

Michigan Radiation Oncology Quality Consortium

Organizational Glossary



INTRODUCTION

The Michigan Radiation Oncology Quality Consortium (MROQC) was established in 2011, through the generous support from Blue Cross Blue Shield of Michigan and Blue Care Network. In this first-of-its-kind collaborative quality initiative (CQI), MROQC has created a comprehensive clinical data registry of patients receiving radiation treatment for breast, lung, and prostate cancers and bone metastases. Our registry is maintained by the MROQC Coordinating Center and includes both patient-reported outcomes and physician assessments of toxicity as well as data on radiation treatment delivery and dose.

The overall aims of the collaborative include, among others, to determine the most appropriate use of intensity modulated radiation therapy (IMRT) for breast and lung cancer patients as well to establish and disseminate best practice guidelines that enable radiation oncology practitioners to optimize the delivery of cost-effective care. These guidelines provide for reduction in radiation treatment times and costs of radiation treatment for breast, lung, prostate cancers, and for cancer that has spread to the bones while enhancing the overall quality, value, and outcomes for patients receiving radiation therapy in Michigan. MROQC practice guidelines also help members improve quality by facilitating the clinical implementation of recommendations from national organizations such as the National Comprehensive Cancer Network (NCCN), the American Society for Radiation Oncology (ASTRO), and the American Association of Physicists in Medicine (AAPM) across different technology platforms.

Today, MROQC is comprised of 26 radiation treatment centers (23 hospital-based and 3 free-standing) and over 200 members participate in this CQI. The collaborative has formed working groups, each comprised of a subset of clinical champions (those radiation oncologists who agree to implement best practices identified by the consortium within their practices), participating physicians, radiation oncology residents, medical physicists and dosimetrists, site administrators, and clinical data abstractors, to focus on each treatment site and corresponding Quality Improvement (QI) efforts. In addition, three collaborative-wide meetings are held each year to discuss data, review measures of processes of care and patient outcomes, and identify strategies and best practices for quality improvement.

MROQC Acronyms and Definitions

Quality improvement (QI)

- Definition: Quality Improvement consists of systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups. While each QI program may appear different, a successful program always incorporates the following four key principles:
(<https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>)
 - QI work as systems and processes
 - Focus on patients
 - Focus on being part of the team
 - Focus on the use of the data

Collaborative Quality Initiative (CQI)

- Definition: Collaborative Quality Initiatives transform care processes, improve outcomes, save money, enhance community well-being.
 - Statewide quality improvement initiatives, developed and executed by Michigan physicians and hospital partners with funding and support from BCBSM and the HMO subsidiary, Blue Care Network (BCBSM's [CQI Overview Presentation](#))
 - In most cases, a CQI project relies on a comprehensive clinical registry which includes patient risk factors, processes of care, and outcomes of care
 - Physicians, hospitals, and health systems collaborate to measure and improve the standard of care in Michigan by focusing on the reduction of errors, prevention of complications, and improvement of patient outcomes
 - CQIs promote partnerships with physicians, physician groups and hospitals to create strong collaboration and reward systems for the transformation of health care.

Pay-for-Performance (P4P)

- Definition: Blue Cross Blue Shield of Michigan (BCBSM) has a hospital incentive-based programs called pay-for-performance, or P4P. The program recognizes hospitals that excel at care quality, cost-efficiency and population health management. P4P are incentives based on participation and performance in quality and outcome measures. (BCBSM's [BCBSM Slides on the Pay for Performance \(P4P\) Program](#))

Gold Card Incentive Program

- Definition: In 2017, BCBSM/BCN developed and implemented the Gold Card Incentive Program in collaboration with MROQC. Being "Gold Carded" allows select radiation oncologists at facilities who met specific quality improvement criteria to receive auto approval for radiation therapy authorizations submitted to eviCore. A site must have membership in MROQC to participate in this program. ([Gold Card Incentive Program](#))

Value-Based Reimbursement (CQI VBR)

- Definition: The Value Partnerships Program at Blue Cross Blue Shield Michigan (BCBSM) develops and maintains quality programs to align practitioner reimbursement with quality-of-care standards, improved health outcomes and controlled health care costs. Practitioner reimbursement earned through these quality programs is referred to as value-based reimbursement, or VBR. Recently, the Value Partnerships Program expanded their VBR opportunities to Physician Group Incentive Program (PGIP) practitioners who participate in select Collaborative Quality Initiatives (CQIs) and meet specific eligibility criteria. Eligible practitioners receive 103% of the standard fee schedule as part of "CQI VBR".

Currently, MROQC is one of 13 CQIs to offer participating PGIP physicians the opportunity to receive CQI VBR, based on meeting clinical targets relevant to MROQC. MROQC's Coordinating Center, in collaboration with BCBSM has developed quality and performance metrics for MROQC's value-based reimbursement. ([CQI VBR Fact Sheet](#))

- CQI VBR selection process
For a practitioner to be eligible for CQI VBR, he or she must:
 - Meet the performance targets set by the coordinating center
 - Be a member of a PGIP physician organization for at least one year
 - Have contributed data to the CQI's clinical data registry for at least two years, including at least one year's worth of baseline data

Quality Working Groups (WG)|Committees

- Definition: The MROQC Quality Improvement Working Groups|Committees were formed to help drive improvement efforts to the quality of treatment radiation patients receive across the state of Michigan. The groups convene via working group conference calls to review radiation treatment and outcomes data from across the consortium. Each working group develops best practices and implement quality improvement initiatives. Currently, MROQC has four working groups Breast, Lung, Bone Mets, and Prostate and one committee focused on access to high-quality care for all. (more information [Quality Working Group|Committees](#))

MROQC Reports

- **Site and Provider Institution Reports** - Definition: Are reports sent out before a consortium meeting, by the MROQC coordinating center, to each institution summarizing the institution's performance on the quality measures of that calendar year.
- **Site Reports** - Definition: Are site-level data reports located in a per site folder in Dropbox (e.g. monthly reports) or are reports that are accessed through the MROQC databases (accessible database users). These data quality reports can be used by site teams to access performance on measures and for clinical and physics abstractors to check their work and correct data errors.

Digital Imaging and Communications in Medicine (DICOM)

- Definition: DICOM is the international standard to communicate and manage medical images and data. It is a comprehensive specification of information content, structure, encoding, and communications protocols for electronic interchange of diagnostic and therapeutic images and image-related information. The standard describes how to format and exchange medical images and associated information, both within the hospital and also outside the hospital (e.g., teleradiology, telemedicine).

Dose-Volume Histogram (DVH)

- Definition: This is a data analysis tool where dosimetric data for a structure defined in three dimensions is collected as a function of dose versus volume. The 3-D dose distributions is reduced to 2-D information with a loss of spatial information. It is typically generated in a computerized treatment planning system based on a 3-D reconstruction of a CT scan. A differential DVH represents the volume of the organ receiving a dose within a specified dose

interval. An integral DVH is defined as the volume receiving at least dose D as a function of D. In most instances, the volume is specified as the percentage of the total volume of a structure receiving dose within each interval. The units of dose may be percent, cGy, or Gy (Gray) and the units of volume may be percent or cubic centimeters (cc).

Gross Tumor Volume (GTV)

- Definition: Includes all gross disease on physical examination with endoscopy and imaging. The physician defines this treatment region by segmenting (contouring or drawing) the discernable tumor region using imaging.
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Clinical Target Volume (CTV)

- Definition: Expansion of the GTV that includes the subclinical disease. It accounts for the likelihood of a clonogenic tumor outside of the visualized GTV boundary.
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Planning Target Volume (PTV)

- Definition: Expansion of the CTV that includes margins for geometric uncertainties. The PTV also accounts for uncertainty in tumor location due to errors in experimental setup, internal organ movement, and anatomic changes, e.g., respiration.
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Physics Forms

- **BRTD-** Definition refers to the MROQC Breast Radiotherapy Technical Details Form in the breast and lung database.
- **LRTD-** Definition refers to the MROQC Lung Radiotherapy Technical Details Form in the breast and lung database.
- **MRTD-** Definition refers to the MROQC Bone Mets Radiotherapy Technical Details Form in the bone mets database.
- **PRTD-** Definition refers to the MROQC Prostate Radiotherapy Technical Details Form in the prostate database.

Intensity-Modulated Radiation Therapy (IMRT)

- **Definition:** Intensity-modulated radiation therapy (IMRT) is an advanced type of radiation therapy used to treat cancer and noncancerous tumors. IMRT uses advanced technology to manipulate photon and proton beams of radiation to conform to the shape of a tumor. IMRT uses multiple small photon or proton beams of varying intensities to precisely irradiate a tumor. The radiation intensity of each beam is controlled, and the beam shape changes throughout each treatment. The goal of IMRT is to conform the radiation dose to the target and to avoid or reduce exposure of healthy tissue to limit the side effects of treatment.

Stereotactic Body Radiotherapy (SBRT)

- **Definition:** Stereotactic radiosurgery (SRS) is a type of radiotherapy. When it's performed on the body rather than the brain, this procedure is sometimes called stereotactic body radiotherapy (SBRT) or stereotactic ablative radiotherapy (SABR). The procedure uses many precisely focused radiation beams to treat tumors and other problems all over the body. SBRT is used to treat tumors in the lungs, spine, liver, neck, lymph node or other soft tissues. Because there's no incision, SBRT isn't a traditional type of surgery. Instead, SBRT uses 3D imaging to target high doses of radiation to the affected area. This means there's very little damage to the surrounding healthy tissue. Like other forms of radiation, stereotactic radiosurgery works by damaging the DNA of the targeted cells. Then, the affected cells can't reproduce, which causes tumors to shrink.

Volumetric Modulated Arc Therapy (VMAT)

- **Definition:** An IMRT treatment method that delivers radiation by rotating the gantry through one or more arcs with radiation continuously on. Several parameters can be varied during gantry motion such as MLC positions, fluence-output rate, and gantry rotation speed. VMAT uses photons (W-rays) generated by a medical linear accelerator. Very small beams with varying intensities are aimed at a tumor and then rotated 360 degrees around the patient. This results in attacking the target in a complete three-dimensional manner while protecting healthy tissues.

MIM Software Inc. (MIM)

- Definition: MIM Software Inc. provides practical imaging solutions in the fields of Radiation Oncology, Radiology, Nuclear Medicine, Neuroimaging, and Cardiac Imaging. MIM offers a central software package that puts oncology tools in one place to be utilized together. With customizable workflows and reports, users can automatically generate documentation and make workflows much more efficient.

American Society for Radiation Oncology (ASTRO)

- Definition: ASTRO is the premier radiation oncology society in the world, with more than 10,000 members who are physicians, nurses, biologists, physicists, radiation therapists, dosimetrists and other health care professionals who specialize in treating patients with radiation therapies. These medical professionals, found at hospitals, cancer treatment centers and academic research facilities around the globe, make up the radiation therapy treatment teams that are critical in the fight against cancer. Together, these teams treat more than one million cancer patients each year. As the leading organization in radiation oncology, the Society is dedicated to improving patient care through professional education and training, support for clinical practice and health policy standards, advancement of science and research and advocacy. (More information <https://www.astro.org/>)

ASTRO provides members with the continuing medical education, health policy analysis, patient information resources and advocacy that they need to succeed in today's ever-changing health care delivery system.

American Society of Clinical Oncology (ASCO)

- Definition: Founded in 1964, the American Society of Clinical Oncology is the world's leading professional organization for physicians and oncology professionals caring for people with cancer. Their mission is conquering cancer through research, education, and promotion of the highest quality and equitable patient care. (More information <https://www.asco.org/about-asco/asco-overview>)

ASCO Promotes and Provides for:

- Lifelong learning for oncology professionals,
- Cancer research,
- An improved environment for oncology practice,
- Access to quality cancer care,
- A global network of oncology expertise, and
- Educated and informed patients with cancer

American Association of Physicists in Medicine (AAPM)

- *Definition:* AAPM is a scientific and professional organization, founded in 1958, composed of more than 8000 scientists whose clinical practice is dedicated to ensuring accuracy, safety and quality in the use of radiation in medical procedures such as medical imaging and radiation therapy. We are generally known as medical physicists and are uniquely positioned across medical specialties due to our responsibility to connect the physician to the patient through the use of radiation producing technology in both diagnosing and treating people. The responsibility of the medical physicist is to assure that the radiation prescribed in imaging and radiation therapy is delivered accurately and safely. (More information <https://www.aapm.org/>)

One of the primary goals of AAPM is the identification and implementation of improvements in patient safety for the medical use of radiation in imaging and radiation therapy.

National Association for Healthcare Quality (NAHQ)

- *Definition:* Founded in 1976, the National Association for Healthcare Quality (NAHQ) is the only organization dedicated to healthcare quality professionals, defining the standard of excellence for the profession, and equipping professionals and organizations across the continuum of healthcare to meet these standards. (More information <https://nahq.org/about/about-national-association-healthcare-quality/>)

NAHQ offers the only accredited certification in healthcare quality (the CPHQ), extensive educational programming, networking opportunities, and career resources to help our members meet the challenges they face and demonstrate their value. Their mission is to prepare a coordinated, competent workforce to lead and advance healthcare quality across the continuum of healthcare.

Institute for Healthcare Improvement (IHI)

- *Definition:* Institute for Healthcare Improvement (IHI) was officially founded in 1991, but our work began in the late 1980s as part of the National Demonstration Project on Quality Improvement in Health Care. IHI focuses on improvement science and patient safety to advance and sustain better outcomes in health and health care across the world. They bring awareness of safety and quality to millions, accelerate learning and the systematic improvement of care, develop solutions to previously intractable challenges, and mobilize health systems, communities, regions, and nations to reduce harm and deaths. They work in collaboration with the growing IHI community to spark bold, inventive ways to improve the

health of individuals and populations. Their mission is for everyone to have the best care and health possible. (More information at [About IHI](#))

IHI's strategy to improve health and health care worldwide has four key areas:

- Pursuing Safe and High-Quality Care
- Improving the Health of Populations
- Building the Capability to Improve
- Innovating and Sparking Action

Choosing Wisely

- Definition: is an initiative of the American Board of Internal Medicine (ABIM) Foundation that seeks to advance a national dialogue on avoiding unnecessary medical tests, treatments, and procedures. (More information on [Choosing Wisely](#))

The mission of Choosing Wisely is to promote conversations between clinicians and patients by helping patients choose care that is:

- Supported by evidence
 - Not duplicative of other tests or procedures already received
 - Free from harm
 - Truly necessary
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