

How to make a healthy resilient community

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Division of International Cooperation for Disaster Medicine

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Agenda

1. Learning process
2. Change of Health Risks in disaster
3. Capacity Building of Disaster Medicine
4. Terminology
5. Sendai Framework
6. How to make a healthy resilient community.

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1. How to make a healthy resilient community

Learning Process

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Answer Pad

- Anonymous data collection
- NOT intended for research purpose, a strategy to keep you actively learning.
- Feel free to answer

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Sign In

Press any number and OK

0

200

■ Sign In ■ Not

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Select your age

1. Age 20 or younger
2. Age 21-30
3. Age 31-40
4. Age over 40
5. Not disclosing

0 0 0 0 0

1 2 3 4 5

■ 1 ■ 2 ■ 3 ■ 4 ■ 5

投票数: 0

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Select your gender

1. Male
2. Female
3. Not disclosing



投票数: 0

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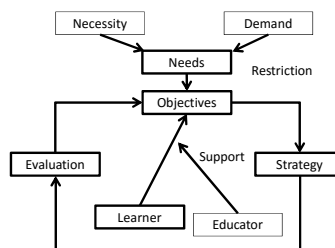
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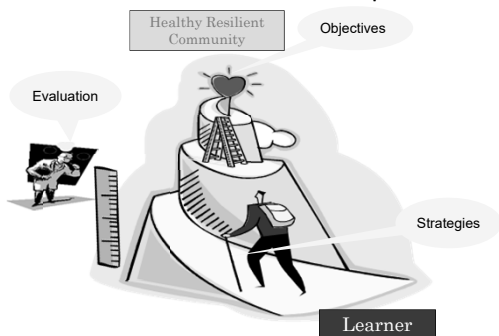
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Learning process

- Learning is a process to alter the action of the learner.
- Educator supports the process.
- Curriculum is actual planning of the whole process.



Three elements of educational process



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Did you know learning process?

1. Yes
2. No



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Who is most learning in a learning process?

1. Teacher
2. Students
3. Task force



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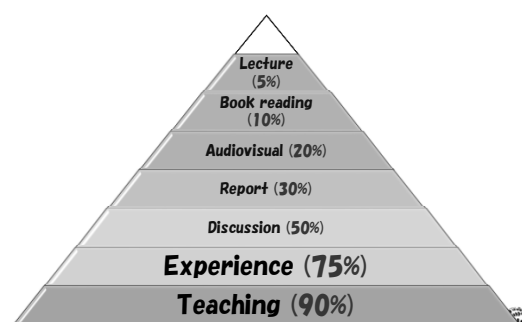
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Learning Pyramid



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Know your risk

Change of Health Risks in disaster

災害科学国際研究所 IRIDeS HOPE がんぼう TOHOKU

Lessons from 1923 Great Kanto Earthquake

September 1, 1923
11:58:32
M7.9

Cause of Death

- Fire 86%
- Asphyxia 11%
- Unknown 2%
- Drowning 1%

The buildings should be fire-resistant
Every Sept. 1 is the Disaster Drill Day

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Lessons from 1995 Great Hanshin Awaji Earthquake

January 17, 1995
05:46
M7.3

Cause of Death

- Asphyxia 83%
- Fire 13%
- Unknown 4%

The buildings should be quake-proof
Japanese Association for Disaster Medicine was established

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Lessons from 2011 Great East Japan Earthquake

Mar. 11, 2011, 14:46 M9.0

Cause of Death

- Drowning 93%
- Asphyxia 4%
- Unknown 2%
- Fire 1%

2011 White pages, Japan Gov.

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Change of health risks in Great East Japan Earthquake

	Injured	Dead and lost	Displaced
Hanshin-Awaji Earthquake 1995	43,800	6,433	307,200
Great East Japan Earthquake 2011	5,942 ↓	19,582 ↑	488,000

- Less injuries, but different medical needs laster longer
- Disruption of traffic and communication made health sector paralyzed
- Complicated radiological disaster
- Mental health of affected people was devastated
- Health facilities were also destroyed by disaster
- Education of disaster medicine was not generalized in health professionals

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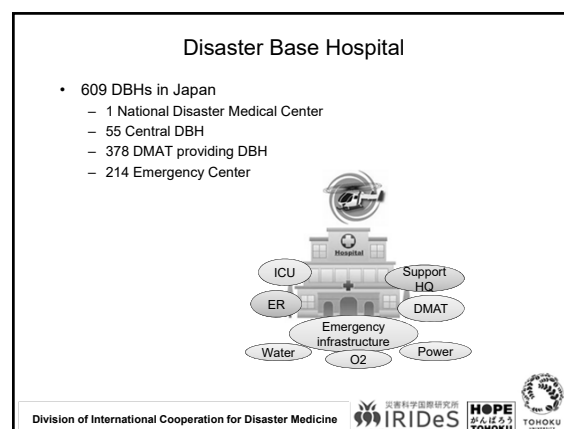
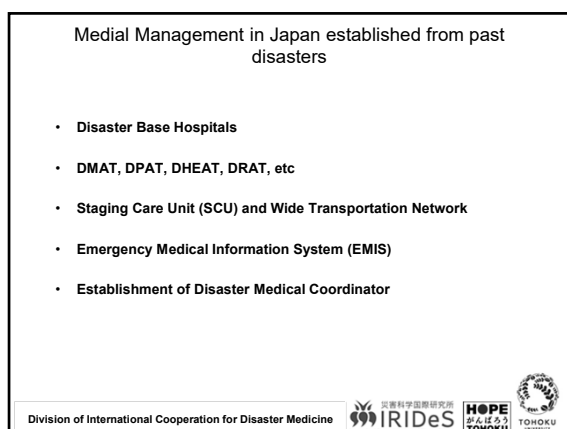
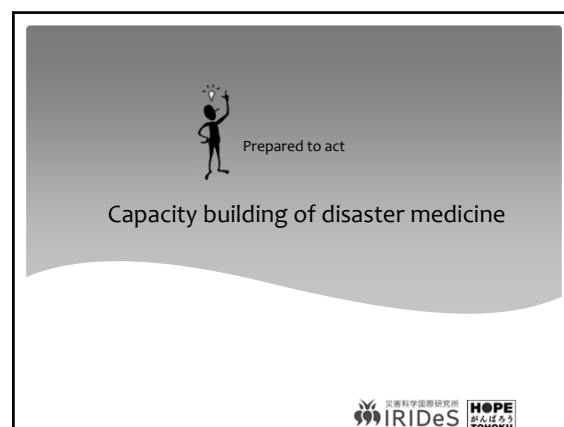
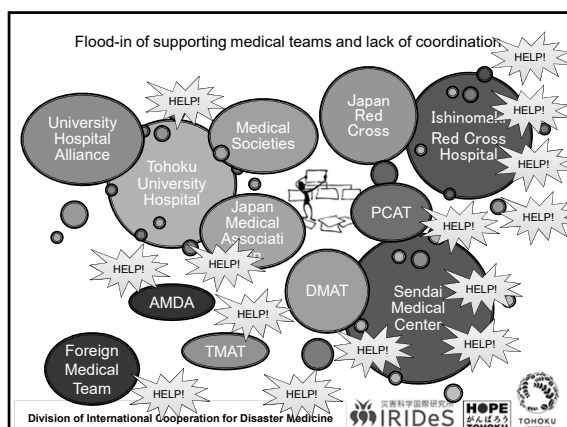
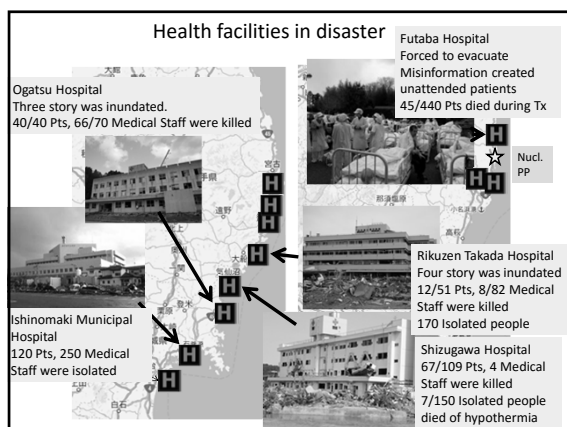
Disaster related deaths

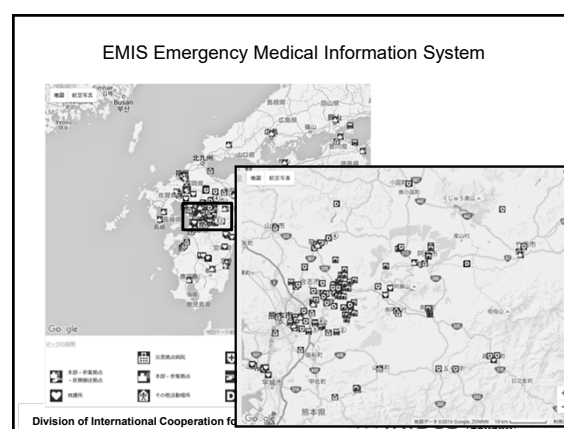
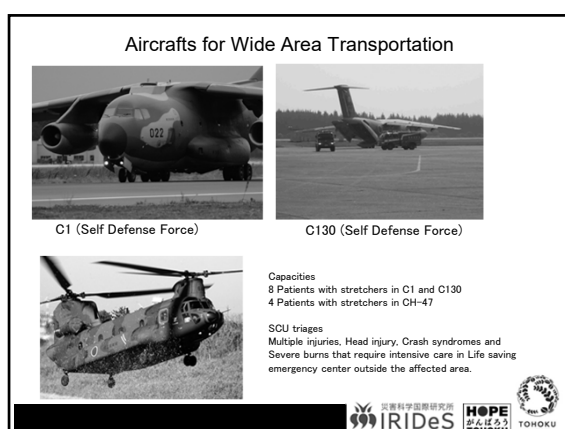
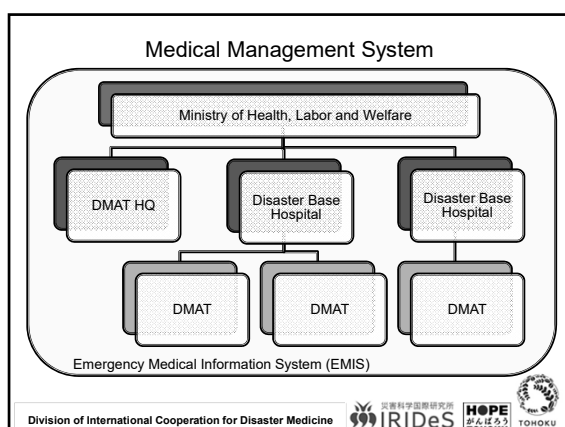
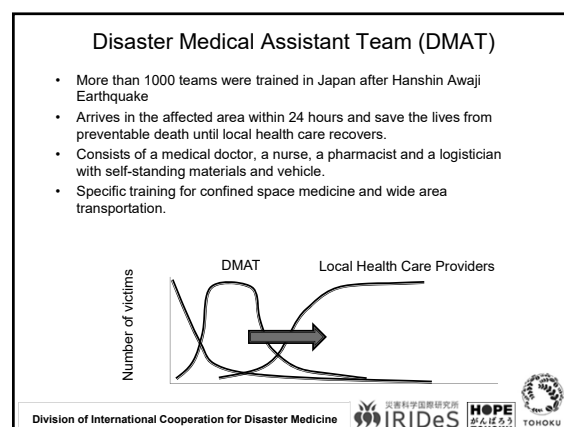
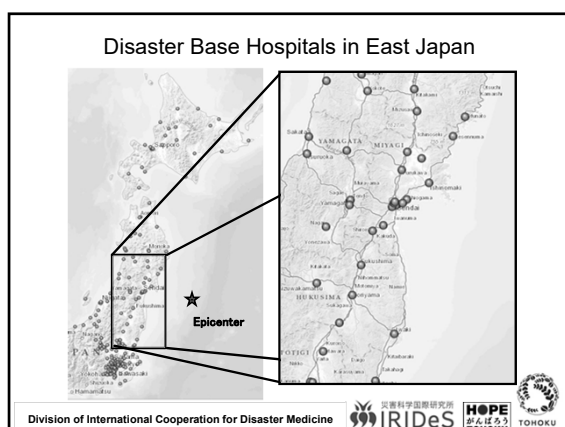
Ministry of Reconstruction, Mar. 31, 2014
Total 3, 089

■ Total
■ Fukushima
■ Miyagi
■ Iwate

~1 week ~1 month ~3M ~6M ~1 year ~1.5 Y ~2 Y ~2.5 Y ~3 Y ~3Y

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Further improvement after GEJE

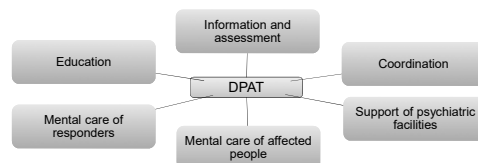
1. Increased assignment of disaster medical and public health coordinator
2. Specialized teams to assist mental health, reproductive health, rehabilitation, public health and oral health
 1. DPAT (Disaster Psychiatry Assistance Team)
 2. Mental Care Team
 3. ALSO (Advanced Life Support in Obstetrics)
 4. DHEAT (Disaster Health Emergency Assistance Team)
 5. JRAT (Japan Rehabilitation Assistance Team)
 6. Disaster oral care coordinator
3. Improved management of evacuation center and welfare evacuation center
4. Collaboration with other sectors.

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Disaster Psychiatric Assistance Team (DPAT)

- Multidisciplinary team managed by prefectures and Ministry of Health
- Main psychiatry hospitals has DPAT
- Composed of a psychiatrist, a nurse and a logistician
- Equipped with self standing materials and vehicles.
- Coordinates with DMAT
- Disaster Mental Health Information Support System (DMHISS)



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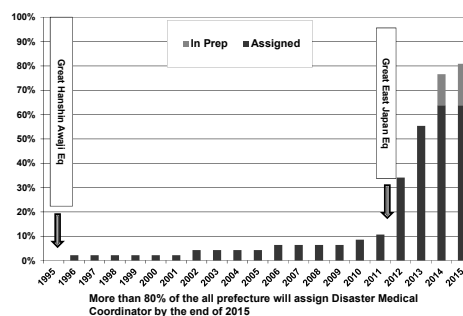


Disaster Medical Coordinator

- First established in Hyogo in 1997
- Four out of 47 prefectures (10.6%) had designated medical coordinators before GEJE.
- Miyagi prefecture assigned 6 coordinators, but Iwate and Fukushima did not.



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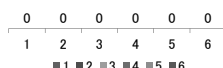
Implementation of Disaster Medical Coordinator in Japan
As of Aug. 2015

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Which are you interested in Japanese disaster medical system?

1. Disaster Base Hospital
2. DMAT
3. DRAT
4. SCU and wide area transportation
5. EMIS
6. Medical and public health coordinator



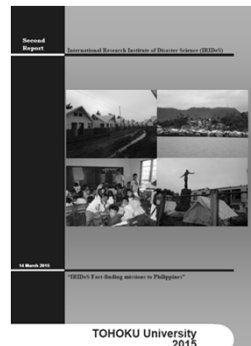
Multiple (ex 1, 2, 4 press OK)

投票数: 0

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IRIDeS investigates on Typhoon Haiyan Disaster

Onset: Nov. 8, 2013
Investigation: 2014-2015

- Analysis on
- Hazard and damage
 - Remote sensing
 - Simulation
 - Surveillance
 - Hospitals
 - Response
 - Warning and evacuation
 - Medical management
 - Infectious disease
 - Mental health
 - Reconstruction
 - Safe hospital
 - Settlement
 - Education

http://irides.tohoku.ac.jp/topics_disaster/haiyan-typhoon.html

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IRDeS investigates on Nepal Earthquake Disaster

Onset: Apr. 25, 2014, M7.8
Aftershock: May 12, 2014, M7.2
Investigation: 2015-2016

Analysis on

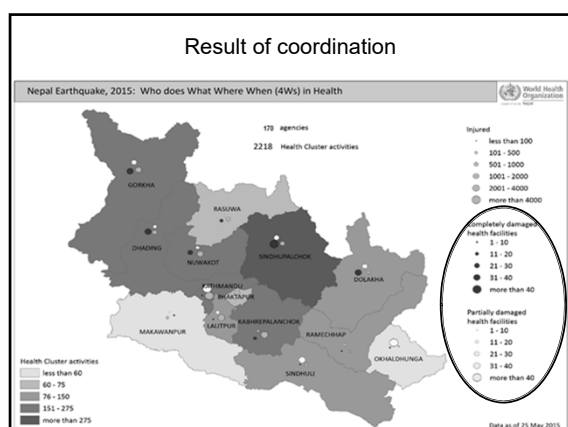
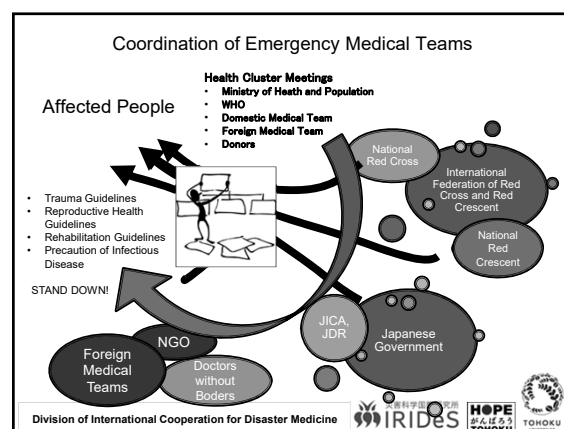
- Hazard and damage
 - Remote sensing
 - Structural and water resource
 - Logistics
 - Hospitals
- Response
 - ODANGO
 - Medical management
 - Infectious disease
 - Mental health
- Reconstruction
 - Housing
 - Settlement
- Education

Research Report
IRDeS Fact-finding and Relationship-building Mission to Nepal
19 March 2016

<http://irides.tohoku.ac.jp/media/files/archive/NepalResearchReport-s.pdf>

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What do you think important in disaster medical and public health coordination?

- Common Language
- Common Terminology
- Leadership
- Sector meeting
- Information sharing
- Governmental leadership
- Foreign aids
- Money

Multiple choice
Press OK after your choice

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1 2 3 4 5 6 7 8
■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 ■ 8

投票数: 24

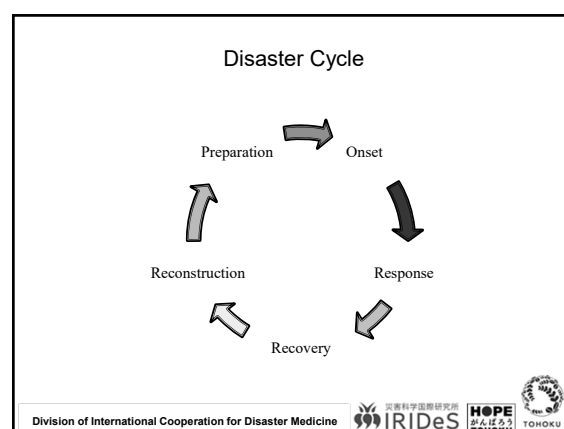
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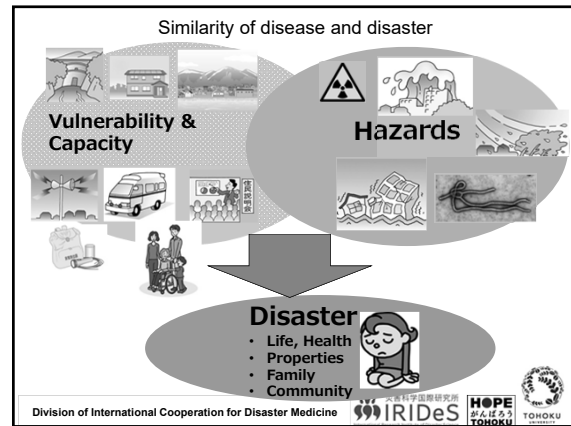
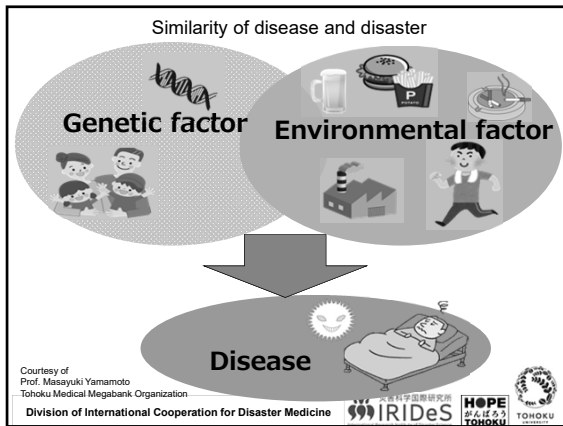
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Healthy resilient community Terminology

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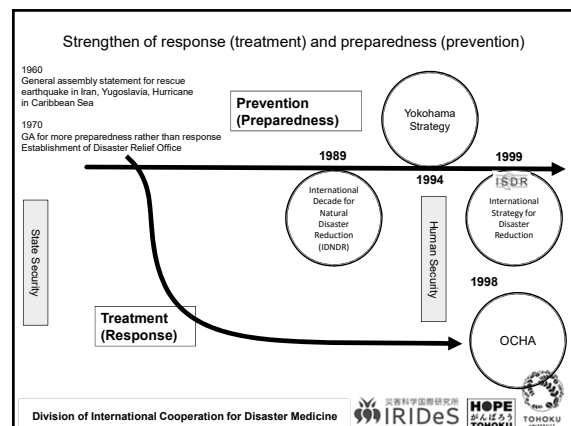
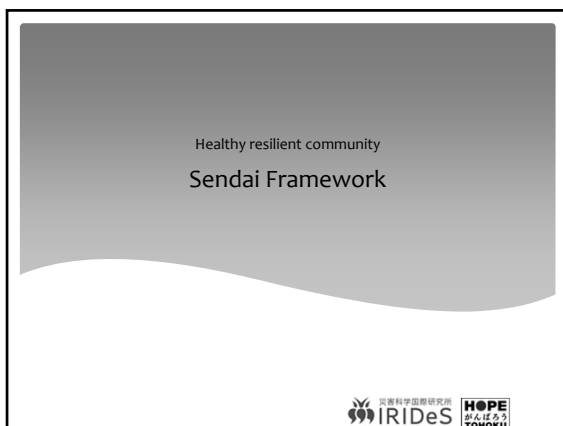
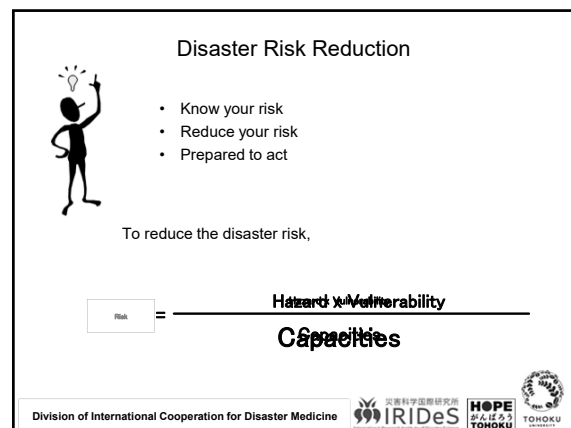


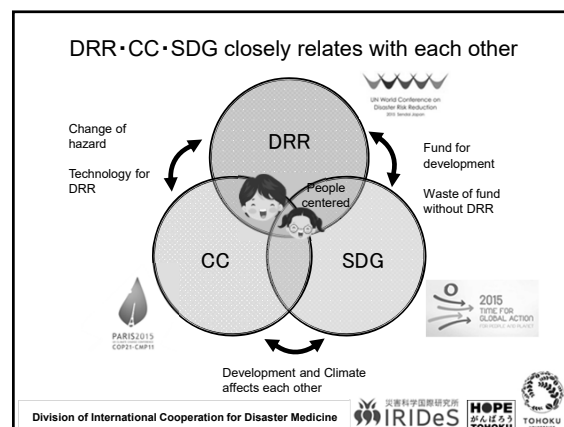
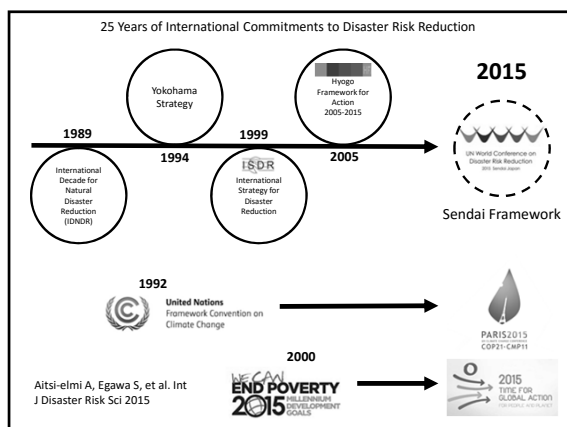
Hazards

NATURAL	SOCIETAL	TECHNOLOGICAL	BIOLOGICAL
Typhoon	Explosion	Fire	Food Poisoning
Earthquake	Mass Gathering	Transportation Accident (Land, Sea, Air)	Disease Outbreak
Flood	Armed Conflict	Chemical Spill/Leak	Increasing cases of disease
Landslide	Stampede	Infrastructure Accidents	Red Tide
Volcanic Activity	Ambush		
Tornado	Hostage taking		
Tsunami	War		
El Niño	Terrorist Attack		
Snow storm			

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Have you ever heard of Sendai Framework?

1. Yes
2. No

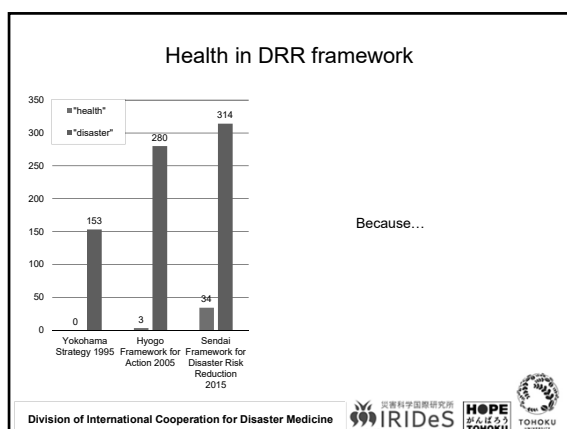
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Framework for action

- Know your risk
- Reduce your risk
- Prepared to act

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Health is imperative

Health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right.

Declaration of Alma-Ata 1978
International Conference on Primary Health Care

http://www.who.int/publications/almaata_declaration_en.pdf

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Health in SFDRR

Target (d)

Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

Local Level

- (i) Enhance the resilience of national health systems, including by integrating disaster risk management into primary, secondary and tertiary health care, especially at the local level; developing the capacity of health workers in understanding disaster risk and applying and implementing disaster risk reduction approaches in health work; and promoting and enhancing the training capacities in the field of disaster medicine; and supporting and training community health groups in disaster risk reduction approaches in health programmes, in collaboration with other sectors, as well as in the implementation of the International Health Regulations (2005) of the World Health Organization;

Global and Regional Level

- Enhance recovery schemes to provide psychosocial support and mental health services for all people in need

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Sustainable Development Goals



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Goal 3: Ensure healthy lives and promote well-being for all at all ages

Mahatma Gandhi



Facts and figures

- > 6M children die each year by 5 y.o.
- 1/4 women in developing regions have limited health care
- 35 M people living with HIV and 240,000 children newly infected with HIV

Goal 3 Targets



Health resilient society

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Toward 2030 and beyond



Sendai Framework



SDG



Climate Change



Bangkok Principles

- Human Security
- Freedom from fear
 - Freedom from want
 - Life with dignity

People centered resilient community

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Bangkok Principles



1. Health to DRR, DRR to health.
2. Cooperation between health and other stakeholders for DRR
3. Stimulate people-centered investment in DRR including health
4. Integrate DRR into health education and training, health into DRR.
5. Disaster data and health data into risk assessment.
6. Advocacy and support by science, information and technology
7. National policies and strategies for DRR and health

http://www.preventionweb.net/files/47606_bangkokprinciplesfortheimplementation.pdf

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Measurement

How to make a healthy resilient community



William Edwards Deming

PDCA cycle (Deming Wheel)

You cannot improve what you cannot measure.

Statistician, writer, lecturer and consultant.
Who transduced quality management to Japanese industry after WWII.
Deming Award in Japan is given to excellent total quality management.

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Do you think a community with a long life expectancy is a resilient community to disaster?

- Yes
- No
- Don't know

0 0 0
1 2 3
■1 ■2 ■3

投票数: 0

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Longevity = Resilience ?
If you said YES, why?

- Longevity itself means resiliency
- Built back better from disaster
- Good food and water
- Good houses
- Good clothes
- Less hazard exposure
- Less vulnerabilities
- Better health care system
- Better community

0 0 0 0 0 0 0 0
1 2 3 4 5 6 7 8 9
■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9

Multiple answer
Select any numbers
and press OK

投票数: 0

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Longevity = Resilience ?
If you said No or Don't Know, why?

- Aging itself is a vulnerability
- No relation between longevity and resilience
- Hazard attacks everywhere
- Disaster risk is not reduced by health system
- Longevity can be achieved in poor environment
- Longevity is an inherent mechanism

0 0 0 0 0 0
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■1 ■2 ■3 ■4 ■5 ■6

Multiple answer
Select any numbers
and press OK

投票数: 20


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Life Expectancy and INFORM Risk Map



Data Source :
<http://www.bestlifereates.org/blog/life-expectancy/>

Data Source INDEX FOR RISK MANAGEMENT
RESULTS 2016

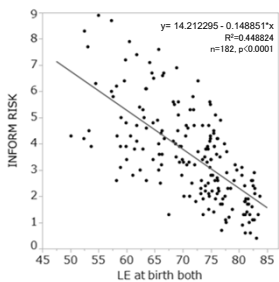
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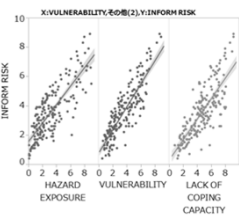
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Correlation of Life Expectancy and INFORM Risk



$y = 14.212295 - 0.148851x$
 $R^2 = 0.448824$
 $n = 182, p < 0.0001$



INFORM RISK

HAZARD EXPOSURE

VULNERABILITY

LACK OF COPING CAPACITY

LE at birth both

Data Source: INDEX FOR RISK MANAGEMENT
RESULTS 2016, <http://www.bestlifereates.org/blog/life-expectancy/>

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