A2: Hospital Readmissions EDA & Modeling

Visualizing & Analyzing Data with R: Methods & Tools - DAT-5323 - BMBAN1

Audrey Anne Arocha

April 8, 2023

**Written Supplemental**

A combination of high inpatient treatment in the past, a high number of diagnoses, and a chronic diagnosis look to be indicative of a high chance of readmission. This is expected but it may be that the initial admission of the patient did not provide for the level of quality of care actually necessary. The patient may have needed more lab procedures or more medication prescribed, to reduce the chance of readmission.

**Recommendations**

*Increase quality and quantity of care provided to patients fitting the profile of having recurring conditions or symptoms.*

* High-quality level of care for diabetes is evolving but largely involves high interactions among patients, healthcare teams, and the healthcare system. There are now established performance measures by various organizations to improve and monitor this quality of care. (Selvin et al., 2018)
* Communication and collaboration between healthcare teams, staff and patients are crucial. Education should also be consistently provided to all parties. This is necessary to maintain hospital protocols for diabetes management. It may also be necessary to constantly have trained diabetes specialists available for consultation. New technology could also greatly enhance inpatient diabetes care. (Ostling et al., 2017)

*Monitor chronic diabetes symptoms more closely and improve service delivery systems for long term problems and self-management guidance.*

* According to research published in 2004, there are existing tools and resources that help improve this service delivery for a hospital. The Chronic Care Model (CCM) and Innovative Care for Chronic Conditions (ICCC) are some of these tools that focus on improving global healthcare delivery by emphasizing self-management, evidence-based decision-making, and collaboration between the community and healthcare systems. Collectively, both tools offer guidance for healthcare leaders to tackle the challenge of chronic conditions. (Epping-Jordan et al., 2004)

*Increase screening and monitoring as patients get older. Particularly upon they turn 30 and more frequently as they go above 50.*

* It has been recommended by the U.S. Preventive Services Task Force (USPSTF) for type 2 diabetes screening to start at 35 instead of the initial recommendation of 40 years old. This is due to the increasing prevalence of diabetes and the presence of evidence showing the effectiveness of early screening and intervention. Further, the task force recommends that those overweight or obese should be screened even younger at age 30. (Testing, 2021)

**Works Cited**

Epping-Jordan, J.E., Pruitt, S.D., Bengoa, R., & Wagner, E.H. (2004). Improving the quality of health care for chronic conditions. *Qual Saf Health Care*. 2004 Aug;13(4):299-305. doi: 10.1136/qhc.13.4.299. PMID: 15289634; PMCID: PMC1743863.

Ostling, S., Wyckoff, J., Ciarkowski, S.L., et al. (2017). The relationship between diabetes mellitus and 30-day readmission rates. Clinical Diabetes and Endocrinology, 3(1), 3. <https://doi.org/10.1186/s40842-016-0040-x>

Testing. (2021, March 17). *Task force lowers starting age for diabetes screening to 35*. Testing. https://www.testing.com/news/task-force-lowers-starting-age-for-diabetes-screening-to-35/

Selvin, E., Narayan, K. M. V., & Huang, E. S. (2018). Quality of Care in People With Diabetes. In C. C. Cowie, S. S. Casagrande, A. Menke, et al. (Eds.), Diabetes in America (3rd ed., Chapter 41). *National Institute of Diabetes and Digestive and Kidney Diseases* (US). https://www.ncbi.nlm.nih.gov/books/NBK568015/