

AN INDEX TO QUANTIFY BURDEN OF MODIFIABLE RISK FOR DEMENTIA AT THE COMMUNITY-LEVEL IN NEW BRUNSWICK

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OVERVIEW

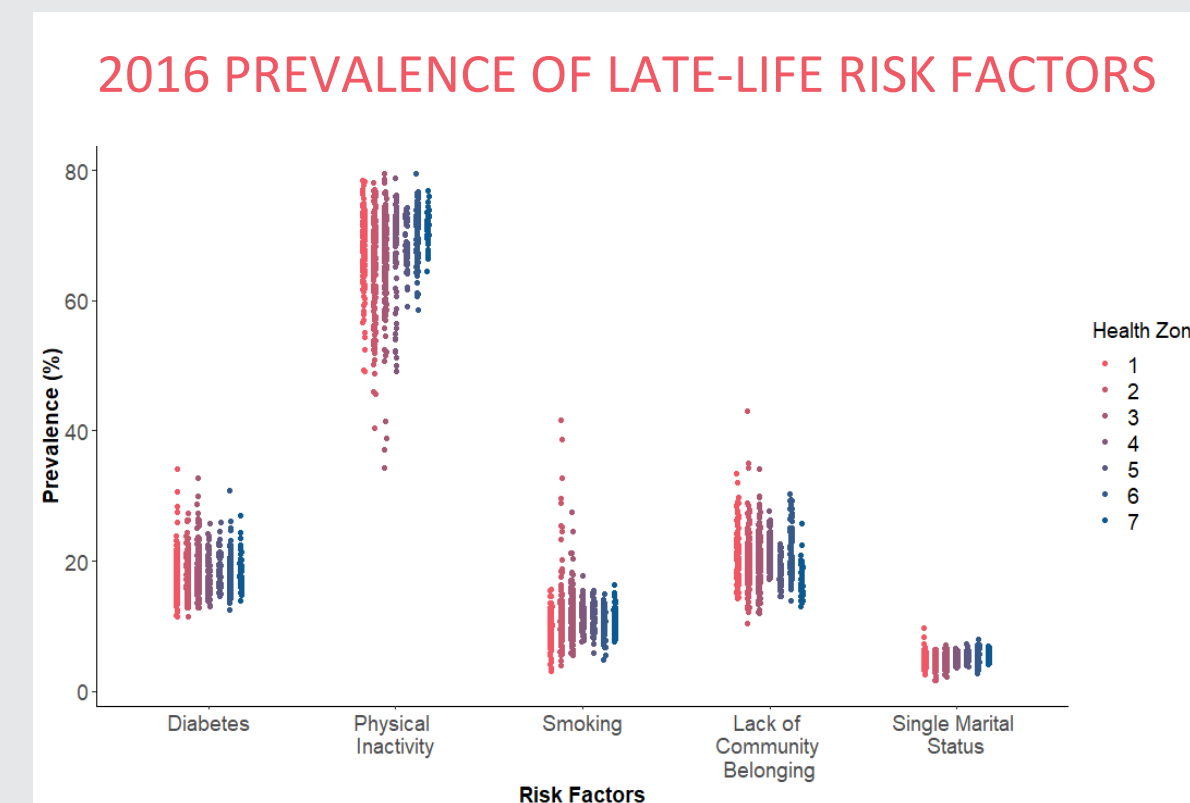
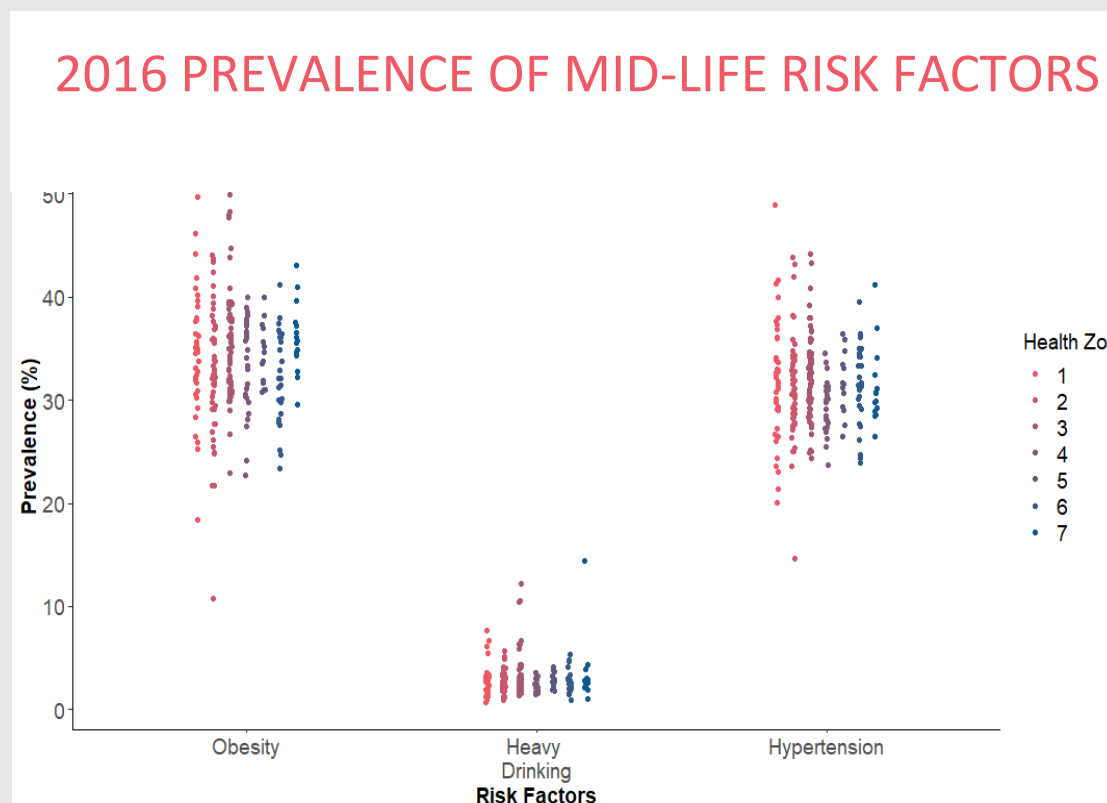
- A third of dementia cases could be prevented with intervention on modifiable risk factors
- The objective of this study was to identify communities with greatest burden of modifiable risk for dementia
- A community-level index of dementia vulnerability was derived from Statistics Canada survey and Census data for 243 Census Subdivisions (CSDs)
- The index identified a small number of communities with scores indicating highest burden
- The number of communities with a score of zero increased substantially over time
- Next steps include deriving prevalence estimates for other established risk factors, validating the index and expanding to all communities across Canada

BACKGROUND

- Prevalence of dementia will increase due to aging populations
 - Numbers of older adults living with dementia expected to triple by 2050
- Caring for individuals with dementia requires substantial resources
 - Society-wide attention to prevention is needed
- Leading dementia researchers suggest a third of cases could be prevented
 - Mid- and late- life risk factors are common to other chronic diseases
- Targeting resources is needed to most efficiently use limited resources
 - Tools are needed for help public health understand where burden is greatest

PRELIMINARY RESEARCH

As part of this research, we first derived prevalence estimates for eight established modifiable risk factors for dementia using Statistics Canada survey and Census data.



OBJECTIVES

- To support scaling and sustainability planning for brain health interventions
 - Where are interventions most needed and resources best directed?
- To better understand the distribution of the burden of dementia risk factors
 - Where may risk of dementia be greatest and how is it changing over time?



METHODS

Study design:

- Secondary analysis of Statistics Canada survey and Census data from the years 2000-2010
- Prevalence of 8 established modifiable risk factors were mapped to Census Sub-Divisions (CSDs) in NB
 - Mid-life risk factors (45-64 yrs.): heavy drinking, obesity, hypertension
 - Late-life risk factors (65+ yrs.): smoking, physical inactivity, social isolation, diabetes

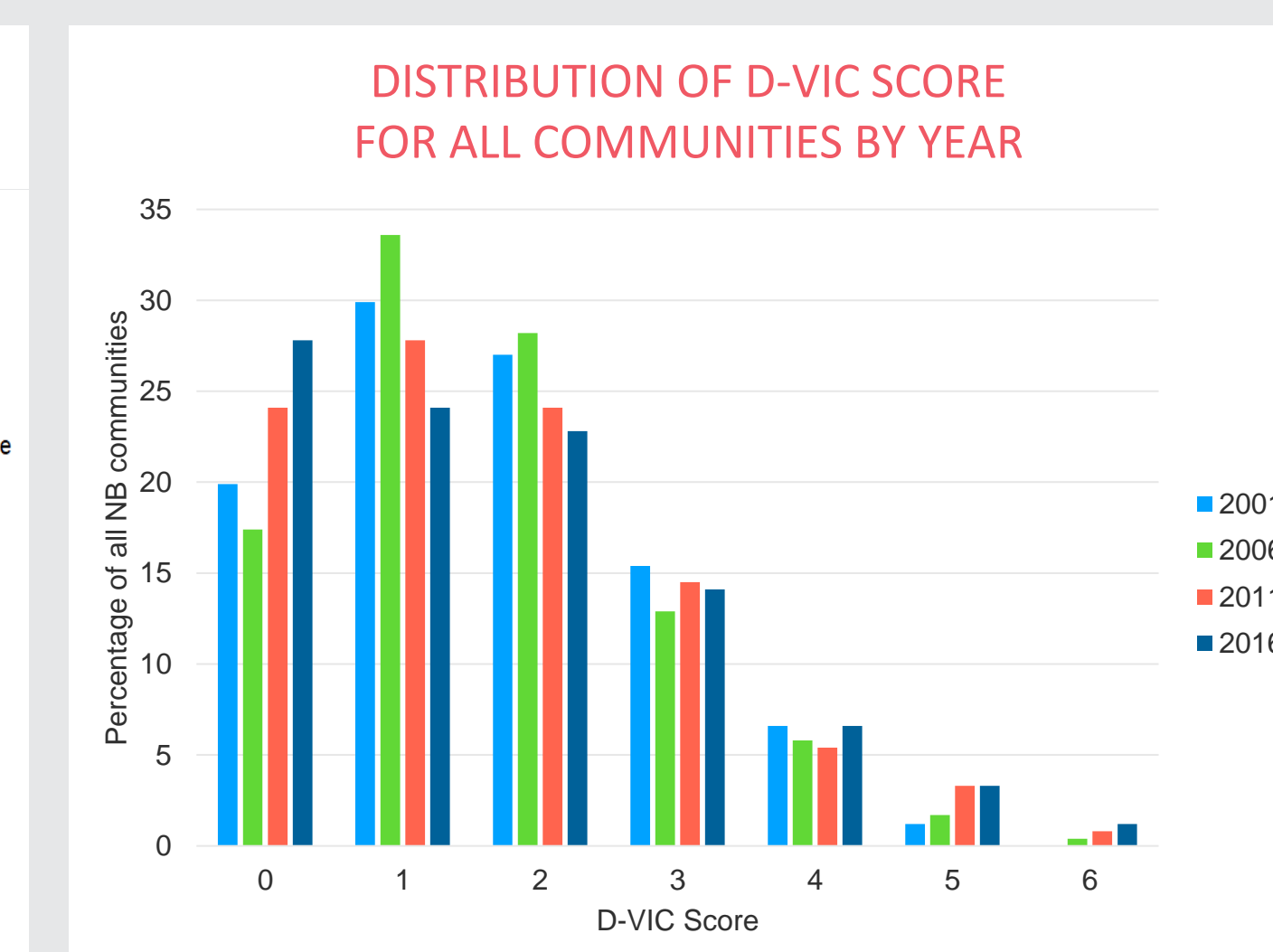
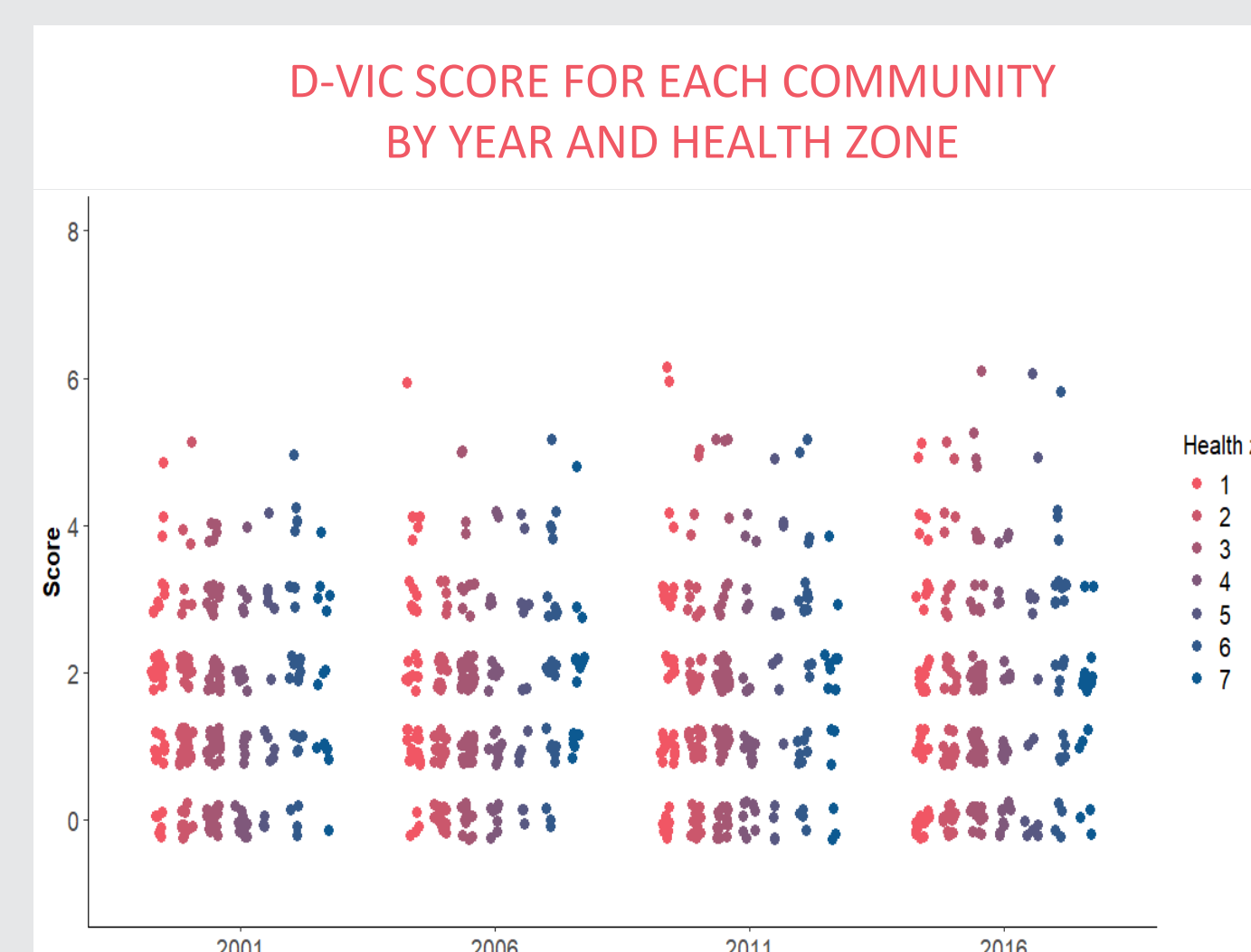
Data analysis:

- Post-stratification, considering age, sex, socioeconomic status of each CSD in a multilevel model, was used to derive small area prevalence estimates, that were further adjusted for spatial and temporal correlation

- Dementia Vulnerability Index for Communities (D-VIC)
- D-VIC is a measure of vulnerability that combines all 8 risk factors
- It provides a tool to identify which communities in New Brunswick have among the highest burden of dementia risk factors
- Each risk factor was ranked, to identify those in the top 20% of all communities
- The total score ranges from 0 to 8 to indicate the sum of the number of top-ranked risk factors in each community

RESULTS

- D-VIC score ranged from 0 to 6
- Substantial overlap in the distribution of D-VIC across health zones
 - Health zones 3, 5 and 6 had highest scores in 2016
- The number of communities with highest scores is increasing over, as is number of communities with a score of zero



CONCLUSION

- Existing data can be leveraged to inform on burden of dementia risk at the community-level
- The D-VIC identified a small number of communities that may be at increased risk of dementia
 - This tool can be used to help target resources to areas with greatest need
- To continue developing the D-VIC, next steps in our research include
 - Adding additional risk factors
 - Developing its psychometrics
 - Validation using other data sources
 - Expanding across Canada