# Weeks 13 & 14 Overview

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# Study Guide

| Message | **Welcome to Weeks 13 & 14 of Understanding Patient Data!**   * Types of Measurements * Predictive Analytics and The Challenges to Understanding Patient Data |
| --- | --- |
| Reminders | * See the *Discussion Rubric* for grading criteria. * Please review the *Rowan University Academic Integrity Policy*. * No assignment will be accepted for submission after the last day of class. |
| Due Dates | * **DQ 10:**   + Your initial post is due by 11:59 PM ET on Saturday of Week 13.   + Your reply posts are due by 11:59 PM ET on Monday of Week 13. * **Assignment 3 - Mini-Data Project:**   + Submit the completed project by 11:59 PM ET on Monday of Week 14. |

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# Objectives

* The student will be able to research and select types of measures to report.
* The student will be able to contemplate the future of predictive analytics and recognize challenges of working with patient data.

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# Instructions

**Lesson 13**

1. Required reading, text(s):

* Strome, T. (2013). Chapter 10 – Usability and presentation of information (pp.165-181). In T. L. Strome, *Healthcare analytics for quality and performance improvement*. Hoboken, NJ: Wiley Publishers.

1. Required reading, articles:

* Lazar, E. J., Fleischut, P., & Regan, B. K. (2013). Quality measurement in healthcare. *Annual Review of Medicine, 64(*1), 485-496. doi:10.1146/annurev-med-061511-135544
* Rumsfeld, J. S., Joynt, K. E., Maddox, T. M. (2016). Big data analytics to improve cardiovascular care: Promise and challenges. *Nature Reviews Cardiology,* 13(6), 350-359. doi:10.1038/nrcardio.2016.42

1. View the following **Lecture/Voice over PowerPoint:**

* Lecture 7 - *Reporting Measures and Predictive Analytics*

1. **DQ 10.** Respond to the question(s) below for your initial post on the DQ 10 discussion board. Support your responses with a referenced rationale.

* Identify and explain the four (4) categories of quality measures.
* Provide one quality indicator that represents each of the four categories.

Post your initial response by 11:59 pm Saturday. Then, respond to at least three (3) of your peers’ posts on two (2) separate days by 11:59 pm Monday, when the discussion board closes.

**NOTE:** Please be sure to reference the *Discussion Questions Guide* in the *Assignment Outline* section of the syllabus for further details.

**IMPORTANT:** Each student is expected to work on this individuallyand within the confines of the *University Academic Integrity Policy* (see [www.rowanonline.com](http://www.rowanonline.com) for University policy details).

**Lesson 14**

1. Required reading, text(s):

* Strome, T. (2013). Chapter 11 – Advanced analytics in healthcare (pp. 183-204). In T. L. Strome, *Healthcare analytics for quality and performance improvement*. Hoboken, NJ: Wiley Publishers.
* Brown, M. S. (2014). Chapters 17 – Mining data for cues (pp. 295-306). In M. S. Brown, *Data mining for dummies.* Hoboken, NJ: Wiley Publishers.
* Brown, M. S. (2014). Chapters 18 – Expanding your horizons (pp.307-318). In M. S. Brown, *Data mining for dummies*. Hoboken, NJ: Wiley Publishers.

1. Required reading, articles:

* Brennan, N., Oelschaeger, A., Cox, C., & Tavenner, M. (2014). Leveraging the big data revolution: CMS is expanding capabilities to spur health system transformation. *Health Affairs, 33(*7), 1195-1202. doi:10.1377/hlthaff.2014.0130
* Drazen, J. M. (2015). Sharing individual patient data from clinical trials. *New England Journal of Medicine, 372*(3), 201-202. doi:10.1056/NEJMp1415160
* McGlothlin, J. P., Vedire, S., Crawford, E., Pappas, J., Bruneau, B., & Obregon, L. (2016). Improving patient care through analytics. *2016 4th International Symposium on Computational and Business Intelligence (ISCBI),* 94-100. doi: [10.1109/ISCBI.2016.7743265](https://doi.org/10.1109/ISCBI.2016.7743265)
* Vasiljeva, I., & Arandjelovíc, O. (2016). Towards sophisticated learning from ERHs: Learning prediction specificity and accuracy using clinically meaningful risk criteria. *38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC),* 2452-2455. doi: [10.1109/EMBC.2016.7591226](https://doi.org/10.1109/EMBC.2016.7591226)

1. View the following **Lecture/Voice over PowerPoint:**

* Lecture 8.1 – *Challenges to understanding patient data*

1. **Assignment 3 -** *Mini-Data Project*

Objective**:** The student will demonstrate a synthesis of the knowledge gained in this course by producing a mini-data project that reflects knowledge of patient data, analysis and the types of software used.

Instructions: See *Assignment 3 Instructions.pdf* for details (located in this week’s module).

**REMINDER:** When a student submits a writing assignment, their work will be submitted to a plagiarism prevention tool (Turnitin). See the *Rowan Online Standard Policies* for more details.

**IMPORTANT:** Each student is expected to work on this individuallyand within the confines of the *University Academic Integrity Policy* (see [www.rowanonline.com](http://www.rowanonline.com) for University policy details).

| **Assignment 3 - Mini-Data Project Grading Rubric** | **Final Grade Points** |
| --- | --- |
| Type of Data is Healthcare/Medical/Medicine Research including Copy of the Data | 20 |
| Data Collection and Sources | 10 |
| Data Wrangling/Cleaning and Code/Formulas | 15 |
| Data Analysis: Methods and Relevant Questions/Answers | 50 |
| Data Dictionary | 5 |
| **Total** | **100** |

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