Hepatitis C Virus (HCV) Screening: Why or Why Not?

Zachariah Cole¹, Pamela Frasier MSPH, PhD¹, Cecile Dietrich PhD², Zachary Yarbrough³, Devon Burton³

¹Department of Health Education and Health Promotion; ²Department of Nursing; and ³Department of Geospatial Science

Study Purpose

1) Determine the incidence of HCV by zip code in Roanoke and Alleghany Counties, Virginia
2) Determine why individuals choose to be screened for Hepatitis C Virus (HCV)

Background

- HCV - viral infection that gradually damages the liver; if left untreated, can lead to cirrhosis of the liver
- 3.2 million (1.3% of population) people in the United States are living with HCV
- Intravenous drug users (IVDUs) have the highest risk of HCV

Methods

Setting

- Twelve zip codes in the Roanoke City (Virginia) Health Department District
- Alleghany County (Zip Codes: 24179, 24422, 24426) and Roanoke County (Zip Codes: 24012, 24013, 24014, 24015, 24016, 24017, 24018, 24059, 24070) provide rural and urban locations

Time Frame

- January 2011 - December 2015

Research Design

- Secondary analysis of an existing dataset from Virginia Electronic Disease Surveillance System (VEDSS) via National Electronic Disease Surveillance System (NEDSS), CDC.
- Geographic Information System (GIS) Mapping was used to assign confirmed HCV cases to zip codes

Data Collection and Analysis

- Manual data entry Survey Monkey
- Descriptive statistics using Epi Info 7

Results

| CONFIRMED CASES OF HCV BY ZIP CODE BY MMWR* YEAR |
|-----------------|-----|-----|-----|-----|-----|-----|
| Zip             | 2011| 2012| 2013| 2014| 2015| Total|
| 24012           | 21  | 51  | 51  | 76  | 48  | 242  |
| 24013           | 15  | 29  | 41  | 55  | 42  | 182  |
| 24014           | 10  | 18  | 36  | 23  | 34  | 121  |
| 24015           | 9   | 20  | 24  | 17  | 24  | 94   |
| 24016           | 13  | 29  | 41  | 45  | 35  | 163  |
| 24017           | 13  | 42  | 49  | 44  | 33  | 181  |
| 24018           | 11  | 34  | 28  | 26  | 30  | 129  |
| 24059           | 0   | 3   | 0   | 0   | 2   | 5    |
| 24070           | 1   | 0   | 2   | 1   | 4   | 8    |
| 24179           | 3   | 14  | 24  | 27  | 20  | 88   |
| 24222           | 2   | 4   | 6   | 11  | 4   | 27   |
| 24226           | 7   | 13  | 20  | 14  | 11  | 63   |
| Grand Total     | 105 | 255 | 322 | 339 | 282 | 1303 |

* Morbidity and Mortality Weekly Report

- Incidence rates increased by 168.6% from 2011 to 2015
- Highest incidence occurred in 2014 (339 confirmed cases)
- Highest incidence (76 confirmed cases) in a year (2014) occurred in zip-code 24012

Conclusions & Future Directions

- Limitations include loss of HCV cases in GIS Mapping due to missing data in the original dataset
- Population density may be a critical factor in higher prevalence of HCV in Roanoke County compared to Alleghany County
- Communications campaign or interventions may be warranted, but only after conclusion of Phase Two
- Phase Two will provide an insight in why individuals choose to be screened
- If zip codes are provided, more can be inferred about how to create programs for a specific region

References


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