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Determination of behavioral, socioeconomic and demographic risk factors for ischemic heart disease hospitalization in Vermont

National health care research shows that more than 60% of Americans over the age of 18 have at least one chronic condition (90% for those over age 65). Furthermore, estimates suggest that about nine of every ten dollars spent for medical care on American adults is spent to treat persons with chronic conditions. The situation is no less severe in Vermont. Inpatient data indicate that over half of Vermont hospitalizations include a diagnosis for a chronic condition (84% for those over age 65). These hospitalizations lasts longer and cost, on average, $7,000 more than hospital stays that do not include a chronic illness. As the Vermont population ages, it will be critical to manage and prevent chronic illness hospitalizations.

The most common chronic condition in Vermont hospitalizations is ischemic heart disease (coronary artery disease). Behavioral risk factors for ischemic heart disease, such as smoking and obesity, are well documented, and emerging research suggests that certain socioeconomic factors may also play a role in predicting this disease. However, behavioral or socioeconomic factors studied alone may not provide a complete picture. The current research seeks to determine significant risk factors for ischemic heart disease hospitalizations by combining behavioral, socioeconomic, and demographic risk factors in a single regression model.

This research uses public-access health care datasets to construct a Poisson regression model for ischemic heart disease hospitalizations in Vermont. The development of the regression dataset, determination of significant risk factors, model diagnostics (goodness of fit), and dataset limitations are explored. The research includes the final regression model with the significant risk factors, as well as a discussion of public health and policy implications and how they fit with current Vermont health initiatives, such as the Vermont Blueprint for Health. Finally, limitations of the current study and recommendations for continued research are presented.