Research Project probability statistics

Annmarie Persaud

[Institutional Affiliation(s)]

Author Note

Research Project Probability Statistics

In the U.S. healthcare system, community health workers (CHWs) play a vital role in delivering care by acting as a liaison between the community and health services, and by providing resources, information, and options to them regarding their health.

In the study by Ingram et al. (2017), electronic health records (EHRs) are used to investigate the role played by CHWs in primary care focusing particularly on chronic disease-related indicators of health. It is hypothesized that EHRs aid in improving patient management and promote inter-staff communication. For this purpose, EHRs of a sample of 32147 chronic disease patients were examined between the years 2012 and 2015 in which health-indicators were used as variables along with the patient’s level of contact with CHWs, in two groups.

The outcome variables were estimated according to within-group and between-group results through a covariance analysis of the mean of the observations between groups in which one group saw a CHW at least once, and one group did not see any CHW. The findings indicated that within-group there was a statistically significant improvement in health indicators associated with chronic disease after they had contacted CHWs. The within-group analyses showed that HbA1c mm/mol levels decreased to 0.15 with a 95% confidence interval (CI=-0.2, -0.006) and a P-value of 0.001. Whereas cholesterol saw a decrease of 11.9 mg/dl and BMI decreased by 0.22, with a 95% confidence Interval (CI=-13.5, -10.2) with a P value of less than 0.001. However, in the between-group analysis, the only statistically significant difference between non-CHW and CHW groups was in patients' diastolic blood pressures which was 0.38mmHG, with a 95% CI (CI=0.09, 0.67) and a P-value of 0.01.

The results demonstrated that patients saw significant improvements in clinical outcomes in within-group settings after contacting CHWs, while the between-group findings did not show much considerable improvement, except for one outcome, in the outcomes associated with CHW exposure.

# References

Ingram, M., Doubleday, K., Bell, M. L., Lohr, A., Murrieta, L., Velasco, M., . . . Carvajal, S. C. (2017). Community Health Worker Impact on Chronic Disease Outcomes Within Primary Care Examined Using Electronic Health Records. *American Journal of Public Health, 107*(10), 1668-1674.