Background

- Incidence rates of hepatitis C virus (HCV) infection in Kansas are highest among baby boomers (born 1945-1965) followed by millennials (born 1982-2002)
- Baby Boomers Incidence: 130 / 100,000
- Millennials Incidence: 39 / 100,000
- Limited studies have assessed causes for high incidence of HCV infection among millennials

Objective

- Identify how demographic and risk factors have changed between two age groups with HCV chronic infection in Kansas

Methods

- Inclusion Criteria:
  - Persons aged 14-24 & 55-70 years
  - Laboratory confirmed HCV infection
  
- Reported to Kansas Department of Health and Environment (KDHE) between 01/01/2016 and 12/02/2016

  - Demographic factors examined:
    - Race, ethnicity, gender, age at diagnosis, and county type based on population density
  
- Behavioral risk factors examined:
  - Contact with another HCV-positive individual, type of that contact, illicit drug use, injection drug use, and sharing of needles
  - Records were excluded if demographic or risk factor information was unavailable
  - Data was analyzed using Chi-square & logistic regression in SAS® 9.3

Results

- 731 HCV chronic cases were reported to KDHE between 01/01/2016 and 12/02/2016 and included in analysis
  
  - Baby Boomers: n=629
  - Millennials: n=102

- Sample population was majority white, non-Hispanic persons in both generational groups (Figure 1).

- Factor that were markedly different by age group
  
  - Gender
  
    - Baby Boomers majority male 66%
    - Millennials majority female 56%

- Injection Drug Use (IDU)
  
    - Baby Boomers: 13%
    - Millennials: 27%

- Sharing Needles
  
    - Baby Boomers: 8%
    - Millennials: 14%

- Factors significantly associated with HCV infection by generation
  
  - Demographics
    
      - Gender (χ² p: <0.0001)
      - County type (χ² p: 0.0019)
  
  - Risky Behaviors
    
      - IDU (χ² p: 0.0055)

Discussion

- Of the factors assessed, gender, county type and use of injection drugs were found to be significantly associated with HCV infection by age group
  
    - County of residence and IDU are factors that can be modified to reduce risk
  
    - Compared to baby boomers, millennials with HCV infections had significantly higher odds of being
    
      - Female
      - Live in an urban county
      - Injection drug user
  
    - IDU association was positively confounded by gender

- The association between millennials with HCV infections and IDU may be linked to the opioid epidemic

  - Nearly 2x the percentage of millennials reported sharing needles thought this factor was not found to be significant
  
    - The lack of statistical significance may be a factor of low sample size of millennials compared to baby boomers in this study

Conclusions

- This study revealed the changing face of HCV infection among younger persons in Kansas and highlights the need to adjust public health efforts when addressing this high risk population

  - Prevention efforts need to focus on reduction of injection drug use, education on risks of sharing needles, and target messaging towards women

  - This investigation will need to be performed again when additional years of data is available to confirm results and establish trends