Ashna Patel
Health Information Systems HW 4

1. EHR vendor product review (25 points)
a. Select an EHR product via online search. View an online demo, if available, for the EHR you have selected. If not, browse through the descriptions of the product and summarize them. (15 points)
-   Athenahealth's Electronic Health Record (EHR) system, part of the athenaOne All-in-One Medical Software & Services suite, is a cloud-based solution designed to streamline clinical workflows and enhance patient care. The platform offers intuitive and customizable features to reduce documentation time and improve the clinician experience. These include best-practice templates, macros, accelerators, Pre-Encounter Prep, and Focused Encounter tools. Specialty-specific workflows allow tailoring of the documentation process to meet the unique needs of various medical specialties. Additionally, the athenaOne mobile app lets physicians document encounters on the go, utilizing their pre-existing workflows and accelerators. The mobile app also lets physicians document patient encounters in real-time and accomplish other clinical work hands-free with athenaOne Dictation and athenaOne Voice Assistant Powered by Nuance®. The EHR also provides medical solutions based on previous interactions that are documented within their network to provide care recommendations whenever physicians require.

b. Post the EHR link you have explored along with some comments (3-5 distinct comments) on the main features of the chosen system on the Discussion forum titled 'EMR/EHR Systems' on the course Canvas site. (10 points)
-   https://www.athenahealth.com/solutions/electronic-health-records

2. CRS use (75 points)
User id/password for admin functions and vitals: staff/1; User id/password for physician encounter: physician/1
2a. Use the CRS application in IE (http://68.5.244.162:8080/) to create a NEW patient and complete an entire office visit for this patient including scheduling an appointment (choose the minutes as well as the hour), checking in, taking vitals, encounter with physician where all components are completed (history, physical, medications, orders, assessment and plan, etc. etc.), reminders are generated and responded to, and finally, checking out. Save the summary of the visit as a pdf file and submit as part of this assignment. Sign, save and close the encounter before you logout of the session. Document and report the time taken for each task, i.e., between log in and log out of each step of the workflow, by each end-user (staff, physician, and so on). Your assignment will be evaluated on how comprehensively and accurately you utilized the features of the application, such as detailed history and physical, social and family history, past and current medications, diagnoses, procedures, tests, orders, etc. and completed the necessary documentation about the patient's condition. You may need to access Internet resources to gather needed information such as pulse rate, respiration rate, diagnosis, medications, etc. rather than making up arbitrary values for these data elements. You may also

need to review journal articles about EHR deployment and use. Please cite references appropriately. (25 points)

BILLIE EILISH, TUESDAY, FEBRUARY 11, 2025, 05:00 PM - 05:30 PM

Action	Date/Time	Span from Last Action (m)
1. Appointment scheduled	02/11/2025 01:37 PM	--
2. Checked in	01:41 PM	--
3. Started taking vital signs	01:41 PM	0
4. Vital signs taken	01:50 PM	8
5. Started encounter	01:54 PM	3
6. Resident signed off	02:07 PM	13
7. Checked out	02:11 PM	3

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References:
Mayo Foundation for Medical Education and Research. (n.d.). *Strep throat*. Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/strep-throat/symptoms-causes/syc-20350338

2b. Repeat the exercise for a follow up visit for the same patient. Note that for a follow up visit, only a limited set of features that are necessary for the presented health condition/patient requirement will be reviewed, accessed, and data entered. Document the time taken for such a follow-up visit by each end-user (staff, physician, etc.). (10 points)

BILLIE EILISH, TUESDAY, FEBRUARY 11, 2025, 09:00 PM – 09:20 PM

Action	Date/Time	Span from Last Action (m)
1. Appointment scheduled	02/11/2025 02:11 PM	--
2. Checked in	02:12 PM	--
3. Started taking vital signs	02:12 PM	0
4. Vital signs taken	02:13 PM	0
5. Started encounter	02:14 PM	0
6. Resident signed off	02:17 PM	3
7. Checked out	02:18 PM	0

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2c. List some of the clinical workflow issues caused by (inter)dependencies between the tasks, especially when performed by different roles. (5 points)

- There could be delays when taking the patient's vitals as a staff member must do that, not the physician. If the staff member is already dealing with other tasks such as checking people in and out, they may take some time to get the patient's vitals taken, causing a backlog to start forming. Additionally, if the physician forgets to sign and end a patient's visit, this may cause issues as staff would not be able to check the patient out.

2d. How is medication reconciliation handled in CRS? What are some gaps in the solution? (5 points)
- The CRS just allows you to list the medications a patient is taking or has taken. However, if the patient is taking 2 medications that should not be mixed, the CRS is unable to flag that and raise an alert. This is a huge gap as it could lead to medication errors that could result in adverse drug effects.

2e. Describe two exit strategies (exception handling procedures) that have been implemented in the application. Why are exit strategies important to monitor and evaluate? (10 points)
- One exit strategy is the data entry exit strategy that lets physicians put in a temporary documentation for diagnoses or medication prescriptions under a "Zero Code". Data entered using this code are highlighted so they can be easily revisited and updated.
- Another exit strategy is the "Other" category within the "Review of Systems" and "Physical Exam" forms in case the predefined option within these forms are not applicable to what the physician wants to note down.
- It is important to monitor and evaluate exit strategies to make sure they are not being misused. Using exit strategies is to help prevent delays when adding information to a patient file however extensive use could lead to errors in the system's flagging and the loss of important patient information. Exit strategies are meant only for the handling of extreme situations and therefore if physicians or residents are routinely using exit strategies, it is important to determine why and rectify the situation if necessary.

2f. Document the challenges CRS users face in using EHR technology, particularly drawing on the PEIT framework and ALL its components. (10 points)
- CRS users may face pitfalls if their physicians refuse to utilize the system. If a staff has checked a patient in but the physician refuses to update the encounter memo and sign off on the end of the visit, this would cause issues.
- CRS users may face factors issues in terms of outdated technology and the number of processes that are affected by using the CRS. Since the CRS is not the most up to date, there may be issues with how well it tracks information as well as raises errors for incorrect filing or care errors. Additionally, since the CRS aims to move multiple processes online such as patient complaints, vital measurements, medication prescribing, lab test ordering, and more, there will be a lot of processes that faculty will have to learn to perform on the CRS which may cause difficulties.
- Lastly, in terms of managerial strategies, CRS users may have issues with learning how to use the EHR technology. In order to remedy this, there would need to be a lot of preparation which would include training, communicating the need for help, and ensuring

all staff members know how to use the technology and where to go for help. This all requires a lot of planning and time to implement successfully.

2g. Based on the readings on EHRs posted on Canvas in the Readings folder for this week, list some takeaways regarding the adoption and use of EHRs at the point of care. (10 points)
- The readings purport that EHRs can save a lot of time for physicians. Decision-support systems within EHRs can also help act as a second opinion for diagnosis and prescribing for physicians which can help avoid errors. Using large amounts of data and machine-learning, EHRs are also able to flag potential medication dosing errors, identifying rare diseases, and identifying preventive care gaps.