Appropriate Use Criteria Development Methodology

Memorial Sloan Kettering Cancer Center

Overview

The Evidence-based Cancer Imaging Program (ECIP) at Memorial Sloan Kettering Cancer Center (MSK) has implemented a structured methodology to develop, modify, or endorse appropriate use criteria (AUC) for advanced diagnostic imaging exams (i.e., CT, MRI, Nuclear Medicine, PET).

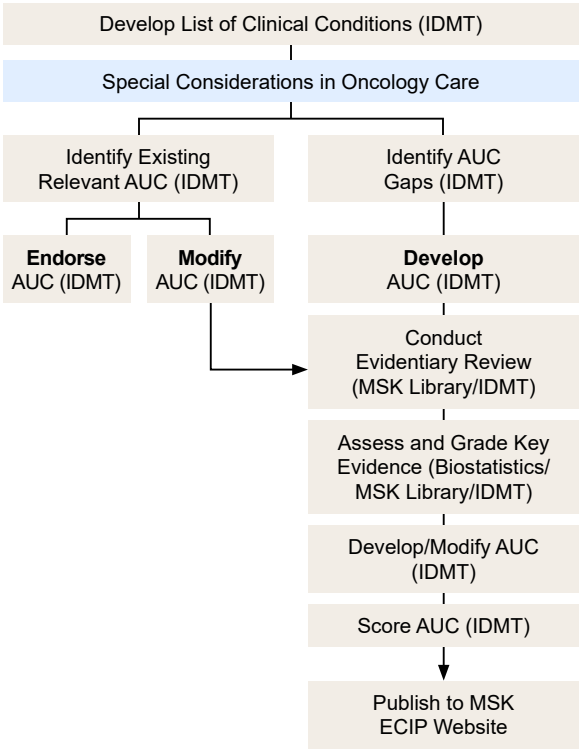

Figure 1: MSK AUC Development Methodology

Methodology

Imaging Disease Management Teams

Multidisciplinary Imaging Disease Management Teams (IDMTs) are charged with developing, modifying, or endorsing AUC in subspecialized clinical domains based on priority clinical areas defined by the Centers for Medicare and Medicaid Services (CMS), clinical practice needs, and existing evidence.

Each IDMT is comprised of at least 7 members, including one or more of each of the following: a practicing physician with expertise in the relevant imaging studies, a practicing physician with expertise in the clinical topic relating to the AUC under consideration, a practicing primary care physician or practitioner, an expert in clinical trial design, an expert in statistical analysis, and an expert in advanced search techniques. A given team member may have expertise in more than one of these domains.

IDMTs are responsible for identifying and defining clinical conditions that are most pertinent to the care of patients with cancer. Each IDMT has autonomous governance, decision-making authority, and accountability for the AUC developed, modified, or endorsed by that team.

Evidentiary Review Process

Endorsing Existing Appropriate Use Criteria

AUC developed by other qualified provider-led entities will be endorsed when the IDMT determines that the AUC are consistent with MSK standards of care, clinically relevant, and valid for the cancer patient population. IDMTs will develop AUC or modify existing AUC where gaps are identified.

Evidentiary Review

The evidentiary review process is intended to identify the most relevant literature to support the development or modification of AUC. In this type of review, research informationists at the MSK Library develop a literature search based on key concepts within the IDMT-defined clinical condition. The search is designed to identify research studies offering the highest possible levels of evidence, along

with pertinent consensus statements and clinical guidelines. Before developing the search strategy, the informationists meet with the IDMT lead to understand what is being investigated and to document inclusion and exclusion criteria. They also ask if the IDMT recommends any clinically relevant papers that could be used as guidance.

The search strategy development and resulting evidentiary review constitute a selective process of retrieving papers from the literature, based on guidance from the IDMT. At the end of the evidentiary review, the research informationists provide the IDMT lead with the body of evidence found. The IDMT then selects the most relevant and significant papers that lend evidence to the appropriateness of specific imaging modalities for the clinical condition.

Evidence Grading

After the IDMT selects the most relevant and significant papers from the evidentiary review, these papers are independently graded by a research informationist and biostatistician using the formal and widely recognized Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence. As a final step, the IDMT discusses and finalizes the grades.

When no relevant literature or studies are available, or where we need to supplement existing literature, we recognize that MSK's internal cancer care expertise and guidelines may serve as the basis for AUC. In those circumstances, we will clearly indicate when an imaging recommendation is based on consensus-based expert opinion.

Scoring and Publishing Appropriate Use Criteria

Each imaging recommendation is scored based on an MSK-defined scoring system: Usually Appropriate, Sometimes Appropriate, or Rarely Appropriate.

Additionally, the IDMT notes special considerations in oncology care that may help determine when specific imaging exams are appropriate given the patient's individual scenario (e.g., contraindications, risk factors, previous imaging exams, etc.).

Fully developed AUC are posted on the MSK ECIP website.

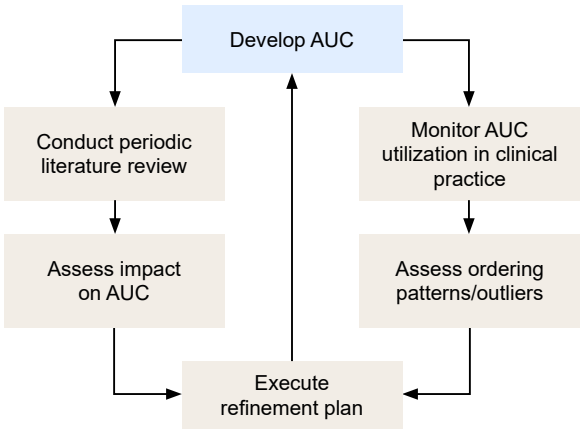

Figure 2: MSK AUC Quality Improvement Process

Continual AUC Quality Improvement

Annual Review

Each IDMT will review AUC it has developed or modified at least once per year. Reviews may be performed more frequently when new evidence is published that may be likely to impact AUC. The evidentiary review process will be repeated, and any new publications or consensus statements identified will be reviewed and assessed according to the methodology outlined above, promoting continual AUC quality improvement. In reviewing AUC, IDMTs will take into consideration all the available evidence, including newly identified and previously reviewed papers, and update or modify the AUC as appropriate.

Clinical Utilization

Monitoring utilization of AUC in clinical practice and assessing ordering patterns will help to identify potential clinical conditions for which more specific imaging guidelines may be required. This will serve as valuable input to the ongoing efforts of the IDMTs to more fully develop our AUC content.

Future Methodology Revisions

Our methodology is continuously being reviewed and may be changed within the limits outlined by the CMS mandate and implementing regulations, as well as any additional CMS guidance that may become available. When and if revised, the amended methodology will be published on the MSK ECIP website.

Effort to Date

Our experience with this effort to date confirms that AUC development requires an iterative workflow that leverages the vast experience and knowledge of the members of our IDMTs and others throughout our institution. In addition, the clinical perspectives of our IDMT members confirm published evidence that high-quality, well-composed, actionable AUC must be specific enough to isolate unique clinical conditions and enhance patient care.