

セッション10 2020東京大会に向けた暑さ対策について

講師：内閣官房東京オリンピック・パラリンピック推進本部事務局 参事官 山本 要

講師略歴：2018年8月より現職。東京2020大会に向けた政府内の公衆衛生・医療分野の総合調整を担当。

2020年東京オリンピック・パラリンピック競技大会は、東京都が開催都市、組織委員会が運営主体であり、それらをサポートするのが政府の役割である。2020年7月から9月に開催される東京大会は、暑さが厳しい時期の開催となるため、アスリートや観客が過ごしやすい環境を整備し、熱中症を予防していくことが極めて重要である。熱中症は死に至る可能性のある病態だが予防可能であり、速やかな応急処置によって重症化を回避し後遺症を軽減できるため、正しい知識の普及啓発が肝要である。

政府の熱中症への取り組みについては、環境省を中心に関係省庁が連携して推進している。具体的には、環境省は「熱中症環境保健マニュアル」や「夏季のイベントにおける熱中症対策ガイドライン」を取りまとめているほか、熱中症予防情報サイト等で暑さ指数(WBGT)をはじめとする熱中症関連情報の発信を行っている。気象庁は気温の観測・予測情報を公表している。また、WBGT等の熱中症関連情報をプッシュ型で発信する観光庁のモバイルアプリ「Safety Tips」や、消防庁の救急車利用ガイド、厚生労働省と観光庁が公表している外国人患者を受け入れる医療機関の情報を取りまとめたリストは多言語対応を行っている。

東京大会に向けて、予防対策と発症時の対応という2つのフェーズにおいて、ソフト対策とハード対策の両面から、熱中症のリスクを総合的に低減させる取り組みが重要である。このため、関係者が連携して、一般的な対策に加えて、選手やスタッフ、観客向けに、競技会場およびその周辺における暑さ対策を推進している。競技会場では、組織委員会が昨夏のテストイベントの結果を踏まえ、観客向けに、日よけテントの設置や給水栓の増設を検討するほか、特例措置として1人750mlまでの飲料の持ち込みを許可する予定である。選手向けには各IFと連携した競技別暑さ対策、スタッフ向けにはシフト体制等を検討している。また、新国立競技場では、通風性の良い構造に加えて、ミスト冷却装置や空調付き休憩室の設置等を行っている。駅から会場までの「ラストマイル」では、東京都が日よけテントや「体を冷やす」グッズの配布等を検討している。また、救護体制では、会場内でのファーストレスポnderの巡回や医務室の設置、救急車の配備等、ラストマイルでの救護所や医療スタッフの配置等を検討している。

今後6か月間、さらにきめ細やかな検討を進め、関係者の緊密な連携の下、暑さ対策を強化し、本番を迎えたいと考えている。



内閣官房東京オリンピック・パラリンピック推進本部事務局 山本 要 氏

Dr. YAMAMOTO Kaname

Secretariat of the Headquarters for the Tokyo 2020 Olympic and Paralympic Games,

Cabinet Secretariat, Government of Japan

Session#10 Tokyo 2020 Heat Countermeasures

Presenter: Dr. YAMAMOTO Kaname, Director, Secretariat of the Headquarters for the Tokyo 2020 Olympic and Paralympic Games, Cabinet Secretariat, Government of Japan

Biography: Dr. YAMAMOTO Kaname has worked at the Secretariat of the Headquarters for the Tokyo 2020 Olympic and Paralympic Games, Cabinet Secretariat, Government of Japan as a Director since August 2018. He is responsible for coordinating the government's overall efforts regarding public health and medical field toward the Tokyo 2020 Games.

The role of the Government for the Tokyo 2020 Olympic and Paralympic Games is to support Tokyo, the host city, and TOCOG, which operate the Games. Tokyo 2020 Games will be held from July to September 2020, in which heat countermeasures are crucial to prevent heat illness. Heat illness is potentially fatal but preventable. Its after-effects may be reduced through prompt first aid treatment. Thus, raising awareness for heat illness is crucial.

Ministry of the Environment has issued “Heat Illness Prevention Manual” and “Guidelines for Heat Illness Prevention in Summer Events” to lead the promotion of heat countermeasures within the government. Information related to heat illness such as heat index (WBGT) is announced on the Heat Illness Prevention Information site. Japan Meteorological Agency provides weather update and forecast.

Many information regarding heat countermeasures are now available in multiple languages. Examples include “Safety Tips” app that delivers information via push notifications by Japan Tourism Agency, Ambulance User Guide of the Fire and Disaster Management Agency, list of medical institutions accepting foreigners issued jointly by the Ministry of Health, Labor and Welfare, and Japan Tourism Agency.

At the Tokyo 2020 Games, it is important to comprehensively reduce the risk of heat illness from both tangible and intangible initiatives during prevention and response phase. Therefore, in addition to general countermeasures, all people involved will promote heat countermeasures in and around the venue for athletes, staff, and spectators. At the venue, based on the results of the test event last summer, the TOCOG will consider installing more shade tents and water taps for spectators, and allow 750ml of non-alcoholic drinks per person inside the venue. For athletes, we are considering heat countermeasures in cooperation with each IF (International Federation), and are preparing for safe working shift for all staff in work. In addition, the new National Stadium has a highly breathable structure and is equipped with mist cooling devices and air-conditioned lounges. At the "Last Mile" from the station to the venue, we are considering installing shade tents and distributing "cooling down" items. Regarding the rescue system, we will consider patrols by "First Responders" and installation of medical offices at the venue, and also setting up emergency stations and medical staff at the last mile.

Japanese government and relevant partners will continue to cooperate for further develop heat countermeasures for the next 6 months.

セッション10 東京オリンピック・パラリンピックに向けた化学災害対策の強化

講師：藤沢市民病院 副院長 阿南 英明

講師略歴：医師、医学博士、新潟大学医学部医学科卒業、藤沢市民病院にて臨床研修終了。横浜市立大学救命救急センター勤務を経て、藤沢市民病院救急部立ち上げ、同院救急科主任部長・救命救急センター長を経て、現在副院長。東京医科歯科大学医学部臨床教授・福島県立医科大学非常勤講師を兼務。神奈川県災害医療コーディネーター。厚生労働省日本DMAT検討委員会委員。2019年厚生労働省化学災害・テロ対応に関する検討会構成員。

1994年の松本と1995年の東京で発生したサリン事件は日本の化学テロ対策に大きな影響を与えた。我が国で発生した初の本格的な化学テロであり、対応者の安全確保の概念が存在しなかったために、救助活動をした消防職員の約10%、医療者の20%がサリンによる2次被害にあい、その後の対策に関して大きな教訓とされた。

このように、化学災害では通常の災害に比較して、より一層、救助者も患者も危険にさらされるため、特別に配慮し、準備すべき事項がある。具体的には、安全の確保のため、救助に当たる人員、現場にいる傷病者、その場や施設という3つの観点で、ゾーニング、曝露原因の検知、除染、そして個人防護具の使用をすることである。

全国で実施されている化学災害を想定した現在の訓練には、対応者の安全性に留意するあまり時間がかかりすぎていることと、最新の海外の知見が反映されていない問題があった。例として、対応初期には化学剤が散布された現場であることなど判らないことや、特別な資機材に依存するため通常装備を活用して直ぐに救助活動を開始できていないこと、また除染の考え方や実施方法を一変させる必要があること、一刻も早い避難誘導・救助・除染・医療介入が徹底されていないこと、大勢の傷病者の想定が十分なされていないことがある。

このような問題点に対応し、救助や医療に従事する者の安全を確保することに加えて、危機迫る患者の人命救助を両立させるため、2018年に「化学テロ等発生時の多数傷病者対応（病院前）に関する提言」を厚生労働科学研究班で策定した。現実的で様々な事象に対応できる汎用性のある内容を追求した。例として、除染は脱衣と即時除染までを必須として迅速性を高めること、より簡易的なレベルや通常装備のPPEによる救助を可能にすること、神経剤に対する解毒剤の自動注射器の使用を可能にすることが挙げられる。

この提言に応じて、2019年11月に現場の消防士・警察官・海上保安官・自衛隊員などが自動注射器使用できる枠組みが厚生労働省から示された。また、提言内容はCBRN（化学、生物、核・放射性物質）テロ対応のトレーニングにも反映され、医療機関での対応指針の変更も行った。

以上のように、迅速な人命救助と対応者の安全を両立するため、化学災害への新たな対応策を提言としてまとめ、現場対応から病院対応まで一貫した改変を行った。

Session 10 Renewal of chemical terrorism response system in Japan

Presenter: Dr. ANAN Hideaki, Vice President, Fujisawa City Hospital

Biography: Graduated from Niigata University School of Medicine, Completed clinical training at Fujisawa City Hospital (FCH). After working at the Yokohama City University Emergency and Critical Care Center, established the Emergency Department at FCH, worked as Director of the Emergency Medical Center, now Vice President of FCH. Clinical professor at Tokyo Medical and Dental University School of Medicine and a part-time lecturer at Fukushima Medical University. Kanagawa disaster medical coordinator. Member of the Japan DMAT Review Committee of the Ministry of Health, Labor and Welfare (MHLW). Member of the study committee on response to chemical disasters and terrorism in the MHLW 2019.

The Sarin incidents in Matsumoto in 1994 and Tokyo in 1995 had a significant impact on Japan's countermeasures against chemical terrorism. They were the first full-scale chemical attacks in Japan, and a considerable number of firefighters (9.9%) and medical care providers (20%) suffered from a secondary injury as there were no safety protocols.

In chemical disasters, which poses a higher risk to the patient and caregivers than in conventional disasters, there are special considerations and preparations to be made, such as; safety zoning, detection, decontamination, and use of PPE for rescue staffs and victims at the scene and the site and facility.

The current NBC field training and exercises conducted nationwide needed improvements. Safety precaution is too overweighed to delay response, and the latest knowledge in other countries is not reflected. Many drills were based on the premise that the agent was known from the beginning of the response that the site had been sprayed with chemical agents. Response procedures relied on special materials and equipment, and rescue operations could not begin immediately with conventional equipment. There were cases where evacuation, rescue, decontamination, and medical intervention were not thoroughly carried out as soon as possible. Large numbers of injured and sick people were not adequately assumed. The approach and implementation of decontamination need to be changed entirely.

To address these issues and to balance saving lives of patients in crisis with ensuring the safety of those engaged in rescue and medical care, the MHLW Science Research Group formulated "Proposal for Reforming Prehospital Response to Chemical Terrorism Disasters in Japan" in 2018. The group sought to create a realistic and versatile content that can be used for a variety of events. Examples include increasing the speed of decontamination by disrobing and improvised decontamination, allowing for rescue with more simplified levels or normal PPE and allowing the use of auto-injectors for antidotes to nerve agents.

In response to these recommendations, the Ministry of Health, Labour and Welfare (MHLW) provided a framework for the use of auto-injectors by firefighters, police officers, coastguard officers and members of the Self-Defense Forces were allowed to use nerve agent antidote auto-injector onsite in November 2019. The recommendations were also incorporated into CBRN (chemical, biological, nuclear, and radiological) terrorism response training and changes to response guidelines in medical facilities.

As described above, to achieve both rapid lifesaving and the safety of responders, new countermeasures to chemical disasters have been compiled as recommendations, and changes have been made to ensure a consistent response from the site to the hospital.

Renewal of chemical terrorism response system in Japan

Anan Hideaki MD,PhD,FJSIM
Fujisawa City Hospital

Jan/17/2020

Anan Hideaki Fujisawa City Hospital



Matsumoto sarin attack in 1994
Tokyo subway sarin attack in 1995

Matsumoto: 8 died ,600or more injured
Tokyo: 13 died , around 6,000 injured

Firefighters(9.9%) and medical care providers(20%) suffered from **secondary injury** .



Jan/17/2020

Anan Hideaki Fujisawa City Hospital

Safety management

- ①Self ; rescue staff
- ②Survivor
- ③Scene • facility

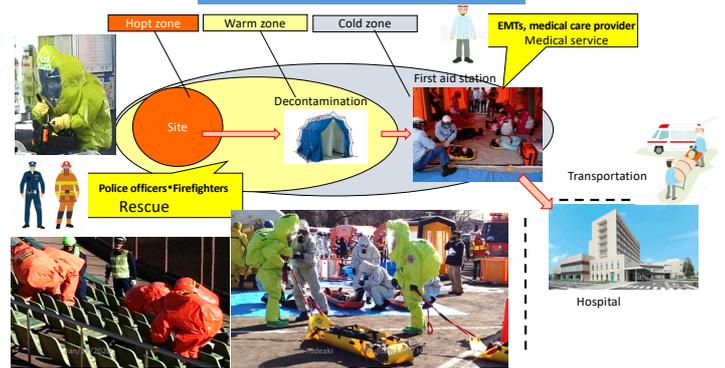
Zoning
Detection
Decontamination
Protection (PPE)



Jan/17/2020

Anan Hideaki Fujisawa City Hospital

Overview of field activities



Question 1



- # How can we notice the presence of chemical hazard in the early phase?
- # Any equipment, system can make it easily like the drills?



Jan/17/2020

Anan Hideaki Fujisawa City Hospital

Question 2

Are we ready to manage the mass casualty ?
...200 ? 500 ? 2,000 ? 20,000 ?

- # Can you triage everyone?
- # Can you decontaminate people properly?
- # Can you decontaminate everyone?



Jan/17/2020

Anan Hideaki Fujisawa City Hospital

Question 3



Can you save critical patients or patients with explosive trauma?

Can the victims wait the rescue and decontamination turn silently?

Jan/17/2020 Anan Hideaki Fujisawa City Hospital

Tokyo subway sarin attack in 1995

- No decontamination, No PPE on site → 13 people died
- 5 apnea patients (3 were CPA) were transported to a St. Luke's International Hospital
- 4 were resuscitated successfully, 3 of them returned to society
- (Several cases who transported to other hospitals due to CPA are reported that successfully resuscitated.)

They provided instant emergency care as usual.

→ Their efforts *minimized the number of death*

Jan/17/2020 Anan Hideaki Fujisawa City Hospital

Message from the Sarin incident?

- # Ensure the safety of responders is important
- # Even if Chemical incident, **prompt response** is necessary for lifesaving
- # It is difficult to estimate the risk of chemical hazard in early phase

The old method takes too much time!!
Prompt response can save life.

Jan/17/2020 Anan Hideaki Fujisawa City Hospital

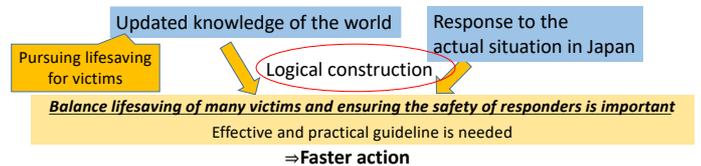
Research of response to many victims in Chemical terrorism

conducted with funding from the MHLW of Japan

By Anan Hideaki

Issue

- # It takes too much time to build a rescue system = difficult to save lives
- # Lack of latest knowledge



Jan/17/2020 Anan Hideaki Fujisawa City Hospital

Proposal for Reforming Prehospital Response to Chemical Terrorism Disasters in Japan

A clear goal is "saving as many victims as possible."
Safety of responders was overemphasized

In 2018

- I. Characteristics of chemical agents
- II. Estimate the risk of chemical incident → Probability of nerve agents
- III. Evacuation & Rescue: Proper evacuation guidance is most important
- IV. Response to people vulnerable to disaster: Foreigner, disabilities people, Elderly people, etc.
- V. Communication among rescuers and victims
- VI. Decontamination: without using special equipment, Disrobing, Phased decontamination concept
- VII. Protection (PPE) & Detection: without using special equipment
- VIII. Zoning: Acceptance of uncertainty
- IX. On-site medical care
- X. Characteristics of crime & terrorism: Importance of cooperation with police

Jan/17/2020 Anan Hideaki Fujisawa City Hospital

Response to various victims

Foreigner, disabilities people, Elderly people, etc



PPE



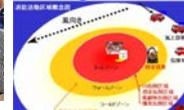
Level B recommended for rescue operations
Full-face-mask (SCBA) & Fire protective ensemble

Evacuation & Rescue

Evacuate / rescue from Hot Zone as soon as possible



Zoning/Detection



Detect and zone simply → Accept uncertainty

Decontamination

Proposal of linear algorithm and presentation of time limit RSDL

On-site medical care

Breaking away from dependence on civilian medical staff
Request for early dispatch of SDF Medical team
Antidote autoinjector

Jan/17/2020 Anan Hideaki Fujisawa City Hospital

Decontamination

Linear argorism ①⇒②⇒③⇒④

The Effect is Time-Dependent

- ① **Disrobing** *Required decontamination method : 99% complete possible*
- ② **Improvised decontamination** ; Use something we have in the side
Dry decontamination & Wet decontamination
- ③ **Gross decontamination** ; Wash victims with water
Use normal firefighting equipment : Ladder-Pipe System
- ④ **Technical decontamination**
Decontamination tent & PPE



Jan/17/2020

Anan Hideaki

PPE

Rescue victims as soon as possible if first arrivals can wear Level B
⇒ Search the survivor soon

No special PPE ⇒ Full-face-mask (SCBA) & Fire protective ensemble



Rescue activity becomes possible at a chemical terrorism site early

Anan Hideaki

Fujisawa City Hospital

Time is LIFE !

As soon as possible

evacuate

rescue

decontaminate

treat

Don't Keep the victims wait !

Jan/17/2020

Anan Hideaki

Fujisawa City Hospital

Difficulty in using Antidote for nerve agent incident in Japan



Atropine

Oxime ; Praridoxime(PAM)

*Only authorized oxime in Japan

For slow intravenous injection

Antidote must be administered
as soon as possible for lifesaving

But
Unsuitable for emergency use



Jan/17/2020

Anan Hideaki

Fujisawa City Hospital

Auto Injector



(Ex)



PPE
Thick glove

- # Simple operation
- # Atropine and oxime in one
- # Intramuscular injection

Rescuers can use it with PPE
DDABC concept
* It can be used before rescue
* It can be used in contaminated area

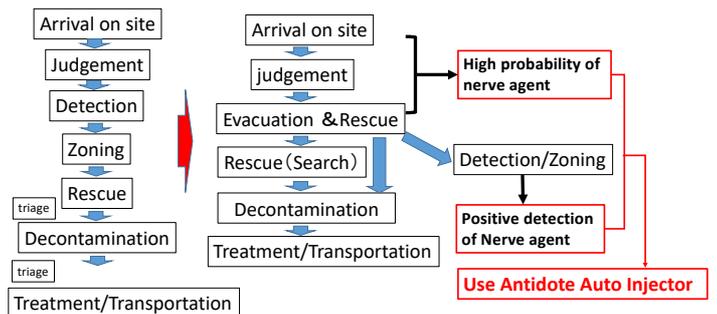


Jan/17/2020

Anan Hideaki

Fujisawa City field first aid / medical institutions Hospital

Change of activity on site



Jan/17/2020

Anan Hideaki

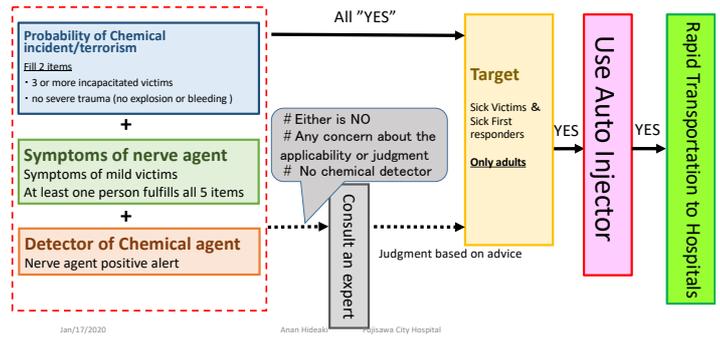
Fujisawa City Hospital

Study meeting on chemical incidents and terrorism countermeasures
by the Ministry of Health, Labor and Welfare(MHLW)

Report on the use of antidote auto injectors by respondents other than doctors and nurses during chemical incidents & terrorism

If disaster with nerve agent is suspected, not only doctors and nurses, but Firefighters, Police Officers, Japan Coast Guard officer, Self-Defense Force Soldiers allowed to use nerve agent antidote Auto Injector on site"
November 14, 2019 Press Release

Algorithm of Nerve antidote Auto Injector use



MCLS-CBRNE Update 2019



The most popular NBC on-site Training course in Japan
Lecture and 3 Table top simulation

- ◆ We can not know it at the beginning of Chemical terrorism.
- ◆ Use usual equipment for quick rescue operations / Don't depend on special equipment
- ◆ Change decontamination method !
Emphasize **quick action!**
1 evacuation guidance, 2 rescue, 3 decontamination, 4 medical care

Linking on-site response with Hospital response

We also changed the guidelines for hospitals so that to enable more hospitals to accept patients exposed to chemical agents

- Quickness (daily emergency patient acceptance)**
- Universal (increase available medical institutions)**

Minimize points to protect
⇒ **A; airway B; respiration C; contact**
More hospitals are available

Protection ABC in Hospital

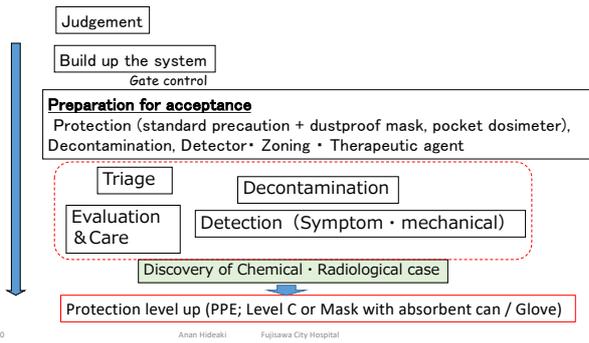
Indoor Ventilation

- A: Air way**
- B: Breathing**
 - Dust-proof mask (N95mask) **E+R**
 - Full face mask with Chemical cartridge **C**
- C: Contact**
 - Standard precaution + apron **E+R**
 - Special protective gloves
; Impermeable to chemical substances **C**
- + Pocket radiation dosimeter



Scene of training anti NBC terrorism for medical staff

CBRN (E) response in hospitals - Basic type



Jan/17/2020

Anan Hideaki Fujisawa City Hospital

A study on creating the outreach tool for dealing with patients due to CBRNE terrorism

Ayako Takahashi,
Center for Disaster Medical Science, Aichi Medical University

Collect **the documents about how medical staffs respond to CBRNE terrorism**
⇒ Outreach tool for general medical staffs

The Outreach Tool for Dealing with Patients due to CBRNE Terrorism

このサイトでは、各種テロ災害における医療的対応に関する情報を提供

Sample Site

Flowchart for Dealing Suspicious Patients Suffering with RN Terrorism

*We also plan to format this tool in the smartphone version.

Conclusion

- Both saving lives of victims and ensuring the safety of responders are important
- **Practical** and **versatile** Chemical incident response
- Linked between prehospital and hospital response system

↓

Incorporate Chemical terrorism response
into **daily emergency and rescue operation**

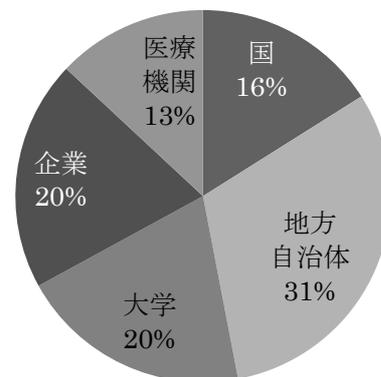
Jan/17/2020

Anan Hideaki Fujisawa City Hospital

国際シンポジウム「マスギャザリング と公衆衛生対策」 参加者アンケートの集計結果

アンケート回答数 64

参加者の所属先の内訳（右図）



総合評価点数（5点満点）：

平均点 4.2 （レンジ 3 - 5点）

「特に印象に残った演題」の上位演題（最大4演題を選択）

- オリパラ に向けた化学災害対策（阿南）
- オリパラ の医療体制と官民連携（森村）
- ラグビーワールドカップ開催自治体の感染症対策（小林）

総評

全体的に時宜にあった内容であり、有意義なセミナーであると高く評価されていた。

一方、以下のような意見もあった。

講演に対する意見

- 自治体で感染症対策が違うということが気になっていたので、今回の研究である程度統一された対応ができるようになれば良いと思った。
- マスギャザリングの公衆衛生についての取り組み、体制が俯瞰できて参考になった。

シンポジウムの運営について

- もっと PR してよいのではないか。広く関係者に知っていただくことが重要。
- 参加者の所属一覧等があれば、どういった分野の方々が参加されているのかが分かりやすい。又、日本語資料も頂きたい。
- ネット等で内容がまた見られると同僚にも教えられるのでありがたい。
- 各自 30 分のペースは非常に効率的にいろいろな話が聞けて有効な時間割だと思う。

内容について

- 対策は政府主導で行われていることは理解できたが、実際どのような準備が行われているかをもう少し詳しく聞きたかった。

今後への期待

- オリパラ後も継続して欲しい。

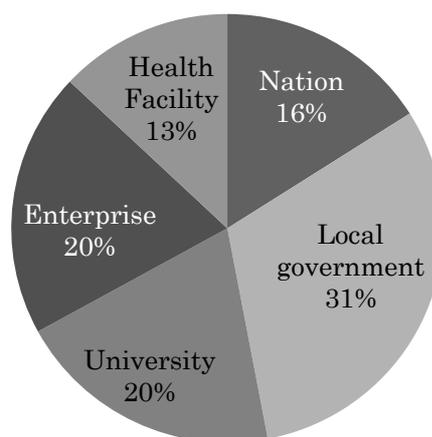
Summary of Audience Survey Results

Number of Responders: 64

Affiliations of Participants (Figure)

Overall Rating (out of 5) :

Average 4.2 (range 3 – 5)



“Most Memorable” presentations (up to 4)

- Strengthening Chemical Events Preparedness towards Tokyo 2020 (Dr. Anan)
- Academic organization-local government partnerships of medical preparedness during Tokyo 2020 (Dr. Morimura)
- Infectious Disease Preparedness in Rugby World Cup Host Local Governments (Dr. Kobayashi)

General Comment

The seminar was highly rated as “timely and meaningful”. On the other hand, the following comments were also made:

Comments on the lecture

- “I have been concerned about the fact that different local governments have different measures for infectious diseases, so I thought it would be good if this research could lead to a somewhat unified response.”
- “It was helpful to get an overview of the mass gathering's public health initiatives and systems.”

On the management of the symposium

- “I think we should do more PR. It is important to spread awareness of the event to a wide range of people.”
- “A list of participants' affiliations would make it easier to understand the fields in which they participate. I would also like to receive materials in Japanese.”
- “I would be grateful if the contents could be made available on the Internet and other sources so that I could share them with my colleagues.”
- “The 30 minutes slot for each presentation was very efficient and effective for listening to various topics.”

About the contents

- “I understood that the countermeasures were being led by the government, but I would have liked to hear more details about what preparations were actually being made.”

Expectations for the future

- “I want such events to be continued after Tokyo2020.”