What is happening with Hepatitis C?
OVERVIEW OF HEPATITIS C

- **Background**
- **Hepatitis C infectivity**
- **Screening and testing**
- **HIV/HCV**
- **OR Projects / Information**
- **OR VH Epi Profile Effort**
- **Feedback & Input**
BRIEF OVERVIEW: FRAMES

Characteristics and Cohorts

- Risk/exposure characteristics: one-time, limited, or ongoing
- Disease severity cohorts: Non-cirrhotic (NCD), compensated cirrhosis (CCD) and end-stage liver disease (ESLD)

Large US Studies

- Hepatitis C from the NHANES (Nat’l Health and Nutrition Examination Survey)
  - Prevalence of Hep C examined 1999 through 2002
  - Random sampling of 5,000 non-institutionalized US civilians per year
  - Standardized household interviews, physical exams and serum test samples

- Chronic Hepatitis Cohort Study (CHeCS) 2006-present
  - Multi-site study (Detroit, MI; Danville PA; Portland, OR and Honolulu, HI)
  - Population size of 1.6 million receiving care at 4 integrated institutions
  - 13,000 persons with HepC and more than 3,500 participants with HepB
OVERVIEW

• Hepatitis C is the most common bloodborne infection in the US
• Overall, the hepatitis C (Hep C) prevalence is estimated to be 1.6% of the US population ~ 4.1 million with 80% chronic carriers.
  – In Oregon an estimated 48,000 persons have chronic Hep C*
• Peak Hep C prevalence is among persons born between 1945-1965.
  – 75% of US cases and 67% of Oregon Hep C cases
  – Compared to other states, OR has a higher-than-average Hep C prevalence
• Hepatitis C is the leading cause of liver transplants and liver cancer [hepatocellular carcinoma (HCC)]
  – HCC is the leading cause of cancer related deaths in the US
BRIEF OVERVIEW: SCREENING

• 2010 – FDA approved point-of-care tests for Hep C
• IN 2012 and 2013, CDC AND US Public Health Task Force revised Hepatitis C Screening recommendations
  • Risk-based screening, AND
  • One-time screening of persons born between 1945 and 1964
OUTCOME IN PERSONS WHO DEVELOP HEPATITIS C INFECTION

48,000 Oregonians

- 100
- 85% Chronic
- 15%
- Resolve
- 15

- 10,000
- 20% Cirrhosis
- 80%
- Stable
- 68

- 1,000–2,000
- 25%
- Mortality
- 4

* Courtesy of Seeff, LB and Alter, HJ.s
OVERVIEW

• Disease severity ↑ with increase in age
• Health care utilization and expenditures ↑ with disease severity
• Common co-morbidities include: Type 2 Diabetes, depression and substance use / abuse
• HIV/HCV Co-infection
  – Fibrosis progression is common and can progress rapidly among persons co-infected with HIV / Hep C
  – Persons co-infected with HIV/HepC warrant close monitoring and consideration for HepC treatment
Among participants in OR Medical Monitoring Project, 15% reported ever having HCV and 20% ever having HBV.

2006-2010: 5% of deaths in HIV-infected persons related to chronic hepatitis in OR.

2007-2010: 21-26% of OR MMP clients co-infected with HIV/HCV were determined eligible for HCV treatment.

Oregon HIV Program: Epidemiologic Profile of HIV/AIDS in Oregon, 2013
Hepatitis C treatment eligibility among HIV-Hepatitis C virus co-infected patients in OR: A population-based sample. AIDS Care. March 2014
AGE-ADJUSTED DEATH RATES FROM HIV, HCV, AND HBV, UNITED STATES, 1999-2007

Figure: Annual age-adjusted mortality rates from hepatitis B and hepatitis C virus and HIV infections listed as causes of death in the United States between 1999 and 2007.

Because a decedent can have multiple causes of death, a record listing more than 1 type of infection was counted for each type of infection.
Age-adjusted death rates for HIV, HCV and HBV using multiple-causes of death, 1993-2010
RISK OF HCV, HBV, AND HIV INFECTION AMONG PWID

Baltimore 1983–1988

OVERVIEW: HCV INFECTIVITY

Hepatitis C is virulent and easily transmitted

- Viral infectivity has been demonstrated for
  - Up to 63 days in syringe barrels and dead space
  - Up to 21 days in water in plastic containers
  - Up to 14 days on surfaces (cookers and injection surfaces)
  - Up to 24 hours in filters and 48 hours in filters wrapped in foil
OVERVIEW: HCV INFECTIVITY

**EVERY piece of injecting equipment is a transmission vector for Hepatitis C**

- Syringes, cookers, filter, rinse water, mixing water, alcohol swabs, tourniquets/tie-offs, and injection surfaces are PRIMARY transmission

**Every injection event has many infection and contamination opportunities**

- Preparation – surfaces, cooker, waters, filters
- Injection – fishing
- Post injection handling and storage of supplies

**Actions**

- Decrease syringe sharing
- Decrease injection risk behaviors and potential exposures
2007-2013 OREGON HIGH RISK SCREENING PROGRAM

- 23 participating counties (health dept, jail, or needle exchange site)
- Targeted HCV testing based on increased risk for infection
- Free tests provided to testers, no funding for staff or administrative fees
- One page questionnaire: age, race/ethnicity/sex, risk factors, whether homeless or ever incarcerated, drug(s) of choice
SCREENING PROGRAM PRELIMINARY FINDINGS, 2007-2013

• Overall: 517/3067 (16.9%) positive
• Among HCV positives:
  – White- 452/517 (87%)
  – Hispanic- 36/517 (7%)
• Injects drugs- 492/517 (95%)
  – Drug of choice:
    • Cocaine- 22 (4%)
    • Heroin- 111 (21.5%)
    • Methamphetamine/Speed- 344 (66.5%)
    • Other- 12 (2.3)
PREVALENCE OF HCV BY AGE GROUP AND SEX, OREGON HIGH RISK SCREENING PROGRAM

- Male
- Female

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 19 years</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>20-29 years</td>
<td>5.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>30-39 years</td>
<td>15.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>40 years and older</td>
<td>30.0%</td>
<td>35.0%</td>
</tr>
</tbody>
</table>
• 59% of cases (n=673) reported only injecting methamphetamine/speed
• 17% (n=192) reported heroin as the main drug used; 3% (n=41) reported cocaine.
• 15% (n=174) reported injecting meth/speed in addition to other drugs such as:
  – Heroin
  – Cocaine
  – Speedball (cocaine + heroin)
  – Methadone
  – Morphine
ACUTE HCV, OREGON, 1994-2013

Number of Cases
REPORTED RISK FACTORS (MUTUALLY EXCLUSIVE) FOR ACUTE HEPATITIS C, OREGON, 2013 (N=10)

- Injection Drug Use: 70%
- Contact with HCV: 10%
- STD: 10%
- Multiple Sex Partners: 10%

Total N=10
CHRONIC HCV, OREGON, 2005-2013

Number of Cases

2005 2006 2007 2008 2009 2010 2011 2012 2013
RISK FACTORS AMONG REPORTED CASES OF CHRONIC HCV, BY AGE GROUP, LANE/MARION/MULTNOMAH COUNTIES, 2011

Percent

Inject drugs  Ever incarcerated  Contact with HCV  H/o STD  Transfusion  MSM

15-30  30+

22
Adapted from the US Food and Drug Administration, Antiviral Drugs Advisory Committee Meeting, April 27-28, 2011, Silver Spring, MD.
BARRIERS TO TREATMENT

Hep C Infection

**Diagnosis**

Barriers include...
~ Non-adherence
~ Failure to identify need for referral
~ Logistical issues
~ Lack of provider availability

**Initiate Treatment**

Barriers include...
~ Co-morbidities
~ Cost/Insurance
~ Patient fears
~ Stigma
~ Transportation or other logistics

**Referral to Specialist/Treating Provider**

Barriers include...
~ Asymptomatic infection
~ Lack of awareness
~ Lack of medical coverage
~ Failure to screen
HEPATITIS C TREATMENT CASCADE

Holmberg S (2013) HCV-Infected People in the US and Estimated Rates of Detection, Referral to Care and Treatment. NEJM

* Used NHANES and CHeCS
Improved health outcomes for people at-risk of or living with hepatitis B and C infection in Oregon through appropriate

- Prevention,
- Screening,
- Evaluation,
- Care coordination, and
- Treatment
Tell the story of who is impacted by VH in Oregon

Support the development of public policies to promote effective surveillance, prevention, screening and access to care

Assist agencies, organizations and health systems to focus their efforts on appropriate populations for screening, prevention and linkage to care activities
OR VH EPI PROFILE: A CATALYST FOR ACTION

Convened Stakeholders
- Consumers
- CBOs
- LHDs
- State agencies – (e.g. DOC and AMH)

Developed Utilization / Dissemination Plan
- Internal and external audiences
- Communication plan / channels
- Draft key messages for audiences

Complete Epi Profile & Supporting Documents
- Report
- Website content
- Press Releases
- Social media messages (FB and Twitter)
- LHD toolkit
- Legislative plan/ actions

Evaluate process and track results
• Public
  – Hepatitis B and C are common in Oregon
  – Hepatitis B can be treated
  – Hepatitis C can be cured
  – Risk factors for Hepatitis B and C
  – Where to get tested and treated
Health System Partners

- Hepatitis B and C are common in Oregon
- Hepatitis C treatment has become much simpler and more effective
- Hepatitis C screening and treatment are cost effective
- Identify at-risk populations and their respective screening recommendations
• Policy Makers
  – Hepatitis B and C are common in Oregon
  – Hepatitis C treatment has become much simpler and more effective
  – There are significant cost benefits for prevention, screening and early treatment