DISCLOSURES

This activity is jointly provided by Northwest Portland Area Indian Health Board and Cardea

Cardea Services is approved as a provider of continuing nursing education by Montana Nurses Association, an accredited approver with distinction by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Institute for Medical Quality/California Medical Association (IMQ/CMA) through the joint providership of Cardea and Northwest Portland Area Indian Health Board. Cardea is accredited by the IMQ/CMA to provide continuing medical education for physicians.

Cardea designates this live web-based training for a maximum of 1 *AMA PRA Category 1 Credit(s)*^{TM}. Physicians should claim credit commensurate with the extent of their participation in the activity.

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COMPLETING THIS ACTIVITY

Upon successful completion of this activity 1 contact hour will be awarded

Successful completion of this continuing education activity includes the following:

- Attending the entire CE activity;
- Completing the online evaluation;
- Submitting an online CE request.

Your certificate will be sent via email

If you have any questions about this CE activity, contact Michelle Daugherty at mdaugherty@cardeaservices.org or (206) 447-9538

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CONFLICT OF INTEREST

Paulina Deming has been in an advisory meeting with Gilead.

Dr. Deming will present all treatment alternatives without bias.

None of the other planners or presenters of this CE activity have any relevant financial relationships with any commercial entities pertaining to this activity.

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Acknowledgement

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HCV Epidemiology

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Quick refresher

- Prevalence: proportion of population with existing infection, often expressed as a percentage
- Incidence: rate of new infections, often expressed as per 100,000 population

Bathtub analogy:

Prevalence is how high the water is

Incidence is how fast it is coming out of the faucet

HCV prevalence

Estimated 180 million nationwide

5 million in USA

33,000 I/T/U facilities, of which

4800 in “Northern Plains West”

HCV incidence (US National)

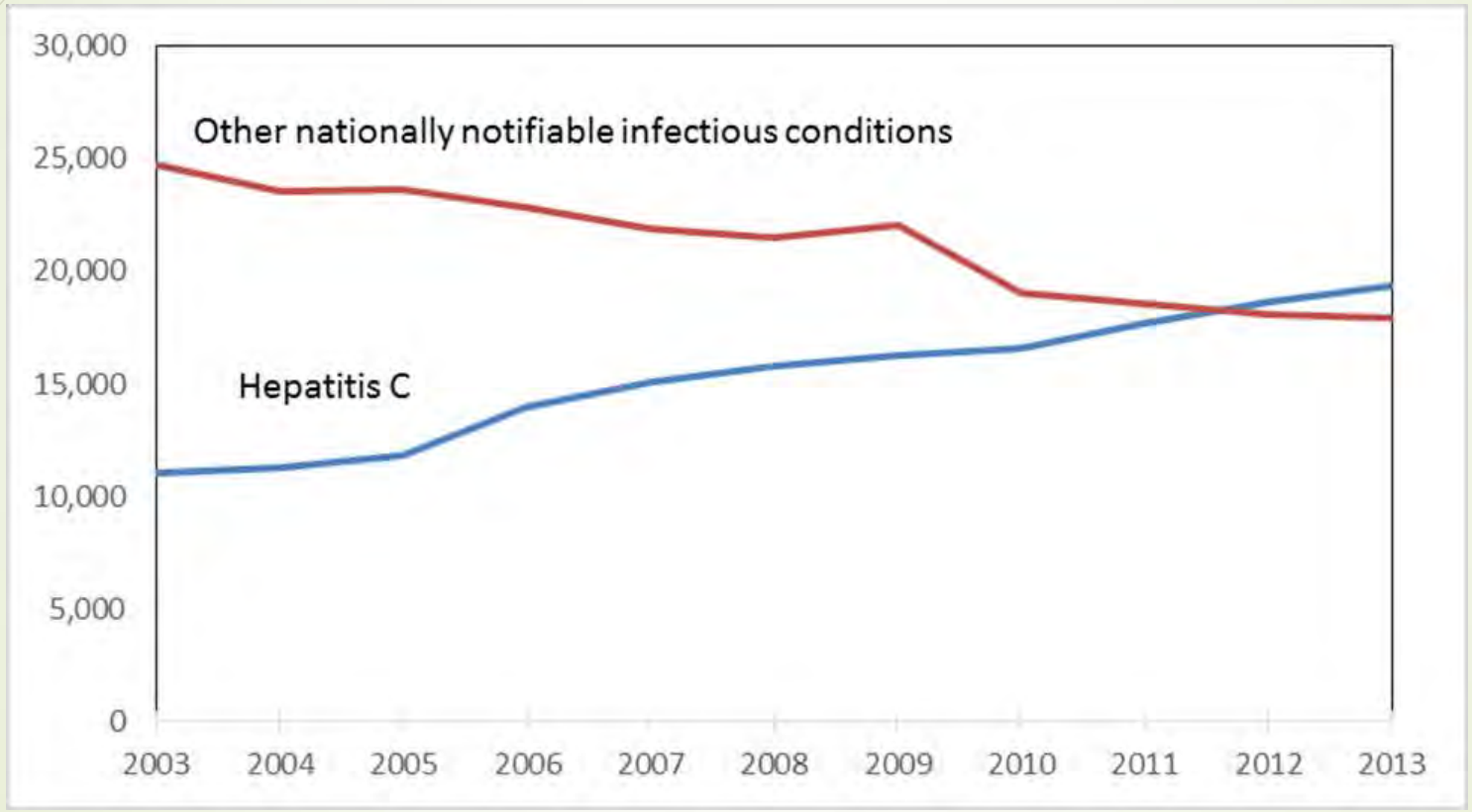
- In 2014, 30,500 estimated new infections
- Peak in 1980s, 230,000 per year

- IHS just over 2000 per year
- Not true incidence but rather ‘new diagnoses”

HCV Caseload, I/T/U (through FY 2015)

- 33,937 persons with an HCV+ of whom
  - 1,527 born before 1945
  - 18,482 born 1945-1965
  - 13,928 born after 1965

HCV Deaths and Deaths from Other Nationally Notifiable Infectious Diseases,* 2003- 2013

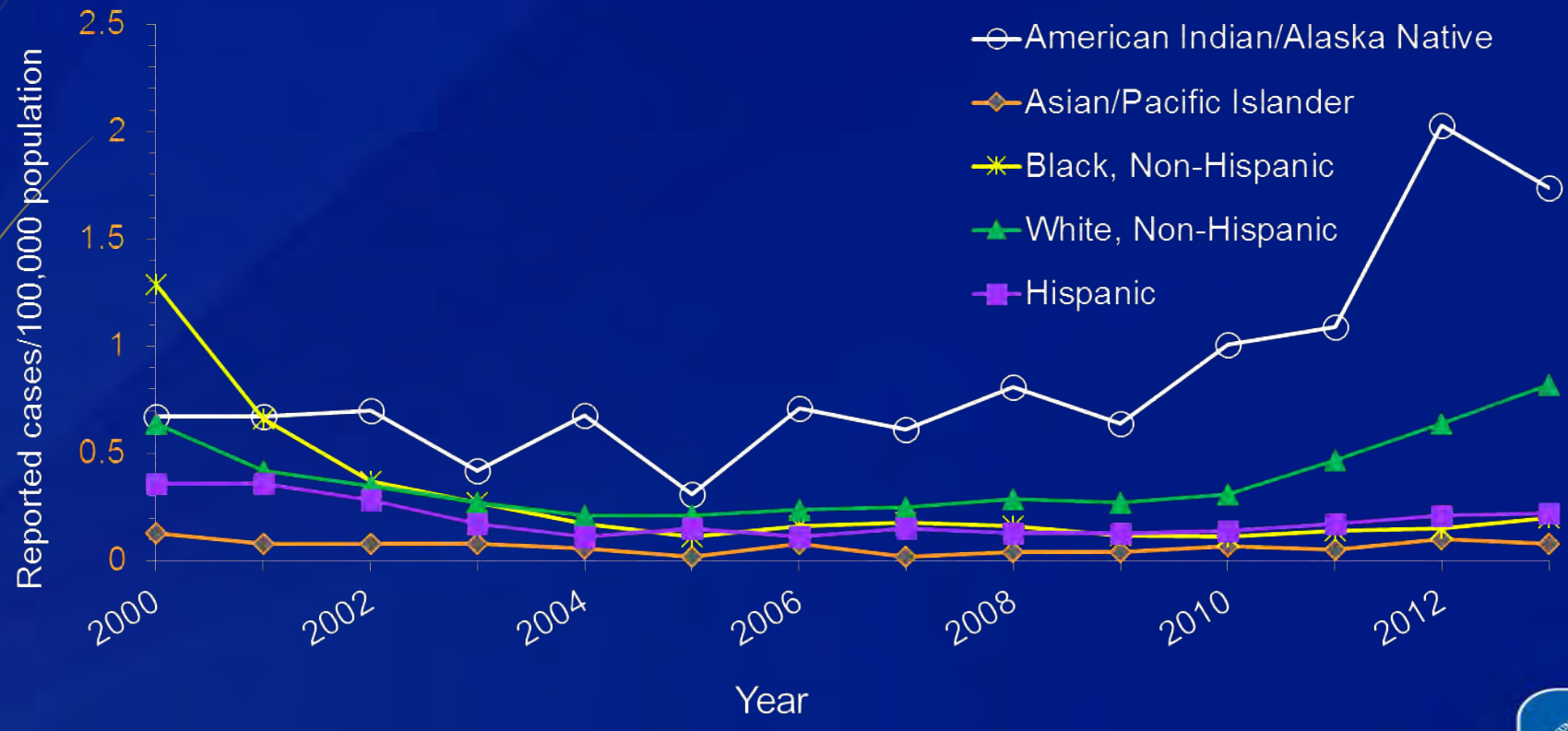


* TB, HIV, Hepatitis B and 57 other infectious conditions reported to CDC

Division of Viral Hepatitis

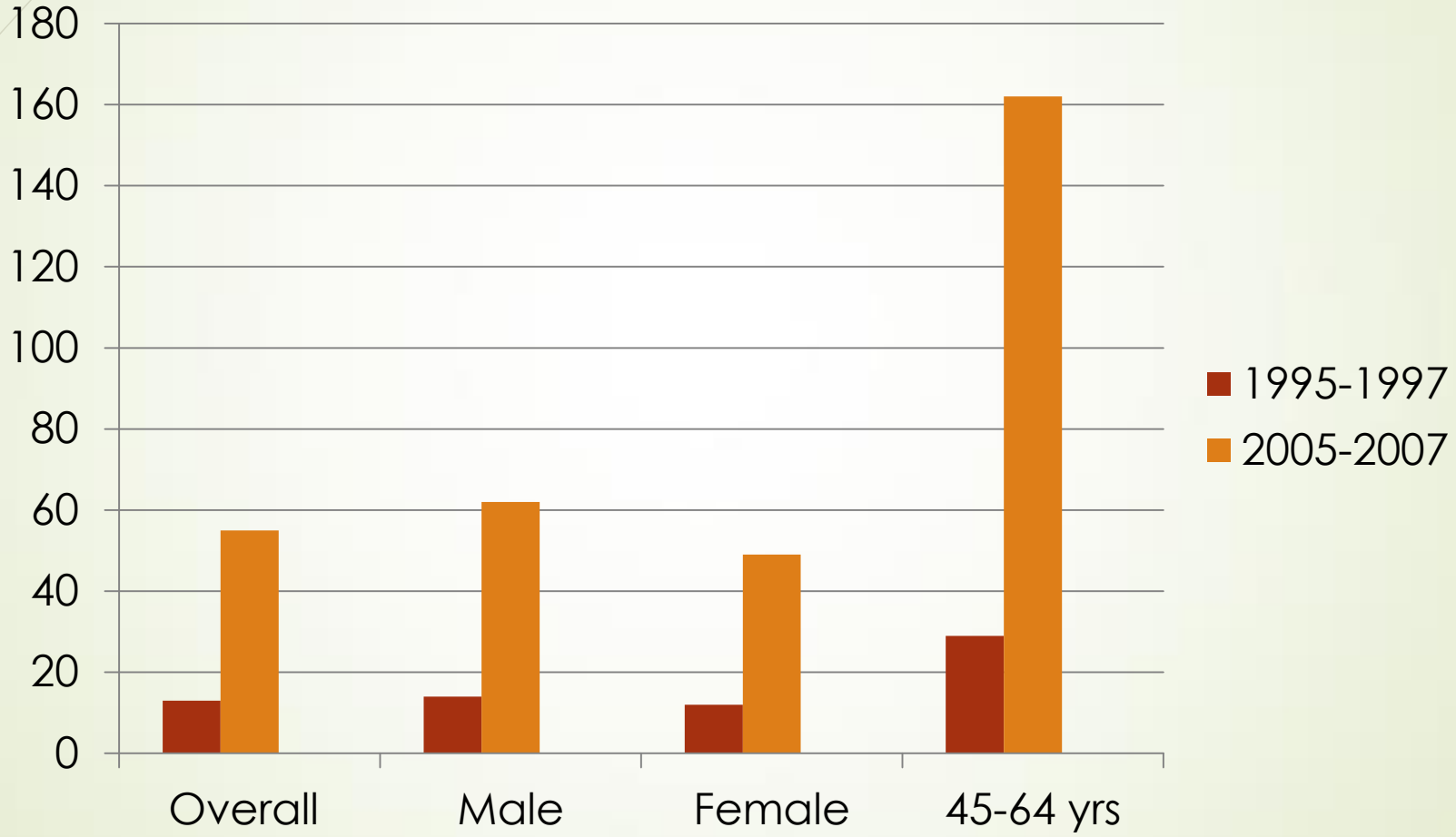
Holmberg S, et al. "Continued Rising Mortality from Hepatitis C Virus in the United States, 2003-2013" Presented at ID Week 2015, October 10, 2015, San Diego, CA

Incidence of Acute Hepatitis C, by Race/Ethnicity — United States, 2000–2013



Source: National Notifiable Diseases Surveillance System (NNDSS)

A 300% Increase in Hepatitis C –related Hospitalization for AI/AN – 1995-2007 (hospitalization per 100,000 persons)



Division of Viral Hepatitis

Byrd KK, et al Pub Hlth Rep 2011

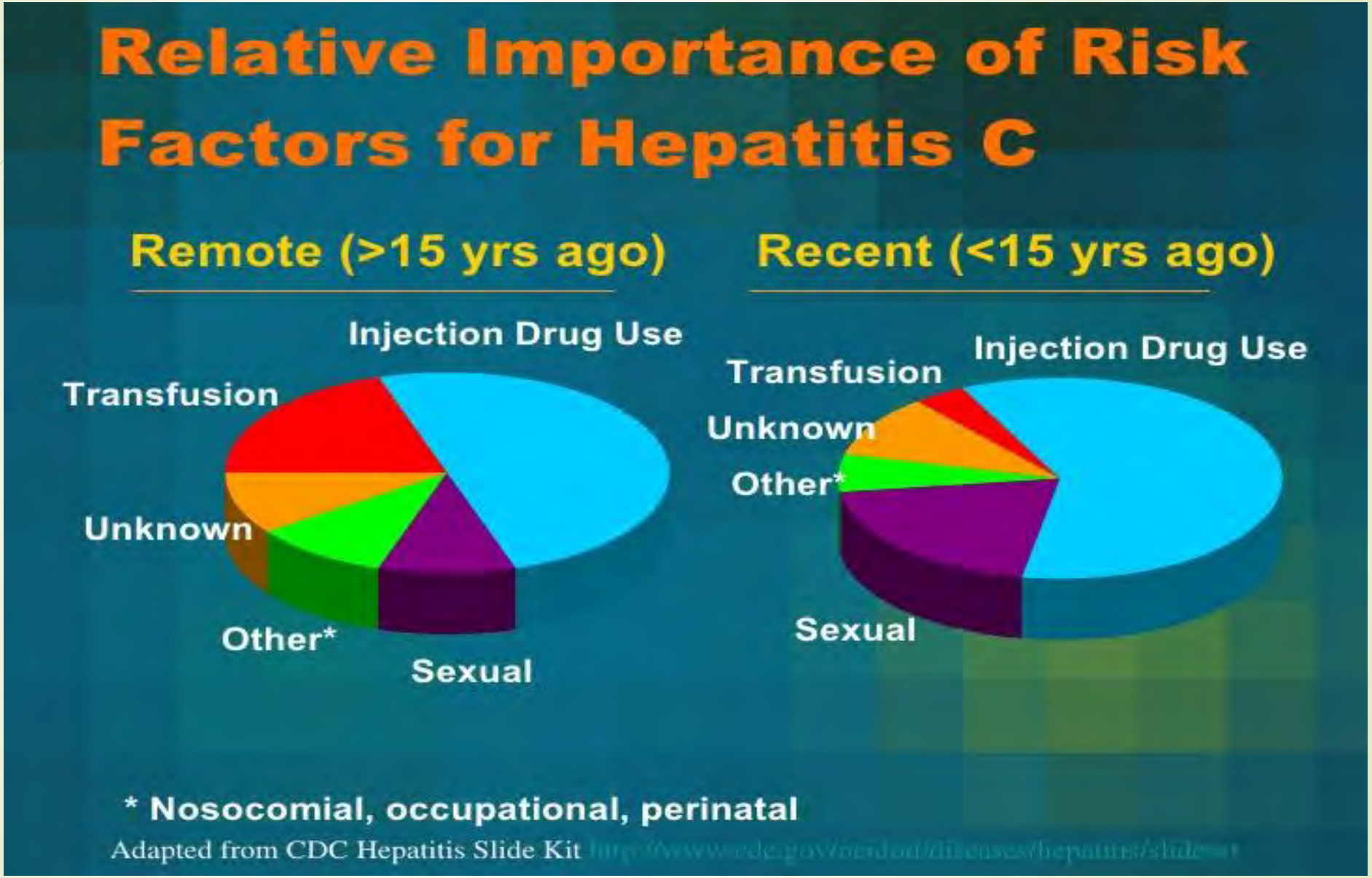
The bottom line: HCV related mortality per 100,000, by race/ethnicity, 2014

- AI/AN: 11.2
- Black, NH: 8.1
- Hispanic: 6.8
- White, NH: 4.4

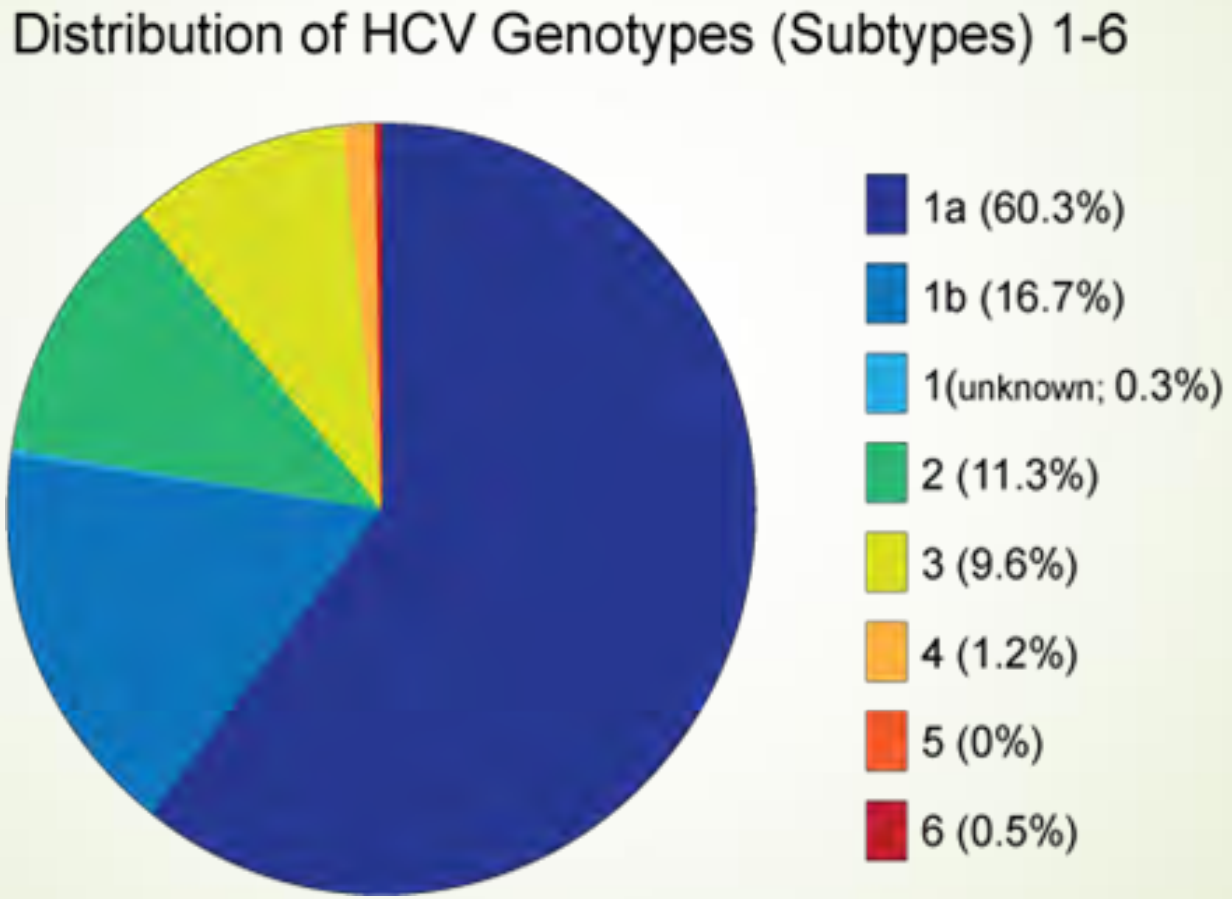
Transmission (CDC national data)

- 45% no risk factor identified
- 8% prevalence in dialysis patients, still high outbreak risk
- >50% of HCV from IDU, up to 30% infected in first year or two of injection, reaching up to 90% Ab+ in IDU communities, can be highly variable. Declined in IDUs due to infection saturation
- "New" HCV is young, non urban, oral opiate user that has transitioned to heroin
- MSM, intranasal drugs, non professional tattoos, medical professional

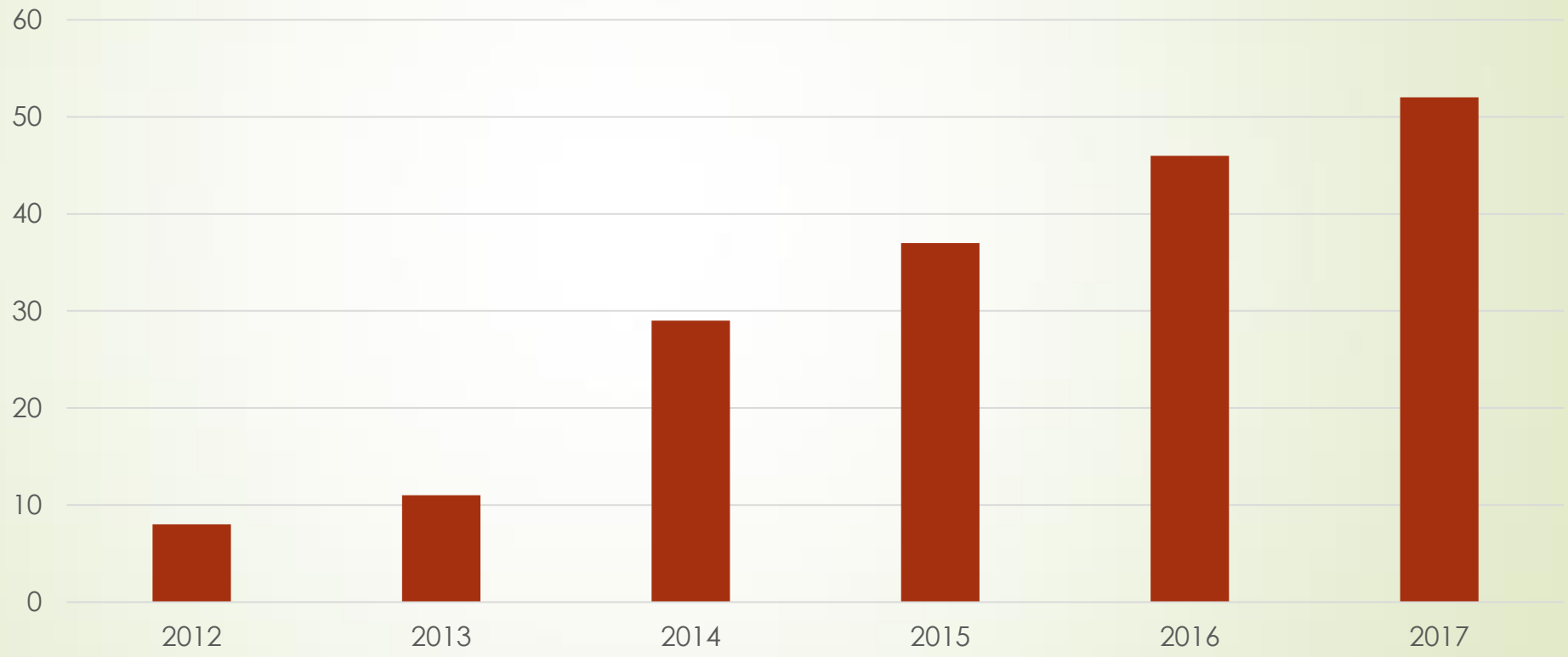
Relative Importance of Risk Factors for Hepatitis C



Genotype distribution, USA

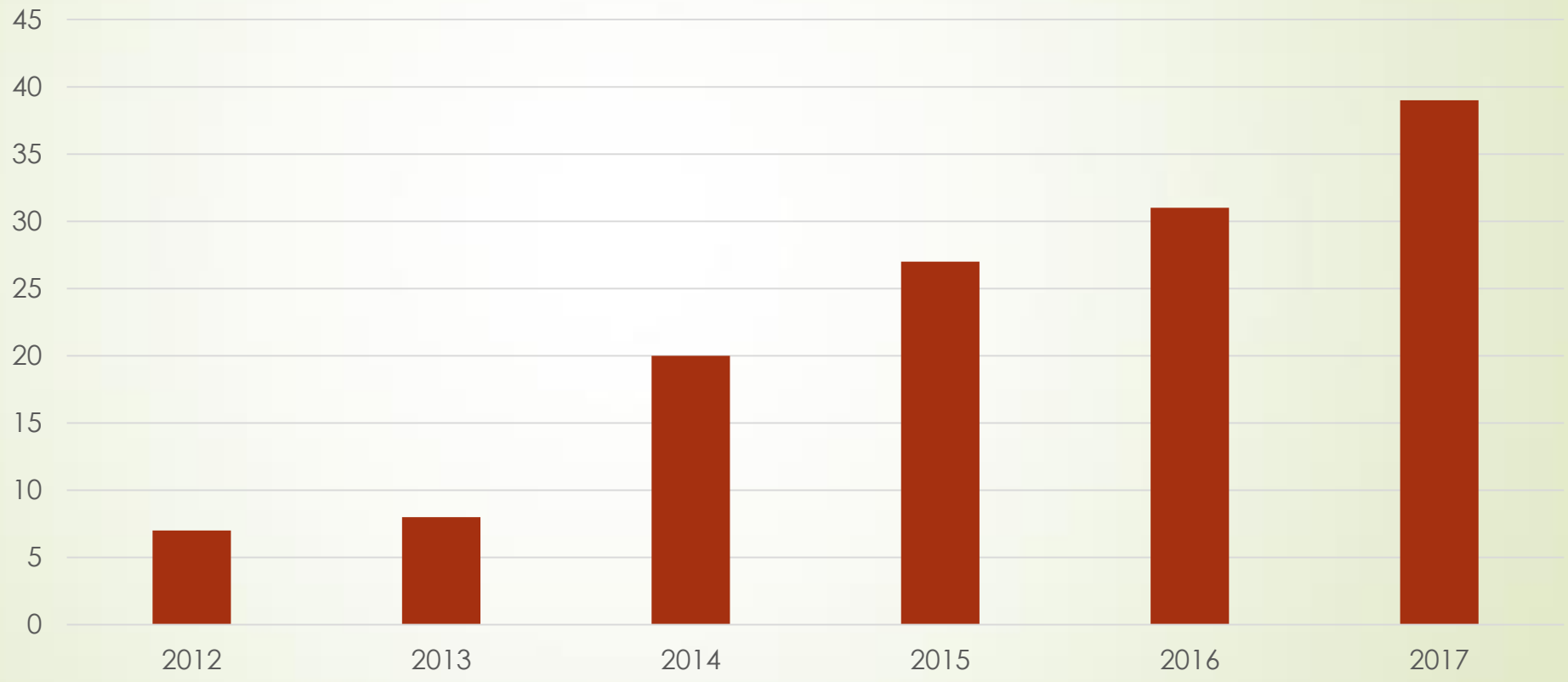


HCV Screening 2012-2017, IHS federal sites, persons born 1945-1965



GP HCV screening persons born 1945-1965

-highest is WW Keeble at 67% congratulations



IHS:
New HCV diagnoses per 100,000

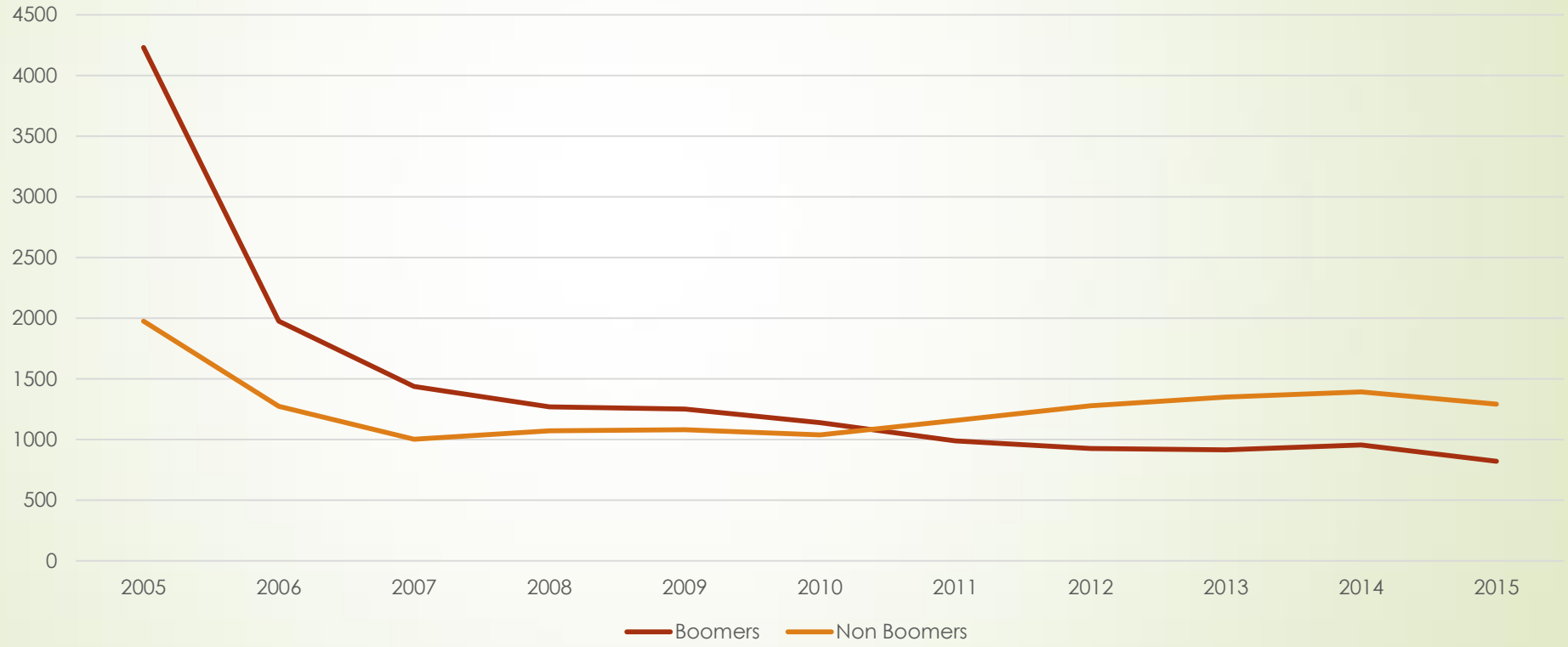
2005-2015

- NPW: 224
- National average: 179
- NPW highest rate from 2005-2011

By Age

- In USA, approximately 75% Boomers (national)
- In IHS approximately 53% Boomers (15,900/29,803)
- In IHS, since 2011, more non-boomers diagnosed although boomers still much higher in terms of rates

HCV by boomers/non boomers 2005-2015 (IHS national data)



Perinatal

- Approximately 5% mother to child transmission
- Infection at time of birth, and correlated with RNA levels at time of birth
- Normal childbirth and breastfeeding recommendations
- Only 4%-10% of children will develop chronic infection
- Reminder: women of childbearing age can qualify for tx regardless of liver stage in some states

Household contact

- Only recommendations are to not share razors or toothbrushes
- No condom recommendation for discordant couples
- Key part of destigmatizing disease, along with better treatment knowledge, which will assist patient follow up

Liver staging

- No national data, must be estimated/extrapolated
- Based on Cherokee Nation results, 25%-35% of boomers with HCV in stage 3 or 4
- Nationwide approximately 16,000 Boomers, or 4,000 in immediate need for treatment
- Linkage to care for historical cases requiring resources in the short term

Cascade of Care: A key part of response

Challenges

- Resources needed to engage historical patients diagnosed years ago

- SVR12 return rates lower than expected

Questions?

"It has been an exceptional experience for the providers and has shown to be invaluable for the patients. We are very proud of the hard work and progress that our providers & staff in the HCV clinic have accomplished. "

Clinical Director, OK SU, March 8 2017