Health and Fitness

Milestone 9 – CSCI 435 – Spring 2025

*Please be sure that you complete all pages of this worksheet. Some sections may begin on new pages, so you may need to scroll past any blank space.*

*As you read the background material, fill in the answers to the following questions inside the provided boxes (1x1 tables). You do* ***not*** *need to write complete sentences for questions that ask for a short answer. Paragraph or bullet form is acceptable for questions that require an explanation or description.*

1. True or False? Adverse consequences related to collected health data can occur years after the data are collected.

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2. What federal law (the acronym is fine) requires the Secretary of Health and Human Services to create privacy regulations for individually identifiable health information?

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3. True or False? Federal law permits individually identifiable health information collected by a doctor’s office to be disclosed in cases of domestic violence.

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4. True or False? Federal law permits individually identifiable health information collected by a doctor’s office to be disclosed to law enforcement for the purpose of identifying a suspect.

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5. True or False? Federal law permits individually identifiable health information collected by a doctor’s office to be disclosed to a national intelligence agency.

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6. True or False? A woman who miscarries or experiences a stillbirth cannot be charged with a crime, since she is protected by federal privacy laws.

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7. Suppose a doctor creates a detailed record about a patient’s medical history. This record doesn’t contain the patient’s ID number, name, or any other identifying information. Is this record protected under HIPAA?

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8. Suppose a pharmacy maintains a database record about a person, and this record contains the person’s name, address, phone number, and email address. This record doesn’t contain any information about the medications the person has been prescribed. Is this record protected under HIPAA?

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9. Assume that WebMD is using Internet tracking techniques, such as cookies and browser fingerprinting, to identify an individual. WebMD associates that individual with the medical problems they research on the site. Is this information protected under HIPAA?

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10. Suppose that a mapping app (not provided by a medical professional) on a woman’s phone tracks her location to an out-of-state abortion clinic. Is this location information protected under HIPAA?

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11. Can a network-connected pacemaker be hacked?

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12. What is the two-word name that Microsoft has given to Chinese hackers who are attempting to infiltrate IT supply chains?

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13. What three-word term (or acronym) refers to a piece of legitimate-looking malware that gives an attacker continuous access to an infected system over the Internet?

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14. True or False? In 2025, it was conclusively shown that the Contec CMS8000 patient monitor contained a backdoor that transmitted protected health information to the Chinese government.

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15. Suppose you need to have a medical device implanted. Your surgeon gives you two options: a device with WiFi connectivity and one that does not have remote access. Assuming that your health will be equally fine with either device, which one is a better choice for privacy and security?

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16. When purchasing condoms at a pharmacy self-checkout machine, are your purchase details protected by HIPAA?

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17. It is a good idea to sign up for the CVS ExtraCare Rewards at the Pharmacy program?

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18. True or False? GoodRx is subject to HIPAA.

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19. In early 2025, which state demanded the prescription records of anyone who had recently filled a prescription in the state?

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20. A pharmacy offers you a discount program to save a few dollars on your prescription. What rights are you likely going to have to give up in order to get the discount?

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21. True or False? A company that offers a direct-to-consumer DNA test is subject to HIPAA.

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22. True or False? Under federal law, a life insurance company can discriminate against people based upon their genetic information.

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23. True or False? Under federal law, a DNA testing company must obtain the consent of the person whose DNA is collected for the test.

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24. What 3-word term (or acronym) refers to a law enforcement technique that combines DNA information with data from commercial genealogy sources to identify potential suspects?

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25. True or False? Nobody knows how many federal crimes there are.

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26. True or False? If a DNA testing company goes bankrupt, there is no telling what company will purchase its test records during the bankruptcy process.

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27. Suppose a friend or relative gives you a DNA test as a gift. Should you take the test?

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28. True or False? Google’s AI-generated overviews are a great place to obtain accurate health information.

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29. True or False? Apple Health is subject to HIPAA, so data collected by an Apple Watch won’t be used for training AI models.

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30. The lowest body temperature a person experiences during the day, generally during sleep or right at waking in the morning, is called the \_\_\_\_\_ temperature.

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31. True or False? Tracking ovulation data and predicting period timing can reliably be used as an effective form of birth control.

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32. According to the Federal Trade Commission, which app company was notifying Facebook whenever a user got her period?

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33. According to the privacy policy for “men’s health” app Sequoia, will the app ask for explicit consent to collect sensitive information if there is no applicable law requiring it to do so?

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34. What are 3 pieces of information that the xTracker app can record?

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35. Is it a good idea to use an app to track your sexual activity?

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36. How can a sex tracking app collect highly sensitive data about a person who doesn’t even use the app?

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37. True or False? An in-person visit to a counselor or therapist is subject to HIPAA privacy rules.

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38. True or False? All communication with a therapist or counselor via a mental health app is subject to HIPAA privacy rules.

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39. Which mental health app company settled with the Federal Trade Commission in 2024 after it was caught sharing sensitive mental health information with Facebook and Snapchat?

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40. Give one example of an open-source health app for a smartphone.

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41. True or False? Information from an otherwise private, open-source health app can still be collected from your phone if the phone platform itself is compromised.

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42. In the *Hitchhiker’s Guide to the Galaxy*, Ford Prefect changed the description of Earth from “Harmless” to what?

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43. What substance, created by mashing up and flattening a dead tree, can be used for recording health information with little privacy risk and no cybersecurity risk?

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44. From a privacy perspective, is it better to look up and call a medical provider to schedule an appointment or use an app to find a medical provider and schedule the appointment?

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45. True or False? The data collected by a Fitbit are protected by the HIPAA Privacy Rule.

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46. True or False? If you’re using a fitness tracker, you’re probably greatly underestimating the risk of privacy threats posed by the device.

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47. True or False? If you’re using a fitness tracker, you’re probably underestimating the chances that your individual data will eventually be compromised in a data breach.

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48. Suppose your romantic partner wears a Fitbit 24/7. He or she has been coming home late several evenings a week, claiming to be stuck working at his or her regular desk job. You happen to notice in the Fitbit account that your partner’s heart rate is elevated, and a lot of motion is being recorded, on the evenings when he or she is “working late.” What could be happening?

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49. What company currently owns Fitbit?

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50. From a privacy perspective, is it a good idea for the average person to use a Fitbit?

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51. What does the Lovely device do?

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52. True or False? A couple “connecting” by means of a pair of Lovense devices might have their private data shared with third parties.

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53. Which stodgy old magazine, which all our grandmothers undoubtedly at least knew about if not read, now maintains a list of long-distance sex toys?

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54. What company settled a $3.75 million lawsuit for covertly collecting data about the frequency of use and intensity settings of its “smart” vibrators?

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55. What device, lacking an obvious privacy policy, is marketed under the MOOLIGIRL brand name on Amazon?

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56. In addition to having a built-in Telnet server, the Siime Eye device contained what kind of sensor that seems a bit “out of place” for a vibrator?

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57. What two security issues were found with the Vibratissimo Panty Buster?

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58. Suppose you’re in charge of getting a bachelor(ette) party gift for someone you actually like. At the store, you find two nearly identical models of vibrator. One uses AA batteries, while the other one is rechargeable via a USB charger. Which model is safer from a privacy perspective?

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59. Should you accept a “smart” sex toy as a gift?

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60. True or False? Even a person who is sex positive and completely open should be concerned about the privacy and cybersecurity threats posed by connected sex toys.

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61. What two-word term refers to techniques that combine information from multiple sensors, and related information from associated databases, to achieve improved accuracies and more specific inferences than could be achieved by the use of a single sensor alone?

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62. True or False? Health and fitness data can provide an extremely invasive and detailed profile of an individual when they are fused together.

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63. In the fictitious story about Jack, what data are fused to determine that he makes poor choices and shouldn’t be hired by SuperHappy Corporation?

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64. What happened to John in the fictitious story about him, in which his DNA test results and nutrition app data were fused together with a few speeding tickets?

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65. What data lead to Jill’s arrest in her fictitious story?

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66. What happened to Jane in the fictitious story about her, in which data from sex toys, fitness trackers, a diary app, and a mental health app have been fused?

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67. Who was the Ninth Circuit Solicitor in South Carolina in 1989?

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68. Why are surveillance economy companies reluctant to give many details about how much data they collect about people?

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# Submission

*When you have completed this worksheet, export it to PDF format. Upload the PDF file as your Moodle submission for this milestone.*