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Knowledge Activity: Cause and Effect: CDS Evaluation (Baccalaureate)

Learning objectives

1. Differentiate the roles and responsibilities of various providers and disciplines to support documentation requirements throughout the continuum of healthcare. (5)
2. Utilize health information to support enterprise wide decision support for strategic planning. (3)
3. Apply policies and procedures to ensure the accuracy and integrity of health data both internal and external to the health system. (3)
4. Utilize tools and techniques to monitor, report, and improve processes. (3)
5. Utilize data for facility-wide outcomes reporting for quality management and performance improvement. (3)
6. Utilize technology for data collection, storage, analysis, and reporting of information. (3)
7. Assess systems capabilities to meet regulatory requirements. (5)
8. Take part in the development of information management plans that support the organization's current and future strategy and goals. (4)
9. Take part in the planning, design, selection, implementation, integration, testing, evaluation, and support of health information technologies. (4)
10. Discover threats to data integrity and validity (3)
11. Appraise current laws and standards related to health information initiatives. (5)

Student instructions

1. If you have questions about this activity, please contact your instructor for assistance.
2. You will review a de-identified patient chart to complete this activity. Your instructor has provided you with a link to the **Cause and Effect: CDS Evaluation (BS)** activity. Click on **2: Launch EHR** to review the patient chart and begin this activity.
3. Refer to the patient chart and any suggested resources to complete this activity.
4. Document your answers directly on this activity document as you complete the activity. When you are finished, you will save this activity document to your device and upload this activity document with your answers to your Learning Management System (LMS).

The activity

Meaningful Use, Stage 2 states that providers must use clinical decision support to improve performance on high-priority health conditions. (Health IT.Gov, 2016) One of the measures for eligible providers is to implement five clinical decision support (CDS) interventions related to

four or more clinical quality measures at a relevant point in patient care. In this activity, you will learn about CDS, find examples of CDS in an EHR, and evaluate these examples.

According to Centers for Medicare and Medicaid Services (CMS), "CDS is not simply an alert, notification, or explicit care suggestion." CMS describes clinical decision support as, "HIT functionality that builds upon the foundation of an EHR to provide persons involved in care processes with general and person-specific information, intelligently filtered and organized, at appropriate times, to enhance health and healthcare." (Centers for Medicare and Medicaid Services, 2014)

The Central Clinic would like to enhance EHR-assisted CDS. The clinic director has asked you to evaluate existing CDS and make suggestions for enhancements based on best practices. Please review the Resources that accompany this activity under **1: Overview and Resources** and follow the instructions to complete the audit. Then answer the questions found at the end of this activity.

What topics constitute clinical decision support (CDS)? This activity will cover 4 CDS topics:
- CDS Topic: Smart documentation forms to ensure the provider collects all relevant data
- CDS Topic: Order sets, care plans, ordering templates, and reference information for protocols
- CDS Topic: Critiques and Warnings: "Immediate alerts" and pop-ups
- CDS Topic: Reminders for preventative care, textual or timed alerts for the health team

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Questions

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CDS Topic: Smart documentation forms to ensure the provider collects all relevant data

Smart documentation forms: The Central Clinic medical director's suggestion for improvement is to bring latest vitals, labs, problems, and current medication orders into the note. Her recommendation is to, "implement CDA within note templates to enable the use of clinical data objects and make it easier to produce a CCD."

1. What is CDA?

   Clinical Document Architecture

2. What is the CCD?

   Continuity of Care Document

3. In plain English, what does the medical director's recommendation mean for the EHR?

   Provides simplicity to reading and recording information efficiently

CDS Topic: Order sets, care plans, ordering templates, and reference information for protocols

Care Plans: Review the EHR open the existing care plan for "Smoking Cessation." Click on the existing Care Plan title to view the details. Examine how to add a new intervention by clicking on the plus sign to the right of Interventions/Activities.

4. Do the care plans have pre-populated protocols and decision-support built in? How can you tell?

   CDS can be provided in various ways, including interruptive activities such as "pop-up" alerts, information displays or links (such as InfoButton), and targeted highlighting of relevant data. The key is that the information is presented when relevant to those who can act on the information and in a way that supports the completion of the right action.

5. What is/are your suggestion(s) for improvement of care plans as it relates to CDS?

   This method supports clinical workflow but does not interrupt the provider's thought process or risk that an alert will be ignored due to "alert fatigue."

6. Discuss potential risks of your CDS improvement suggestions.

   One risk is assuming that all CS systems are alike

Ordering templates: Review the three orders on the Orders Tab by clicking on an order and viewing the Order Details. Close the order details view and press the "New" button to add a new order. In the Category dropdown, select "Scheduled Meds," note the order entry fields for a scheduled med. Next, using the Category dropdown, select "Prescriptions." Note the order entry fields for a prescription.

7. Are the ordering templates for Scheduled Meds and Prescriptions examples of CDS? Why or why not?

   Yes. Smart Documentation Forms, such as intelligent referral forms or templates that help

ensure that the referring provider sends all necessary information

Reference Information: Review the problem list on the Problems Tab. Click into any problem to view the Problem details. Under the Resources for the problem, press the Medline Plus button.

8. What happened when you selected the Resources Medline Plus button? How is this an example of CDS?

    As a service of the National Library of Medicine (NLM), you are directed to the curated consumer health information

CDS Topic: Critiques and Warnings: "Immediate alerts" and pop-ups

Immediate pop-up alerts: Follow the instructions to initiate an immediate alert in an example of trying to administer a wrong medication or discontinued order. On Meds Tab, choose "Administer" enter MR# 9999999 and press Next. Then type in the drug barcode id for the ordered Tetanus injection, 204527SY1, press Next.

9. What happened? Be specific.

    Order not found

10. What kind of CDS is this?

    Critiques and Warnings – "Immediate Alerts"

11. Is this an appropriate use of this type of CDS? Why or why not?

    Yes. It's guidance on using CDS interventions to improve care delivery and outcomes

12. What is one draw-back or risk of this type of CDS?

    These functionalities may be deployed on various platforms but are not intended to replace clinician or patient judgment.

13. Based on the best practices for CDS, how could this example of CDS be improved?

    Providers may consider a wide range of CDS interventions and should choose those that work best within their care delivery setting. For example, upon opening an adolescent

patient's electronic record during a patient visit, the provider may be informed of a recommendation to conduct an age-appropriate depression screening. While interacting with a provider-chosen assessment tool, the patient's positive findings also prompt a shared care plan tool and an option to order a referral to a mental health provider.

14. Give other examples of smart places to have an immediate alert warning

CDS is not simply an alert, notification, or explicit care suggestion and goes on to describe non-alert CDS examples, including disease-specific order sets and documentation forms/templates

CDS Topic: Reminders for preventative care, textual or timed alerts for the health team

Clinical reminders: Review the information in the patient info bar at the top of the EHR and on the Alerts Tab. Click into the Reminder Due icon on the patient info bar (the red clock with a 1 next to it).

15. What is the overdue Clinical Reminder for?

Hgb A1C lab test

16. What is the frequency schedule for this preventative health task?

Repeat A1C in 3 months

Textual or times alerts: Go to the Labs Tab to see when the Hgb A1C was last resulted.

17. When was the last Hgb A1C result documented?

06/01/2021 20:34

18. What type CDS is associated with the latest Hgb A1C result on the Labs Tab?

Event-driven and Reminders

Clinical reminders: Return to the overdue Clinical Reminder on the Alerts Tab. Select this Reminder and choose "edit" Update the "Last Completed" field to the date of the last Hgb A1C result you found in the Labs Tab. Press Save.

19. What happened in the EHR?

    Next Due: 09/01/2021

    Reminder Status: Not Due

20. How could the clinical Reminder you reviewed be enhanced through further CDS? (Provide a specific example.)

    To provide a framework of decision support best practices and a foundation for future design and evaluation of decision support interventions, gathering and synthesizing expert opinions on clinical decision support best practices can provide a jumping-off point for future discussion of CDS best practices and encourage new areas of research in this field

Critical thinking questions

21. Give an example of role or discipline-specific CDS.

    Although alert overrides by providers have been the focus of many evaluations, some overrides are justifiable because of clinical irrelevance, patient tolerance, or the provider's documented intention to monitor the patient. Likewise, some alerts are inappropriate, and adhering to the alert advice could cause harm to the patient

22. What is your recommendation(s) for CDS following your review? Be specific.

    Determining the type of collaboration and communication requires understanding who will be affected by the intervention and their role. This may need mapping workflows to understand each stakeholder's role in clinical processes involved by CDS and also to build relationships to understand who will be essential to the implementation team

23. The Central Clinic implements a CDS order set for community-acquired pneumonia. What types of data should be used to identify patients who are appropriate for the order set?

    The CAP alert is adapted from community-acquired pneumonia (CAP) management tool called CURB-65. The Infectious Diseases Society of America (IDSA) and the American Thoracic Society (ATS) recommend two validated tools for assessing the severity of CAP during the diagnostic process. The most actionable tool in an ambulatory care setting is the CURB-65 tool because it depends upon the availability of only five clinical data elements commonly collected for patients presenting with symptoms suggestive of

pneumonia. This tool calculates a severity score and recommended site of care while placing a low burden on the clinician and includes the following measures: confusion, uremia, respiratory rate, low blood pressure, and age 65 years or older. Required to be included in EHRs as part of the Centers for Medicare & Medicaid EHR incentive program, the general clinical data elements that make up the CURB-65 include demographics, vital signs, and lab tests

24. Based on your review, if the Central Clinic writes fewer than 100 medication orders during the reporting period, how could the Clinic meet Measure 1 criteria of Stage 2 Meaningful Use core measure 6 of 17 Clinical Decision Support Rule?

Eligible Professionals (Eps) must attest YES to implementing five clinical decision support interventions and enabling and implementing functionality for drug-drug and drug-allergy interaction to meet this measure. EXCLUSION: For the second measure, any EP who writes fewer than 100 medication orders during the EHR reporting period.

Additional information includes:

1) If none of the CQMs apply to an EP's scope of practice, the EP should implement CDS interventions that they believe will drive improvements in the delivery of care for the high-priority health conditions relevant to their patient population

2) CMS will not issue additional guidance on selecting appropriate clinical decision support rules for Stage 2 Meaningful Use. This determination is best left to the EP, taking into account their workflow, patient population, and quality improvement efforts

3) The need for inclusion of attributes for each CDS intervention also applies to drug-drug and drug-allergy interventions as well as interventions based on self-generated evidence

4) Drug-drug and drug-allergy interaction alerts are separate from the five clinical decision support interventions and do not count towards the five required for this first measure

5) To meet this objective and measure, an EP must use the capabilities and standards of CEHRT at 45 CFR 170.314(a)(8) and (a)(2)

Submit your work

Document your answers directly on this activity document as you complete the activity. When you are finished, save this activity document to your device and upload this activity document with your answers to your Learning Management System (LMS). If you have any questions about submitting your work to your LMS, please contact your instructor.

References

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