The following is a lightly edited transcript of a teleconference discussion of hepatitis C virus treatment in the Veterans Health Administration system.

VA HEPATITIS C TREATMENT PROGRESS

Lisa Backus, MD. For a long time the US Department of Veterans Affairs (VA) has approached hepatitis C virus (HCV) care in a comprehensive way. We have done extensive screening to look for people with HCV infection. Even before birth cohort testing was recommended by the Centers for Disease Control and Prevention (CDC), the VA had aggressive HCV screening programs.

From the VA Corporate Data Warehouse, we know that the VA has screened more than 80% of people who are in the 1945 to 1965 birth cohort in VA care. Over time, HCV prevalence has been dropping in screened veterans and by extension in those who remain to be screened. Based on internal modeling, the VA estimates that only 6,000 to 7,000 veterans in the 1945 to 1965 birth cohort remain to be found if we could somehow screen everyone in that group.

On the treatment side, the VA has provided an unparalleled amount of care. In data from the Clinical Case Registry: HCV, as of February 2018 the VA has started more than 104,000 veterans on direct-acting antiviral (DAA) treatment. When the DAAAs first became available, we estimated that there were about 165,000 people who were HCV viremic and who needed to be treated. By the end of January 2018, that number was down to about 35,000 people. The VA has done an unbelievably good job of finding people, getting them into care, and treating them.

Samuel Ho, MD. I agree with Dr. Backus. The VA has done an excellent job over the past few years in treating a very significant proportion of our patients with HCV. In addition to the extensive screening efforts, I want to emphasize that going back to about the year 2000, the VA has been very active in supporting the establishment of HCV clinics within every VA medical center to identify and engage patients in treatment. At that time, of course, the treatment was with pegylated interferon and ribavirin, which was very challenging. The VA support consisted of funding 4 hepatitis C Resource Centers (HCRCs) nationwide, which were located in Minneapolis, Portland/Seattle, New Haven, and San Francisco.

The HCRCs reached out to every VA facility in the country, developed networks of health care providers (HCPs), trained them, and educated them regarding the HCV treatments and strategies to engage patients in care, especially the large numbers with comorbidities, such as psychiatric problems and substance use disorders. This highly engaged network of local HCV clinic providers was set up and running and was well poised to take advantage of the interferon-free DAAAs when they became available in late 2013 and early 2014. With the continuing leadership of David Ross, MD, and many others at the national level, the VA then supported the development of HCV Innovation Teams in every VISN that continued the efforts to support local quality improvement initiatives related to HCV care.

That being said, the VA still has challenges. There are a significant number of people who have barriers to receiving treatment. For example, here at the VA San Diego Healthcare System, Dr. John Dever and our other colleagues looked at 481 patients who were high priority to get started on HCV treatment, because they were all believed to be a high risk for cirrhosis due to their Fibrosis-4 (FIB4) scores and other characteristics. We really worked hard on that group, and of the ones who were eligible for treatment, 30% were either unwilling or unable to engage in care over a yearlong follow-up with multiple attempts at outreach. In comparison with patients who became engaged or were engaged in care, these nonengaged patients were significantly more likely to be homeless, have other comorbidities, or active...
alcohol and/or drug use. Not surprisingly, they had obvious barriers to engaging in care.

Further efforts need to be made to focus on these patients, maybe with innovative ideas and strategies for outreach to get them into treatment or to bring treatment to them. I’m not sure exactly as to what the best approach would be. There is ongoing research in that regard, but it still is a challenge.

Erica Trimble, NP. Our experience at VA San Francisco Health Care System is similar. If we actively reach out to veterans already engaged in primary care, we can usually engage them in the liver clinic as well. However, there are quite a number of veterans who engage regularly with HUD-VASH (US Department of House and Urban Development-VA Supportive Housing program) and other homeless veteran services but have no primary or specialty care engagement. These veterans are very difficult to reach.

We are collaborating with HUD-VASH social workers to see if there are more creative ways to connect with these veterans. Some of the ideas include having liver providers visit veteran housing locations, having HUD-VASH social workers convey messages to difficult-to-reach veterans, and problem-solving specific transportation issues that present barriers to care.

Christina Dickson, PharmD. At the VA Maryland Health Care System Baltimore VA Medical Center, we hear from veterans in our education classes about the various myths that are still out there in the community about HCV. Some of these myths are the reason that veterans may avoid seeking treatment or even attending the HCV clinic appointments. Some veterans say they didn’t come in previously because they thought they would need a liver biopsy or because their doctor told them they had to be completely sober in order to be considered for treatment. These can be major deterrents that keep patients away despite our outreach efforts. In addition to miseducation in the community, there also is still a reluctance to talk about HCV and the risk factors. Many patients don’t want to discuss their history or are concerned about their partners finding out, so they instead choose to ignore it altogether. The negative stigma of HCV is still present even in some of our HCPs.

Just as VA San Francisco is working to engage its homeless population, we are looking to work with mental health and substance abuse programs. More and more is being written about the importance of working with such teams and even colocating the HCV clinic with their services. For example, in Baltimore, the methadone clinic is 2 floors above our clinic. Some of the remaining viremic patients will go to the methadone clinic in the morning and then leave despite having an appointment just 2 floors down. Offering HCV services at the same time, in the same area may help to engage veterans to consider their liver health.

Ms. Trimble. VA San Francisco has been fortunate to have the assistance of our opiate replacement clinic staff as well; this is particularly helpful since many veterans visit the opiate replacement clinic daily for medications and know the staff there very well. The staff facilitate communication with the liver clinic, execute warm

Participants

Lisa Backus, MD, PhD, is the Acting Chief Consultant of the VA Population Health Services. She oversees the VA national database, the Clinical Case Registry: HCV, which is used to monitor the demographics, care, and outcomes for all veterans with HCV in VA care.

Christina Dickson, PharmD, is the Hepatitis Pharmacy Program Manager at the Baltimore VA Medical Center. She also serves as the VISN 5 Hepatic Innovation Team Coordinator.

Samuel Ho, MD, is the Chief of the Gastroenterology Section at VA San Diego Healthcare System and is a Professor of Medicine at the University of California, San Diego. He was a member of the VA Hepatitis C Resource Center program and the VISN 22 HCV Innovation Team project.

Erica Trimble, NP, is a Nurse Practitioner in the Liver Clinic and a Liver Transplant Referral Coordinator at San Francisco VA Medical Center. She provides hepatitis C treatment, cirrhosis management, and other liver care to veterans.
handoffs to the liver clinic, and provide daily dispensing of hepatitis C medications for a number of veterans who have more difficulty with medication adherence. It has worked very well.

**Dr. Ho.** I think what you both are pointing out is very important—these patients require teamwork. A multi-disciplinary group of HCPs working together in a collaborative, integrated care model has been demonstrated to significantly improve HCV engagement, care, and treatment in these highly comorbid patients.\(^1\) Whenever we can work together and build teams and recruit other HCPs in these other clinics, it will really pay off.

**Dr. Backus.** At VA Palo Alto Health Care System, we also run a program integrated with our 28-day and 90-day residential rehabilitation programs. We realized that those residential treatment programs were a place to reach people who we were having difficulties starting treatment. It was a perfect situation because if you were there for 28 days, we could nearly guarantee that at the very least the patient was going to get 28 days of medications. Particularly now with some of the shorter treatment courses, we only have to get a patient to take another 28 days, which is very doable. Clearly, for the people who are in 90-day programs, the full 8-week or 12-week course of treatment could be completed during the rehabilitation. In addition, we started out at a good place because the programs already screened automatically for HCV on admission to the program, so it was easy to identify people who had HCV.

**Ms. Trimble.** Specialty Care Access Network-Extension for Community Healthcare Outcomes (SCAN-ECHO) also can help with outreach. Alexander Monto, MD, and Helen Yee, PharmD, conduct weekly SCAN-ECHO video telehealth conferences with outlying HCPs from other clinics. The outlying HCPs submit cases for hepatitis C treatment consideration; then they take the recommendations from their discussion with Dr. Monto and Dr. Yee but lead the treatment with their patients.

Over time, with this ongoing mentoring, the participating providers have gained a lot of expertise in hepatitis C and serve as a local resource for their clinics. One of the clinics is in Eureka, California, which is nearly 300 miles away. In contrast, the other main clinic that participates is the downtown clinic. It serves the most urban and difficult-to-reach patients. The familiarity and rapport that the downtown clinic providers have with their patients allow them to more effectively engage patients for treatment initiation and follow-up.

**Dr. Dickson.** Our catchment area includes West Virginia, and we do telehealth for one of the sites, which has a number of 20-year-old and 30-year-old patients. In this slightly different population it is again a challenge getting and keeping them engaged as they go through the pretreatment evaluation. Some say that there may be a benefit to getting them on treatment as quickly as possible so that they don’t have time to disengage. The age difference brings about different barriers. We have to think outside the box on how to reach out to these patients. They work, they have kids, and they don’t feel ill right now. And many are active injection drug users. Trying to get them engaged in health care in general and on HCV treatment is the next big challenge.

**HEALTH CARE PROVIDER EDUCATION**

**Dr. Dickson.** When we reach out to viremic veterans who’ve never been to our clinic, we will sometimes find comments such as, “patient not interested” or “patient still drinking” or no comment at all in the electronic health record primary care notes. So we began to focus our HCV education not only on veterans but also the providers. Some HCPs don’t consider the benefits of referring patients to the clinic for at least the opportunity to receive education on HCV, learning if there is any scarring on their liver, and learning about their options for treatment should they choose to proceed. We are continuing to meet with HCPs in all areas to let them know what’s offered in the HCV clinics. In addition, we have found that direct contact from our HCV clinic to veterans who were not interested is very successful. We get a chance to show that the VA cares and explain what our clinic offers and find that they are more than willing to arrange an appointment with us.

**Ms. Trimble.** I agree. We have successfully treated many veterans who are still using alcohol or drugs, and the VA supports considering any patient for treatment regardless of substance use; however, not all providers are aware of this. One of the other main education points for patients and providers is that they need not have severe liver disease to be considered for treatment. In the past, typically only patients with moderate to advanced liver fibrosis were considered for treatment, but this approach has changed in the past couple years.
Dr. Ho. I would agree that there still is a need to educate HCPs who may have had a presentation or read something on HCV a year or 2 ago. It’s now possible to treat almost all patients with HCV. It really has been fantastic, but not everyone is aware of it right now. That means we need to continue to be active with our colleagues and get them on the team. It is very helpful to increase enthusiasm if we can publicize new data and information coming out about the success in the VA of these DAA regimens.

Dr. Backus. There was a time when the DAAs first came out and the prices were higher and there was concern about the funding. At that time, we were treating only people with more advanced liver disease. Now we are treating everyone regardless of how advanced their liver disease is, but occasionally at VA Palo Alto I’ve run into providers who say, “The patient didn’t have cirrhosis, so I didn’t refer.” Education still needs to happen. It can be a little confusing because there was a time when we were not treating everyone. Now we are, and we have to make sure to get out this message.

Dr. Dickson. For patients with unstable comorbidities, HCPs may make the choice against HCV treatment. In the Baltimore clinic, we have case managers who will work with such patients and get to know them very well. Many times we do more than just cure their HCV. We also help them with their other conditions because we see them so often, such as helping with their pill boxes and encouraging them since they can see their liver enzymes getting better. There is a lot to be said for case management, the hands-on contact, and the concern that we can show these veterans. It helps not just the HCV but also their blood pressure and cholesterol are now controlled. We hear so many thanks from the veterans that come through our program. It might have taken a lot of work to get them to treatment, but in the end, they’re better overall.

NEXT STEPS IN HCV CARE

Dr. Backus. The most pressing next step is becoming really creative and integrative about how to reach the more difficult-to-treat patients with comorbidities and reach the less-engaged populations. It is probably going to take some change in the models of care. For example, we are going to have to set up a clinic that is colocated in an opioid replacement therapy clinic or in the rehabilitation program. HCV care is going to have to evolve.

I think there is another issue that Dr. Dickson pointed out. Although it is small and really only occurs in some regions, there is a young population of people with HCV. Some of the models of care that we have used may not work with this population, and we have to recognize that this will be an ongoing issue. Care for these patients will look different. For example, clinics may need to provide child care for this younger population.

Cancer is another important issue. Many of these people have cirrhosis, and even if we cure their HCV, we have to remain cognizant that they still have cirrhosis and potentially need screening for hepatocellular carcinoma. They also may need care for their cirrhosis or counseling about ongoing alcohol use, because even though their HCV was cured, continued alcohol use is not good for their cirrhosis.

Those 3 issues are still in the immediate future of HCV care in the VA. The World Health Organization has a goal for eliminating HCV. One could hope that maybe we could get there; it may be possible through screening, treatment, and prevention strategies. If we are lucky, we could put ourselves out of a job. I don’t see that happening, but it’s a hope.

Ms. Trimble. Are we seeing the same trend in new infections in young injection drug using veterans that are being seen in the nonveteran population nationally?

Dr. Backus. We have looked at this quite closely. The CDC came out with a report recently that showed a substantial increase in HCV cases in people aged 20 to 39 years. At the VA, we have not seen that uptick. The VA rates of new infections or new diagnosis of infections in people aged 20 to 39 years are pretty stable. The VA screening rates in people who were born after 1965 is in the high 70% range—nearly as high as in the cohort of people born between 1945 and 1965. As a result, the VA has excellent internal data about the incidence of infections in younger populations. In the VA, we are not seeing this sort of massive increase in incidence in younger populations. Definitively, there are new young injection drug users in the VA who are contracting HCV but not what the CDC is reporting in other parts of the country.

Ms. Trimble. That’s really interesting.

Dr. Ho. Part of that has been the fact that if you’re a VA patient, you had to have been engaged at some point...
with the VA with access to its extensive psychiatric mental health and substance use disorder treatment infrastructure. I wonder if the availability of these services is a factor that can be protecting our patients from this recent upsurge in injection drug use.

**Dr. Dickson.** For our VISN, we do have smaller sites with a number of their remaining viremic veterans in this young cohort who are indeed proving to be a challenge to link to care in the HCV clinics. We continue to brainstorm ideas to determine and overcome their barriers to treatment. The VA is excellent at connecting all of us nationwide, so we look forward to hearing from other sites in a similar situation on how they are overcoming this challenge. Because when you look outside the VA, many are wondering what to do and how to engage these patients.

**Dr. Backus.** One of the amazing things about HCV treatment is how effective it has been. Traditionally the real-world effectiveness for medications is not nearly as good as the clinical trial efficacy. Clinical trials have extra resources, specially trained doctors and nurses, and tend to recruit engaged and cooperative patients. Often, there has been a stepdown between the clinical efficacy from the trials and what we see in the real world. A pleasant surprise about DAA treatment at the VA is that the clinical effectiveness we see in the real world almost matches the amazing results seen in clinical trials. That also has been critical to the success that we are seeing. The medications are powerful, and even outside the settings of a clinical trial, they work incredibly well.

**Dr. Ho.** I agree. You, Dr. Backus, along with Pam Belperio, PharmD, George Ioannou MD, MS, and other VA researchers have done excellent work in documenting the real-world effectiveness of these medications in the VA system. It was surprising but not unexpected. It is due to the VA’s excellent clinical infrastructure and that it provides an integrated system for caring for these patients. It is a measure of that success.

**Dr. Dickson.** The multidisciplinary teams are a major part of that. I don’t think we could care and support the veterans that we have, especially the challenging ones, the ones who are resistant, without having nursing, social work, mental health, and pharmacy involved. It’s just a huge team effort. That is what I love about caring for patients at the VA—it’s always been supportive of the multidisciplinary aspect of looking at this disease.

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**REFERENCES**