Integrating Hepatitis C & B Telemedicine into Low-Threshold Care Models

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Disclosures

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Learning Objectives

By the end of this presentation, participants will be able to understand:

• Describe implementation of telemedicine services for hepatitis B and C at two different practice settings
• Review successes and challenges
• Discuss how telehealth supports care during COVID-19 and may offer long-term solutions for some populations
Opportunities and Challenges in Providing HCV Telemedicine Services
Global Call for HCV Elimination

- **WHO vision**\(^1\): “Eliminate viral hepatitis as a major global public health threat by 2030”

- **US HBV/HCV Elimination Strategy** (National Academies of Sciences, Engineering, and Medicine)\(^2\)
  - “Elimination” = 90% reduction in incidence by 2030

- **HCV elimination in US not feasible without engaging, treating PWID**
  - 30.5% of all HCV infections in North America are among people with recent IDU\(^3\)

### 2030 Targets
- 90% Diagnosed
- 80% Treated
- 65% Reduced mortality

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Pre-COVID Trends in HCV Care

1. Telemedicine

2. Simplification
Pre-COVID Trends in HCV Care

1. Telemedicine

2. Simplification
HCV Telemedicine Pre-COVID

- Telemedicine – delivery of health care services at a distance using electronic means for “the diagnosis of, treatment, and prevention of diseases and injuries, research and evaluation, education of health care providers.”

- Despite the potential of telemedicine to improve access to care, its uptake in hepatitis C care has been variable due to inadequate reimbursement, interstate licensing barriers, and lack of infrastructure and resistance to change.
HCV Telemedicine Pre-COVID

- In the US used extensively to extend reach of HCV providers to rural areas
- New Mexico often considered the leader in ECHO telemedicine
PRE-COVID Trends in HCV Care

1. Telemedicine

2. Simplification
The Long Journey to an HCV Diagnosis . . .

Visit #1
- Anti-HCV antibody (physician)

Visit #2
- Phlebotomy (phlebotomist)
- Antibody test 1-2 wks

Visit #3
- Receive diagnosis (physician)

Visit #4
- Phlebotomy (phlebotomist)
- RNA test 1-2 wks

Visit #5
- Receive diagnosis (physician)

Moving Toward a Single-Visit HCV Diagnosis

- **Visit #1**: Anti-HCV antibody (Physician)
- **Visit #2**: Rapid anti-HCV antibody test (Health care worker)
- **Visit #3**: Phlebotomy (Phlebotomist)
- **Visit #4**: Phlebotomy (Phlebotomist)
- **Visit #5**: Receive diagnosis (Physician)

- **Central Lab**: Antibody test 1-2 weeks
- **Central Lab**: RNA test 1-2 weeks

Increased time, visits and lost of follow up
AASLD/IDSA Guidelines

• Simplified treatment for treatment naive
  – Simplified cirrhosis screening utilizing Fib-4
  – No role for genotype testing
  – Pan-genotypic regimen
  – Significant percentage of patients don’t require on-treatment monitoring labs
HCV Treatment at the Lower East Side Harm Reduction Center
HCV Treatment at the Lower East Side Harm Reduction Center

- 2016 began co-located hepatitis C treatment within a syringe service program
- Program focused on treating people who inject drugs
- Large percentage of patient marginally housed
- High rates of perceived stigma at typical health care settings
- Co-located model provided treatment in comfortable, de-stigmatized environment where re-infection prevention
HCV Treatment
March – June 2020

• Ad-hoc telephone HCV treatment
  – Although syringe exchanges were considered essential services – patronage especially during the lock-down - was significantly diminished
  – My clinical responsibilities, as an Infectious Diseases specialist, were drawn back from the community and outpatient setting and into the inpatient hospital setting
  – Although I did not start any new patients on treatment for the first few months after the lock-down, I had 11 PWID receiving therapy
  – Medication Delivery – homes, shelters, street corners
  – Laboratory Testing - relied predominately on community phlebotomy sites (Bioreference, Quest, LabCorp)
HCV Treatment
March – June 2020

• 11 patients followed on treatment during pandemic
  – All 11 received their complete treatment course
  – All 11 were in phone communication
  – 8/11 completed on-treatment, or post-treatment lab testing in the community
  – 10/11 eventually completed SVR12 testing – with all 10 achieving SVR
    • 1 remaining patient moved to Puerto Rico and we’ve been unsuccessful getting him to the Quest site there for testing
HCV Treatment in the ‘New-Normal Period’

• How to formalize our ad-hoc approach?

• Can we take advantage of expanded acceptance of telemedicine by academic medical centers to better serve our patients?

• Can we create a model that appears “sustainable”
Individual Accommodation

- Alliance (SSP), NYC DOHMH, and Bellevue Hospital have teamed to pilot a low threshold hepatitis C telemedicine treatment model.

- Patients – any HCV infected individual interested in HCV treatment, especially those who have had issues engaging in treatment

- Setting – patient’s ‘booked’ for Bellevue Infectious Diseases telemedicine visit. Phone call could occur from anywhere – Alliance site, street outreach, drug treatment program, patients home, etc.

- Goal – flexible, patient specific, low threshold HCV care.
  - Goal is “on-demand” televisit – capture the patient in the moment
  - Labs within community (Bioreference, Quest, Labcorp, any H&H facility, of LESHRC)
  - Medication (8-12 weeks of once-daily pills) delivered to wherever patient prefers (LESHRC, patient’s home, other program, etc.)
Recruitment

Confirmation

Medical Provider Linkage

Baseline Laboratory Tests

Medication Delivery

Follow-up Clinical Visits

Follow-up Lab Testing

LESHRC Site

LESHRC Street Outreach

Outside Program Referral

Client Referral

Televisit on personal phone

Commercial Lab in Community

Patients Home

Televisit on personal phone

Commercial Lab in Community

Televisit on LESHRC phone

LESHRC

Friend or Family Members Home

Televisit on LESHRC phone

LESHRC

Televisit in-person at LESHRC

Community Hospital H&H or NYP

Community Site

In-person visit at LESHRC

Community Hospital H&H or NYP

In-person visit at Bellevue

Bellevue Hospital

LESHRC

In-person visit at Bellevue

Bellevue Hospital
Recruitment
Confirmation
Medical Provider Linkage
Baseline Laboratory Tests
Medication Delivery
Follow-up Clinical Visits
Follow-up Lab Testing

LESHRC Site
LESHRC Street Outreach
Outside Program Referral
Client Referral

Televisit on personal phone
Televisit on LESHRC phone
Televisit in-person at LESHRC
In-person visit at Bellevue

Commercial Lab in Community
Patient’s Home
Friend or Family Member’s Home
Community Hospital

In-person visit at LESHRC
Bellevue Hospital
LESHRC
In-person visit at Bellevue

Bellevue Hospital
Community Hospital
H&H or NYP
Community Site
Opportunities and Challenges for HCV Telemedicine

- Most patients prefer to meet their doctor face-to-face at least once.
- Specialty pharmacies are extremely helpful in facilitating a limited-visit treatment model. As insurance restrict patients to pharmacies (i.e., CVS Caremark or Briova) – the adaptability is often lost.
- Phlebotomy services within a syringe service program are preferred. Community sites seem to stigmatize PWID even more than medical centers.
- Potential for great street outreach & treatment when weather improves.
Case Study

• 58 y/o male with chronic HBV (Eag neg, Eab pos) on TAF for 2 years. He has compensated cirrhosis and his last HCC screening was in 2/2020. He did not want to be seen in the office or go out for labs/imaging due to the fear of getting infected during the pandemic.

• Clinical challenges:
  – Medication compliance and renewals
  – update labs
  – HCC screening
  – management of cirrhosis
Avoiding Medical Care During COVID-19

4 in 10 U.S. adults reported avoiding medical care because of concerns related to COVID-19*

Delaying or avoiding urgent or emergency care was more common among:

- People with disabilities
- People with two or more underlying conditions

Telehealth may help people get the care they need

Even during the COVID-19 pandemic, people who experience a medical emergency should seek care without delay

CDC.GOV

bit.ly/MMWR91020
Immediate Impacts

Reduction in Diagnostic Testing Procedures
Week Ending April 2021 Compared to February 2020

- Mammograms: -87%
- Pap Smears: -83%
- Colonoscopies: -90%
- CT Scans: -39%
- PSA Test: -60%

Predictions

Modeled Impact of Reduced Screening Tests
Three Months Ending June 5, 2020

Delayed Care with Harmful Health Consequences—Reported Experiences from National Surveys During COVID-19

- Delayed medical care widely reported during the COVID-19 pandemic
  - 1 in 5 adults (20%) in the US reported their household members were unable to get or delayed getting medical care for serious problems
  - About half of adults (52%) reported that they or family members skipped any type of medical or dental care because of the coronavirus outbreak from March through May ‘20.
  - 1 in 7 adults (15%) reported that household members delayed or were unable to get elective procedures or surgery for important health problems during the COVID-19 pandemic, with more than half (54%) reporting negative health consequences as a result.

JAMA Health Forum. 2020;1(12):e201463.
Delayed Care with Harmful Health Consequences—Reported Experiences from National Surveys During COVID-19

- Health insurance access not driving delays in care
  - Insurance status – with or without insurance
  - Insurance type- employer sponsored, Medicare, Medicaid
  - Racial Ethnic group
  - Findings are contrary to research prior to the pandemic focusing on health care costs and insurance as key factors limiting health care access

- Nonfinancial reasons as the primary barriers to care

- Implications for the future - health care professionals and health policy makers should focus on improving capacity and infection control to accommodate patients with serious medical needs other than COVID-19.

JAMA Health Forum. 2020;1(12):e201463.
The COVID-19 Pandemic Will Have A Long-Lasting Impact On The Quality Of Cirrhosis Care

- **Delayed**: LDLT, selected DDLT elective procedures, imaging, routine patient follow-up
- **Increased**: Emergent decompensations, transplant waitlist dropout, backlog of deferred visits/tests
- **Prioritized**: high-acuity care
- **Loss to follow-up**: missed diagnoses, incomplete cancer screening, progressive disease

COVID-19 Pandemic

First wave

Second wave

Third wave

Physical distancing policies

Journal of Hepatology 2020 vol. 73 j 441–445
Telehealth Policy

- More must be done to improve and expand access
- Ensure health care providers and patients have the requisite tools and resources
- 154% increase in telehealth visits

US Senator John Boozman’s Weekly Column: Time to Modernize Telehealth Policy

Even before the COVID-19 pandemic, Congress and the Centers for Medicare and Medicaid Services launched policy improvements to remove barriers to some telehealth services. The public health emergency has made it clear more must be done to improve and expand access to this manner of health care delivery. We must ensure health care providers and patients have the requisite tools and resources while also modernizing federal policy to support the growing demand for telehealth.

During the last week of March 2020, telehealth visits increased 154 percent compared to the same time the previous year, according to the Centers for Disease Control and Prevention. As a result of flexibilities unanimously approved under the CARES Act – which passed the same month and waives telehealth requirements for the duration of the pandemic – more people are relying on this technology to connect with their doctors.

It continues to be a popular method for patients to access quality health care that is convenient, safe and efficient. It’s also well-liked among health professionals. Arkansas medical providers have endorsed this approach and have called for permanent changes to make it easier to use telehealth in the future, and Congress has taken steps to make this happen.

https://kawx.org/kawx-news/570459
Using Telehealth to Expand Access to Essential Health Services during COVID-19

Benefits:

• Screen patients who may have symptoms of COVID-19 and refer as appropriate
• Provide low-risk urgent care for non-COVID-19 conditions, identify those persons who may need additional medical consultation or assessment, and refer as appropriate
• **Access primary care providers and specialists, including mental and behavioral health, for chronic health conditions and medication management**
• Provide **coaching and support for patients** managing chronic health conditions, including weight management and nutrition counseling
• Participate in physical therapy, occupational therapy, and other modalities as a hybrid approach to in-person care for optimal health
• Monitor clinical signs of certain chronic medical conditions (e.g., blood pressure, blood glucose, other remote assessments)
• Engage in case management for patients who have difficulty accessing care (rural setting, limited mobility)
• Follow up after hospitalization
Using Telehealth to Expand Access to Essential Health Services during the COVID-19 Pandemic

Limitations:

- Interstate licensure challenges and other regulatory issues that may vary by state
- **Situations in which in-person visits are more appropriate due to urgency, underlying health conditions, or inability to perform an adequate physical exam**
- The need to address sensitive topics, especially if there is patient discomfort or concern for privacy
- **Limited access to technological devices (e.g., smartphone, tablet, computer) needed for a telehealth visit or connectivity issues**
- Level of comfort with technology for HCP and patients
- Cultural acceptance of conducting virtual visits in lieu of in-person visits by HCP and patients
Telemedicine has been used successfully for many years for hepatitis C therapy in incarcerated and rural populations.

Extension for Community Healthcare Outcomes (ECHO) - targets front-line primary care providers to enhance expertise and enable problem-based learning through live video teleconferencing with subspecialty experts.

DeLIVER Care - mobile HCV screening van equipped with point-of-care HCV testing and liver stiffness assessment, have successfully expanded HCV care to the community.

Specialty Care Access Network – (SCAN ECHO) – to increase access, training, and provide real-time expert consultation for primary care physicians for multiple chronic conditions, including HCV and chronic liver disease.
## Use of Telemedicine In Different Areas of Hepatology

<table>
<thead>
<tr>
<th>Condition</th>
<th>Articles</th>
<th>Conclusion</th>
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</thead>
</table>
| HCV                       | Arora et al.\(^{(2)}\)  
Nazareth et al.\(^{(11)}\)  
Rossaro et al.\(^{(12)}\)  
Beste et al.\(^{(3)}\)  
Cooper et al.\(^{(4)}\)  
Sterling et al.\(^{(13)}\)  
Talal et al.\(^{(14)}\)  
Papaluca et al.\(^{(15)}\) | - There is no difference in SVR in patients who underwent telemedicine consultation or standard clinic visits.  
- Various studies show that rates of initiation of therapy for HCV are higher in the telemedicine group compared to hepatologist-treated patients with HCV.  
- Telemedicine is an effective tool for treatment of HCV in patients who are incarcerated or located in remote regions. |
| Hepatocellular carcinoma  | Salami et al.\(^{(6)}\)                                                  | - Virtual tumor boards expedite process of multidisciplinary evaluation in patients with hepatocellular carcinoma. |
| Cirrhosis                 | Thomson et al.\(^{(9)}\)                                                | - Teleconsultations can prevent relapse and reduce hospitalization.  
- Telemedicine can help streamline communication between transplant surgeons.  
- Improved patient satisfaction before and after transplant with help through telemedicine. |
| Liver transplantation     | Reddy et al.\(^{(8)}\)  
Ertel et al.\(^{(7)}\)                                                    |                                                                                               |
eHealth Technologies for Screening, Diagnosis and Management of Viral Hepatitis: A Systematic Review

- Hepatitis B: linkage to care
  - Electronic referral demonstrated efficacy

- Hepatitis B: treatment
  - No trials have reported clinical outcomes of telehealth specifically for HBV management.
How did you make the change from in-person to telemedicine?
Change From In-Person To Telemedicine

• How did you make the change from in-person to telemedicine?

https://www.britannica.com/place/Mount-Everest/History-of-exploration

Change From In-Person To Telemedicine

- **What technology did you need?**
  - cell phone, tablet, desktop

- **What technology does the patient need?**

  [MyChart]
  
  Join over 100 million patients who manage their care with MyChart

  Access MyChart

  https://www.dreamstime.com/illustration/doctor-patient-computer.html
Smartphone and Computer Ownership in the United States

**Smartphone**

**Computer**

![Graphs showing smartphone and computer ownership trends from 2009 to 2019.](www.statista.com)
Success and Challenges

• What works well? What do you like about it?
  – Reduced missed appointment rate
  – Patient satisfaction
  – Need for efficiency
  – Ability to work from home
Success and Challenges

• How do the patients benefit? What challenges do the patients have?
  – Convenient for patient to set up appointments
  – Waiting comfortably at home instead of a waiting room
  – Technology can be challenging- connection issues, audio etc
Success and Challenges

• What doesn’t work well? What are your challenges
  – Physical examination
  – Difficulty in educating patients without use of charts/graphics etc
  – Physicians have a sixth sense for spotting serious illness – tough to access virtually
  – Patients willing to be present for visit but some refuse to do the labs/imaging.

• What issues require in person visits?
  – Symptoms that necessitate physical exam
  – Decompensated cirrhosis
Best Practice and Recommendations

• How would you advise someone new to telemedicine to proceed?
  – Important to adopt telemedicine as it’s here to stay
  – There is a learning curve
  – Requires efficiency

• Can you describe some best practices and some things to avoid?
  – Be the clinician you are……….don’t let technology interfere with that

• Describe any unique issues specific to patients with Hep B
  – Monitoring, Maintenance, cancer screening and education
• Discuss how telehealth supports care during COVID-19 and may offer long-term solutions
  – Access to clinicians in the time of need
  – Patient stays engaged in healthcare
  – Convenience
  – Telemedicine has worked well in other clinical scenarios
Hepatitis clinical care can continue during COVID-19 via telemedicine

- **New Hep Free NYC Telehealth Capacity Building Webpage**

- **NYC REACH** provides free resources and training on telehealth for healthcare providers. NYC REACH is a free membership organization for New York City-based private practices, community health centers, health systems, and pharmacies. NYC REACH supports members with health information technology, primary care workflows, medication therapy management, chronic disease self-management, the referral process, and other quality improvement projects. To join NYC Reach email: nycreach@health.nyc.gov

- **NYS Telehealth Training Portal**
  NYS Telehealth Training Portal provides training modules that address the full scope of telehealth program implementation, management, and practice
Contact Us

For CMEs or educational opportunities, contact:

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## Upcoming Webinars

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<th>HBV Provider Training Series</th>
<th>Session</th>
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<tbody>
<tr>
<td>June 3, 2021 @ 4:30PM</td>
<td>Hepatitis B Epidemiology, Screening and</td>
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<tr>
<td></td>
<td>Prevention with Dr. Harmit Kalia</td>
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<tr>
<td>June 10, 2021 @ 4:30PM</td>
<td>Hepatitis B Treatment with Dr. Ari Bunim</td>
</tr>
<tr>
<td>June 17, 2021 @ 4:30PM</td>
<td>Hepatitis B Monitoring with Dr. Ira Jacobson</td>
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