Background
Radiation therapy is a common treatment for cancer and approximately half of patients diagnosed with cancer will receive radiation therapy sometime during their treatment course. In 2016, the OHSU Radiation Therapy Program purchased one of approximately 20 VERT™ 3-D virtual simulators in the US, for student education. A portable VERT™ was also purchased, and in 2017 it was transferred to Tuality/OHSU Cancer Center for patient education.

Students: Learning to provide patient education is an essential part of becoming a practitioner. Utilizing 3-D education allows learners to discuss and visualize the effects of radiation inside of the human body in virtual reality. The integration of VERT™ into the radiation therapy curriculum has allowed clinical concepts to be brought into the classroom, addressing the challenges of integrating clinical and didactic education.

Patients: The need for patient education in radiation oncology is high, which makes patient education a critical component of diagnosis and treatment. Radiation therapy often causes anxiety for patients and their families. Recent studies from the UK, Denmark and Australia have suggested that patient education sessions utilizing virtual reality can potentially decrease anxiety and increase comprehension.

Student Goal: Develop targeted patient education modules utilizing virtual reality to provide the appropriate level of information based on patient needs and perspective. It is expected that the targeted educational modules will be utilized in affiliated clinics for patient education to increase patient comprehension and compliance.

Patient Goal: Develop patient education modules utilizing virtual reality for implementation into the patient pathway. This targeted patient education will potentially increase patient comprehension and decrease anxiety prior to the start of radiation therapy treatment.

Goals & Objectives
Successful integration of VERT™ virtual reality into the radiation therapy curriculum and clinical patient pathway for patient education. This is accomplished by first educating students and then incorporating the student perspective into the development of patient education modules.

Methods
Student Project: In 2017 a capstone project was implemented into the Radiation Therapy curriculum. Based on education, experience and research, the project requirements include the development of a student led patient module. Considerations include the patient perspective and informational needs related to appointment preparation, treatment planning, treatment, side effects, patient care, available resources and follow-up needs. Special attention is placed on the level and amount of information necessary to achieve quality patient education. Final deliverable will be a patient education module in the form of a brochure, mock patient education session, VERT™ presenter demonstration, movie, website, etc. with a time limit of 5-7 minutes per module.

Patient Module: The targeted patient education module is made up of a PowerPoint template module utilizing clinical site specific images to explain radiation therapy and introduce the patient to the interprofessional team involved in radiation therapy treatment. In addition, a presenter was developed within the 3-D simulation tool for an audio and visual simulated treatment experience. The session takes 20 min. and is provided by a radiation therapist in a one-on-one appointment with the patient.

Impact & Effectiveness
Student: A module created by Kelly Snyder, a 2017 graduate, has been distributed to OHSU breast cancer patients to provide education on deep inspiration breath hold radiation treatments. The module has already acquired 9,500 views on: https://www.youtube.com/watch?v=w4RYhRzZe4&t=311s

Patient: Tuality/OHSU Cancer Center was the first in the nation to implement patient education with virtual reality into the patient pathway by way of individual sessions to prostate patients. These unique sessions have been well received and featured in KATU, KGW news stories and several articles. The patient featured in the news stories, Allen Miller, said,

“I’m a visual person. This video (module) shows me what’s happening to me, and I never knew before. I really believe this was the missing link in terms of prepping for my treatment”.

References
3. Patient Education: Student as Teachers and Patients as Learners: Pathway of the Cancer Education Project.