

Utilization of Telemedicine to Treat Hepatitis C Virus Infection at a Medication – Assisted Treatment Program



Collaborative Effort Between



State University of New York - Buffalo



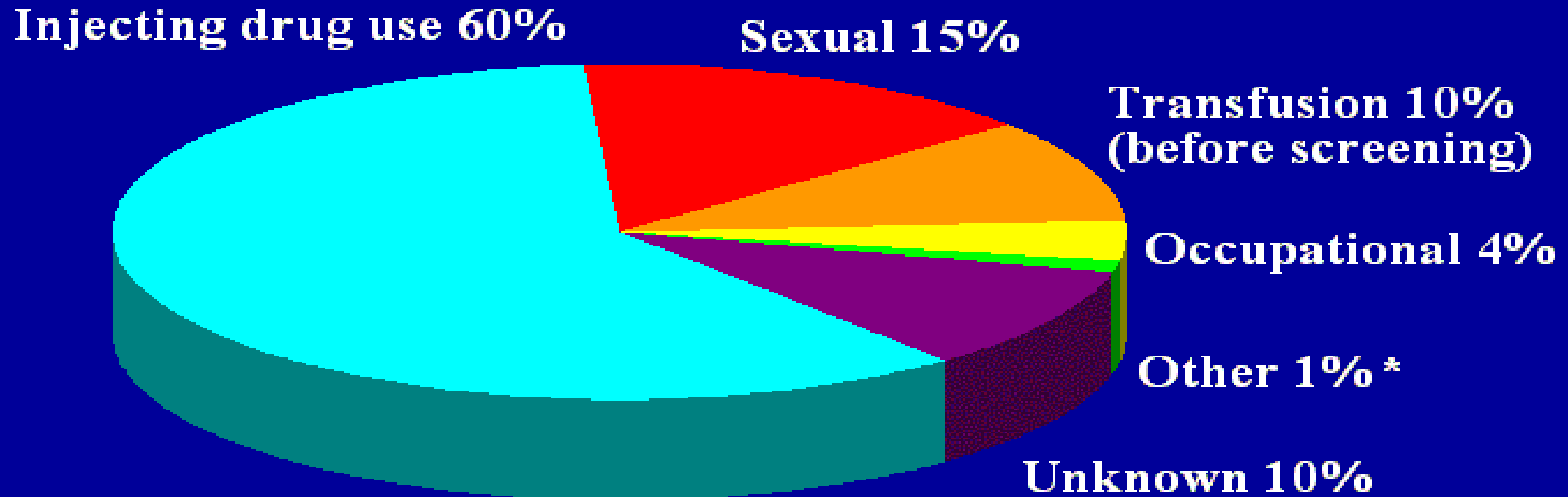
CDC FOUNDATION

Helping CDC Do More, Faster



- Approximately 3.2 million cases of chronic Hepatitis C in the US.
- Approximately 75% - 85% of people infected with Hepatitis C virus (HCV) develop chronic infection
- In 2013, 19,368 Death Certificates in the US cite HCV as the cause of death

Sources of Infection for Persons With Hepatitis C

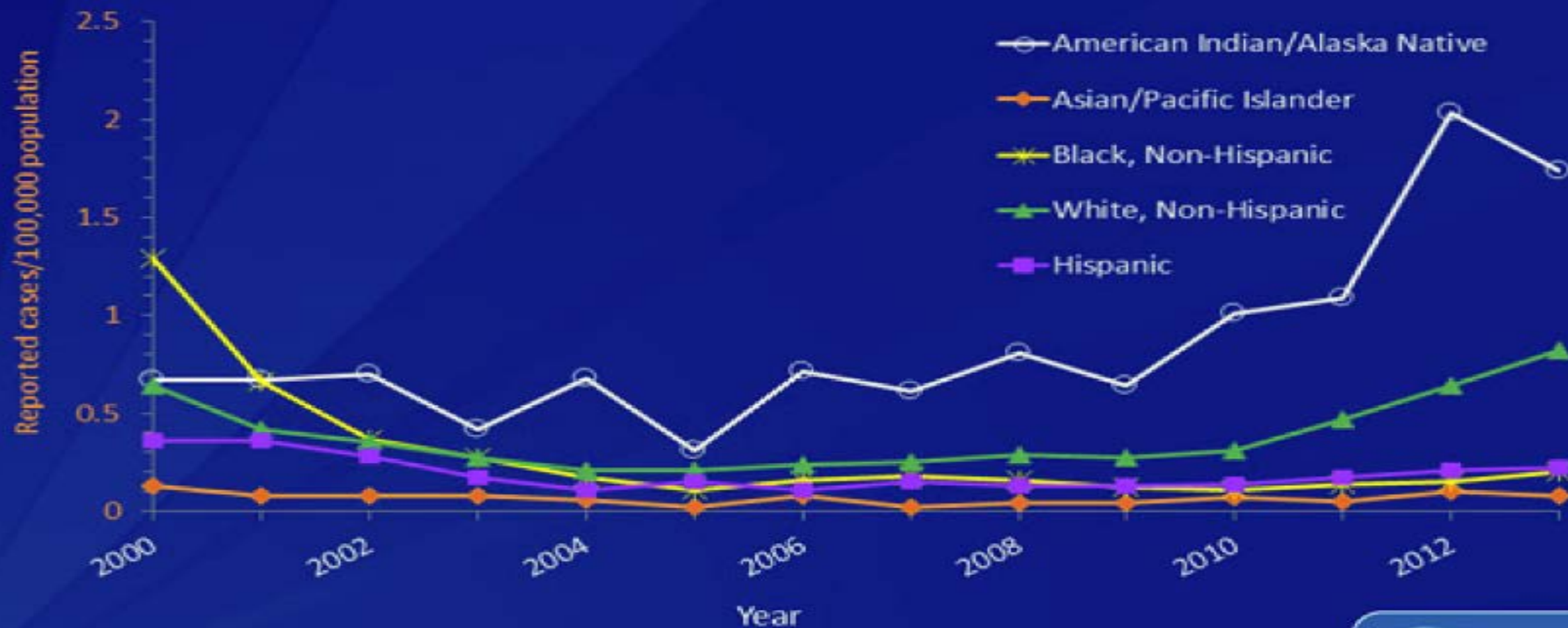


* Nosocomial; iatrogenic; perinatal

Source: Centers for Disease Control and Prevention



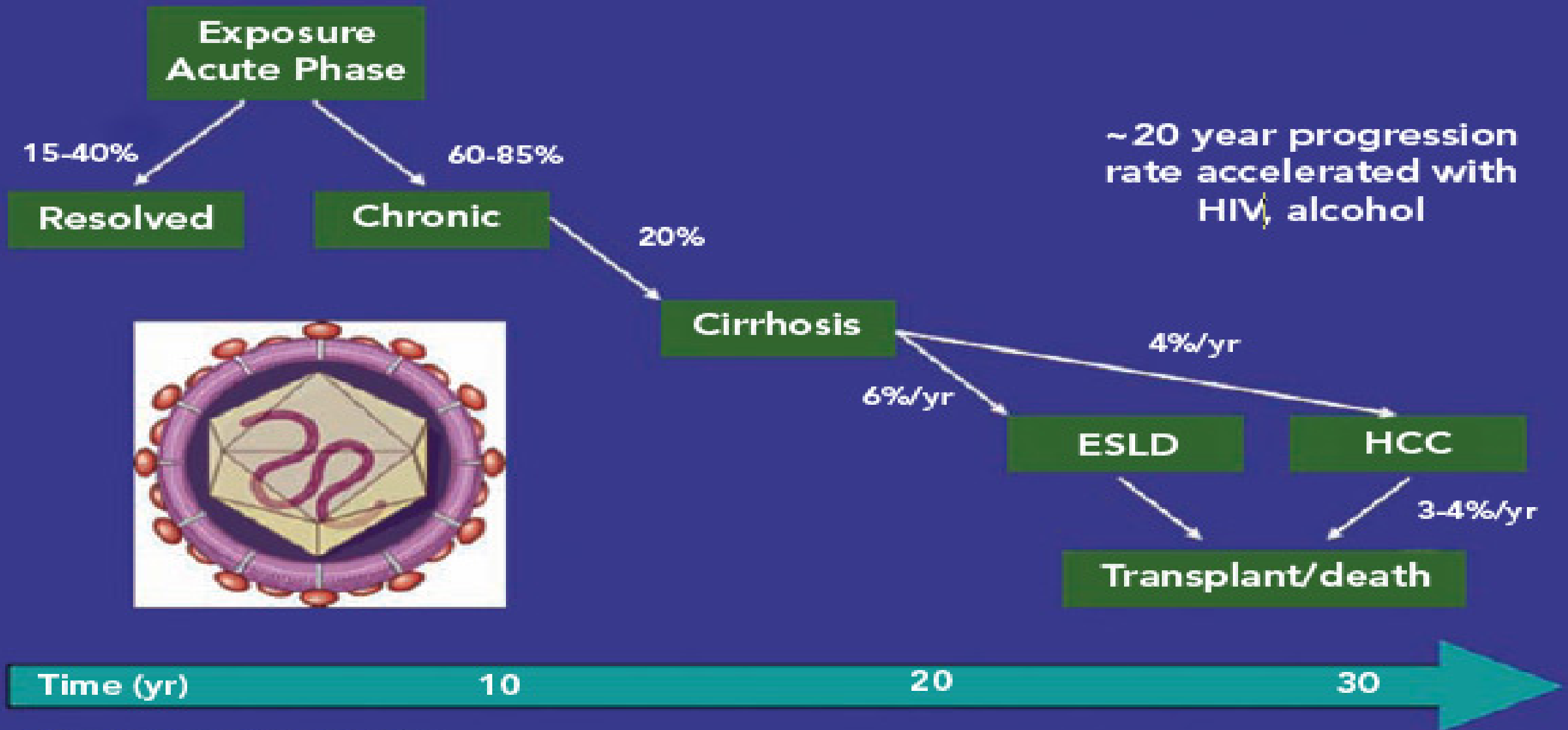
Incidence of acute hepatitis C, by race/ethnicity — United States, 2000–2013



Source: National Notifiable Diseases Surveillance System (NNDSS)



Natural History of HCV Infection



HCC = hepatocellular carcinoma
ESLD = end-stage liver disease

Adapted from: Di Bisceglie et al. *Hepatology*. 2000;31(4):1014-1018.

HCV and Drug Users

- Former and current injection drug users have the highest HCV prevalence
- 90% of drug users who have been injecting for 5 years or longer are infected with HCV
- HCV treatment uptake remains low among drug users
- Less than 1/3 of those referred to specialty clinics appear for appointments
- Less than 20% of those evaluated initiate antiviral therapy
- Reasons for low treatment uptake emanate from both patients' and providers' side

HCV and Drug Users: Obstacles

Patients

Lack of knowledge about HCV status

Lack of HCV-related knowledge

Low perceived need for treatment

Fear of side effects

Mistrust of health care system

Providers

Reluctance to treat drug users

Concerns about treatment adherence

Concerns about reinfection

System-based

Complex healthcare system

Insurance coverage

Stigmatization in health venues

New models are needed for the successful management and treatment of HCV among former and current drug users

- Telemedicine offers opportunity to remotely link patients with physicians geographically separated
- HCV management via tele-care
 - Prior limited attempts in prisons^{1,2} and at rural clinics²
 - Never attempted in drug treatment facilities
- PET-C study objectives:
 - To demonstrate feasibility of HCV management via telemedicine in opiate treatment program
 - To assess patients knowledge and perception changes towards HCV treatment after educational intervention

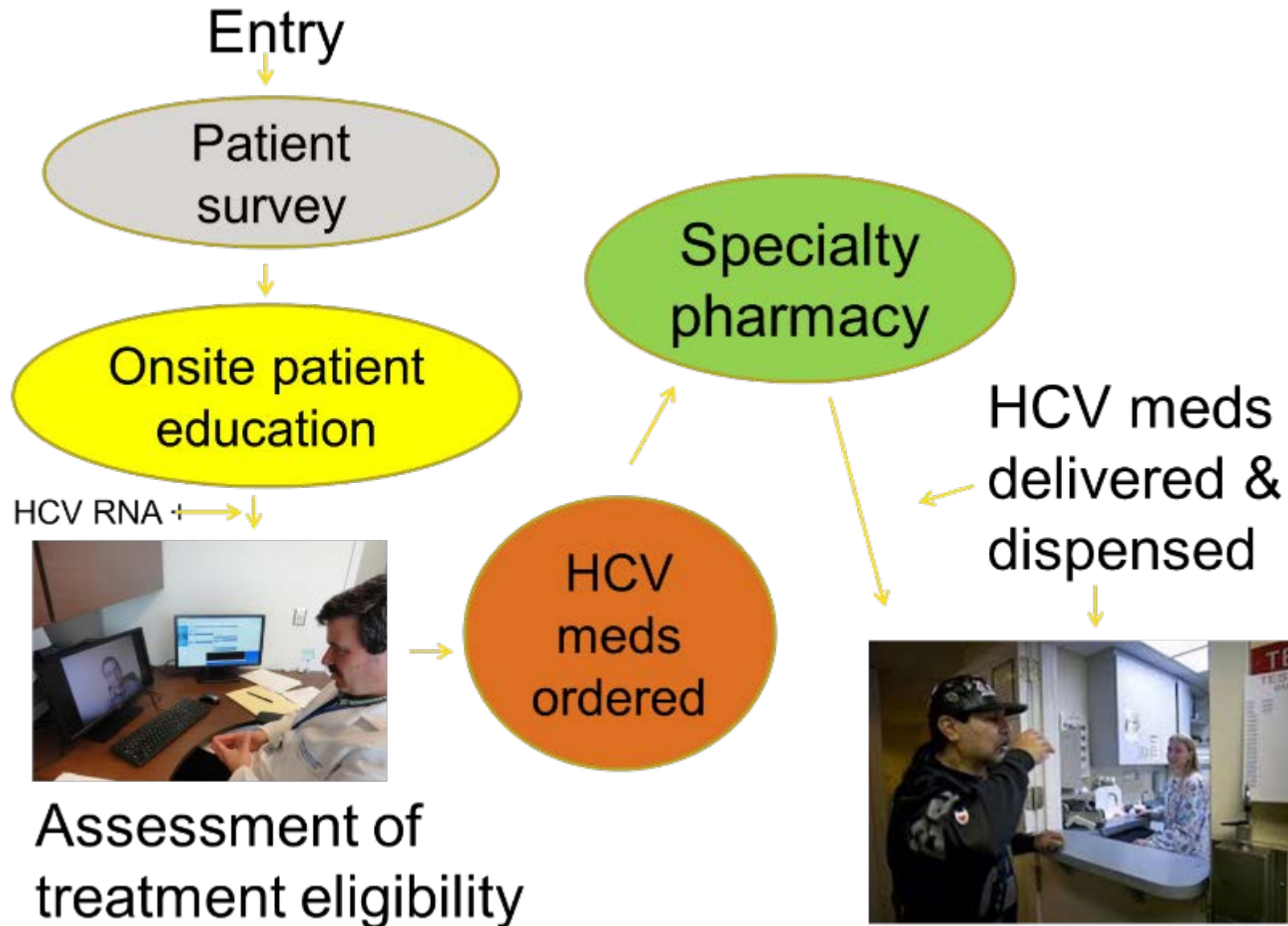
¹ Sterling et al, Amer J Gastro, 2004;99:866; ² Arora, Hepatology 2010; 52:1124

Telemedicine Network

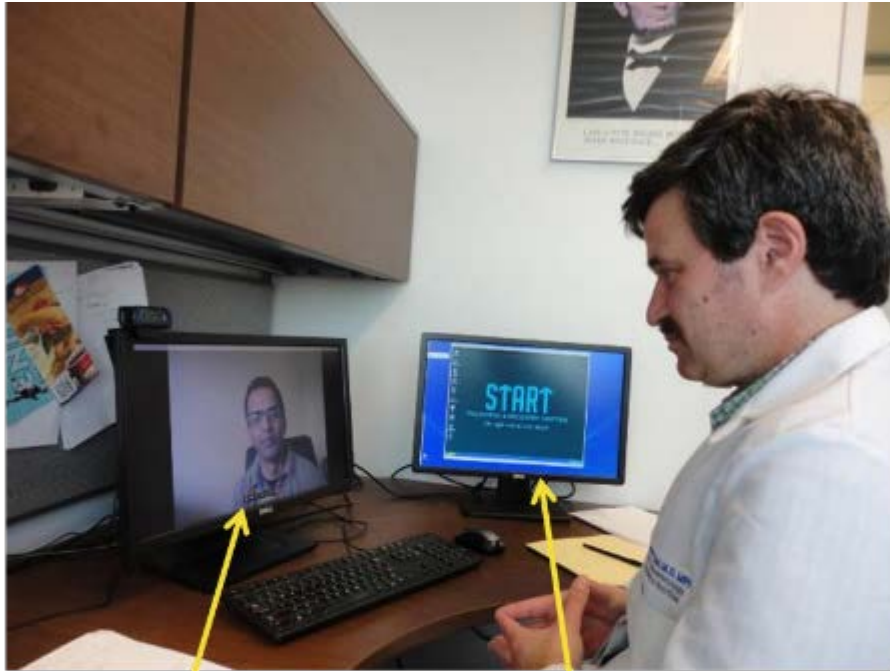


- START: 7 clinics, ~3000 patients, 90% African-American & Hispanic, 36% women, 18% HIV+
- Currently - One clinic, ~500 patients, 46% HCV+

Study Flow



Telemedicine Consultation



Telehealth
Interaction

START EHR

- Onsite physician-extender
 - Facilitates patient interactions
 - Physical examination required for medical billing
- Remote EHR access
 - Real-time result review and physician documentation
 - Presentation of results to patient during appt

Patient Survey and Onsite Education

- Of 320 patients surveyed, majority (78%) willing to pursue HCV education and treatment¹
- Respondents demonstrated substantial HCV-related knowledge.
- Attendance at HCV educational activities improved HCV-related knowledge.
- Knowledgeable patients were more likely to accept HCV treatment.

¹Zeremski, Dimova, Talal: Journal of Addiction Medicine 2014; 8:249-57

Hepatitis C Virus–Related Knowledge and Willingness to Receive Treatment Among Patients on Methadone Maintenance

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Objectives: Although persons who inject drugs have high prevalence of hepatitis C virus (HCV) infection, few receive treatment mostly because of lack of knowledge about the infection and its treatment. We assessed the level of HCV-related knowledge and willingness to participate in HCV treatment among methadone-maintained patients. **Methods:** A 30-item survey covering HCV-related knowledge and willingness to engage in HCV-related education and treatment was developed and completed by 320 methadone-maintained patients.

Results: Respondents' mean age was 53 ± 8.7 years, 59.5% were male, 55.1% were African American, and 38.3% were Hispanic. The mean duration of methadone maintenance was 7 ± 6.7 years. In the preceding 6 months, 6.9% of patients reported injection drug use, whereas 37.3% used noninjection drugs. Hepatitis C virus seropositivity was self-reported by 46.3% of patients. The majority of patients (78%) expressed willingness to participate in HCV-related education and to receive HCV treatment. Most patients (74.7%) correctly answered 5 or more of 7 questions assessing HCV knowledge. Hepatitis C virus–seropositive individuals and prior attendees at HCV-related educational activities demonstrated a higher level of HCV-related

knowledge ($P < 0.001$ and $P = 0.002$, respectively). Younger patients ($P = 0.014$), those willing to attend an HCV-related educational activity ($P < 0.001$), and those with higher–HCV-related knowledge ($P = 0.029$) were more accepting of HCV treatment. Fear of medication-related side effects was the most common reason for treatment avoidance.

Conclusions: The majority of patients reported willingness to receive HCV-related education and treatment. Treatment willingness was significantly associated with previous attendance at an HCV educational activity and a higher level of HCV-related knowledge.

Key Words: drug treatment, HCV education, knowledge, models of care for hepatitis C, persons who inject drugs

(*J Addict Med* 2014;00: 1–9)

Hepatitis C virus (HCV) infection affects more than 150 million people worldwide (World Health Organization, 2013) and an estimated 3.2 million individuals in the United States (Armstrong et al., 2006; Chak et al., 2011). Acute HCV infection is usually asymptomatic and is rarely diagnosed; yet,

Journal of Addiction Medicine 2014; 8: 249-57

START

TREATMENT & RECOVERY CENTERS

Reimbursement and Billing

- Medicaid-managed care plans have embraced concept of reimbursement for telemedicine-based services.
 - Physician-extender and physician complete note in EHR
 - Payment directly from payer to spoke site
 - Funds subsequently disbursed to the hub site
 - Bill submitted electronically by the spoke site
- Third party payer interest in telemedicine-based approaches for substance users
 - Adherence to treatment regimen and clinic visits
 - Assessment of substance user's satisfaction with telemedicine-based medical evaluations.

Current Status of Project

- 320 patients participated in the patient survey
- 140 patients completed patient education
- 20 patients have entered the treatment phase
- 3 patients have completed the treatment phase
- The application process has been started for a grant from the Patient Centered Outcomes Research Institute to expand this pilot project.

SUMMARY

- HCV is an increasingly important health care concern for addiction treatment programs with public health significance
- Knowledgeable patients were more likely to accept HCV treatment.
- Telemedicine represents an important option in connecting patients and their addiction medicine providers to HCV specialists.
- Substantial barriers exist in access to HCV treatment.