IMPLEMENTING
CLINICAL DECISION SUPPORT
FOR
DIAGNOSTIC IMAGING
IN
YOUR PRACTICE

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Learning Objectives

1. Understand the importance and benefits of clinical decision support (CDS)
2. Understand how to use CDS tools in your workflow to optimize patient care
3. Understand the requirements and timeline of the federal mandate to consult appropriate use criteria (AUC) prior to ordering advanced imaging

How will this module help me?

1. Discusses the benefits of incorporating CDS tools into your practice workflow
2. Provides guidance on using CDS tools
3. Provides resources to help you meet changing regulatory requirements

ACR®
AMERICAN COLLEGE OF RADIOLOGY

Four STEPS to Implementing CDS in Your Practice

STEP 1: Help providers understand the importance and benefits of CDS

STEP 2: Help patients understand the importance and benefits of CDS

STEP 3: Communicate upcoming changes in 2020 and beyond

STEP 4: Integrate CDS tools into your workflow

STEP 5: Evaluate the Impact

Resources

Introduction

The Quadruple Aim of Healthcare is an effort to improve population health, enhance the patient experience, decrease costs, and increase provider well-being. For the healthcare system to succeed at the Quadruple Aim, it is imperative to use imaging as efficiently and effectively as possible. Appropriate diagnostic imaging is a key element of high-value healthcare. Careful selection of imaging exams can expedite diagnoses, reduce unnecessary testing, decrease unnecessary radiation exposure and other risks, and diminish healthcare costs.

Toward that end, providers can now consult appropriate use criteria (AUC) via clinical decision support (CDS) technology at the point of care when ordering advanced diagnostic imaging, which includes CT, MR, Nuclear Medicine, and PET imaging exams. With CDS, healthcare providers can enhance their ability to order appropriate imaging, which can improve patient care and drive down costs.

CDS targets all four goals of the Quadruple Aim by:

- Decreasing radiation exposure via reducing low-value imaging (population health)
- Ensuring the appropriate study is ordered for each patient's condition (patient experience)
- Reducing the number of inappropriate imaging scans ordered (decrease costs)
- Easing the stress of care providers by helping them know the best study to order for their patients (provider well-being)

What is Clinical Decision Support (CDS)?

CDS technology provides the ability to enhance decision making at the point of care by providing physicians and other care team members with relevant evidence-based clinical knowledge. In radiology, the primary goal of CDS technology is to help providers quickly determine the most appropriate type of diagnostic imaging test to address a patient's particular condition.

CDS mechanisms inform physicians regarding appropriate imaging options at the point of ordering based on qualified, evidence-based imaging guidance.[2] CDS technology encompasses various tools to enhance decision making in the clinical workflow, including computerized alerts and reminders to care providers and patients, clinical guidelines, condition-specific order sets, focused patient data reports and summaries, documentation templates, diagnostic support, and contextually relevant reference information.[1]

What are Appropriate Use Criteria (AUC)?

The AUC are developed by national professional medical specialty societies or other qualified provider-led entities (qPLEs), which are then approved by CMS. The AUC assist ordering providers and furnishing providers in making the most appropriate treatment decision for a specific clinical condition for an individual. To the extent feasible, such criteria are evidence-based. An AUC set is a collection of individual appropriate use criteria. An individual criterion is information presented in a manner that links: a specific clinical condition or presentation; one or more services; and, an assessment of the appropriateness of the service(s).

For example, consider a scenario where a patient presents with low back pain that started one week ago (without other red flag symptoms) and requests an MRI. The physician refers to the CDS mechanism and finds the AUC guidance that no imaging is recommended. In this scenario, the physician might recommend conservative management and tell the patient to return if symptoms exacerbate or persist for more than a month.

What is a Clinical Decision Support Mechanism (CDSM)?

A Clinical Decision Support Mechanism is an interactive, electronic tool for use by clinicians that communicates AUC information to users and assists them in making the most appropriate treatment decision for a patient's specific clinical condition. The majority of CDSM tools operate as components of comprehensive electronic health records (EHRs), although standalone systems are also used.[3]

STEP 1: HELP PROVIDERS UNDERSTAND THE IMPORTANCE AND BENEFITS OF CDS

The Provider Perspective on CDS

Providers are increasingly recognizing the importance of imaging appropriateness and the need to focus on high-value care for the benefit of both their patients and their organizations. Health information technologies designed to improve clinical decision making are particularly attractive for their ability to address the growing information overload providers face and to provide a platform for integrating evidence-based knowledge into care delivery. CDS shows the ordering provider the most appropriate examination (if any examination is appropriate) as defined by leading AUC at the point of care.

For CDS tools to be effective, however, clinicians must be motivated to use these systems. This can be a challenge, as clinicians might view these tools as exacerbating the increasingly time-pressured patient care process. Therefore, before embarking on an initiative to implement CDS, it is important to sit down with health system administrators and clinical leaders in your network to gather input. They will be the primary users of the CDS system, so it is imperative to ensure that the technology fits their workflow and adds value to their patient care process before going too far down the implementation path.

Implementing CDS means engaging ordering providers to get them on board. Ideally, this collaborative process should start in the planning phase well before CDS implementation. Ordering providers should be integral in the testing and vetting of the system as they are the ultimate users.

Benefits of CDS

Enhance quality of care

- Reduce variations in clinical practice
- Benchmark against evidence-based standards
- Enable point-of-care recommendations for the best study for patient conditions
- Avoid errors and adverse events (such as ordering a non-contrast study when a contrast exam is indicated or knowing when to recommend surgery vs. taking a more conservative approach to a small bowel obstruction)
- Track improvement efforts
- Identify gaps in care to improve health outcomes
- Potentially earn credit for improvement activities under the Merit-Based Incentive Payment System (MIPS)
- Foster shared decision making with patients
- Improve provider and patient satisfaction

Boost appropriate imaging

- Help patients and payers recognize that providers are ordering appropriate imaging tests
- Avoid unnecessary imaging tests
- Avoid inpatient exams that are better furnished in the outpatient setting
- Lower imaging costs

Improve clinician efficiency

- Offer the potential of eliminating the need for prior authorization (see details below)
- Support risk-based contracting with payers, which can lead to exemptions from prior authorizations

Avoiding Prior Authorization

More than 90 million Americans are currently insured by a payer that requires prior authorization for certain radiological studies through a radiology benefits management company (RBM).[5] A significant value of CDS is its potential to replace prior authorization—resulting in increased clinician autonomy, enhanced patient-centered care, and more cost-effective outcomes. CDS has the potential to lessen the prior authorization burden for all stakeholders:

- **Physicians** are realizing that using CDS to eliminate a preauthorization step or bypass an RBM saves time in delivering patient care. CDS can also provide the evidence providers need to support their imaging recommendations when prior authorization is required. With a transparent, evidence-based CDS system, one that is accepted by an RBM or payer, that prior authorization could be nearly instantaneous. The provider and the patient could receive authorization in minutes, rather than days.
- **Payers** are also considering using CDS scores for appropriate imaging to expedite preauthorization. In fact, some practices are working with their payers to use CDS in place of prior authorization by RBMs.
- **Administrative staff** recognize that CDS can also reduce their administrative burdens. Many RBMs require providers to submit information via fax forms or telephone calls. Challenges to a denial also require significant administrative resources.

Bottom line

The adoption of CDS now enables provider organizations to confidently demonstrate to their payers that they have a mechanism in place for delivering transparent, evidence-based AUC directly into their workflows to guide physician behavior and ensure that patients are receiving the most valuable imaging to guide their care.

The bottom line—CDS can help keep decision making between physicians and patients.

Resources for Providers

VIDEO

Communicating with Patients
To discuss image appropriateness with patients, the ACR developed a video for the Choosing Wisely® initiative that covers how to convey clear information, elicit patient concerns, listen with empathy, and confirm agreement with the patient.

VIDEO

The Value of CDS in a Care Setting
Einstein Healthcare Network Clinical Decision Support Pilot

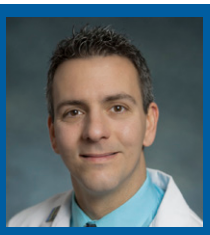
VIDEO

Patient Interaction Before and After CDS
Explaining Imaging Appropriateness to Patients without Clinical Decision Support

Explaining Imaging Appropriateness to Patients with Clinical Decision Support

Choosing Wisely

Choosing Wisely is a resource that promotes conversations between patients and clinicians. This initiative of the ABIM Foundation seeks to advance a national dialogue on avoiding unnecessary medical tests, treatments and procedures. Read more.



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"Ultimately, we need to do what's right for our patients, CareSelect™ allows us to practice in a way that uniformly confirms that we're ordering the most appropriate diagnostic study and enhancing patient safety."

**CareSelect Imaging, developed by the National Decision Support Company®, is one of several qualified CDSM tools available for AUC consultation. Click here for a complete list of CDSM tools qualified by CMS.*

Q&A

Q. What if the ordering provider disagrees with CDS for a specific patient scenario?

A. The final decision always rests with the ordering provider. The guidance is formulated from population-based, peer-reviewed evidence and should never substitute clinical judgement regarding a specific patient. The AUC provide guidance on what is typically appropriate for the average patient. The physician may be aware of clinical or other patient-specific factors that point to a different alternative than the one that the AUC deems most appropriate. Consulting a CDSM provides the ordering provider with alternatives to explore as they determine what is best for his/her patient. As long as the consultation takes place, there is no payment penalty to the ordering or furnishing provider.

Q. Does CDS offer guidance on alternative tests?

A. Yes. The feedback ordering physicians get when using CDS includes potential alternative tests in the context of their patient's clinical scenario. That feedback can be tailored by patient age, gender, clinical setting, the ordering provider's specialty, and other factors. This can help ensure the process is efficient, focused, relevant, and high yield. Other information on costs, radiation dose, and any relevant literature can be offered for additional guidance.

Q. What role do radiologists play in collaborating with ordering providers to ensure the most appropriate exam is ordered?

A. Radiologist and ordering providers collaborate in the development of the AUC guidance that is used in the CDS mechanism. Protecting Access to Medicare Act (PAMA) regulations require that the multidisciplinary team who develop the AUC guidance include primary care physicians, clinical experts, and imaging experts. Ordering providers can consult with radiology if any aspect of the guidance is questioned. Evidence-based guidelines are designed to assist referring providers in making the most appropriate imaging decisions. Radiologists are experts in determining the most appropriate imaging for a patient's condition, when the benefits compared to the potential risks produce the best patient outcomes. Radiologists can work closely with referring providers to improve image ordering appropriateness. For example, if a referring provider orders an imaging exam and the CDS tool alerts of a low appropriateness score, the clinician can engage in a consultation with a radiologist for guidance to order the most appropriate exam. Radiologists' involvement as imaging experts extends from the moment an exam is considered to the time when actionable findings are conveyed to the patient.

STEP 2: HELP PATIENTS UNDERSTAND THE IMPORTANCE AND BENEFITS OF CDS

Fifty-three percent of clinicians say that even if they know a medical test is unnecessary, they order it if a patient insists. Yet, 70% say that after they communicate why a test or procedure is unnecessary, the patient often avoids it.[6]

AUC and CDS tools can be used to help explain to patients why an imaging examination may or may not have been ordered and which examination may be best for their condition. AUC and CDS can also facilitate discussions between radiologists and their referrers to help ensure that the patient gets the right scan at the right time. CDS technology can also help gather data to assist in providing patient-centered care at a lower cost—two key metrics of value-based payment models.

With CDS tools in the exam room, physicians and other members of the care team can engage with patients in shared decision making by discussing information about the benefits and risks associated with various tests, including cost or radiation exposure. It also gives the physician the opportunity to explain the rationale for ordering, delaying, or not performing a test. Informed patients are less likely to demand a test once they understand why it is not recommended.

One example of using CDS to engage patients in shared decision making is the Einstein Healthcare Network in Philadelphia, Penn. In 2017, Einstein's radiology team implemented a CDS algorithm to help ED physicians determine whether or not to order head CTs for pediatric patients. After integrating guidelines from the Pediatric Emergency Care Applied Research Network (PECARN) into its CDS tool, ER physicians reported feeling more comfortable discussing the value of ordering a head CT for pediatric patients with minor head trauma.

Sharing CDS decisions with patients

You might encounter a patient who insists upon a certain imaging study that is of questionable utility. CDS alerts indicating a test is not likely appropriate should trigger a discussion with the patient. To assist you in your patient discussions, CDS tools include literature reviews with evidence supporting the given recommendation.

Training yourself and your care team members, including nurses, nurse practitioners, and medical assistants, about how the CDS tool arrives at a particular appropriateness score will empower everyone to explain to the patient what the decision means and why it was made.

Resources for Patients

ACR Appropriateness Criteria Patient-Friendly Summaries

The ACR regularly publishes the ACR Appropriateness Criteria Patient-Friendly Summaries to present the evidence-based guidelines underpinning the CDS. Co-authored by patients and written in lay language, the summaries help patients better understand which imaging tests may be the most appropriate for their particular condition. The patient-written summaries are part of a larger effort by the ACR to provide more patient- and family-centered resources.

Radiologyinfo.org

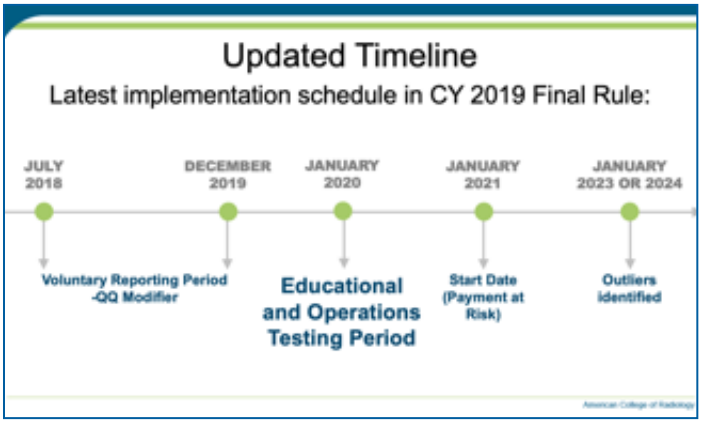
Another valuable resource for physicians is radiologyinfo.org, which offers videos and presentations by radiologists and medical physicists on nearly 200 imaging procedures, exams and medical conditions. The website includes information for patients on how they should prepare for specific procedures, exams or treatments and what patients can expect. Descriptions of how X-ray, CT, MRI, ultrasound, radiation therapy, and various other procedures are performed are presented in lay language.

STEP 3: COMMUNICATE UPCOMING CHANGES IN 2020 AND BEYOND

Protecting Access to Medicare Act (PAMA) requires ordering providers to consult a CDS mechanism that relies on established AUC prior to ordering advanced diagnostic imaging services — CT, MR, Nuclear Medicine and PET — for Medicare Part B patients. In preparation for this change, hospitals and healthcare providers across the country must seek ways to integrate those tools into clinical practice.

The mandate includes a phased rollout from CMS. Starting in July 2018, early adopters entered a voluntary reporting period. As of January 2020, a one-year testing period with no penalties commenced. This education and testing period has now been extended through calendar year 2021. Nonpayment for noncompliance begins January 1, 2022.

Important note: The law does not mandate ordering providers strictly adhere to the AUC, just to consult AUC. There is no "hard stop" to the ordering process; an ordering provider can still request an examination without delay.



March 31, 2014: Congress passes PAMA that includes a mandate to consult appropriate use criteria

Educational and Operations Testing Period

The Medicare AUC rollout began Jan. 1, 2020 with a one-year "Educational and Operations" testing period to allow time for organizations to integrate the AUC consultation into their workflow with no penalties on furnishing physicians for incorrect reporting. The educational and operations testing period was extended through Dec. 31, 2021. During this time, furnishing physicians will need to include on their claims for advanced diagnostic imaging services (professional, technical, and global services) the following information:

- The ordering provider's NPI
- Which CDSM was consulted
- Whether the service ordered would or would not adhere to consulted AUC or whether consultation is not applicable to the services ordered

Again, for this testing period, payment is not at risk for any mistakes in reporting.

Start Date 2022: When Payment Is at Risk

Beginning Jan. 1, 2022, if an ordering provider does not satisfactorily use the AUC process, technical and professional component reimbursement for the furnishing provider (primarily radiologists) might be denied. No furnishing providers in outpatient hospital settings, offices, independent diagnostic testing facilities, or ambulatory surgical centers can receive Medicare payment for these examinations if the ordering provider does not document the AUC consult.

To receive payment for their services, furnishing providers must also document each consultation by including information generated by the CMS-qualified CDSM into the Medicare claim. Furnishing providers cannot perform AUC functions for ordering providers.

Furnishing providers can refuse Medicare referrals without appropriate documentation of an AUC consultation by the ordering provider, with a few exceptions as outlined below. This is also true for prior authorizations for commercial health plans where, if there is no prior authorization completed, the furnishing provider generally does not perform the service.

Inclusions and Exemptions

This program impacts all physicians and other practitioners who order advanced diagnostic imaging services—including CT, MR, Nuclear Medicine and PET. The rule also includes physicians, practitioners and facilities

that furnish advanced diagnostic imaging services in a physician's office, hospital outpatient department (including the emergency department), an ambulatory surgical center or an independent diagnostic testing facility and whose claims are paid under the Medicare Physician Fee Schedule, hospital outpatient prospective payment system or ambulatory surgical center payment system. Exams performed in the inpatient and critical access hospital settings are exempt. Again, emergency department exams are included in this rule — except for the most emergent cases as defined under The Emergency Medical Treatment and Labor Act (EMTALA).

The U.S. Department of Health and Human Services (HHS) may make limited exceptions for rural providers with limited internet connectivity, including:

- Insufficient internet access (e.g., rural areas)
- EHR or CDSM vendor issues (e.g., technical problems, installation or upgrades temporarily impede access to CDSMs, vendors cease operations or CMS de-qualifies a CDSM)
- Extreme and uncontrollable circumstances (e.g., man-made or natural disasters; area infrastructure issues)

Q&A

Q: What happens if an ordering physician consults the AUC prior to ordering a study, but ultimately decides on a different approach than what the guidelines suggest?

A. The final decision for which study to order always rests with the ordering provider. CDS aims to help clinicians practice in a uniform, evidence-based manner; it is not meant to be a substitute for complex medical decision making. The AUC provide guidance on what is typically appropriate for the average patient. The physician may be aware of clinical or other patient-specific factors that point to a different alternative than the one that the AUC deems most appropriate. Consulting a CDSM provides the ordering provider with alternatives to explore what is best for the patient. As long as the consultation of the AUC takes place and is documented, there is currently no payment penalty to the referring or rendering physicians.

In the future, CMS will review the interactions to determine "outliers"— ordering providers who have low adherence rates to AUC and who will be subject to additional prior authorization processes for the exams they order. According to CMS, the outlier algorithm will be defined as part of the 2020 rule-making process.

Q: Can the CDSM consult be placed by non-physician staff?

A. Yes, the CDSM consult can be delegated to a licensed clinical staff acting under the ordering provider's direct supervision.[4] Clinical staff members must have adequate clinical knowledge to consult the AUC and report results back to the ordering provider, who is ultimately responsible for the order. For more information, consult the CMS website about AUC.

STEP 4: INTEGRATE CDS TOOLS INTO YOUR WORKFLOW

The CDS implementation team should include network administrators, ordering providers, radiologists, and IT personnel. As is typical with major change efforts, there are challenges both in optimizing the workflow and user interface as well in changing culture.

Clinicians can access imaging AUC via a standalone electronic CDS system or by software embedded into an EHR. Either way, the CDSM provides a portal through which clinicians can easily access AUC at the point of care to determine whether an imaging order adheres to the guidelines.

CMS has specified that only qPLEs can create AUC. A qualified PLE is a national professional medical specialty society or other organization comprising providers or practitioners who predominantly provide direct patient care. Once a PLE is qualified, its AUC guidelines are considered by CMS to be specified as applicable AUC.

AUC and CDS Tools

AUC Guidelines

Qualified PLEs, like the American College of Radiology (ACR®), provide AUC guidelines for CDS, such as the ACR Appropriateness Criteria®. In June 2016, CMS named the ACR as one of several qualified PLEs for imaging AUC. This means ordering providers can consult ACR Appropriateness Criteria to fulfill impending PAMA requirements for consulting CDS prior to diagnostic imaging in Medicare patients.

ACR Appropriateness Criteria are guidelines based on evidence that shows that imaging tests and treatment work for about 300 commonly encountered medical problems. The guidelines were written by panels of experts, representing a wide range of clinical specialties, and focus on which imaging tests physicians should, or should not, order for different patient symptoms, medical histories, and health status.

Using well-established criteria, the recommendations are reviewed every year using an expert panel of various medical specialists who consider the latest research. If the research evidence is insufficient, or evidence for the right treatment or imaging test is not clear, the panel uses expert opinions to develop their recommendations.

CDS Systems for Imaging

Several qualified CDSM tools are available for AUC consultation. One of those CDSM tools is CareSelect® Imaging, which uses the ACR Appropriateness Criteria and other qualified, evidence-based guidelines to help providers order the most appropriate imaging for specific clinical conditions. CareSelect Imaging can be integrated with all major computerized ordering and EHR system. Providers interact with AUC guidelines within their native EHR workflows. Click here for a complete list of CDSM tools qualified by CMS.

Free CDS Web Portal

The ACR Appropriateness Criteria are offered at no cost to physician referrers' office-based EHRs. CareSelect Imaging – Open Access is also freely available to all providers via a web portal, which includes the entire set of AUC, not just the priority clinical areas, making this tool a valuable reference and educational tool to determine the correct test for patients

CDS R-SCAN Registry

To familiarize ordering providers and radiologists with accessing AUC and using CDS ahead of the PAMA mandate, the ACR developed a no-cost tool: the Radiology Support, Communication and Alignment Network (R-SCAN®). R-SCAN is a collaborative action plan that brings radiologists and ordering providers together to improve imaging appropriateness through the use of CDS and provide appropriate care to patients.

The CDS R-SCAN Registry provides facilities with access to their image-ordering clinical decision support data that correspond to imaging Choosing Wisely recommendations in the R-SCAN program, CMS Priority Clinical Areas , and several other imaging areas. The registry data can identify imaging exam ordering patterns for some of the most commonly ordered exams to pinpoint areas where best practices are being followed as well as areas in need of improvement.

Qualified Provider Led Entities

CMS posts an updated list of qPLEs that provide applicable AUC guidelines on its website.

CDS Mechanisms

CMS posts an updated list of tools that adhere to the qualified CDSM requirements on its website.

Integrating CDSM into the EHR

CDSM tools can be modules within or available through EHR technology for health systems that want to leverage their EHR to develop an enterprise-wide standard of care for advanced imaging and enable broad compliance with PAMA legislation. With a fully embedded CDS platform, ordering providers interact directly with the CDSM through their primary user interface, minimizing interruption to the clinical workflow.

To achieve good outcomes with a CDS tool that is integrated into an EHR, it is necessary to ensure that it fits with existing EHR technology and is integrated into the clinician workflow at the point of care. For clinicians, fit involves usability and usefulness, and is often measured by productivity and accuracy in completing the required tasks. At the practice or clinic level, fit can involve integration with other clinic-wide applications, registry reporting, user feedback, compliance, organizational culture, management structure, and reward systems.

Assessment of how a CDS tool will fit into the workflow should be done at the beginning of the implementation process. Once the workflow is analyzed, it will be possible to make decisions on how to use CDS to improve processes. Including the IT/EHR support team is crucial.

Outside the EHR

Providers who do not place orders within the EHR will still need to consult CDS via one of the tools above. It is important to consider these providers in the implementation planning process, e.g. providing a custom portal to facilitate appropriate orders.

Conclusion

Careful selection of imaging exams can expedite diagnoses, reduce unnecessary testing, decrease radiation exposure and other risks, and diminish healthcare costs. CDS tools and resources can empower physicians and inspire them to engage patients in dialogue and shared decision making. Providers should consult AUC via a qualified CDSM when ordering advanced diagnostic imaging for Medicare Part B patients. As part of this change, hospitals and healthcare providers across the country must seek ways to integrate those tools into clinical practice.

STEP 5: EVALUATE THE IMPACT

Once CDS is operational and providers are consulting AUC when ordering advanced diagnostic imaging, it's imperative to assess its impact on providers, patients, and the health system. Consider these key opportunities for evaluation and assessment of results.

Assess impact on provider workflow

Communicate regularly with healthcare providers about how the tools are working in their specific workflow and provide training and adjust processes as needed to enhance effectiveness.

Assess improvement in ordering of appropriate imaging

Use tools and information in the CDS system to evaluate the appropriateness of image orders and determine the impact on reducing unnecessary imaging. Identify situations and providers where orders fall outside of guidelines and provide educational intervention to enhance appropriate imaging.

Assess patient perceptions about shared decision-making

Conduct patient evaluation surveys to gather feedback about the value of patient-facing educational efforts on increasing understanding of appropriate imaging.

As with any quality improvement project, evaluating progress and continued areas for improvement is an important last step.

References

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3. HIMSS. 2019. Clinical Decision Support. www.himss.org/library/clinical-decision-support
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Take the Quiz

1. After the testing period with no penalties, when will nonpayment for compliance with the required AUC consult kick in?

a) Dec. 31, 2020
b) Jan. 1, 2022
c) Not yet determined by CMS

2. Which one of the following is a benefit of consulting CDS prior to ordering advanced imaging exams?

a) Shared decision making with patients
b) Increased quality of care and enhanced health outcomes
c) Lower imaging costs
d) Demonstration of appropriate imaging
e) Potential to eliminate prior authorization
f) Increased provider and patient satisfaction
g) All of the above

3. Which exams are NOT exempt from the requirement to consult AUC via CDSM at the point of care?

a) Routine emergency department exams
b) The most emergent cases in the emergency department
c) Inpatient exams
d) Rural providers with limited internet connectivity

4. To meet the federal requirements, an AUC consult must be documented via:

a) A physician-written note in the patient's EHR
b) A radiologist's note in the patient's EHR
c) A CMS-qualified CDSM
d) An email or phone call to CMS

5. _____% of clinicians say that even if they know a medical test is unnecessary, they order it if a patient insists.

a) 27%
b) 53%
c) 66%
d) 81%

6. _____% of clinicians say that after they speak with a patient about why a test or procedure is unnecessary, the patient often avoids it.

a) 30%
b) 50%
c) 70%
d) 80%

Answers: 1b, 2g, 3a, 4c, 5b, 6c

RESOURCES

CDS RESOURCES

- ACR: Clinical Decision Support
- R-SCAN
- AUC Navigator
- Radiology-TEACHES

ARTICLES

- What Can Clinical Decision Support Do for Your Practice?
- Radiology Benefit Managers: Cost Saving or Cost Shifting?
- Owning Clinical Decision Support
- Applying the AUC in a CDS program is necessary and worthwhile

IMPLEMENTING CDS IN PRACTICE

- Impact of a Commercially Available Clinical Decision Support Program on Provider Ordering Habits

WEBINARS

- ACR and RBMA Get You Ready for the Medicare AUC Mandate
- Slide deck | Webinar Q+A
- Ahead of the Curve: Radiology Practice as Catalyst for System-wide Clinical Decision Support
- PAMA AUC Deadline is Firm—Prepare Now for 2020
- Be PAMA AUC Ready: Act Now

VIDEOS

- CDS: Before and After
  - BEFORE: Explaining Imaging Appropriateness to Patients without Clinical Decision Support
  - AFTER: Explaining Imaging Appropriateness to Patients with Clinical Decision Support
- Einstein Healthcare Network Clinical Decision Support Pilot
- Clinical Decision Support for Appropriate Imaging

CASE STUDIES

- Ahead of the Curve
- Stewards of Value
- Preparing for PAMA
- Championing CDS
- Training for CDS Implementation

MATERIALS

- How PAMA Affects Orders for Imaging
- Medicare Learning Network AUC for Advanced Diagnostic Imaging Fact Sheet

EXPERIENCES AND RESEARCH

University of Virginia:

- As value-based care takes hold, radiology takes on a new focus
- What UVA's experience reveals about the value of CDS
- Clinical decision support benefits radiology trainees, significantly improves appropriateness scores
- The Surge Before the CDS Storm

Aurora/ MIT Study:

- Clinical Decision Support software may hold the key to guiding providers toward better healthcare, according to new research from MIT Sloan
- Study shows use of new software may reduce expensive diagnostic imaging
- MIT study finds decision support software trims imaging exams
- Clinical decision support for high-cost imaging: A randomized clinical trial

Colorado Permanente Medical Group:

- How Kaiser cut the clinical decision support noise
- CDS makes 'modest, but significant' impact on imaging order appropriateness
- CDS prompts appropriate advanced imaging orders
- Randomized Clinical Trial of a Clinical Decision Support Tool for Improving the Appropriateness Scores for Ordering Imaging Studies in Primary and Specialty Care Ambulatory Clinics

Institute of Clinical Systems Improvement (ICSI) in Minnesota:

- Statewide Initiative Launched to Help Ensure Patients Receive Appropriate High-Tech Diagnostic Imaging Exams
- Minnesota Spreads Statewide Decision Support Option for High Tech Imaging Orders: Real Time at the Point of Order
- A medical-testing lesson from Minnesota: Less can be more