Epidemiology of Hepatitis C Virus (HCV)

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ITCA TEC Director
April 4, 2019
Overview

• Background

• Epidemiology of HCV
Background
Background

ITCA TEC is part of a larger national effort to provide public health services to Tribes in each region.
Background

Need for a strong voice through unity & collective action

- Non-profit tribal organization
- Established in 1975
- 21 tribal government membership

• Promotes tribal collaboration
• Public policy development
• Technical assistance & training for planning & program development
• Resource identification
• Analyze & disseminate information for community self-development

ITCA offices, Phoenix, AZ
Background

SEVEN CORE FUNCTIONS - IHS Cooperative Agreement

“Functions of TECs: In consultation with and on the request of Indian tribes, tribal organizations, and urban Indian organizations, each Service area epidemiology center established under this section shall, with respect to the applicable Service area”, and in summary:

• Collect data
• Evaluate data and programs
• Identify health priorities with tribes
• Make recommendations for health service needs
• Make recommendations for improving health care delivery systems
• Provide epidemiologic technical assistance to tribes and tribal organizations
• Provide disease surveillance to tribes

(Permanent reauthorization of the Indian Health Care Improvement Act Under the Affordable Care Act 2010)
Epidemiology of Hepatitis C Virus (HCV)
Epidemiology

History of HCV

• 1975-1989: Hepatitis “non-A, non-B hepatitis” discovered and later isolated the virus
• 1990: Testing US blood supply for HCV
• 1991: First treatment regimen developed (interferon alfa 2b)
• 1992: Improved sensitivity test for US blood supply
• 1998: Ribavirin + interferon treatment
• 2001: Pegylated interferon treatment
• 2010: Rapid antibody test
• 2013: Direct-acting antiviral (DAA) meds (interferon not needed)
• 2015: New DAAs good HCV rates of cure for most genotypes, with fewer doses and shorter treatment times
Natural History of HCV Infection

Acute

Clearance 15-25%

Chronic 75-85%

Cirrhosis 10-20%

HCC 1-4% per year

Decompensated cirrhosis 5 year survival rate of 50%

Healthy Liver | Fibrosis | Cirrhosis
HCV cases identified by electronic laboratory reporting (ELR) for Arizona (AZ) facilities and Tribal facilities in AZ by Year, 2013 - 2017

Taken From: Arizona Department of Health Services presentation
The State of Hepatitis C, Southwest HCV Tribal Summit, September 2018
Epidemiology: Hepatitis C incident case rates by county

Rates (per 100,000)

- 20-49
- 50-79
- 80-109
- 110-139
- 140+

2017

Taken From: Arizona Department of Health Services presentation
The State of Hepatitis C, Southwest HCV Tribal Summit, September 2018
*Based on ELR reports, relative to the county population
### Epidemiology: Table 1. Age-adjusted mortality rates (per 100,000) for American Indians & Alaska Natives by Gender in Arizona, 2015

<table>
<thead>
<tr>
<th>Rank</th>
<th>Female</th>
<th>Both</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cardiovascular Disease (CVD)</td>
<td>CVD</td>
</tr>
<tr>
<td>1</td>
<td>CVD 136</td>
<td>167</td>
<td>205</td>
</tr>
<tr>
<td>2</td>
<td>Cancer 112</td>
<td>Accidents 139</td>
<td>Accidents 204</td>
</tr>
<tr>
<td>3</td>
<td>Heart diseases 89</td>
<td>Cancer 124</td>
<td>Heart diseases 159</td>
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<tr>
<td>4</td>
<td>83 Accidents</td>
<td>Heart disease 119</td>
<td>Cancer 142</td>
</tr>
<tr>
<td>5</td>
<td>Liver disease &amp; cirrhosis 66</td>
<td>Liver disease &amp; cirrhosis 77</td>
<td>Liver disease &amp; cirrhosis 91</td>
</tr>
<tr>
<td>6</td>
<td>Diabetes 65</td>
<td>Diabetes 74</td>
<td>Diabetes 86</td>
</tr>
</tbody>
</table>

### Epidemiology: Table 1. Liver cancer deaths, crude and age-adjusted rates (per 100,000) by Race for in Arizona, 2012 – 2016

<table>
<thead>
<tr>
<th>Race*</th>
<th>Deaths (n)</th>
<th>Crude rate (per 100,000)</th>
<th>Age-Adjusted death rate (per 100,000)</th>
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</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>157</td>
<td>8.2</td>
<td>12.3</td>
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<tr>
<td>Asia or Pacific Islanders</td>
<td>104</td>
<td>8</td>
<td>10.9</td>
</tr>
<tr>
<td>Black or African American</td>
<td>103</td>
<td>5.7</td>
<td>7.9</td>
</tr>
<tr>
<td>White</td>
<td>2267</td>
<td>7.9</td>
<td>6</td>
</tr>
</tbody>
</table>

*CDC Wonder Compressed mortality files. Communication with Arizona Department of Health Services. 1/22/19, 2/20/19. Includes Hispanic, Non-Hispanic, and not reported ethnicity combined.*
Epidemiology:
Risk factors among Arizona HCV investigated cases 1998-2008

- Ever used Intravenous Drugs: 67%
- Ever used Intranasal Drugs: 65%
- Tattoo: 52%
- Other Blood Exposure: 27%
- Blood/Organ Transplant <1992: 25%
- Piercing: 15%
- Contact of person with HCV: 11%
- Occupational Blood Exposure: 7%
- Born to HCV Positive Mother: 2%
- Clotting Factor before 1987: 1%

Taken From: Arizona Department of Health Services presentation
The State of Hepatitis C, Southwest HCV Tribal Summit, September 2018
Acknowledgements

• Phoenix - Tucson Area Tribes
• Indian Health Service
• Arizona Department of Health Services