institutions that cooperated (dispatched personnel) with the mental health care team and the duration of the team's activities are shown in Table 2. In addition to institutions in Hokkaido, we received cooperation from two

universities in Sapporo City (Department of Psychiatry, Faculty of Medicine) and psychiatric institutions in the affected areas. In addition, the Child Mental Health Care Team received full cooperation from the Hokkaido Society of Child and Adolescent Mental Health, and continued its activities until the end of March 2019. In both teams, as the needs for support decreased over time, the number of dispatches was reduced accordingly. In addition, the local headquarters was withdrawn on October 10, and from October 11, the main office carried out coordination with the local community.

A total of 10 psychological care teams were active, providing individual consultations on such issues as "I cannot sleep because I remember the earthquake", "I cry for no reason", and "I am overly sensitive to small noises". In addition to individual consultations, the child psychological care team provided group support such as lectures to childcare workers and parents.

3. Support for disaster victims (residents) afterwards

Information on the cases handled by the mental health care team was provided to supporters in the affected areas (such as the health department of the town), and was passed on to the town public health nurses, who

provided mental health care as part of the health management of residents. We, the Mental Health and Welfare Center of Hokkaido (hereinafter referred to as "Seiho C"), have been visiting the three affected towns on a regular basis and have been providing continuous support to the affected people (residents) as needed, in cooperation with the Tomakomai Public Health Center. As a part of these efforts, a workshop on post-disaster mental health activities was held on March 25, 2019, for the staff of the three affected towns and the Tomakomai Public Health Center, with Professor Kotaro Otsuka of the Department of Neuropsychiatry, Faculty of Medicine, Iwate Medical University as a lecturer. On November 15, 2019, the Tomakomai Public Health Center held a meeting to discuss the formulation of a suicide prevention plan for the three towns in the eastern part of the East Bihuri Region, and provided advice on post-disaster mental health issues and future measures.

II. Staff support for disaster victims

1. Early response to the disaster

From September 7, the day after the disaster struck, reports on the activities of public health nurses described the fatigue of town officials and their difficulties in dealing with residents. The public health center and the Disaster Health Emergency Assistance

Team (DHEAT) judged that support was needed from the early stage of the disaster. Therefore, on September 13 and 14, the public health center, DHEAT, the main office, and Seiho C explained to the mayors and deputy mayors of the three hardest-hit towns the necessity of securing rest from the viewpoint of the mental health of their employees. In cooperation with the JRC Mental Health Care Team, leaflets were posted in staff restrooms and distributed in relaxation rooms. In October, the Hokkaido Psychological Care Team shared information on the work and health conditions of the employees in the three affected towns with senior officials and staff in charge of staff health management, and held discussions on measures to support the employees. As a result, the team decided to conduct individual interviews with employees in Atsuma and Mukawa, and to discuss specific measures in Abira in the future. In addition, it was decided that Seiho C would be in charge of providing support to the town staff.

On the other hand, the situation of municipal employees in the jurisdiction of the Shizunai and Chitose Public Health Centers was monitored through the respective public health centers, and the public health centers were asked to continue to provide support to municipal employees. One of the municipalities had received information

from outside about the issue of staff support, and when we confirmed this, we found that a system had already been established from an early stage and was being addressed.

2. Individual interviews (health check) in Atsuma Town and Mukawa Town

Individual interviews (health checks) were conducted with Atsuma Town and Mukawa Town employees by Seiho C staff (doctors and public health nurses).

The status of implementation in each town is as follows.

(1) Status of implementation in Atsuma

Target: All employees except children's school.

Adjustment of the whole: Town General Affairs Division Director.

Results: 10 sessions (Oct. 4-Nov. 19) were conducted for a total of 94 participants. At the beginning of the program, there were sporadic cases of staff who found it difficult to leave their work.

Conditions to be aware of: accumulation of fatigue, high blood pressure (treatment interruption), psychosomatic symptoms.

Case management: Insufficient consideration of management methods made it difficult to share information on staff requiring attention in a timely manner in some cases.

Post-event support: Continuous support will be provided to those who

need attention from February 2019. From March of the same year, life support advisers (LSAs) will be added to the scope of support, and interviews will be conducted.

(2) Status of implementation in Mukawa Town

Target: Selected from those in charge of disaster/crisis management (for other staff, psychologists commissioned by the town will conduct the training).

Overall coordination: Public health nurse as health supervisor (lead position).

Results: 5 sessions (including 2 sessions in Hobetsu area, Oct. 15-Nov. 27) for a total of 82 participants. The flow of staff was relatively smooth.

Conditions requiring attention: accumulation of fatigue, hypertension (treatment discontinued), increased alcohol consumption, unused vacation days until the end of November.

Case management: After the interviews were conducted, a conference was held with the overall coordinator (health supervisor).

Post-event support: Continuous support will be provided to those who need attention after March 2019.

3. Abira Town staff support

In November, we visited Abira Town to interview the town's General Affairs Division staff and health supervisors about the mental health and health

situation of employees, and discussed future support for employees. As a result, it was decided to hold a lecture on mental health for the staff of section chiefs and above, including those in special positions, such as the mayor, and the author (Director of Seiho C) gave a lecture on mental health care and support for supporters after the earthquake on November 21. In addition, a leaflet (Figure 2) was distributed to all the employees, describing the ongoing mental health support provided by Seiho C to the town employees, where to go for consultation, and relaxation breathing techniques.

In late May, after the change of the fiscal year, the implementation of the individual interview (health check) was discussed and reviewed again, and it was decided to implement it for all employees.

In Abira Town, in addition to interviews by doctors and public health nurses as in the other two towns, a relaxation room was set up by an occupational therapist (filling a vacancy from January 2019) (hot packs, hand massage, stretching techniques, and information on breathing techniques were provided). The program was conducted nine times (June 17 to July 16) for a total of 127 people. Although there were some issues, such as the difference in the sense of burden among the staff members depending on the

work under their control due to the time that had passed since the disaster, the flow of the interviews was smooth. After the interviews were conducted, a conference was held with the General Affairs Division staff who coordinated the entire process to share information on those who needed attention. Post-interviews have been conducted since November.

4. Health education

In August, one year before the disaster, a leaflet describing the anniversary reaction was distributed to all employees in the three affected towns (Figure 3). In addition, health education on mental health was conducted in each town from August to October. The duration of each lecture was adjusted in each of the three towns (30-90 minutes) so that all employees could attend, and similar lectures were given several times. Some towns incorporated relaxation time into the lectures.

III. Discussion

1. Development of DPAT and other systems

Since the Hokkaido Nansei-Oki Earthquake in 1993, Seiho C has played a central role in the activities of the Disaster Mental Health Care Team in Hokkaido. However, as mentioned earlier, the DPAT system had not yet been established at the time of the

Eastern Iburi Earthquake. Therefore, there was a great deal of confusion in terms of action procedures and communication systems during the initial response period immediately after the disaster. In addition, there was no human resource development, and DPATs had to be dispatched to other prefectures, and only one provincial DPAT was formed.

In this situation, depending on the damage caused by future disasters, it may not be possible to deliver the necessary support adequately. In order to cope with this situation, DPAT review meetings have been held four times since the Hokkaido Eastern Iburi Earthquake, with the head office acting as the secretariat, and the Hokkaido DPAT establishment and operation outline (draft) and Hokkaido DPAT activity manual (draft) have been discussed. In addition, a DPAT training course was held on November 23.

In the future, the formation and registration of DPATs will be promoted, but it is necessary to establish a system that is capable of responding to disasters in any region of Hokkaido, which is a large area, with little regional maldistribution. It is also necessary to participate in drills that simulate disasters to compensate for inadequacies in action procedures and communication systems, as well as insufficient experience.

On the other hand, if the medical functions of psychiatric institutions in the affected areas are maintained as in normal times, mental health care teams may be organized as in the case of the Hokkaido Eastern Iburi Earthquake. For this reason, it is necessary to consider the development of a system for dispatching mental health care teams.

2. Improving the system of Seiho C

The three towns affected by the disaster cover only 1.6% of the total area of Hokkaido, which is a large region, and only 0.4% of the population, which is not a densely populated area. On the other hand, power outages in the entire Hokkaido area were restored relatively quickly, so most of the affected areas were able to overcome the effects of the disaster in a short period of time. This created a recovery gap early after the disaster, and it was difficult for Seiho C, which is in charge of the whole province (except Sapporo City), to put on hold its normal duties (e.g., determination of the Health Certificate for the Mentally Disabled and Medical Care for Services and Supports for the Independently Disabled) for areas far from the three affected towns and focus on supporting the affected areas. In addition, the three towns affected by the disaster were relatively easy to reach from Seiho C, making it possible to make a day trip to

the affected areas. However, even in some areas of Hokkaido, there is a certain level of necessary support from the early stages of the disaster, and it is also possible that the disaster may occur in remote areas. Seiho C has traditionally prepared a business continuity plan in the event of a large-scale disaster, but the content of the plan was a continuity plan for normal operations and did not take into account the impact of mental health and other operations that may occur as a result of a disaster. In addition, the Hokkaido DPAT Activity Manual (draft) states that Seiho C staff members will be responsible for coordinating headquarters operations along with the headquarters staff members.

The business continuity plan for the center is currently under review, as it

must take into account not only the continuity of normal operations, but also the Coordination Headquarters operations and community support operations.

Conclusion.

More than a year has passed since the Hokkaido Eastern Iburi Earthquake. Looking back on our activities during this period, we have seen not only delays in the development of systems, but also challenges unique to the large area of Hokkaido. In the future, we would like to work with the head office and related organizations to develop a system that can respond to the next disaster, based on this experience.

There are no conflicts of interest to be disclosed in relation to this paper.

Table 1
表1 DPAT 活動

9/6	3:07	地震発生
	4:30	道庁（精神保健グループ）に、DPAT 調整本部を立ち上げる 精神科病院の被災状況や備蓄などの確認、内外調整
9/7	11:00	秋田県、岩手県 DPAT 先遣隊道庁到着
	13:00	DPAT 事務局到着、打ち合わせ後、先遣隊が被災地へ出発
9/8	8:00	DPAT 活動開始 岩手：厚真町福祉センターを拠点に、避難所を中心とした救護活動 秋田：管内の精神科病院などに出向き、被災状況確認（初日）、2 日目以降は救護活動
	23:00	北海道 DPAT の派遣を決定、道立緑ヶ丘病院に DPAT の派遣を依頼
9/11	9:30	先遣隊から北海道 DPAT への引き継ぎ、引き継ぎ後、先遣隊帰還
9/13	14:00	被災地の状況などを確認し、DPAT は 9/15 で活動終了と決定 DPAT 後は、被災者支援として、心のケアチーム派遣の実施を決定
9/15	9:00	北海道 DPAT から心のケアチームに引き継ぎ DPAT 活動終了

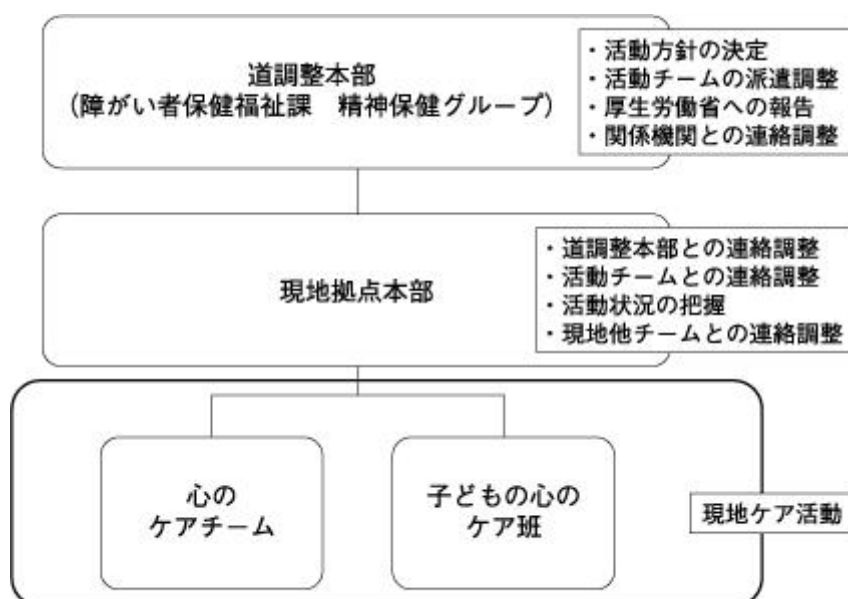


図1 組織図（心のケアチーム）

Figure 1

安平町職員の皆様

北海道立精神保健福祉センター

これまでの災害対応と、連携に同じと様々な業務に対する皆様のご協力に感謝いたします。

当センターでは、北海道こころのケアチームやほろこころのケア部の協力により、職員皆様等に対し「心身の健康」や「心の不調の気づき」についてのチラシ掲示などを行ってまいりました。

も運はこれからは、皆様の応援をいただき、今後ともどうぞよろしくお願いいたします。

○北海道立精神保健福祉センターは皆様のご協力を歓迎いたします。
お電話の際は、番号でも結構ですが、町職員であることをお伝えください。
プライバシーに十分配慮して対応いたします。

電話番号 011-864-7121 (代表)

○なんとなく、誰かに話を聞いてもらいたい、話を聞きたい時などは、「こころの電話相談」も利用いただけます。

電話番号 0510-064-555
利用時間 平日：午前9時～午後9時
土日祝日：午前10時～午後4時

○現在も配達いただいておりますが、今後も、心身の健康について声をかけたい、ローテーションなどの調整をお願いします。

私たちが 健康のために頑張る
あなたも応援してください。

【連絡先】
北海道立精神保健福祉センター 電話 011-864-7121
〒003-0027 札幌市中央区南一条西16丁目2番3号

ストレスをやわらげる呼吸法

ストレスはモチベーションを上げるなど、生活の場にも必要ですが、ストレスを抱えすぎると疲れ切ってしまう身体も壊す心配があります。

ストレスを軽減するためには気分転換する時間を持つことが大切です。職場やちょっとした時間に行う「呼吸法」でも、緊張をやわらげたり、リラックスすることができます。

4カウント呼吸法

自律神経を整えることでストレスを和らげる効果があるとされ、アメリカの海軍特殊部隊等でも採用されています。緊張時に気持ちを落ち着かせたいときにおすすし。

- 4秒間かけて鼻を吸い込む
- そのまま4秒間 息を止める
- 4秒間かけて鼻を吐き出す
- そのまま4秒間 息をとめる

* 1～4を4回繰り返す

4・7・8呼吸法

4カウント呼吸法と同様に自律神経を整えます。眠るときのよりリラックスしたいときにおすすし。

- 4秒間かけて鼻を吸い込む
- そのまま7秒間 息を止める
- 8秒間かけて鼻を吐き出す

* 1～3を4回繰り返す

どちらでもお好みで
慣れてきたら息がやや
やわらかい、目覚めで...

図2 リーフレット（安平町職員へ配布）
Figure 2

北海道立精神保健福祉センター

震災後1年を経過する時に 気をつけたい心の健康について


北海道胆振東部地震から1年を迎えようとしています。
この時期に、皆様「記念日反応」についてお伝えしたいと思います。

○記念日反応とは？

大きな出来事・つらい出来事から1週間、1ヶ月、1年など、節目節目の時に、感情が大きく揺れることを「記念日反応」と言います。

なぜ、記念日反応が起こるのでしょうか？

- ・出来事が起こった日付と一緒にその体験が記憶されるため、意識していなくても、その日付が近づくとつれて心身が反応します。
- ・つらい反応ですが、異常な反応ではなく、多くの場合は短期間で回復するとされています。



○どのような反応？

- ・その出来事について思い出したり夢に見たりする。
- ・怖い気持ちや不安な気持ちが強くなる。
- ・その出来事を思い出さざるものには近寄らない。
- ・その出来事が起こった時の感情や身体反応、考えがよみがえってくる。
- ・その出来事について思い返し、将来について悲観的に考える。

- ・悲しみや喪失感が強くなる。
- ・いらいらや怒り、罪悪感等の感情が強くなる。
- ・その出来事について話さないようにする。

○職員の皆様は・・・

震災に関わる業務、震災1年を話題とした報道、マスク対応、住民対応等の中で、時に気持ちの揺れが伴うこともあるのではないでしょうか。
記念日反応の対処法として次のようなことがおすすめです。

- 1 「記念日反応」ということ、「記念日反応が起こる」ことを知っておく。
- 2 自分のこころやからだの反応に注意を向けておく。
- 3 目から入る情報（映像、動画、写真等）に気をつける～映像は無意識に体験を思い出すきっかけになりやすい。これから震災関係の報道が増えるので、注意しておく。
- 4 誰にでも「記念日反応」が起こることを知っておく～市民が記念日反応による辛さ、いらいらや怒りを職員へクレームのような形で表出する場合があります。
- 5 当日には自分なりの儀式や活動を考え、準備し、実施する。
- 6 当日には自分を支えてくれる人とゆっくり過ごす。

北海道立精神保健福祉センター・苫小牧保健所では ご相談をお受けしています。

□北海道立精神保健福祉センター（地域支援部） 011-864-7121（代表）
 □こころの電話相談専用ダイヤル 0570-064-556 匿名で相談可能です。
（月～金）8:00～21:00 （土日祝）10:00～16:00 ※12月29日～1月1日は休み
 □北海道苫小牧保健所（健康推進課 健康支援係） 0144-34-4168（代表）
こころの健康相談（精神科医による相談：月1回、予約制）
※相談日以外にも保健師が随時相談をお受けしています。




図3 記念日反応
Figure 3