



Fukushima Medical University

How should we provide mental health
care for affected people after nuclear
disasters?

lessons from Fukushima disaster

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Differences between natural and nuclear disasters

	Natural disasters	Fukushima disaster
Impact of trauma	Acute, instant	Chronic, continuous
Affected area	Visible, clear	Invisible, unclear
Physical loss	Apparent	Ambiguous
Psychological acceptance	Relatively easy	Very difficult
Compensation	Simple, limited	Complicated, unsettled
Groundless rumors	Rare	Common
Stigma and self-stigma	Rare	Common
Voluntary evacuation	Few	Numerous
Evacuation	Near, relatively short-term	Remote, long-term
Cohesiveness of community	High	Low
Psychological recovery	Dependent on physical relief	Independent of physical relief

Initial phase (~6 months?)

- Adequate risk communication is required, but extremely difficult in this phase. Asking the public to keep calm often provokes negative reactions among them. It could be regarded as underestimation or concealment.
- Acute stress reactions often appear with intense aggression, which could traumatize different rescue and/or relief workers including medical and welfare staff.
- Preexisting care system should be weakened due to evacuation of health professionals.
- Alternatively, new mental health care system that can provide long-term psychological care in disaster area might be needed.
- In many cases, Psychological First Aid(PFA) can be effective. Training in advance is required.

Fukushima Center for Disaster Mental Health (FCDMH)

- ◆ Established in 2012
- ◆ About 40 staff (clinical psychologists, social workers, nurses, occupational therapists, etc.)
- ◆ 5 branches in Fukushima
- ◆ Activities
 - ✓ Visit service (outreach)
 - ✓ Group activities for evacuees
 - ✓ Educative programs for other parties concerned (e.g. community nurses, administrative officers)
 - ✓ Making relationship with other mental health facilities



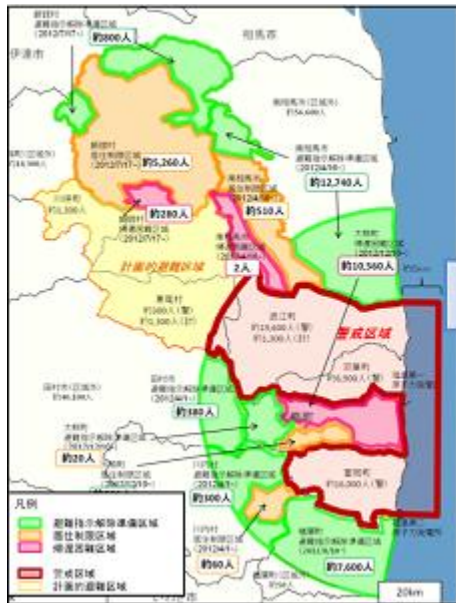
PFA Action Principles

Prepare		<ul style="list-style-type: none">•Learn about the crisis event.•Learn about available services and supports.•Learn about safety and security concerns.
Look		<ul style="list-style-type: none">•Observe for safety.•Observe for people with obvious urgent basic needs.•Observe for people with serious distress reactions.
Listen		<ul style="list-style-type: none">•Make contact with people who may need support.•Ask about people's needs and concerns.•Listen to people and help them feel calm.
Link		<ul style="list-style-type: none">•Help people address basic needs and access services.•Help people cope with problems.•Give information.•Connect people with loved ones and social support.

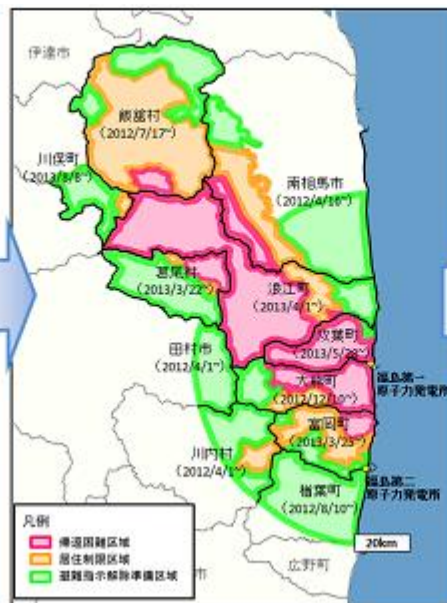
Recovery phase (6 months ~)

- This phase is much longer than that of natural disasters.
- While risk communication is implemented, concerns among affected people extend to not only radiation health effects but also other broad matters (financial issues, future plans, medical and welfare service, etc.)
- Evacuation-related health issues (non-radiological health problems) including suicide should be growing up.
- Stigmatization emerges between the public and affected people.
- Dispersal of evacuees weakens community ties.

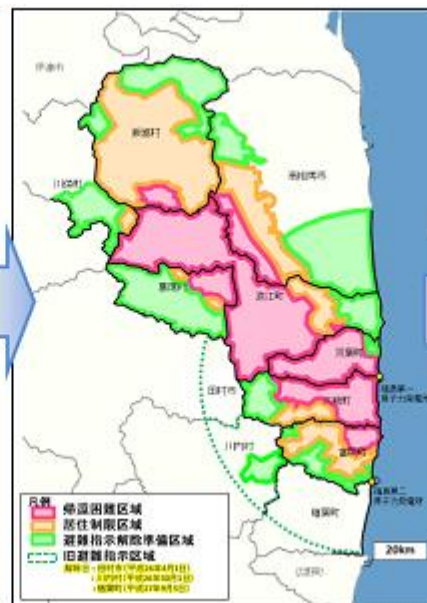
As of DEC 11, 2012



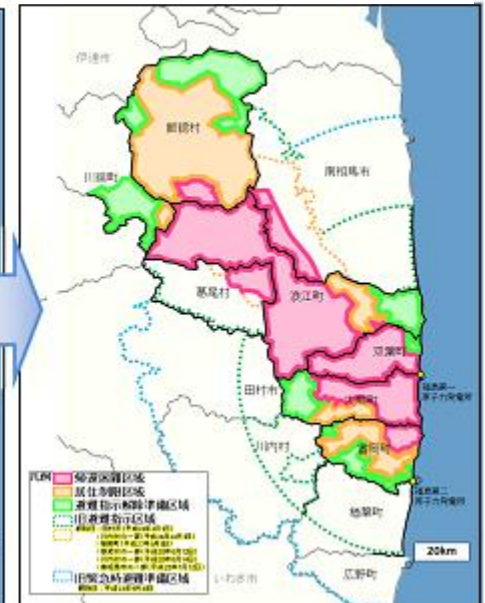
As of AUG 8, 2013



As of SEP 5, 2015



As of JUL 12, 2016



Number of evacuees

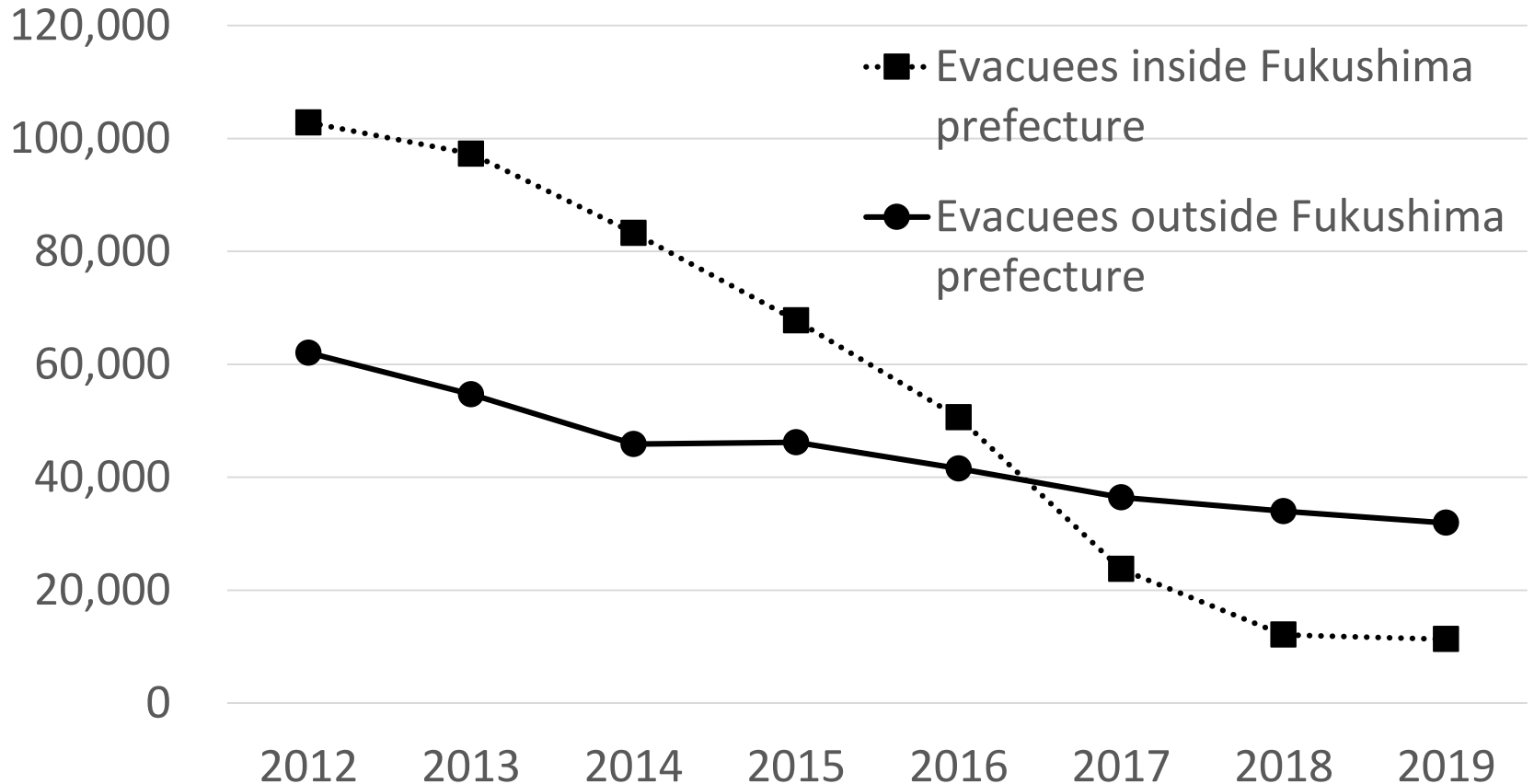
Evacuees in Fukushima : 7,915

Evacuees out of Fukushima : 30,740

(As of Mar, 2020, Fukushima prefecture)

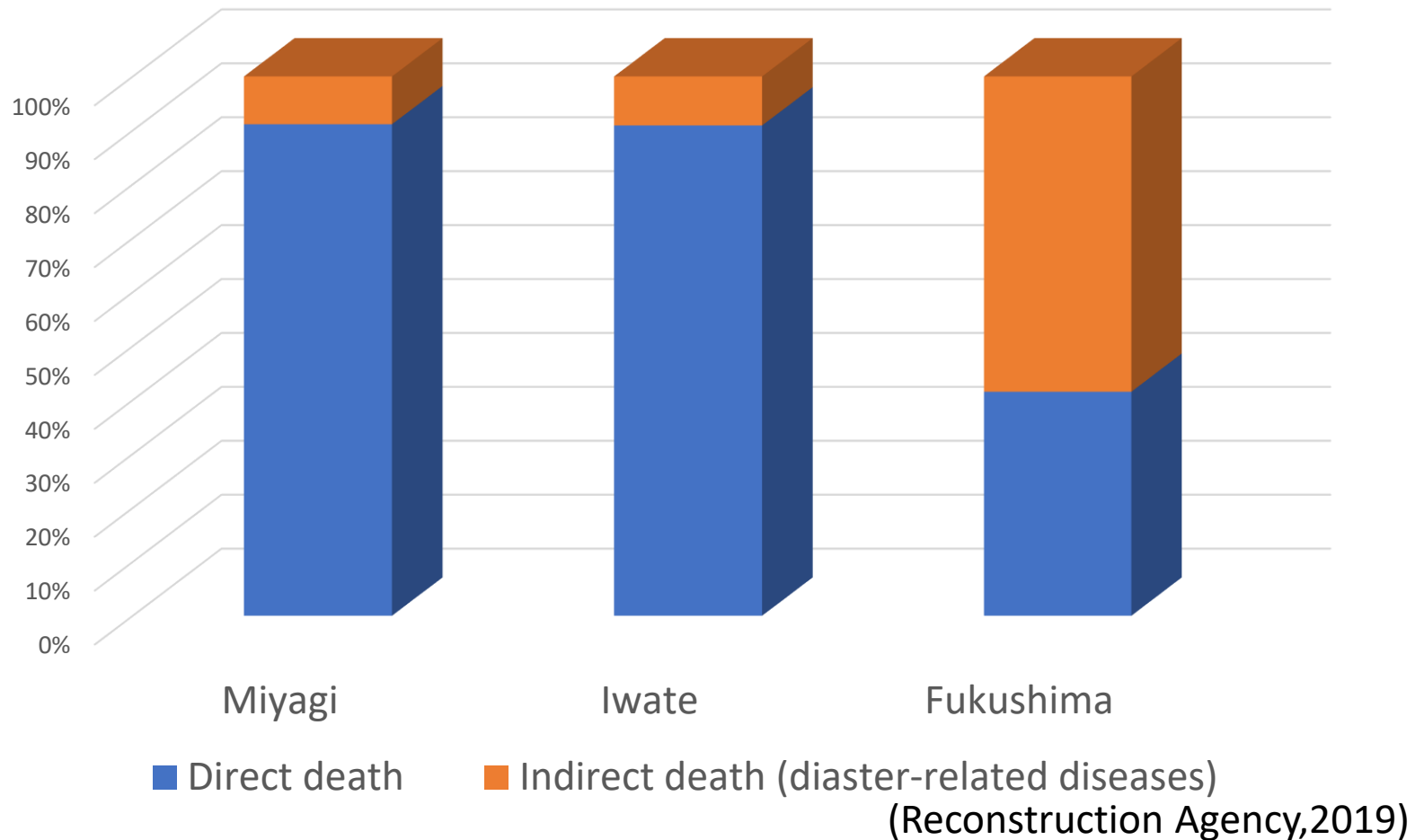
Evacuees inside and outside Fukushima Prefecture

(Unit: people)



Fukushima Prefecture. *Steps for reconstruction and revitalization in Fukushima prefecture* (2020). Available online at: <https://www.pref.fukushima.lg.jp/uploaded/attachment/394169.pdf> (accessed Sep28, 2020).

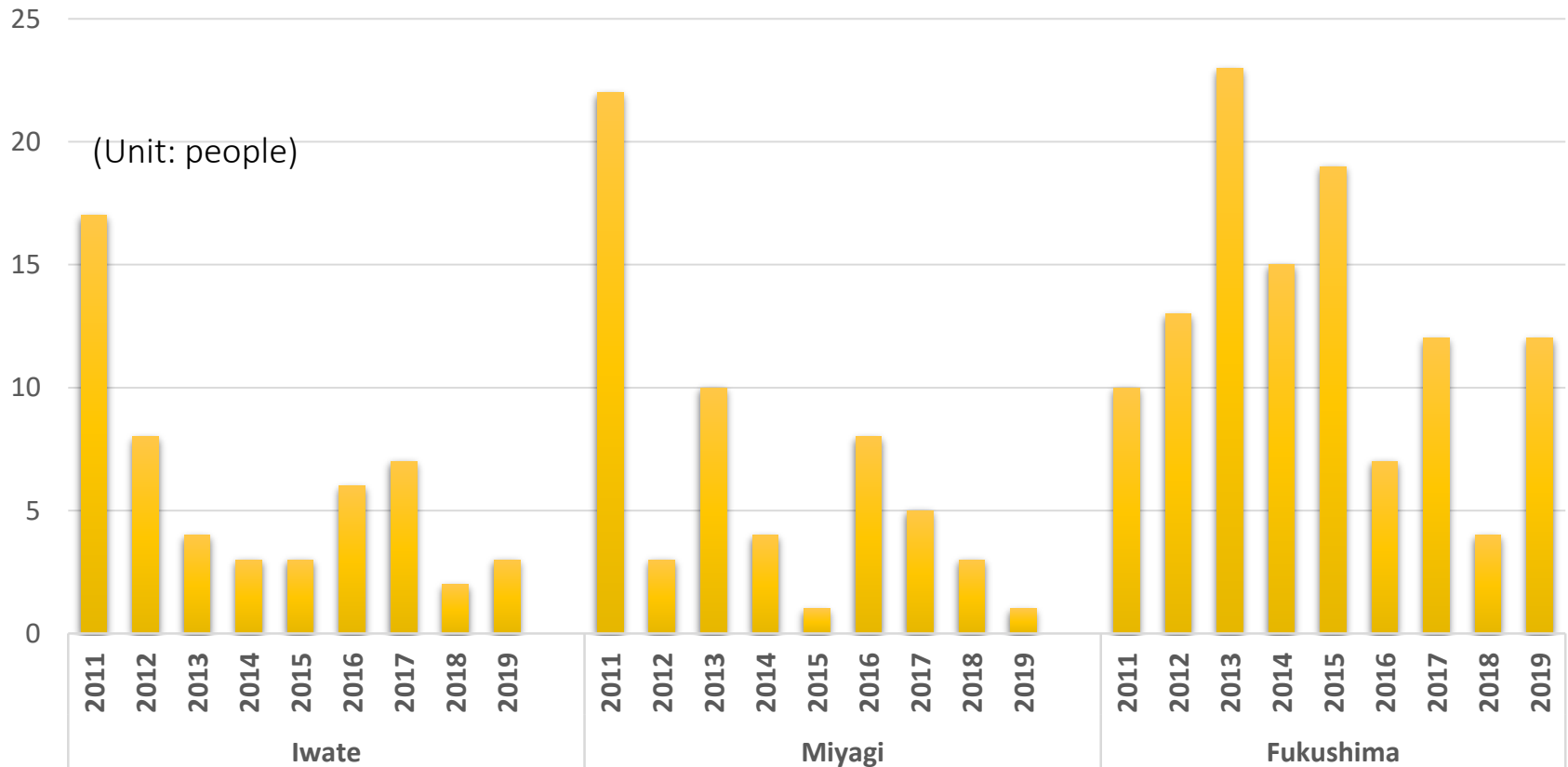
“Direct death” vs “Indirect death”



Direct death: death can be directly ascribed to disaster (earthquake or tsunami)

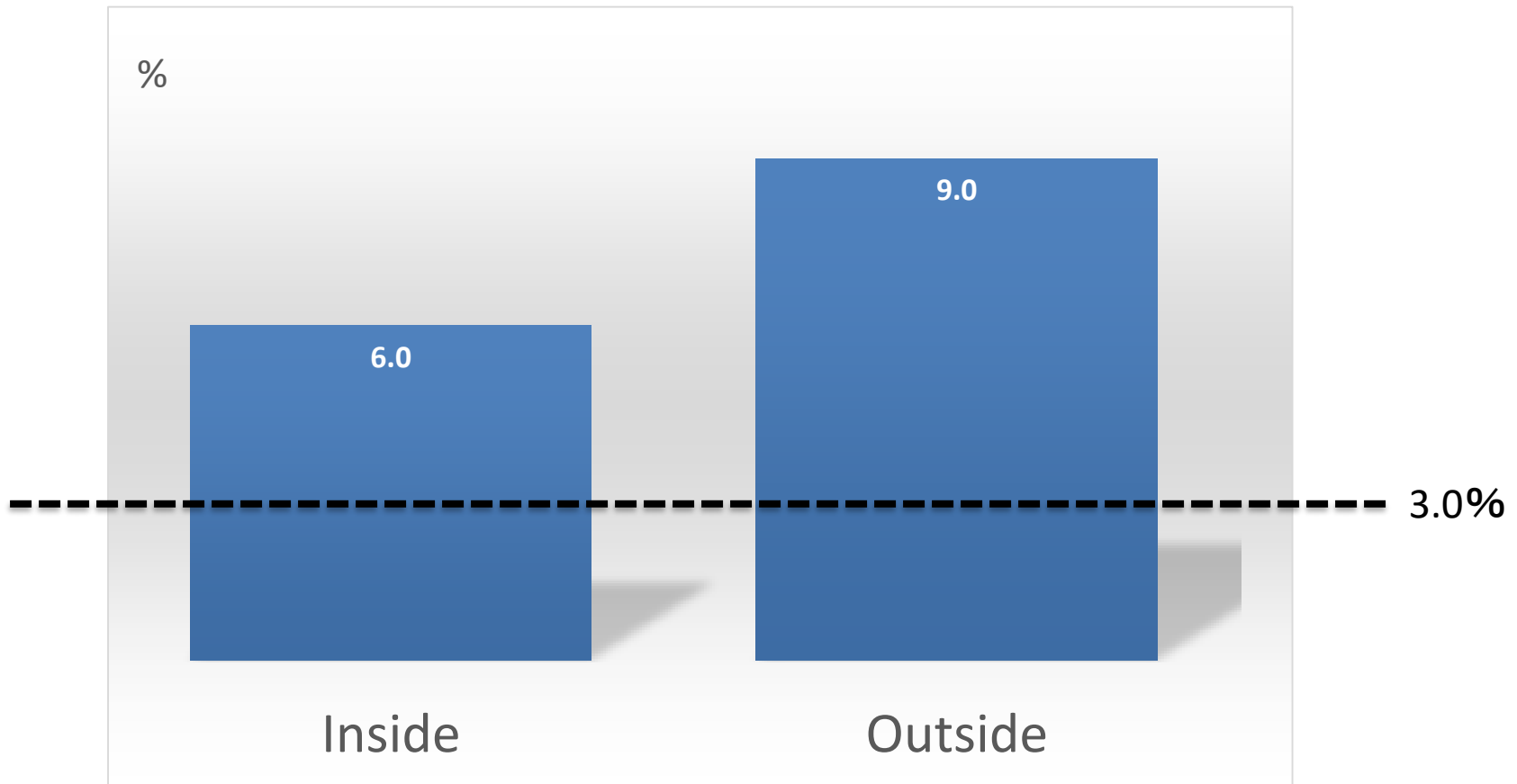
Indirect death (disaster-related death): death occurred as a consequences of environmental problems in evacuation life

Disaster-related suicide in prefectures affected by the Great East Japan Earthquake



Japan Ministry of Health, Labour and Welfare. *The Number of Suicides Relating to Great East Japan Earthquake 2019*. (2019). Available online at: <https://www.mhlw.go.jp/content/202008-shinsai.pdf> (accessed Sep28, 2020).

Comparison of prevalence of evacuees at risk of psychiatric disorders between in and out of Fukushima in 2018 (based on K6)



Approach to those evacuated in remote area

- Outreach (visit service) is often very difficult
- Telecommunication (telephone, internet, etc.) is useful
- Sharing correct information about current situation is needed.
- Multidisciplinary approach is required

Brief intervention by Telephone

- Our team has about 17 staff including clinical psychologists, social workers and nurses.
- The telephonic interventions were provided for respondents who showed high score in SDQ, K6 or PCL.

Strength and Difficulties Questionnaire (SDQ)

Parents of children aged 4 through 15 years were asked to evaluate their children's behavior

Kessler 6-item questionnaire (K6)

To estimate general mental health, especially depression

PTSD Checklist (PCL)

To estimate PTSD symptoms



Long-term recovery phase

Mental health care system needs to function for very long time (at least 10 years?)

Social countermeasures for public stigma (e.g. anti-stigma campaign) may contribute to empowerment of affected people

Relief workers are extremely overworked and easily exposed to negative feelings (anger and complaints) among affected people. Supporting such workers should be key to success of the restoration.

Exhaustion of relief workers in Fukushima


Results of diagnostic interview for public employees working in the disaster area (n=168, in 2013-2014)

- Depression 17.9%
- Suicide risk 8.9%
- Sleep difficulties 72.6%



97% of the participants were exposed to
frequent anger or complaints from evacuees

Maeda et al . PCN 2016

A person is riding a motorcycle down a dirt road that stretches into the distance. The road is flanked by grassy fields and dense evergreen forests. In the background, mountains are visible under a bright, hazy sky where the sun is setting or rising, creating a warm, golden glow. The overall scene is peaceful and scenic.

THANK YOU FOR YOUR ATTENTION