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

START
TREATMENT & RECOVERY CENTERS
The right way to treat people.

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

- Injecting drug use 60%
- Sexual 15%
- Transfusion 10% (before screening)
- Occupational 4%
- Other 1%*
- Unknown 10%

* Nosocomial; iatrogenic; perinatal

Source: Centers for Disease Control and Prevention
Natural History of HCV Infection

15-40% of exposure resolves, 60-85% go on to chronic phase. 20% of chronic phase progress to cirrhosis. Cirrhosis can progress to ESLD (4%/yr), HCC (3-4%/yr), or transplant/death. ~20 year progression rate accelerated with HIV, alcohol.

HCC = hepatocellular carcinoma
ESLD = end-stage liver disease

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

<table>
<thead>
<tr>
<th>Patients</th>
<th>Providers</th>
<th>System-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge about HCV status</td>
<td>Reluctance to treat drug users</td>
<td>Complex healthcare system</td>
</tr>
<tr>
<td>Lack of HCV-related knowledge</td>
<td>Concerns about treatment adherence</td>
<td>Insurance coverage</td>
</tr>
<tr>
<td>Low perceived need for treatment</td>
<td>Concerns about reinfection</td>
<td>Stigmatization in health venues</td>
</tr>
<tr>
<td>Fear of side effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mistrust of health care system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 clinics\(^2\)
- 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

Entry

- Patient survey

Onsite patient education

Specialty pharmacy

- HCV meds delivered & dispensed

HCV RNA+

HCV meds ordered

Assessment of treatment eligibility
Telemedicine Consultation

- 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 treatment

- 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

Marija Zeremski, PhD, Rositsa B. Dimova, PhD, Roberto Zavala, MD, Steven Kritz, MD, Melissa Lin, MS, Bryce D. Smith, PhD, Jon E. Zibbell, PhD, and Andrew H. Talal, MD, MPH

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 (84.7%) correctly answered 5 or more of 7 questions assessing HCV knowledge. Hepatitis C virus–seropositive individuals and/or 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. Conclusion: 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,
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.