

Improving Access to HCV Care in California's Rural Communities



POLICY BRIEF
Center for Health Improvement

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The spread of the hepatitis C virus (HCV) has now reached epidemic proportions in the United States, ranking as the most common blood-borne infection in the country. It affects close to four million Americans and an estimated 600,000 Californians.¹ Roughly 75% of HCV positive individuals have not been screened and do not know their diagnosis.

Injection drug use is the number one risk factor for acquiring HCV. According to the National Center on Addiction and Substance Abuse, rural youth are more likely to become substance abusers than urban youth: for instance, eighth graders in rural towns are 59% more likely than urban eighth graders to use methamphetamines.²

Rural communities have special health care needs compared to urban areas, including a lack of (or less) reliable access to health care and specialists who know how to diagnose and care for persons with HCV. In California, approximately five million residents live in rural areas, comprising 14.8% of the state's population.^{3,4} Residents of rural communities face higher poverty rates, have fewer doctors, hospitals, and other health resources, and experience increased difficulty getting to health services.⁵ This policy brief identifies promising practices in the diagnosis, care and treatment of HCV in rural communities and focuses on the emerging use of telemedicine.

The Silent Epidemic

HCV often causes few or no symptoms and takes decades to progress. There is no vaccine to prevent HCV. The prevalence estimates for HCV are based on the National Health and Nutrition Examination Survey (NHANES) of adult households; therefore, the numbers for marginalized populations, such as injection drug

users and incarcerated persons, may be greatly underestimated. It is the leading cause of liver disease and liver transplants; about 75% of HCV-infected persons develop chronic infections and 15-20% develop progressive liver disease, including cirrhosis and liver cancer.⁶ HCV accounts for 8,000 to 10,000 deaths per year nationwide.⁷ The cost to treat HCV is more than \$20,000 per person and a liver transplant exceeds \$300,000.⁸

In addition to current and past injection drug users, persons who are at-risk for HCV are those who: received a clotting factor produced before 1987; received long-term hemodialysis; are recipients of transfusions or organ transplants before July 1992; and health care or emergency workers after possible exposure to hepatitis C-positive blood.⁹ Screening for HCV

in high-risk populations can result in early detection of the virus and provide infected persons with appropriate counseling, medical evaluation, and treatment.¹⁰

Telemedicine: The New Frontier

Telemedicine is the use of telecommunications and information technologies for the provision of health-care at a distance.¹¹ The diagnosis, care and treatment of HCV will improve with greater use of new technological options available to rural health care providers. Telemedicine is emerging as an invaluable resource for the medical community in rural areas of the United States to increase access to medical services.¹²

...[Telemedicine]—
“works very well
with...HCV because
of the extensive
dialogue...among
the specialists,
PCPs and
patients...”

Jana Katz, Chief Administrative
Officer, Center for Health and
Technology, University of
California, Davis

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With the lack of specialists in rural communities, the use of telemedicine for diagnosis, care and treatment of HCV is ideal.

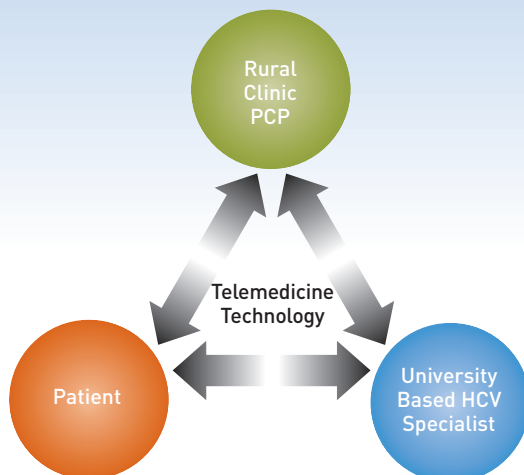
According to the California Telemedicine & eHealth Center, growth in the use of telemedicine has been facilitated by several important factors:

- Lower cost and more widely available communications
- Lower cost, higher performance computers
- Greater public confidence in the use of computer technology
- Greater acceptance of the technology by medical professionals, and
- Emerging global standards in communications, video conferencing, and medical disciplines¹³

Rural Telemedicine Models Build Capacity University of California Davis Medical Center (UC Davis)

The UC Davis HCV telemedicine program addresses gaps in health care access around California through 15 telemedicine sites. Lorenzo Rossaro, MD, head of the UC Davis HCV telemedicine program and Medical Director of Liver Transplantation, UC Davis Medical Center, described the telemedicine program as a combination of specialists, primary care providers (PCPs), and patients interacting together for seamless care.¹⁴ The program is unique in that there is face-to-face interaction among all three individuals creating transparency for the patient.

UC Davis HCV Telemedicine Triad Model



Source: Center for Health Improvement, 2006

During each telemedicine session, the specialist educates not only the PCP, but also the patient. The rural clinic PCPs that participate in the UC Davis HCV telemedicine program are able to integrate specialty consults into their own practices, while educating themselves through the relationship with the specialists. The goal is to have PCPs comfortable, knowledgeable and self-sufficient in the treatment of HCV, so that specialty consults are reserved for the more difficult cases.¹⁵

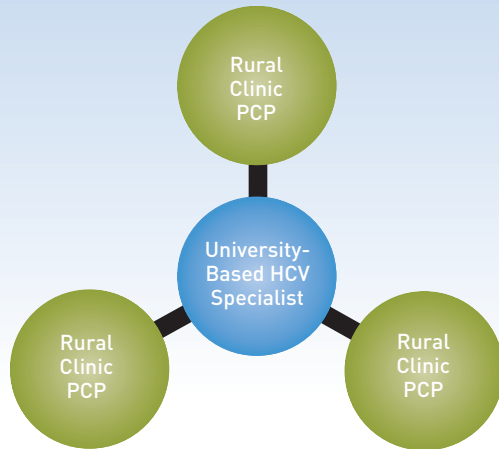
The UC Davis Telemedicine program hosts the Telemedicine Learning Center as well. The Center provides telemedicine training for health care professionals in rural and urban organizations throughout California.¹⁶ Primary care providers are encouraged to access the continuing medical education (CME) videoconferencing through the Center for Health and Technology and the CME Office at UC Davis.¹⁷

The K'ima: W Medical Center on the Hoopa Indian Reservation in Northern California was selected as a pilot project for physician education through telemedicine technology. UC Davis currently provides the telemedicine technology and the expertise of Dr. Rossaro for the physician education element. Over a six-month period, education on the treatment and care of HCV has taken place between the K'ima: W Medical Center staff and UC Davis, through the use of videoconferencing. The K'ima: W Medical Center staff receiving training include three PCPs, two nurse practitioners and one registered nurse.¹⁸ The final physician education videoconference will be held in October 2006 after which time Medical Center staff can serve HCV patients on their own.

Jana Katz, Chief Administrative Officer for the Center for Health and Technology at UC Davis, emphasized that telemedicine is a responsive service used in areas where there is high prevalence of a particular condition in the population and/or where there is lack of specialty care. She noted that this technology works very well with the treatment of HCV because of the extensive dialogue needed among the specialists, PCPs and patients to ensure that the proper course of treatment is taken.¹⁹



Project Echo Knowledge-On-Demand Model



Source: Center for Health Improvement, 2006

University of New Mexico Health Sciences Center (UNM HSC)

The University of New Mexico, Center for Telehealth, has developed a knowledge-on-demand model called Project ECHO—Extension for Community Healthcare Outcomes. Project ECHO connects urban medical center disease experts with rural PCPs and community health representatives over a telehealth network. The project was conceived as a means to treat HCV-infected patients in New Mexico's rural communities and prison system. Sanjeev Arora, MD, Professor of Medicine and Vice Chairman of the Department of Medicine at the University of New Mexico leads the program.²⁰

Project ECHO meets weekly for regularly scheduled telemedicine clinics hosted by UNM HSC specialists in the area of HCV. Rural PCPs and community health care providers around New Mexico are afforded the opportunity to present HCV cases that are discussed among the network participants to jointly reach treatment decisions for patients.

California County Clinics

The Sutter County Health Department recently opened a clinic to treat area residents infected with HCV due to a limited number of specialists in the community and an increase in the uninsured HCV patient population. Anecdotal reports reflect that the telemedicine program has been extremely beneficial in building capacity with PCPs.²¹

Telemedicine Resources

Funding Sources:

Telemedicine Information Exchange Funding Database
<http://tie.telemed.org/funding/>

Funding Resources
 Compiled by the National Library of Medicine
<http://www.nlm.nih.gov/research/funding.html>

Rural Health Care Program
 Provides reduced rates to rural Health Care Providers for telecommunications services
<http://www.rhc.universalservice.org/overview/>

General Telemedicine Links:

2001 Report to Congress on Telemedicine
<http://www.hrsa.gov/telehealth/pubs/report2001.htm>

Telemedicine Glossary
 Association of Telehealth Service Providers (ATSP)
<http://www.atsp.org/telemedicine/glossary.asp>

National Library of Medicine National Telemedicine Initiative
<http://www.nlm.nih.gov/research/telemedinit.html>

Office for the Advancement of Telehealth (Health Resources and Services Administration, DHHS)
<http://telehealth.hrsa.gov/>

Telemedicine Associations and Organizations:

American Telemedicine Association (ATA)
<http://www.americantelemed.org/>

Association of Telehealth Service Providers (ATSP)
<http://www.atsp.org/>

Center for Telehealth & E-Health Law
<http://www.ctel.org/>

California Telemedicine & eHealth Center
<http://www.cttconline.org/>

The New Mexico Telehealth Alliance
<http://www.nmtelehealth.org>

Telemedicine Guidelines and Standards:

Telemedicine Guidelines and Technical Standards
 Compiled by the American Telemedicine Association
<http://www.americantelemed.org/news/newres.htm>

World Medical Association Statement on Accountability, Responsibilities and Ethical Guidelines in the Practice of Telemedicine
<http://www.wma.net/e/policy/a7.htm>

APA Statement on Services by Telephone, Teleconferencing, and Internet
 Ethics Committee of the American Psychological Association
<http://www.apa.org/ethics/stmnt01.html>

Guidelines for the Surgical Practice of Telemedicine
http://www.sages.org/sg_pub21.html

Case Study Links:

Sutter County Hepatitis C Clinic
<http://www.suttercounty.org/doc/government/depts/hs/hshome>

University of California Davis, Center for Health and Technology
<http://www.ucdmc.ucdavis.edu/cht/>

University of New Mexico (UNM) Health Science Center (HSC)
 Project ECHO
<http://hscapp.unm.edu/som/medicine/echo/home.htm>



Sutter County utilizes nurse practitioners to treat this complex patient population. UC Davis hepatologists provide specialty care through the use of telemedicine to in-county patients with HCV.²²

In neighboring Yuba County, the Peach Tree Clinic in Marysville coordinates HCV care and treatment using UC Davis telemedicine services. According to the Executive Director Joseph M. Coulter, MD, approximately half of their current 85 HCV patients have had at least one telemedicine consult.²³ PCPs at the clinic reserve the use of telemedicine for more complicated cases, as well as for patients who are unable to travel long distances due to complications with the disease. Peach Tree has been using telemedicine technology for about six years; the last four years have been focused on the treatment and care of patients with HCV.

Dr. Coulter and Shannon Jacobsen, Director of Ancillary Services, both noted that patients have the most to gain when using telemedicine because they have their PCP and specialist conferenced together, talking and working towards a solution.

International Response

The explosion of HCV cases has intensified efforts to diagnose and reach those most in need. HCV is not only an epidemic in the United States but worldwide. The World Health Organization (WHO) estimates that about 130 million people worldwide are chronic HCV carriers at-risk of developing liver cirrhosis and/or liver cancer.²⁴ Australia, France, and Canada are working to increase health access for rural populations, specifically focusing on HCV.

Australia became a world leader in its strategic response to HCV by developing a National Hepatitis C Strategy 1999–2000 to 2003–2004, the first document of its kind. A second report, National Hepatitis C Strategy 2005–2008, was released in July 2005 building off the first. The report highlights the priority populations at-risk of HCV infection, including people in rural

and remote areas. The report notes that a primary goal for Australia is to ensure all people with or at-risk of acquiring HCV have equitable access to appropriate prevention, testing, treatment, care and support services.²⁵ Technological advancements, such as email and videoconferencing will be used to help close the gap in health care access.

A population-based geographic study in France concluded that rural populations with less access to health care explained the lower detection rates of HCV.²⁶ The lack of detection resulted in the underreporting of HCV cases, therefore, rural residents were less likely to be aware of their condition and seek treatment for it. Without proper screening, healthcare professionals are unable to estimate the magnitude of the problem or the need for treatment.

In Canada, a study was conducted in 2001 to determine whether CD-based medical informatics enhances rural physicians' confidence in the management of patients with chronic HCV infections. A CD-ROM outlining all aspects of HCV care including diagnosis, counseling, treatment and follow-up was mailed to over 300 rural physicians. The study found that rural physicians are uncomfortable in dealing with many aspects of HCV management but the CD-ROM-based medical informatics boosted their knowledge and confidence in treating the disease.²⁷

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA) has created a Rural Information Technology Exchange.²⁸ Their mission is to promote the exchange and sharing of information technology among rural medical practitioners, and have universal access to information technology resources for rural communities.



Policy Recommendations to Reduce Barriers to Providing Rural HCV Care

The diagnosis, care and treatment of HCV are a challenge given the nature of the disease and the populations most at-risk for infection. Lack of basic knowledge both by the public and healthcare providers adds to the complexity of treating this virus. Rural areas in particular lack the specialized skills needed to treat HCV. Without PCP education, HCV will continue to go unchecked in many of these communities.

- **Strengthen “The Hepatitis C Strategic Plan: A Collaborative Approach to the Emerging Epidemic in California”** (California Department of Health Services, 2001) to include the rural population as an at-risk population and address access to specialty health care services for this population.
- **Increase rural physician awareness** of telemedicine opportunities through proactive informational campaigns.
- **Expand the use of telemedicine technology** to educate PCPs about HCV patient care and treatment.

Notes

1 California Department of Health Services, Disease Investigations and Surveillance Branch, Hepatitis C Prevention and Control Unit. (2001). *The Hepatitis C Strategic Plan: A Collaborative Approach to the Emerging Epidemic in California*. Page 1.

2 The National Center on Addiction and Substance Abuse. No place to hide: Substance abuse in mid-size cities and rural America. New York, New York: Columbia University. January 2000. Retrieved August 16, 2006 from the National Center on Addiction and Substance Abuse at Columbia University <http://www.casacolumbia.org/supportcasa/item.asp?cID=12&PID=116>

3 Note: The United States Census Bureau defines urbanized areas as continuously populated areas of 50,000 persons or more. Urban areas are then defined as all territory, population, and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas. Rural is then defined as not being urban or urban area. In the United States roughly 20% of the population lives in rural areas. Retrieved September 6, 2006 from the Census website <http://www.census.gov/main/www/cen2000.html>

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5 United States Department of Health & Human Services, Agency for Healthcare Research and Quality (AHRQ). Research in Action: Improving Health Care for Rural Populations. Retrieved August 28, 2006 from the AHRQ website <http://www.ahrq.gov/research/rural.htm>

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8 California Department of Health Services, Disease Investigations and Surveillance Branch, Hepatitis C Prevention and Control Unit. (2001).

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14 Lorenzo Rossaro, MD, Medical Director of Liver Transplantation, University of California Davis. Interview by Nicole Hara, MPPA, Center for Health Improvement, August 16, 2006.

15 Lorenzo Rossaro, MD, interview August 16, 2006.

16 UC Davis Telemedicine Learning Center main page. Retrieved August 11, 2006 from the Telemedicine Learning Center website <http://www.ucdmc.ucdavis.edu/cht/programs/tlc/>

17 Rossaro L, MD. Hepatitis C and Telemedicine Technology: Closing the Gap in Access to Care. *HCV Advocate*. Retrieved July 24, 2006 from the HCV Advocate website <http://www.hcvadvocate.org/hcsp/articles/ROSSARO.com>

18 Nina Willis, Telemedicine Coordinator, University of California Davis Health System. Interview by Nicole Hara, MPPA, Center for Health Improvement, September 27, 2006.

19 Jana Katz, Chief Administrative Officer, Center for Health and Technology, University of California, Davis Health System. Interview by Nicole Hara, MPPA, Center for Health Improvement, August 11, 2006.

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21 Christine de Belen-Wilson, FNP, interview August 16, 2006.

22 Christine de Belen-Wilson, FNP, former employee Sutter County Health Department, CA. Interview by Nicole Hara, MPPA, Center for Health Improvement, August 16, 2006.



Notes (continued)

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Center for Health Improvement

The Center for Health Improvement (CHI) is an independent, nonprofit health policy center dedicated to improving population health and encouraging healthy behaviors.

Patricia E Powers, MPPA
President and CEO

Vonnie Madigan, MFA
Director

Martha Saly, MA
HCV Project Manager

Nicole Hara, MPPA
Research Analyst

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1330 21st Street, Suite 100
Sacramento, CA 95814
Phone: 916 930 9200
Fax: 916 930 9010
<http://www.chipolicy.org>