A Public Health Perspective on Reconstructing Post-Disaster Tohoku: One year later

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Introduction

The Great Eastern Japan Earthquake is a complex catastrophe, involving three kinds of disasters: tsunami, earthquake, and nuclear. These three disasters are interacting, with complex consequences in the social, political, and economic realms.

Last year, in July 2011, I gave a lecture to the Japan Medical Association (JMA) and proposed six public health principles to serve as guides for reconstructing Japan after the disaster. The presentation was subsequently published in the *Nihon Ishikai Zasshi* (*Journal of Japan Medical Association*, Vol. 140, No. 7, October 2011), and is available to the audience today. So I am not going to repeat those principles in the lecture.

But today, one year after the Great Eastern Japan Disaster, it is important to begin thinking about evaluating how Japan is doing in its response to this complex disaster. What can public health and medicine experts do to improve the response? In particular, what can be done to improve redress for victims of the disaster?

Two Types of Public Health Policies

Twenty years ago, I published a book called *Toxic Politics* on responses to chemical disasters (**Fig. 1**).

It is always a bit frightening to go back and read something you wrote in the past. How much do you remember? How much do you still agree with?

My book of 20 years ago compared the politics of chemical disasters in three countries: Italy, Japan, and the United States.[1] The book presented two broad categories of policies for disasters.

First were policies to prevent disasters or contain the consequences, actions taken before a disaster occurs. Natural disasters are difficult to prevent from occurring, but policies can be designed and implemented to contain damage. Man-made disasters and their damage, on the other hand, can be prevented. This is a key role of government regulation—to control the behavior of corporations and individuals and thereby help prevent man-made disasters. Given the limited time for this presentation today, I will not focus on the topic of policies to prevent man-made disasters. But it is worth noting that even former Prime Minister Naoto Kan, in a press conference in February 2012, admitted in public that Japan was "totally unprepared" for the disaster and that the Fukushima nuclear disaster was due to "human error," starting with its location.[2]

The second kind of policy, dealing with disaster responses, starts after a disaster has occurred. In today's presentation, I address this kind of policy, with a focus on the role of the JMA and the role of physicians.

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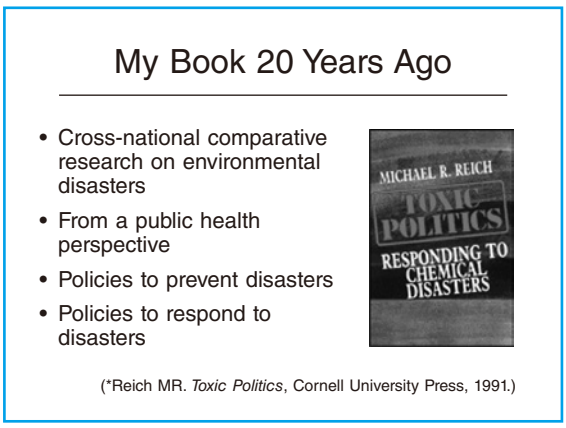

Fig. 1

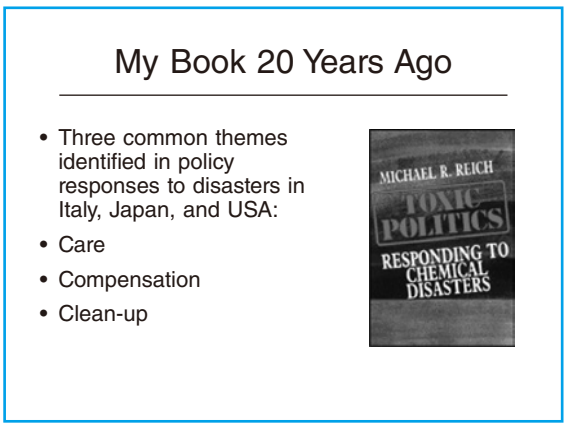

Fig. 2

Three Policies for Disaster Response

My book on *Toxic Politics* identified three common themes in responses to chemical disasters, around care, compensation, and clean-up (**Fig. 2**).

Using these three dimensions, it is possible to assess the performance of policies for responding to a disaster. The overall goal should be to assist the victims of the disaster in achieving redress along these three dimensions. A major finding of my book was that these three themes are not just technical problems; they also involve political problems and require political struggle to resolve. Let me suggest some of the controversies that arise around three common themes, using examples from the Great Eastern Japan Earthquake.

Fig. 3

Care Problems

Many problems related to care arise after a disaster occurs. The first question is who should receive care (**Fig. 3**). Who is affected as a victim, and how is that decided?

Second, what kind of care should they receive? Especially what is the right balance of physical care and mental health care? Both kinds of care are needed, but what degree of each is needed for each individual affected?

Third, who provides the care? For example, today in Fukushima prefecture, the number of physicians has declined by 3.5%, making this problem especially difficult.

Fourth, who will pay the cost of care for disaster victims? In Fukushima, how much should be provided by Japan's central government and how much by the responsible company?

One example of a controversy over care in Fukushima involves mothers. Mothers have strongly demanded testing of their breast milk for radiation contamination, especially after trace amounts of radioactive cesium were found in 7 out of 21 breast milk samples in May and June 2011. The research team concluded that the cesium levels were very low, and it could be considered as no risk to newborn babies. From a health professional's perspective (obstetricians, midwives and public health practitioners), the test could be considered unnecessary; indeed, the test could raise uncertainties among mothers and could even reduce mothers' confidence to breast feed. Nonetheless, after a long debate,

Compensation

(Photo: T. Nagata, used with his permission.)

Fig. 4

Clean-up

Clean-up of a schoolyard in Fukushima City, July 2011

(Photo: M.R. Reich.)

Fig. 5

Fukushima prefecture decided in January 2012 to provide free breast milk testing service to 10,000 mothers, as a response to demands from mothers.[3] But that decision is creating confusion among some mothers, who view the decision to provide the test itself as a sign of radiation-contaminated breast milk.[4]

Compensation Problems

Next let's consider some problems that arise related to compensation. One of the first problems is who should be compensated (**Fig. 4**).

Other problems also arise. Which losses are compensated? How much is paid as compensation? Who pays the compensation? What process is used to decide on compensation?

One example of a controversy over compensation in Fukushima involves people who decided to evacuate. Many families outside the government evacuation zone moved south at their own expense and on their own initiative; they are now demanding financial compensation for their evacuation expenses.[5] They were in the region where evacuation was not officially required, but they decided to evacuate on their own volition to reduce their risks, especially for children or for unborn children in pregnant women. On the other hand, there are people who wanted to evacuate but could not. Should the government or Tokyo Electric Power Company provide them with financial support? Who draws the lines for compensation, and on what basis are these decisions made?

Clean-Up Problems

Third, let's consider some problems related to clean-up. The first problem is where to conduct clean-up activities (**Fig. 5**).

How are priorities set to decide on areas designated for clean-up? What constitutes "clean"? Who sets the guidelines for clean, and how are workers trained in implementing the guidelines? Where are contaminated materials placed for permanent disposal? Who pays for the clean-up?

Residents in Fukushima are now demanding comprehensive clean-up of contaminated areas. One example of confusion over clean-up involves the process for cleaning up schools. According to a *New York Times* report in February 2011,[6] there is confusion among workers on various questions related to the clean-up of schools: over the depth of soil to be removed, whether buildings should be decontaminated or demolished, and the effectiveness of clean-up methods. The decontamination projects involve huge sums of money going to big companies, but these companies often use sub-contractors or sub-sub-contractors with day laborers of uncertain training. In addition, local residents and volunteers are participating in the school clean-up activities. The methods are described as "trial and error" with the potential of re-contamination by wind and rain and dust from surrounding areas. In addition, there is a huge debate over where to temporarily store the removed soil and other radioactive waste.

Potential Role of the Japan Medical Association

In considering these three themes of care, compensation and clean-up, what role could the JMA play in responding to Japan's 2011 disaster? Care is perhaps the most appropriate domain for the JMA to become involved.

For example, the JMA could take a lead in building a network of caregivers for people from Fukushima who evacuated to other areas in Japan. Currently, Fukushima prefecture is providing parenting support services (using phone calls and emails) based on data about pregnant women collected through the Fukushima Health Management Survey. However, since many mothers evacuated outside of Fukushima prefecture, there is a need for a national network of obstetricians-gynecologists and pediatricians to provide support for these mothers, in addition to support they receive from health centers.[7] The JMA could collaborate with Fukushima prefectural authorities and public health officials to help introduce evacuated mothers to physicians in other prefectures.

How Can the Loss of Trust in Government Be Re-Gained?

One of the main losses from Japan's disaster has been the loss of social trust. This loss of social trust has occurred in part because of problems in how the government communicated with people.[8] Addressing the controversies around the three dimensions of redress (care, compensation, and clean-up) will require discussion with the community. Otherwise it may not be possible to rebuild social trust toward government and toward physicians.

In order to rebuild social trust and promote decisions based on scientific evidence, it will be important for Japan to improve its ability to collect, analyze, and report both community voices and scientific data related to the Fukushima disaster. These difficult social decisions cannot be made only on scientific data. However, once social trust in authority is lost, it is very difficult to rebuild. Tohoku in the post-disaster period is a classic example of this phenomenon.

Conclusions

One year is a short time to assess a response to a complex disaster such as the Great Eastern Japan Earthquake. Some of Japan's environmental pollution disasters of the past created problems in care, compensation, and clean-up that are still being addressed today, decades later. Experience from the past suggests that these problems for Fukushima will persist for many years to come.

In part these problems will persist because the radiation contamination will persist for decades. But problems will also persist because the health problems will be difficult to detect and will be contested, because questions of compensation will be debated and contested, and because the quality of clean-up will be controversial and contested. In conclusion, these three problems will require both long-term debates and long-term policies—because they are not simply scientific problems; they are also social-political problems and psychological-spiritual problems.

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