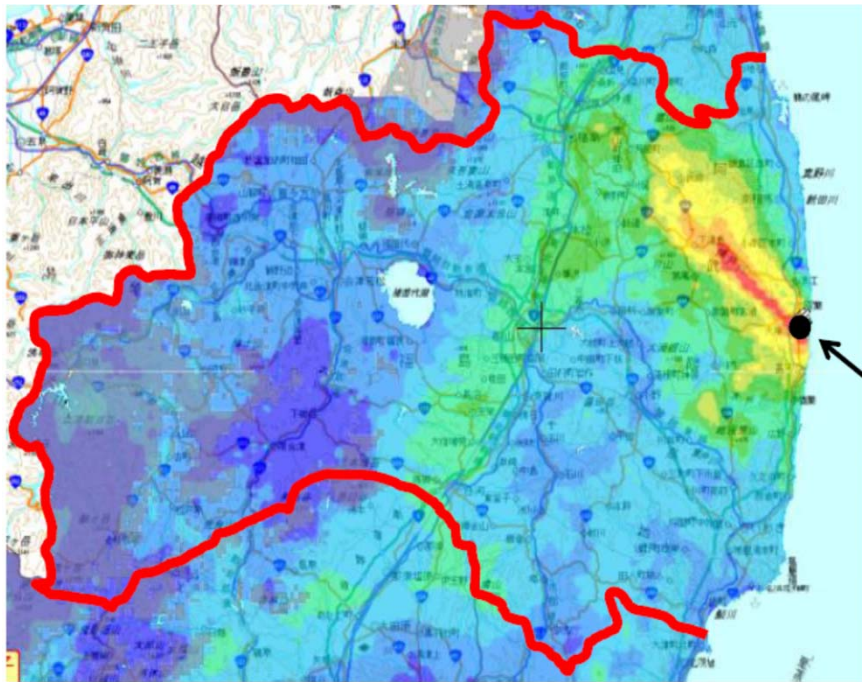


National Academies of Sciences Workshop
March 12, 2019

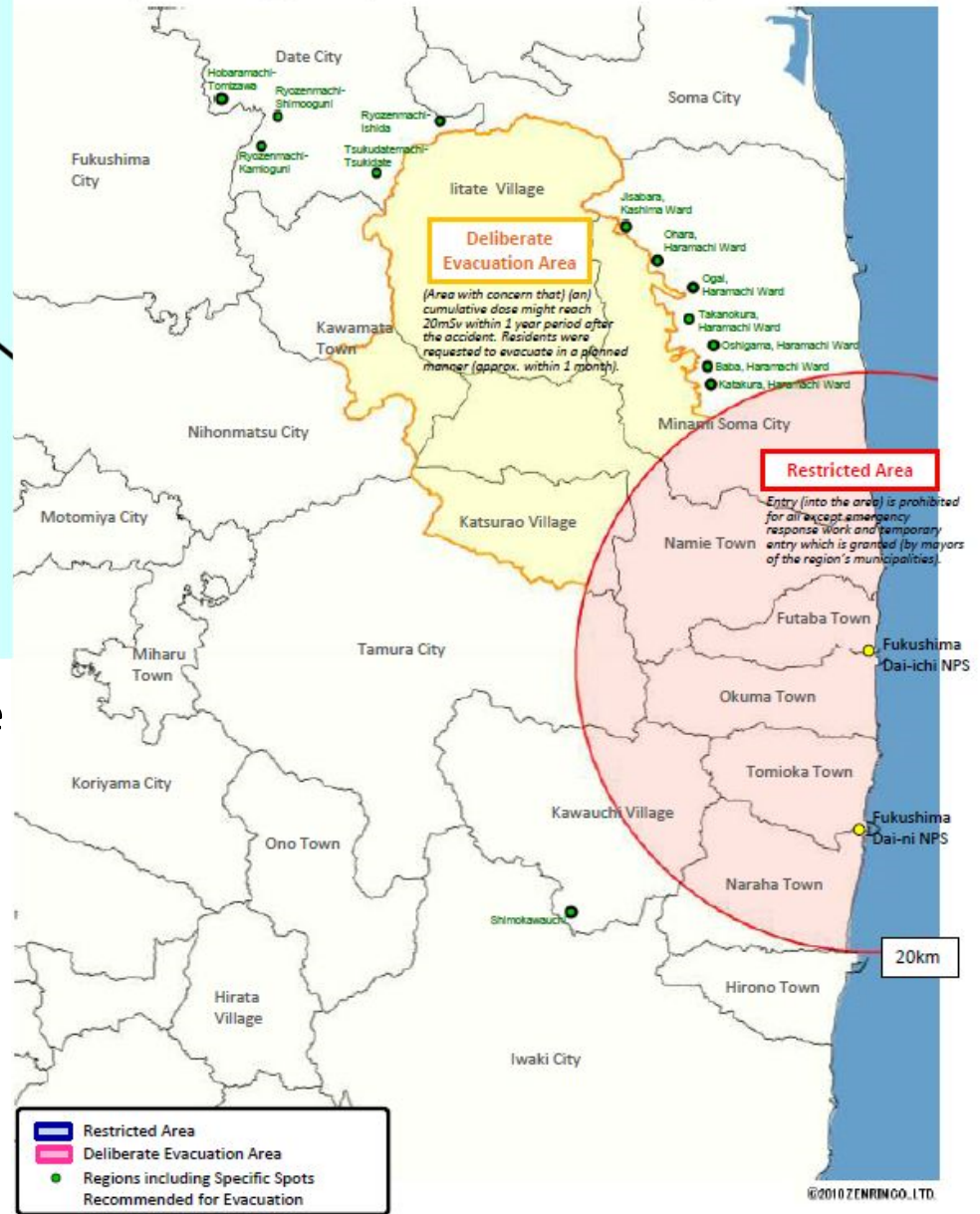


Fukushima Registry

Koichi Tanigawa
Fukushima Medical University



Restricted Area, Deliberate Evacuation Area
And Regions including Specific Spots Recommended for Evacuation (As of November 25, 2011)



- Population of Fukushima prefecture at the time of the accident:
2,055,325 residents
- Number of evacuees:
164,845 residents including voluntary evacuation (approx. 20,000) as of May, 2011

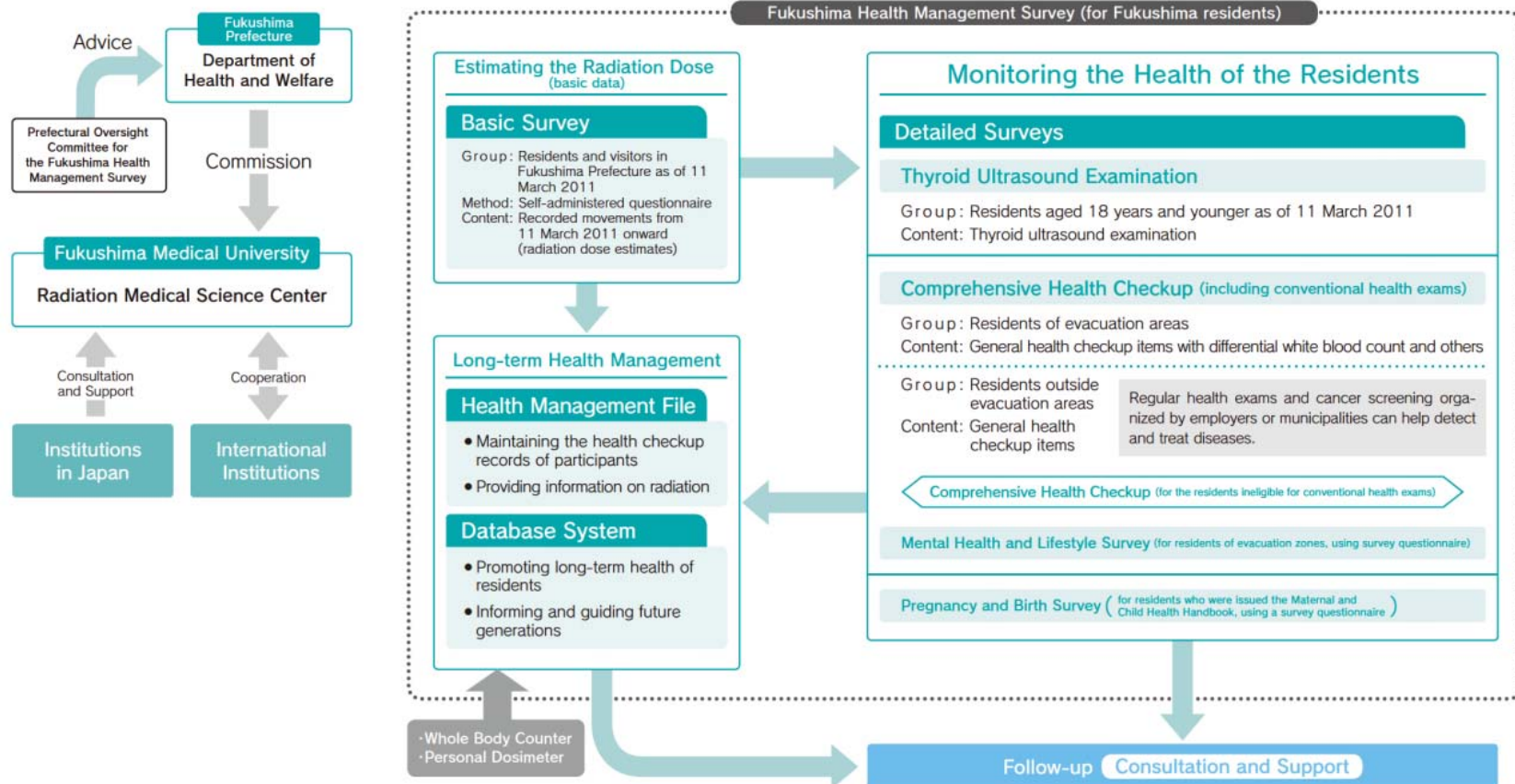
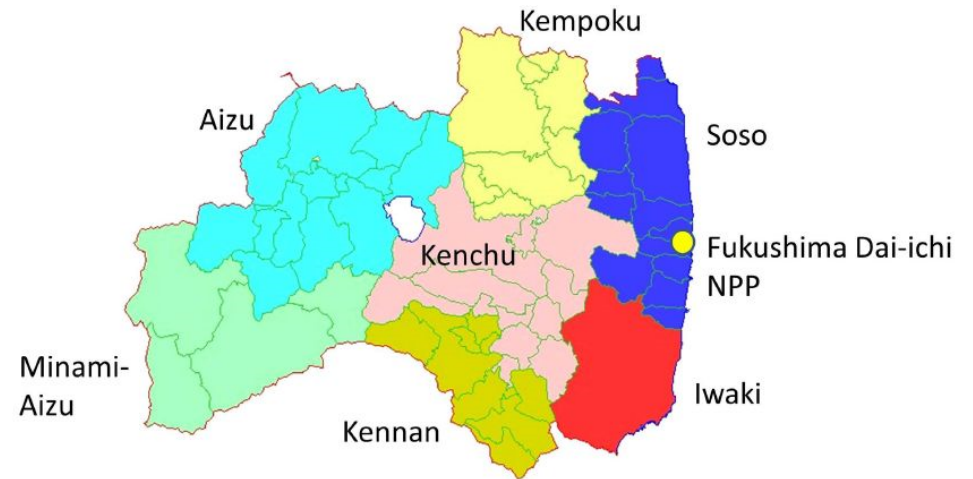
Background

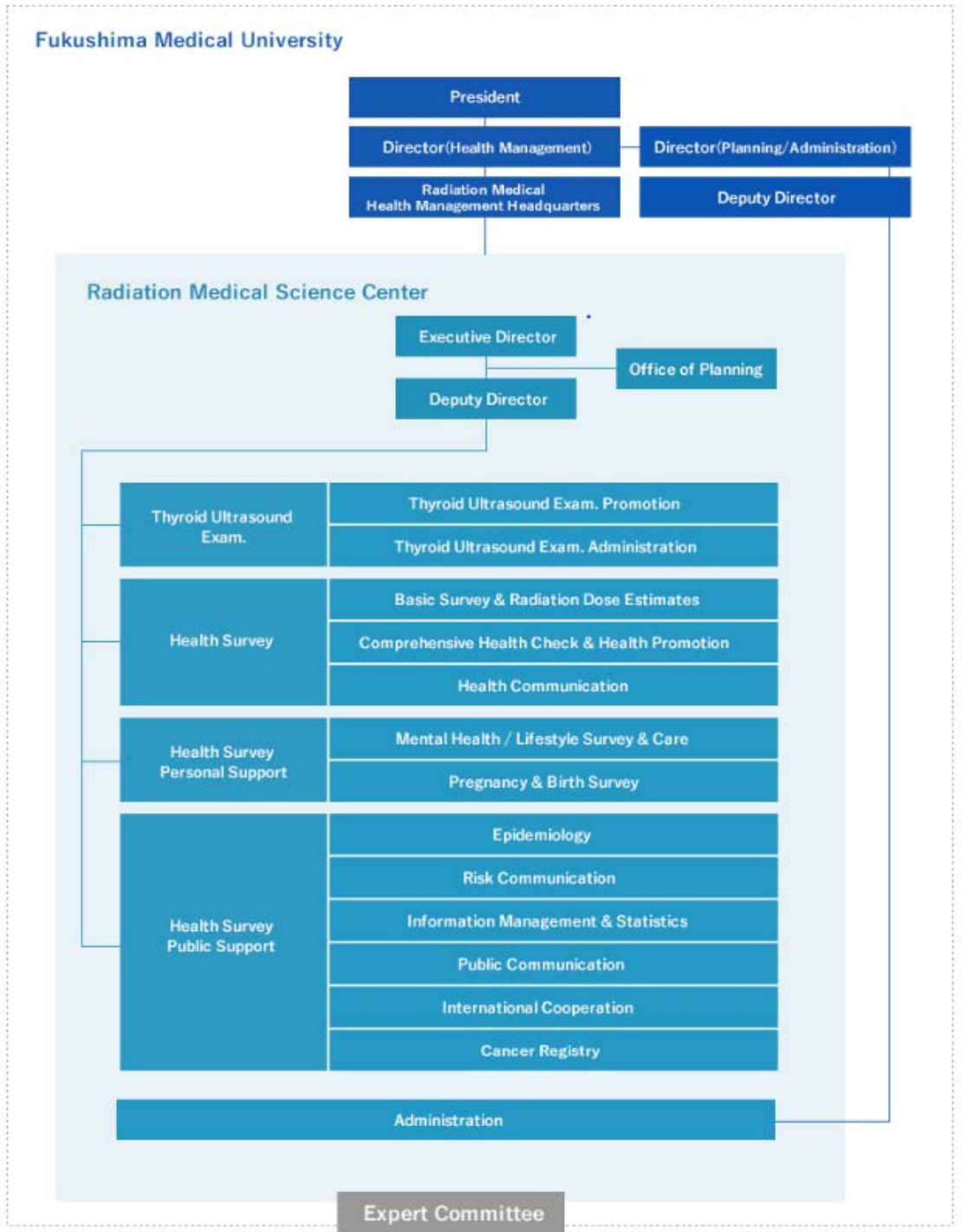
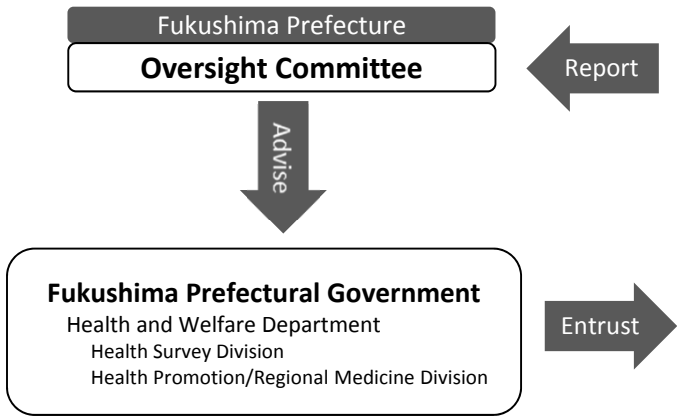
- Two weeks after the accident occurred, the Department of Public Health of FMU started planning of the survey as the primary organizer of the project.
- On May 13, 2011, a preparatory meeting for the survey was held at FMU in collaboration with the Fukushima prefectural government, Fukushima Medical Association, and other institutes; Hiroshima University, Nagasaki University, Radiation Effects Research Foundation, National Institute of Radiological Science, National Center of Neurology and Psychology.
- The survey was named the “Fukushima Health Management (FHM) Survey,” including the term “management” and without using the term “study/research.”
- On May 27, 2011, the first “Prefectural Oversight Committee Meeting for the FHM Survey” was held and the overall plan for the FHM Survey was officially approved.
- FMU was entrusted by the Prefectural government with implementing the FHM survey which started on June 1, 2011.



Objectives:

- To monitor long-term health condition of resident in Fukushima and to promote their health
- To investigate whether a long-term low-dose radiation exposure has an effect on their health





2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 → 2041

Basic survey (Fukushima residents; 2.06 millions)

Questionnaires about personal behavior for the first 4 months after the accident, i.e., whereabouts from March 11 through July 11, 2011 were mailed.

Database construction

Thyroid Ultrasound Examination (Fukushima children aged ≤18 years; 381,000)

Examinations consist of the primary and confirmatory examination. In primary examination, the results are classified into 2 categories; participants who are scheduled to take next examination in 2 years, and those who are advised to take confirmatory examination to determine if further study is required.

Preliminary examination (360,000)

Full scale thyroid examination (38,100)

Every 2 years until 20 years of age, and every 5 years afterward

Comprehensive Health Check (residents of the municipalities ordered evacuation; 210,000)

Health checkups for those ≥ 16 years old are provided by municipalities or employers in Japan. Additional items are tested. For those who are not covered, health checkups are provided by FMU or nearby medical facilities.

Mental Health and Lifestyle Survey (residents of the municipalities ordered evacuation; 210,000)

Questionnaires about mental health and lifestyle to evaluate K6, SDQ for children, PCL for PTSD are mailed.

continue based on need for survey

Pregnancy and Birth Survey (pregnant women in Fukushima prefecture after the accident; 16,000)

Questionnaires about pregnancy, delivery and mental health are mailed to pregnant women who have Maternal and Child Health Handbooks in Fukushima.

continue based on need for survey

Basic Survey | Coverage: about 2,060,000

Report of FHMS, page 6-7

Results

Overall response rate was 27%. The max, mean and median values in estimated external radiation doses for the first 4 months after the accident were 25, 0.8, and 0.6 mSv, respectively.

Thyroid Ultrasound Examination | Coverage: about 381,000

Report of FHMS, page 8-10

The participation rates were 83%, 71%, 57%, and 116, 71, and 15 participants were diagnosed thyroid cancer or suspected in the first (2011-2014), second (2014-2016) and third (2017-2018) round, respectively.

Comprehensive Health Checkup | Coverage: about 210,000

Report of FHMS, page 12-13

The participation rates were 35.4% (aged ≤ 15 ; 64.5%), 25% (38.7%), 21.5% (26.1%) in 2011, 2013, 2016, respectively. The proportions of obesity, hypertension and hepatic dysfunction increased initially, however, gradually decreased overtime. On the other hand, the proportions of participants aged ≥ 65 with impaired glucose tolerance increased from 18.7% in 2011 to 25.7% in 2016.

Mental Health and Lifestyle Survey | Coverage: about 210,000

Report of FHMS, page 14-15

The response rates in 2011, 2013, 2016 were 44%, 26%, 20% and the proportions of evacuees who required support for depressive symptoms (K6 score ≥ 13) were 14.6%, 9.7% and 6.8%, respectively (Japanese average: 3%).

Pregnancy and Birth Survey

Report of FHMS, page 16-17

The response rates in 2011, 2013 and 2016 were 58%, 48% and 52% and the proportions of the respondents with depressive symptoms were 27.1%, 24.5% and 21.1%, respectively.

Thyroid Ultrasound Examination Services

Expansion of responsible organizations in Fukushima Prefecture and development of the examination system

We are expanding responsible organizations within the prefecture and are developing the examination system to respond to people such as those who have missed an examination at school due to illness or having missed a scheduled examination at a public facility due to work.

Expansion of responsible organizations outside the prefecture

We are expanding responsible organizations also outside the prefecture.

Installation of briefing booths

Since July 2015, at examination venues at public facilities, booths are installed to offer personal explanations to participants about their examination results. Physicians explain the ultrasound images and their preliminary interpretations. Where a booth cannot be set up, alternatives, including telephone counseling, are offered.

You can choose the venue



Public Facilities



Medical Institutions
inside the prefecture



At more than 100 medical institutions nationwide

Undergoing the Thyroid Ultrasound Examination requires a prior reservation with the Radiation Medical Science Center.

Visiting Lectures for Students and Briefing Sessions for Residents

Target Groups

Visiting Lectures: Grade 5 elementary school students through high school students (ages 11 to 18) in Fukushima Prefecture (in classes at school upon request)

Visiting Briefing Sessions: Parents and teachers of students in elementary, junior and senior high schools and schools for special needs education in Fukushima Prefecture.

Content

A physician explains the thyroid ultrasound examination and effects of radiation on the thyroid. A 45- to 60-minute lecture, or a 90-minute session including questions and answers, is provided.

Previous activities

We conducted ten visiting lectures and nine visiting briefing sessions in FY2017. In the period from FY2013 to FY2017, we had 262 lectures and sessions in total with 14,023 participants.



Briefing Session

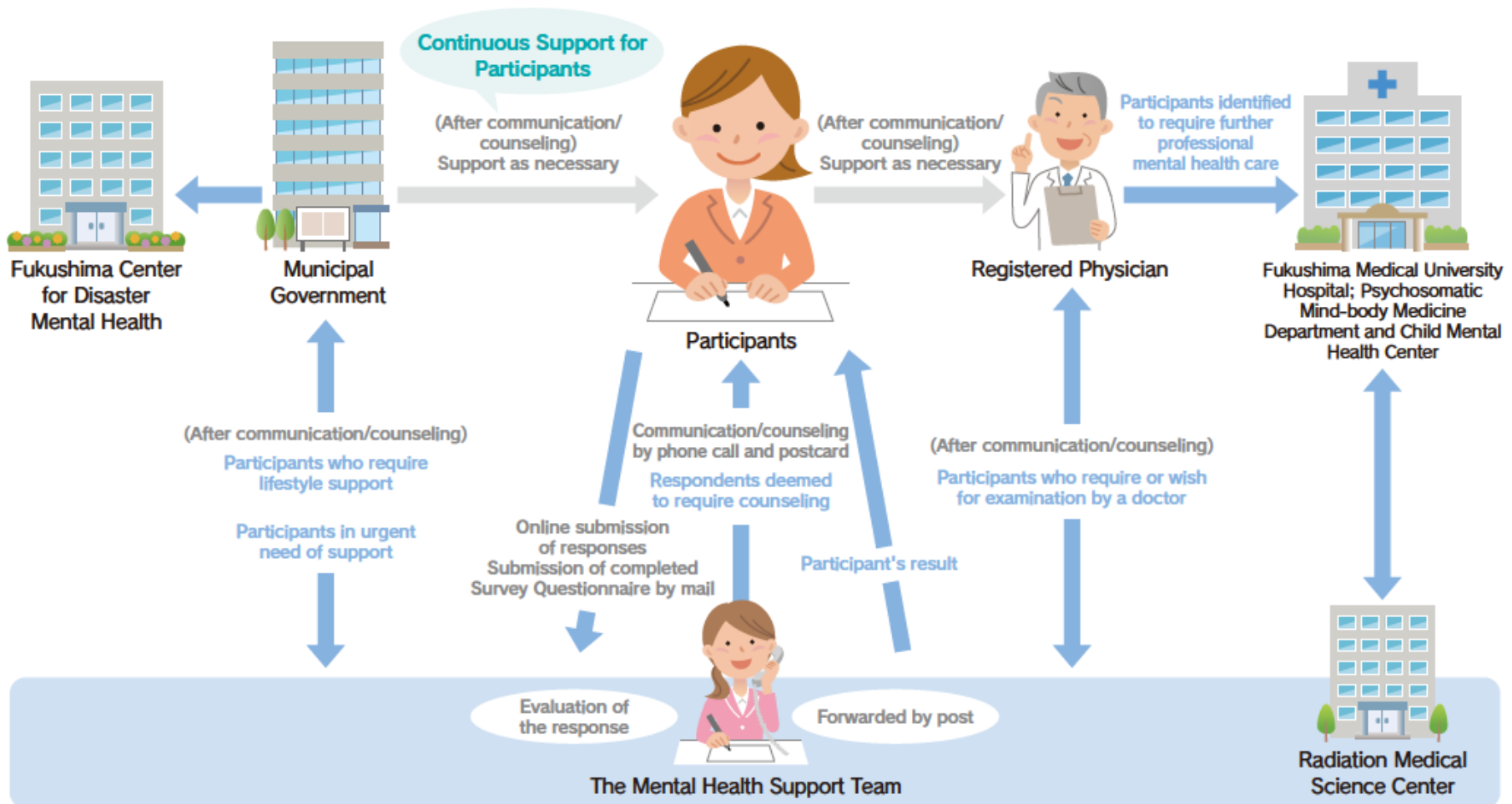
Support after the Survey

The Mental Health Support Team*² provides support by phone to participants deemed to require counseling or support for mental health or lifestyle problems based on their responses and provides required advice and support. (See the figure below.) Participants requiring continuous support are provided with support in collaboration with registered physicians*³ and municipalities where they took refuge.

*² A team consisting of clinical psychologists, public health nurses, clinical nurses, etc., that provides counseling and support concerning mental and physical problems

*³ Physicians who have received instruction concerning disaster mental health and radiation medical science organized or approved by the Fukushima Medical University

Procedures from Submission of Survey Questionnaire to Receipt of Support-Care in Collaboration among Relevant Organizations and Physicians



Challenges in FHM survey

- The response rate in the basic survey was low at 27%, and the accuracy of dose estimation using questionnaires relied on personnel memories about their behaviors.
- High detection rates of thyroid cancer in ultrasound examinations caused public anxieties about the health effects of radiation and raised concerns about over-diagnosis.
- Adverse effects of the accident on mental health of residents were more wide-spread than expected, and more resources for individual supports were needed.

Funded by the prefectural government, the Fukushima Mental Health Care Center, which has 6 branches in Fukushima with about 50 staff consisting of psychiatrists, social workers, clinical psychologists, nurses, and occupational therapists, was established in 2012 to provide active outreach service and group interventions for evacuees, and mental health intervention programs.

Summary

- The FHM survey and results were briefly described.
- Despite a lack of previous experiences, the FHM survey was implemented relatively soon after the accident in response to public concern, clarified health status of the residents, and ensured that supports would be provided to those who needed.
- Mental health of evacuees and pregnant women was deteriorated, and individual support took top priority after the accident.

More information about the FHM survey is available at;

http://kenko-kanri.jp/en/pdf/report_e.pdf

<http://fukushima-mimamori.jp/foreign-languages/>

<http://fmu-global.jp/publications-n/>

*The survey data will become available for a third party in 2020.