Hepatitis C Screening and Assessment

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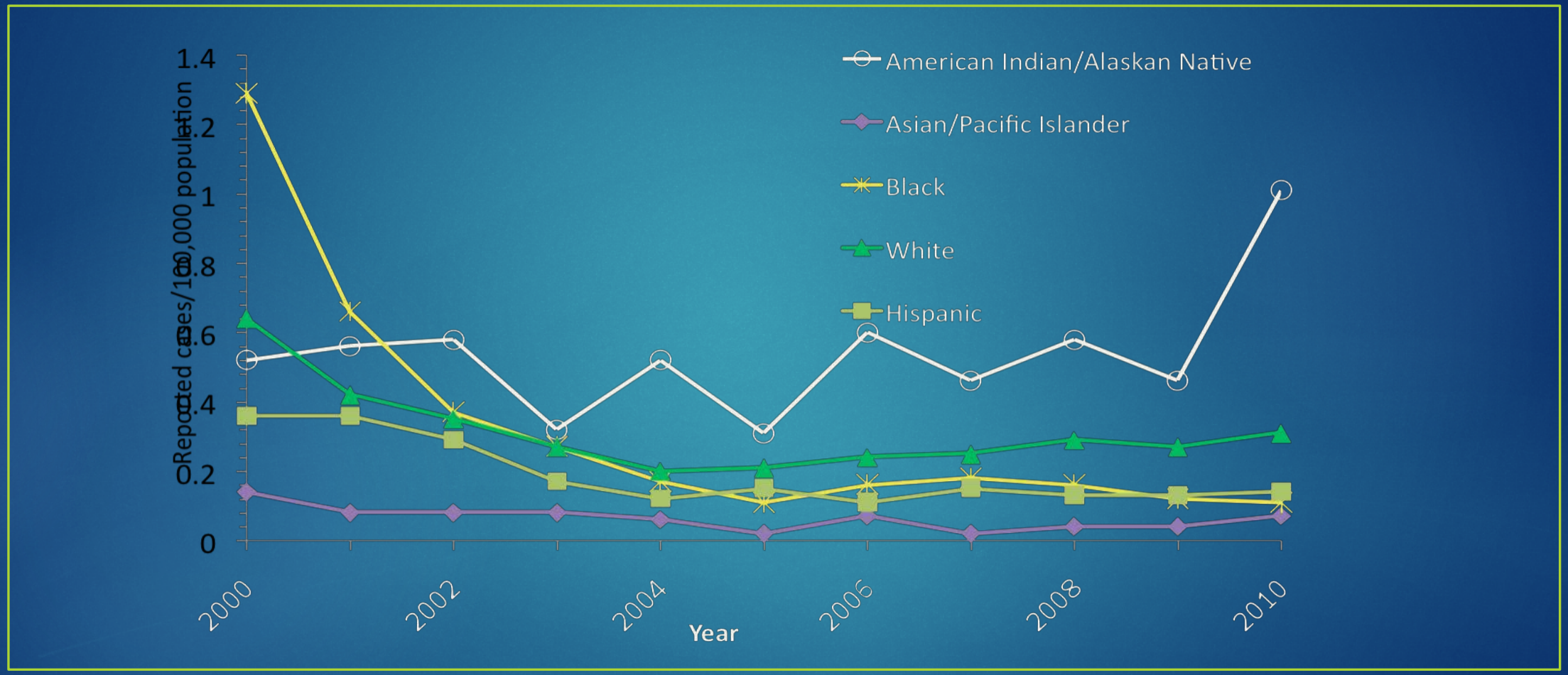
Portland Area Hepatitis C ECHO

Incidence of acute hepatitis C, by race/ethnicity — United States, 2000–2010



Source: National Notifiable Diseases Surveillance System (NNDSS)

Who is at risk for Hepatitis C:

- People at increased risk:
  - Injection drug users, current * or past (even one time)
  - Recipient of blood, blood products, or organs before 1992
  - Long-term hemodialyis patients
  - People who received tattoos or body piercing with non-sterile instruments
  - People with known exposures (healthcare workers with needlesticks)
  - HIV-infected persons
  - Children born to mothers with HCV (6%)
- Less common risk
  - Sexual contacts of persons infected with HCV
  - Those sharing personal care items that may have come into contact with blood from an infected person.

Hepatitis C: Symptoms

- Acute Hepatitis C
  - Fever
  - Fatigue
  - Loss of appetite
  - Nausea
  - Vomiting
  - Abdominal pain
  - Dark urine
  - Clay-colored bowel movements
  - Joint pain
  - Jaundice (yellow color in the skin or eyes)

Hepatitis C Screening:

- Blood test can be used to screen for antibodies against HCV.
- Screening recommended for:
  - High risk persons
  - Persons born between 1945 through 1965 (Baby Boomers)
    - 5x more likely to be infected.
    - 3 out of 4 people with HCV infection are in this age group.
- A positive HCV antibody test (ever been infected) should be followed by a test for viral genes (still infected).

Why Baby Boomers?

- Potential sources of infection:
  - Contaminated blood and blood products prior to 1992.
  - Medical procedures or contaminated equipment prior to universal precautions and modern infection control procedures.
  - Sharing needles or equipment for injection drugs, even if only once.

Why screen for HCV?

- Counseling on prevention of spread.
- Vaccination against Hepatitis A & B.
- Counseling on avoidance of alcohol.
- Counseling on avoidance of certain prescription pills, supplements, or over-the-counter medications that can damage the liver.
- Monitoring for chronic hepatitis and cirrhosis (and complications).
- Identifying patients that would benefit from treatment.

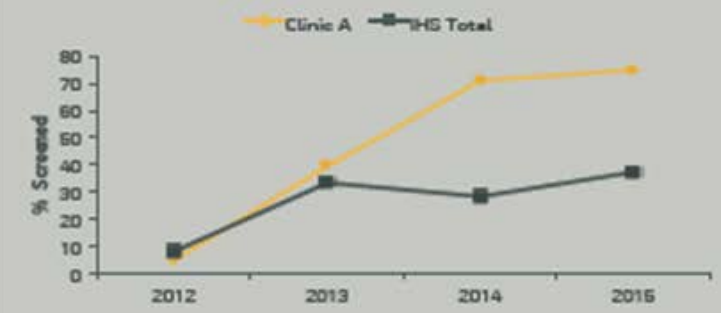
Improving Screening Rates

- Utilize EMR clinical decision supports (reminders).
- Establish a local HCV screening policy.
- Establish nursing collaborative agreements.
- Identify a clinical and nursing champion.
- Utilize patient education materials and posters.

- Reilley B, Leston J, Hariri S, Neel L, Rudd M, Galope M, Ward J, Vellozzi C, Birth cohort testing for hepatitis C virus- Indian Health Service 2012-2015, *MMWR*, May 13, 2016, 65(18), pp 467-469.
- Gemelas J, Locker R, Rudd S, Prevost C, Reilley B, Leston J, Impact of screening: implementing HCV screening of persons born 1945-1965: a primary care case study, *J Prim Care Community Health* Jan 2016; 7(1): 30-32.

HEPATITIS C VIRUS SCREENING FOR ALL INDIVIDUALS BORN 1945 - 1965

Clinic A screened 75% of its eligible patients, an increase from last year (71%). *This rate leads IHS.* The national IHS average is 37% and goal is 75%.



Recent advances in treatments for Hepatitis C are simple, accessible and highly effective.

Risk Stratification

- The degree of liver fibrosis (scarring) is used as a measure for the severity of the liver disease
- The gold standard for determining fibrosis is a liver biopsy
  - Not the most practical test due to limited availability, costs, and risk.
  - Sampling errors are associated with a 10-15% rate of misinterpretation.
- Non-invasive fibrosis assessments:
  - APRI
  - Fib-4
  - Fibrosure
  - Fibroscan

APRI

- Aspartate aminotransferase (AST) to Platelet Ratio Index (APRI)
- APRI= ((AST/Top normal AST/Platelets) * 100
  - Interpretation:
    - ≤ 0.3: Unlikely cirrhosis or significant fibrosis
    - > 0.3 and ≤ 0.5: Unlikely cirrhosis, significant fibrosis possible
    - >0.5 and ≤ 1.5: Significant fibrosis or cirrhosis possible
    - >1.5 and ≤ 2.0: Likely significant fibrosis, cirrhosis possible
    - > 2.0: Likely cirrhosis
  - Cutoff 1.0 for predicting cirrhosis (F4)
    - Sensitivity: 76%, Specificity: 72%

FIB-4

- FIB-4 = Age * AST/(Platelets * sqr(ALT))
  - Interpretation:
    - < 1.45: Cirrhosis less likely
    - ≥ 1.45 and ≤ 3.25: Indeterminate
    - >3.25: Cirrhosis more likely
  - Sensitivity: 73.4%
  - Specificity: 98.2%
  - Positive predictive value: 82.1%
  - Negative predictive value= 94.7%

FibroSure/ActiTest

- Serologic test that assesses alpha-2-macroglobulin, alpha-2-globulin (haptoglobin), gamma globulin, apoliprotein A1, GGT, and total bilirubin.
  - Values combined with age and sex in a logistic regression calculation.
  - Results classify patients as having mild fibrosis (F0-F1), significant fibrosis (F2-F4) or indeterminate stage of fibrosis.
  - Sensitivity: 60-75%
  - Specificity: 80-90%
- ActiTest: Includes the addition of ALT in calculation.
  - Allows calculation of necroinflammatory activity.

FibroScan

- Ultrasound-based elastography
- Allows for assessment of shear wave elastography (SWE) and strain elastography.
- Useful in assessment of hepatic fibrosis and in predicting complications of cirrhosis.
- Varying efficacy based on technique and fibrosis stage.
  - Sensitivity ranges from 68-90%
  - Specificity ranges from 61-100%

Risk Stratification

- Hepatitis C Risk Stratification Panel
  - Export iCare panel into Excel tool
  - Automatically calculates APRI and FIB-4

Questions?