

Purpose of the Project

- Patient monitoring becomes a crucial role for healthcare professionals as well as patients. Through Patient-Reported Outcome (PRO), it potentially improve overall survival. For that PRO contributes to the following items:
 1. Patient care from the patient's perspective.
 2. Statistical result for treatment effectiveness and safety
 3. Enabling personalized medicine.

Electric PRO (ePRO) enables patient for their active participation in clinical practice, and by providing real-time and accurate data to clinical settings, it contributes to efficiency improvement and enhancement of quality of care (Figure 1)



Figure 1. interaction between patients and staff.

- The goal of this project is to evaluate the questionnaire (module) related to radiation therapy using the ePRO system called KAIKU (hereinafter referred to as KAIKU), to develop new modules for brachytherapy for cervical cancer in addition to existing modules for radiation therapy.

Details of demonstration

- June 2023: Exhibited at MASCC in Nara for ePRO market research.
- July 2023 to January 2024: Conducted the "Evaluation Project for KAIKU Application Radiation Therapy Questionnaire" and the "Development Project for Brachytherapy Module for Cervical Cancer."
- The Evaluation Project aimed to strategize KAIKU's market deployment by getting feedback from clinical physicians on all radiation therapy-related modules. Collaboration included experts like Professors Shikama, Murakami, and Associate Professor Kokogi from Juntendo University.
- The Development Project aimed to promote KAIKU nationally and globally by teaming up with clinicians and medical physicists. Collaboration involved Dr. Igaki, Director of Radiation Therapy at the National Cancer Center Hospital, Dr. Koji Inaba, and Mr. Okamoto from the Medical Physics Department.

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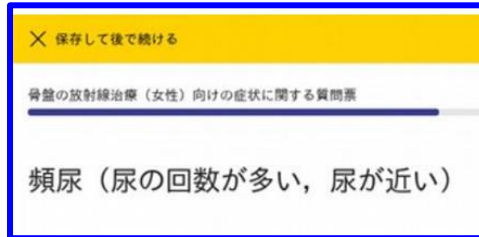
Project RISE (Radiotherapy Initiative for Survivorship Enhancement)

Project outcome

- In the Project, Evaluation of items constituting modules for each treatment site, a five-point evaluation scale was used: A: suitable for clinical use, B: clinically usable with room for improvement, C: clinically usable with improvement, D: not clinically usable, E: (no comment needed). Evaluations and specific improvement comments were obtained from each clinical physician. Evaluations mainly concentrated on B and C, with no evaluations for D and E. While areas for modification and improvement were identified, the evaluation indicated clinical usability.
- In the Development Project, existing "Module for Symptoms Related to External Radiation Therapy for Female Pelvis" served as a foundation, with comments from physicians and physicists obtained to adapt it into a module for brachytherapy. Based on these comments, the head office development team created the first version of the "Brachytherapy Module for Cervical Cancer."
- Collaboration with experienced clinical physicians and physicists from Juntendo University and the National Cancer Center Hospital proved to be highly effective.

Challenges and Solutions

- Based on feedback from physicians and physicists, we will consider adding new features and questions, and continue to implement improvements to KAIKU continuously.



By taking brachytherapy into consideration, Frequent urination was added into questionnaire

- Taking into account the improvement points and adjustments highlighted in the reports from our collaborators, we will examine specific strategies for the future development of KAIKU.

Future plans

- Expansion of KAIKU is expected by adding brachytherapy module through this verification project, to the Asia-Pacific and Western regions.
- ePRO system through a Software as a Service (SaaS) as part of existing Oncology Information System in order to provide value added service with a sustainable revenue structure.