There has been a three-fold increase in the cases of infective endocarditis among people who injected drugs (PWID) from 1999 to 2016. In 2016, 18.9% of deaths from infective endocarditis were related to PWID. The rise of infective endocarditis parallels the opioid epidemic and the increase of new infections of hepatitis C (HCV).

Infective endocarditis is a life-threatening disease that occurs when bacteria or fungi enter the bloodstream and attack the lining of the heart and heart valves. The infection can also affect other organs—the lungs, kidneys, and brains. The infection may occur as a result of a break in the skin caused by a medical or dental procedure, congenital heart disease, heart value damage, heart value implants, and from injection drug use.

The type of endocarditis that usually affects PWID is acute endocarditis caused by Staphylococcus (staph) that enters the bloodstream. The infection related to PWID is primarily from the re-use of needles and drug works (water, cotton, ties, cookers, etc.).
Hepatitis C and Our Caregivers  — By Lucinda Porter, RN

Like many with hepatitis C, I have needed help from others. Two of my three hep C treatments occurred during the dark ages, when interferon was the backbone of treatment. Contemporary treatments are short and generally easy, and people don’t need as much help from family and friends. However, I still think that comfort and support are a good idea, even if you are just struggling with a cold. If you have advanced cirrhosis, you probably need a caregiver.

Lately I have been doing more caregiving than care getting. The experience of taking care of others is giving me new appreciation for National Family Caregivers’ Awareness Month, which occurs in November. Caregiving is more than just helping someone. It is about sharing the burden. Whether you are diagnosed with hepatitis C or another chronic illness, another person may benefit from your support.

Sources:
http://www.drugs.com/health-guide/endocarditis.html

Health Wise

Infective Endocarditis & People Who Inject Drugs  — CONTINUED FROM PAGE 1

The symptoms of acute infective endocarditis include high fever, chest pain, shortness of breath, cough and extreme fatigue. Once the symptoms develop the infection can progress very quickly and the person should seek immediate medical care as soon as possible. The diagnosis is based on risk factors, symptoms, blood samples and echocardiography to look inside the heart for abnormalities and infection.

The treatment for a mild case of infective endocarditis is a six-week course of intravenous antibiotics. A serious infection may result in a surgical replacement of the heart valve. Recognizing the symptoms of infective endocarditis, and early treatment with antibiotics can result in a full recovery.

To prevent infective endocarditis, the person should avoid sharing needles, works, and make sure to wipe the injection site with alcohol. Seek out your needle exchange for clean needles, works, and other services.

For more information on prevention of infective endocarditis, HIV, HCV, and other illnesses.

For more information about safety see our Harm Reduction Fact Sheet http://hcvadvocate.org/hepatitis/factsheets_pdf/HarmReduction/Infective-Endocarditis.pdf

Sources:
http://www.drugs.com/health-guide/endocarditis.html
condition, your life will be changed—and so are the lives of our family and friends.

Illness is frightening, and as hard as it is, the burden feels heavier when we think of the pain it brings to our loved ones. Our loved ones' anxieties can be more uncomfortable than our own. It is tempting to suffer in silence, rather than see fear in those around us.

In short, having a disease can be easier than loving someone who has one. When we are ill, our attention is focused on recovery. In contrast, being a witness to someone’s illness can generate feelings of helplessness and powerlessness. Our loved ones may not know what to do with themselves. Sometimes they act in ways that feel counter to our best interests.

How We Can Help Our Caregivers

Former First Lady Rosalyn Carter said, “There are four kinds of people in the world: those who have been caregivers, those who are currently caregivers, those who will be caregivers, and those who will need caregivers.”

The term caregiver refers to those closest to us who help us manage our lives and health. Often this role falls to a spouse or partner, but it can be a parent, child or friend. Caregivers are the people most likely to be affected by our illness.

Caregivers are at high risk for health problems. According to the Family Caregiver Alliance, caregivers have a higher risk of mental and physical health problems than non-caregivers do. They experience depression, pain, loneliness, isolation, abandonment, loss, and grief. They experience fear: of the unknown, of death and of change. Caregivers may feel insecure about their ability to give adequate support. They may worry about the security of their future. Caregiving is hard work. It may mean getting up in the middle of the night, engaging in physically demanding tasks, possibly setting aside one’s own needs and wants. Caregivers may miss work and suffer loss of income.

Giving care is a vital part of our health care. It is important that we support the health of our caregivers.

As patients, we have a responsibility to those who care for us. We help ourselves when we involve our caregivers. Here are some tips on how to do this:

1. Keep your caregiver informed. Nothing can feel more frustrating than being kept in the dark. Invite your caregiver to your medical appointments, if this is something you both want.

2. Be honest with your caregiver. For instance, if you do not want your caregiver to accompany you to appointments, discuss this.
3. Give your caregiver a role in your illness. Your caregiver might feel less anxious and more powerful if he or she is a partner rather than an onlooker. In addition to accompanying you to appointments, your caregiver might help by going with you to a support group, doing internet research, going for walks with you, or by doing one of your tasks that you don’t feel like doing.

4. Listen to your caregiver. Sometimes family members feel lonely because they think it will burden you if they discuss their feelings and problems. Invite them to talk about their feelings.

5. Be sensitive to your caregiver’s needs. Being sick does not give us permission to be insensitive. Your caregiver may need a weekend away or a night out. If you can’t provide that, encourage your family member to take care of their needs, such as an evening out alone or with someone else.

6. Appreciate your caregiver. Few things are more powerful than expressing gratitude. A simple “thank you” takes little effort and is usually well received.

7. Urge your caregiver to take care of his or her own health. The statistics for caregiver morbidity and mortality are alarming. Let your caregiver know that you don’t want them to be another statistic.

8. Get help. Chronic illness can strain even the healthiest relationships. Counseling can help couples and families get through difficult times.

9. Care for your caregiver. Encourage your caregiver to attend a support group and practice self-care.

10. Care for yourself. This is fundamental. You never know when you will be called upon to give care to someone else. Besides, your family and friends want you to be around for a long time.

Resources

- HCV Advocate’s For Family and Friends: Caring for Someone with Hepatitis C
- Centers for Disease Control and Prevention’s Families with Special Needs: Caregiving Tips www.cdc.gov/family/specialneeds
- Family Caregiver Alliance www.caregiver.org
- Family Caregiving 101 www.familycaregiving101.org
- National Alliance for Caregiving www.caregiving.org
- National Family Caregivers Association www.caregiveraction.org
- National Family Caregivers Month www.caregiveraction.org/national-family-caregivers-month
- Today’s Caregiver magazine www.caregiver.com
- Well Spouse Association www.wellspouse.org

Lucinda Porter, RN, is a long-time contributor to the HCV Advocate and author of “Free from Hepatitis C” and “Hepatitis C One Step at a Time.” She blogs at www.LucindaPorterRN.com and HepMag.com
Gilead Subsidiary to Launch Authorized Generics of Epclusa (Sofosbuvir/Velpatasvir) and Harvoni (Ledipasvir/Sofosbuvir) for the Treatment of Chronic Hepatitis C

Gilead Sciences announced plans to launch authorized generic versions of their hepatitis C treatments, Epclusa and Harvoni. These will be sold in the United States beginning January 2019, through a newly created subsidiary, Asegua Therapeutics LLC. The authorized generics will launch at a list price of $24,000 for the most common course of therapy. These lower prices will enable Gilead to compete in the prescription drug market.

First Human Case of Rat Hepatitis Found in Hong Kong

For weeks, this headline dominated the hepatitis-related news. Photos of rats accompanied the story of a 56-year-old Hong Kong man who developed the world’s first known human case of rat hepatitis E. In short, previously this hepatitis E strain did not infect humans. It isn’t known how the man contracted the virus, but garbage bins outside his home were infested with rats. It is possible that food or water were contaminated by rat droppings.

Inslee: Erase hepatitis C in Washington by 2030

The governor of Washington, Gov. Jay Inslee signed a directive aimed to eradicate hepatitis C in the state by 2030. The statewide hep C elimination plan is a collaborative approach involving agencies, tribal governments, and other local public-health officials that could also save the state money. There are an estimated 65,000 people living with the hepatitis C virus in Washington. In July of this year, Governor Cuomo of New York announced plans to eliminate hepatitis C in that state. Other small-scale elimination plans are in place or gearing up across the country, including San Francisco.
Hep C 101: Overview of Transmission and Prevention of Hepatitis C

—By Alan Franciscus

Note: this article is an overview of hepatitis C (HCV) transmission and prevention. Future articles will provide more in-depth information about the various risk factors for HCV transmission and how to avoid it.

HCV is transmitted by contact with HCV infected blood. Any break in the skin that allows the virus to enter the body has the potential to infect someone, even if no blood is visible.

Importantly, HCV is not spread by sneezing, coughing, hugging or sharing eating utensils or drinking glasses.

**DRUG EQUIPMENT**

**Transmission:** Now, the most common transmission route for HCV is through sharing needles for any drugs (including vitamins and steroids) and other equipment for injecting drugs (cookers, tourniquets, cotton, water, etc.).

Certain non-injection drug paraphernalia (crack pipes or straws used for snorting drugs, for example) may also pose a risk of HCV transmission.

**Prevention:** Do not share any items used for drug use including needles, cookers, tourniquets (ties), cotton, water, crack pipes or straws. Use a needle exchange or use your own clean needle and works. Some pharmacies now provide clean needles.

**MOTHER-TO-CHILD TRANSMISSION**

Perinatal transmission from HCV-infected pregnant women to their infants before or during birth occurs about 6% of the time. Whether or not transmission occurs may depend on the amount of hepatitis C virus in the mother’s blood; women who are coinfected with HIV are more likely to transmit HCV to their babies. Some studies have shown that small amounts of HCV may be present in breast milk, but breastfeeding is considered safe.

Children born to mothers infected with HCV should be tested for HCV.

**Prevention:** At this time there are no measures to prevent the transmission of HCV from mother-to-child. However, there are clinical trials of direct-acting antiviral (DAA) medications to understand their safety and effectiveness in pregnant women and their unborn child.

**SEXUAL TRANSMISSION**

**Transmission:** The risk of sexual transmission among monogamous heterosexual couples in stable long-term relationships is very uncommon.

However, the risk is higher for people in so-called “high risk” groups, including men who have sex with men, sex workers, people with multiple sex partners, and people with sexually transmitted diseases. There have also been outbreaks of sexually transmitted acute HCV infection among HIV positive gay and bisexual men.

**Prevention:** Safer sex should be practiced anytime there is blood present. Safer sex is the practice of using a barrier such as a condom or dental dam during sex. Anyone outside of a stable long-term monogamous relationship should be advised to practice safer sex. People who are unduly worried about sexual transmission can always practice safer sex.

**HEMODIALYSIS**

**Transmission:** Hemodialysis is a machine that filters the blood when the kidneys are damaged. Since it is very difficult to clean the hemodialysis machines, there is a possibility that HCV and other blood-borne diseases could be transmitted.
Prevention: People who receive hemodialysis are tested on a regular basis for HCV and other bloodborne diseases.

HEALTHCARE WORKERS
Transmission: Healthcare workers and emergency responders are at risk for HCV infection due to needlestick accidents and unavoidable situations that may result in direct contact with blood from an individual with HCV. The risk of HCV in the healthcare industry is not much higher than in the general population. If exposure does occur, initiate testing immediately and file an occupational exposure report.

Prevention: Follow universal precautions. An overview of the precautions is at https://www.cdc.gov/mmwr/preview/mmwrhtml/00000039.htm

NAIL CARE SETTINGS
Transmission: There is a possibility that any item used in a nail care or beauty salon that has blood on it can transmit HCV.

Prevention: Dispose of any single-use item. Any item that is not disposable should be sterilized using a disinfecting solution approved by the Environmental Protection Agency (EPA) or autoclaved.

TATTOOS AND PIERCINGS
Transmission: Needles used for tattooing, body piercing, and acupuncture may also spread HCV if there is blood on them.

Prevention: Use only sterilized needles (or new ones) for tattooing, body piercing or acupuncture. Sterilize any equipment that may come into contact with blood. Use safety gloves; work area should be disinfected. Keep the tattoo and piercing clean to prevent infection.

BLOOD TRANSFUSIONS AND ORGAN DONATIONS
Transmission: Before 1992, when a reliable blood test to identify HCV antibodies became available, many people contracted HCV through blood or blood product transfusions. Now, the blood supply and organs used for transplantation are screened out for HCV.

CLOTTING FACTORS
Transmission: Many people who received clotting factors before 1992 contracted HCV. Now, clotting factors are screened for HCV and are considered safe.

Groups Recommended for Testing:
A one-time test for the following groups are recommended due to a higher than average prevalence of HCV:

Baby Boomers (Born 1945 to 1965)
The highest number of people infected with HCV were born 1945 to 1965. For this reason, it is recommended that everyone in this age bracket have a one-time HCV test. At the time of this recommendation, it was estimated that 800,000 people would test positive for HCV.

Vietnam Era Combat Veterans
Vietnam era veterans are at increased risk for HCV, and a one-time HCV test is recommended.

Visit our HCV Transmission and Prevention section of our website:

HCV Advocate Fact Sheet: Nail Care and Beauty Care Settings: http://hcvadvocate.org/hepatitis/factsheets_pdf/Nail-Care-Beauty-Parlor.pdf
Marijuana is not associated with progression of hepatic fibrosis in liver disease: a systematic review and meta-analysis—M.T. Farooqui, et al.


Study Aims and Results
In the United States, there are an estimated 22 million users of marijuana. The current study reviewed previous studies (meta-analysis) to estimate the prevalence, and fibrosis disease progression.

The authors reviewed databases through November 2017 to evaluate the role of marijuana in chronic liver disease.

There were nine studies with 5,976,026 patients identified. The studies included two studies on people with nonalcoholic fatty liver disease (NAFLD), four hepatitis C virus (HCV) studies, and one HCV and HIV coinfection study.

In their analysis, marijuana use did not increase the prevalence or fibrosis progression in HCV or HCV/HIV coinfection patients. However, in patients with NAFLD, there was a reduction in fibrosis progression.

Conclusions
The authors found that marijuana did not increase the risk of fibrosis progression in people with HCV or HCV/HIV coinfection, but it had the opposite effect in people with NAFLD to reduce fibrosis progression.

Editorial Comments
In our HCV training workshops, the question of smoking or ingesting marijuana was a frequent topic of discussion. The trouble with a review of this type is that it doesn’t completely answer important questions. A well-designed study that looks at the potency, how much is ingested daily and many other factors need to be studied and answered before we can determine the question of safety in these patients with liver disease. Until we have more concrete studies on the effect of marijuana on the whole body, we do have this information to offer some reassurance.

“In their analysis, marijuana use did not increase the prevalence or fibrosis progression in HCV or HCV/HIV coinfection patients.”

—CONTINUED ON PAGE 9
Eight-week hepatitis C treatment with new direct acting antivirals has a better safety profile while being effective in the treatment-naïve geriatric population without liver cirrhosis and hepatitis C virus-RNA < 6 Million IU/mL—B. Yanny, et. al.


Study Aims and Results
Currently, eight weeks of Harvoni (ledipasvir plus sofosbuvir) is the recommended treatment period for people with hepatitis C (HCV) genotype 1, treatment naïve, without cirrhosis and who have an HCV viral load less than 6 million. The goal of the study was to find out if the recommended eight-week treatment duration can be applied to people over 65 years old.

A total of 454 patients were enrolled in the study—82 patients were treated for eight weeks, and 272 patients were treated for 12 weeks. The two groups were evenly matched for sex and age. All of the people were over 65 years old.

The cure rate in the 8-week group was 93% vs. 95% in the 12-week group. Eight-weeks of Harvoni was found to be safe, better tolerated and as effective compared to the 12-week Harvoni treatment group.

As expected, the costs and treatment-related side effects in the 8-week treatment group were lower compared to the 12-week treatment group.

Conclusion: Treating people over 65 years old for eight weeks using the same patient characteristics as people treated for 12 weeks is as effective, produced fewer side effects, and is cost-effective.

Editorial Comments
This study showed that people over 65 years old could reap the benefits of an eight-week treatment of Harvoni.

A shorter treatment period will help to reduce side effects and increase medical insurance approval. Since people over 65 years old are more likely to take more medications, I would like to understand what benefit this would have for these persons.

“This study showed that people over 65 years old could reap the benefits of an eight-week treatment of Harvoni.”
In their analysis Australia should meet the WHO target of HCV elimination of 10 to 15 years. However, the authors noted that due to the number of people who already had HCV disease progression prior to the beginning of the approval of DAA therapies, it would be difficult to achieve the WHO target mortality or deaths.

Approaches, progress, and challenges to hepatitis C vaccine development—J. R. Bailey, et. al.

doi: 10.1053/j.gastro.2018.08.060. [Epub ahead of print]

Summary:
In this review the authors discuss the challenges in the development of a fully protective vaccine against the hepatitis C virus (HCV). The obstacles include overcoming how quickly the HCV mutates or changes its genetic make-up, the limited animal models available to test an HCV protective vaccine and our limited understanding of the HCV immune response. The authors conclude that these obstacles will need to be overcome to develop an effective protective vaccine in order to effectively eliminate HCV. It is unlikely that a protective vaccine will be developed in the very near future but progress is being made.

Australia on track to achieve WHO HCV elimination targets following rapid initial DAA treatment up-take: a modeling study—J.A. Kwon, et. al.

Source: J Viral Hepat. 2018 Sep 29.

Summary:
This study evaluated the likelihood that Australia would reach their target goal to eliminate HCV by 2030. Using a mathematical model to simulate the epidemiology and death rates in Australia over the period 2016-2030. Australia had a very fast rate of people who initiated direct-acting antiviral therapy (DAA) in 2016 with 32,600 people treated. It should be noted that the Australian government subsidizes the cost of HCV medications. In their analysis Australia should meet the WHO target of HCV elimination of 10 to 15 years. However, the authors noted that due to the number of people who already had HCV disease progression prior to the beginning of the approval of DAA therapies, it would be difficult to achieve the WHO target mortality or deaths.

“It should be noted that the Australian government subsidizes the cost of HCV medications.”
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