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# VIRAL HEPATITIS PREVENTION AND OUTREACH

January – December 2018

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### **Mission Statement:**

*To improve the health of individuals, families, and communities through disease prevention, health promotion, and protection from environmental threat.*

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## **Introduction:**

The Viral Hepatitis Outreach (VHO) program provides services to persons who are at high risk for contracting viral hepatitis. These include: people who inject drugs (PWID); all persons born between 1945 and 1965 (“Baby Boomers”); people born to mothers who are hepatitis C positive; people who have received an unsterile tattoo or piercing; people living with HIV; recipients of blood transfusions, and/or solid organ transplants before July 1992; clotting factor concentrates made before 1987, or persons who have ever received long-term hemodialysis, who do not have access to screening through other means. Services include viral hepatitis education, prevention, and testing for Hepatitis C.

## **Methods:**

A total of 248 clients, with 320 service encounters, were served by the VHO program January through December 2018. Data were collected via personal interview for all clients seen by the program. All data were entered into Excel for analysis.

## **Demographics:**

Tables 1 and 2 show the demographic and social characteristics for VHO clients seen in 2018. They include age, gender, race, type of medical insurance, medical care received, employment, and housing.

Clients served through the VHO program, January – December 2018 tended to be younger adults with a mean age of 33 years with the majority being under 40 years old (table 1). Gender was fairly evenly split with slightly more men than women seen in 2018 (table 1, graph 1). Clients were predominantly Caucasian (90%) with a few Native American (4%), African American (2%) and other races.

The majority of VHO clients in 2018 had public medical insurance (84%), and have been seen by a medical provider in the past year (tables 2, 3 and graph 2). Through the implementation of ACA the number of VHO clients with medical insurance has steadily increased (graph 3).

Most 2018 VHO clients were unemployed (84%), and did not own a home (98%) (table 2 and graph 4). A large number of VHO clients experienced homelessness (n=129), which can make screening and follow-up difficult. Clients experiencing homelessness tended to be younger (graph 5). Homelessness is defined as someone who is staying in shelters, staying at multiple locations, or living on the streets.

In 2018 all clients who received services by the VHO program were people who inject drugs.

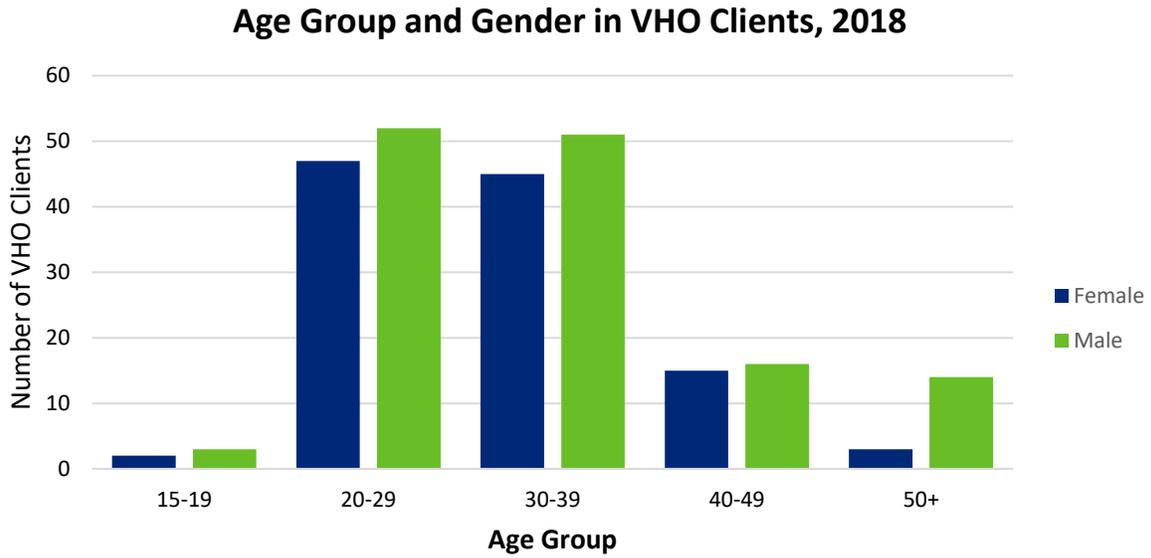
Table 1: Demographic characteristics for 248 VHO clients seen January through December 2018

<b>Characteristic</b>	<b>Frequency or Mean</b>	<b>Percent or Range</b>
<b>Age in years</b>	33.0	15-61
<b>Age group in years</b>		
15-19	5	2.0
20-29	99	39.9
30-39	96	38.7
40-49	31	12.5
50+	17	7.2
<b>Gender</b>		
Female	112	45.2
Male	136	54.8
<b>Race</b>		
Caucasian	223	89.9
Native American	11	4.4
African American	6	2.4
Hispanic	3	1.2
Pacific Islander	2	0.8
Asian	1	0.4
Other	1	0.4
Unknown	1	0.4

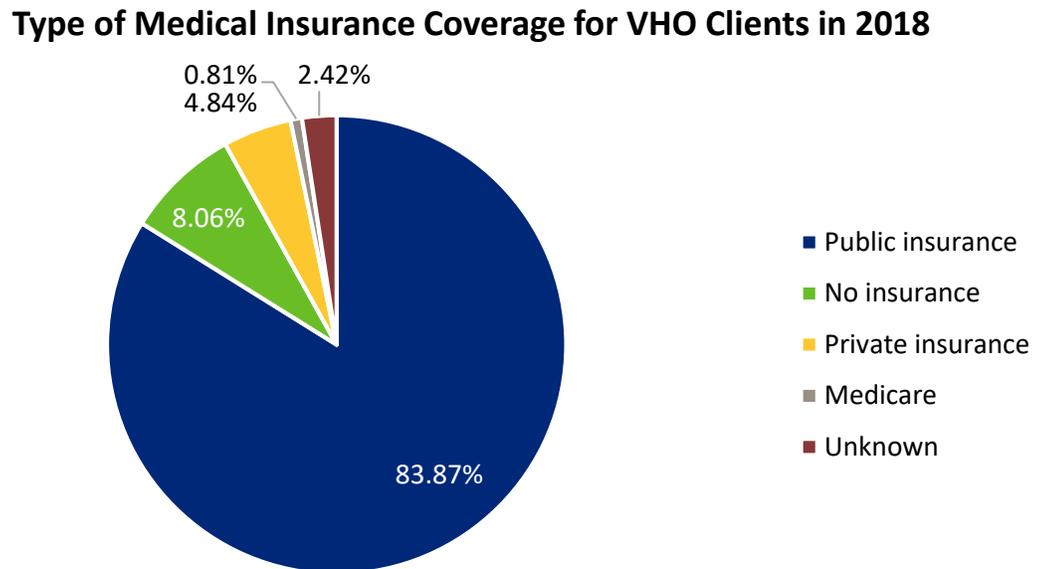
Table 2: Type of insurance, employment and housing among VHO clients seen in 2018

<b>Characteristic</b>	<b>Frequency or Mean</b>	<b>Percent or Range</b>
<b>Type of Insurance</b>		
Public ACA	208	83.9
Uninsured	20	8.1
Private	12	4.8
Medicare	2	0.8
Unknown	6	2.4
<b>Employment status</b>		
Unemployed	209	84.3
Employed	35	14.1
Unknown	4	1.6
<b>Type of housing</b>		
Homeless	129	52.0
Live with family	59	23.8
Rent	50	20.2
Friends	4	1.6
Own	3	1.2
Unknown	3	1.2

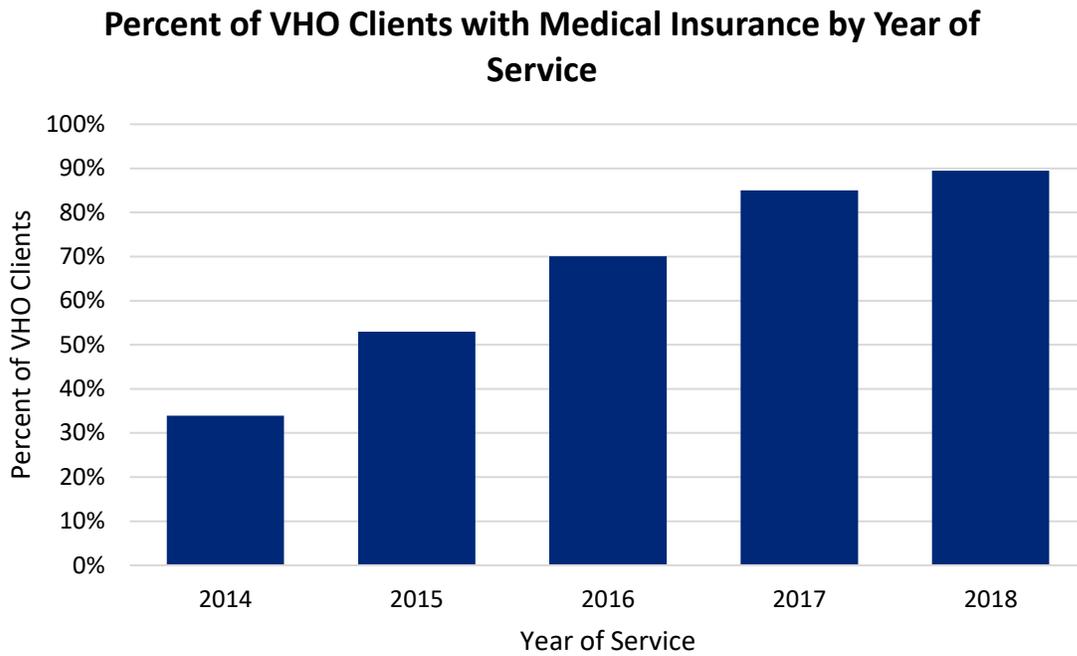
Graph 1: Age Group by gender in VHO clients seen in 2018



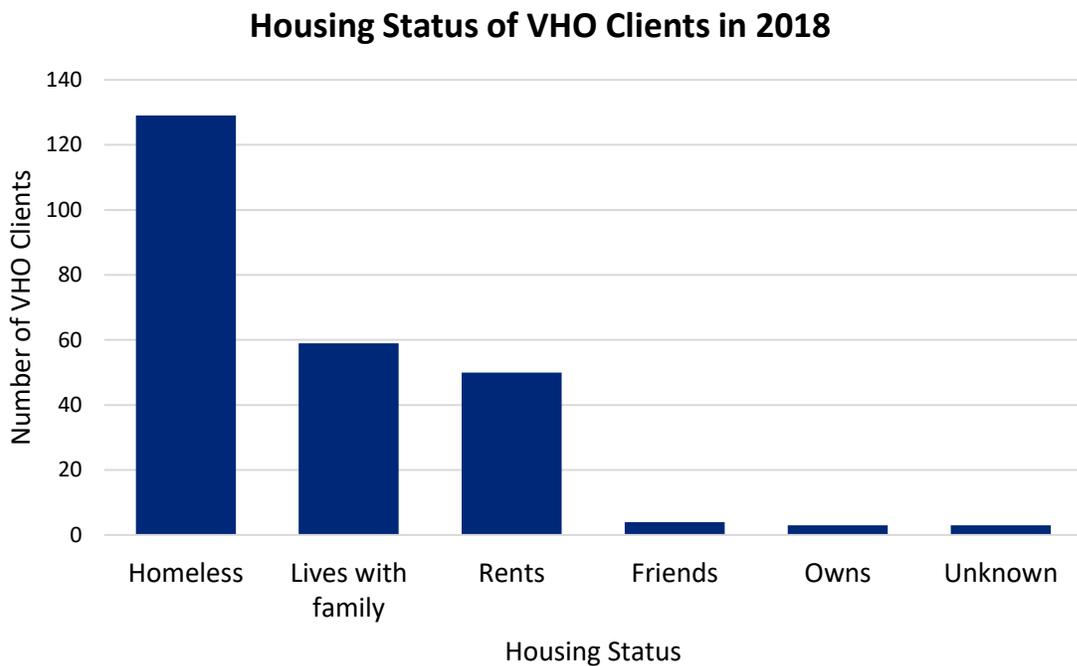
Graph 2: Type of medical insurance coverage for VHO clients seen January through December 2018



Graph 3: Percent of VHO clients with medical insurance by year of service



Graph 4: Housing status of VHO clients seen January through December 2018



Graph 5: Housing status by age group among VHO clients seen in 2018

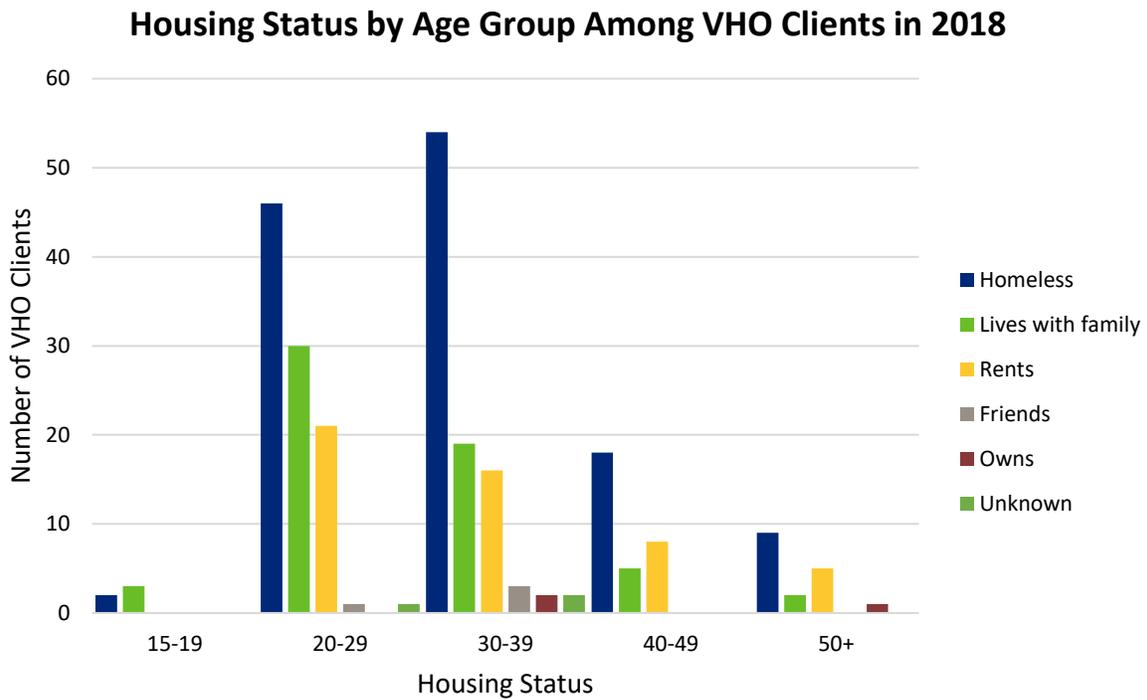


Table 3: Frequency of VHO client who sought medical care and type of facility where medical care was received in the past year

	Frequency	Percent
<b>Sought medical care in past year</b>		
Yes	148	59.7
No	93	37.5
Unknown	7	2.8
<b>Where received care</b>		
Emergency/Urgent care	98	66.2
Primary care	31	21.0
Specialty care	12	8.1
Corrections	4	2.7
Treatment center	3	2.0

## Drug usage in VHO population (January through December 2018):

Tables 3-5 describe the types of drugs and practices used by VHO clients.

The majority of VHO clients served in 2018 were current-user PWIDs (85.9%) who had used injection drugs in the prior 12 months (table 3). The average duration of injection drug use was 55 months with a median of 36 months. Over 100 clients seen have used injection drugs for 4 years or more. This reflects the difficulty and longevity of substance use disorder.

Most VHO clients seen in 2018 were under the age of 30 when they first started injecting drugs (table 4). The average age clients initiated injection drug use was 25.5 years old, with a median of 24 years of age. Younger persons should be targeted for prevention outreach and education.

Over 97% of VHO clients seen in 2018 injected either heroin, methamphetamines, or both (goofballs) (table 4). Seventy percent of clients shared syringes, 75% had used secondary exchange of syringes (obtaining drug works from other persons on the street), and over 75% had reused drug works (table 5).

The number of VHO clients who used the Snohomish County syringe exchange to obtain drug works has steadily increased over the last few years (graph 6, table 5). In 2018 almost  $\frac{3}{4}$  of all clients used syringe exchange services. Secondary exchangers (persons who give/sell works on the street) are also likely obtaining works from the syringe exchange.

Half of VHO clients had used pharmacies as a way to obtain syringes (table 6). Pharmacies should be an easy way for persons to obtain sterile syringes. Most clients (64%) reported the reason they did not use a pharmacy was because they did not have a need. This is most likely due to the use of syringe exchange services.

Nationally, there has been an increase of prescription drug misuse\*. Prescription drug misuse includes opioids and amphetamines prescribed by a healthcare provider, but used for non-prescribed purposes by either the person to whom they were prescribed or someone else. Prescription opioids are perceived as being a gateway to injection drug use, particularly with heroin. Data in table 5 show how many VHO clients started misusing prescription drugs before initiating injection drug use and how prevalent prescription drug use is among VHO clients. Over fifty-percent of VHO clients had misused prescription drugs. Of the 139 clients who had misused prescription drugs, 96% had done so before injecting drugs. VHO clients in 2018 obtained prescription drugs in a variety of ways, including with his/her own prescription (37%), buying prescription drugs from street dealers (39%), and from family and friends (15%).

\* <https://www.cdc.gov/drugoverdose/index.html>

Table 4: Drug use characteristics among VHO clients seen January through December 2018

<b>Characteristic</b>	<b>Frequency or Mean (Median)</b>	<b>Percent or Range</b>
<b>Use in the last 12 months</b>		
Yes	213	85.9
No	33	13.3
Unknown	2	0.8
<b>Average duration of injection drug use</b>	<b>Mean number of months (median)</b>	<b>Range (in months)</b>
	54.7 (36)	1-288
<b>Age initiated injection drug use</b>		
<15	17	6.9
15-19	47	19.0
20-29	107	43.1
30-39	40	16.1
40-49	16	6.4
50+	6	2.4
Unknown	15	6.1
<b>Type of injection drug</b>		
Heroin	121	48.8
Methamphetamines (meth)	77	31.1
Goofball (heroin and meth)	44	17.7
Multiple	2	0.8
Other	1	0.4
Unknown	3	1.2

Table 5: Syringe and injection drug paraphernalia use characteristics among VHO clients seen in 2018

<b>Characteristic</b>	<b>Frequency</b>	<b>Percent</b>
<b>Shared syringes</b>		
Yes	173	69.8
No	68	27.4
Unknown	7	2.8
<b>Used secondary exchange</b>		
Yes	187	75.4
No	54	21.7
Unknown	7	2.8
<b>Reused drug paraphernalia</b>		
Yes	193	77.8
No	47	19.0
Unknown	8	3.2
<b>Used syringe exchange services</b>		
Yes	184	74.2
No	60	24.2
Unknown	4	1.6
<b>Used pharmacy to obtain syringes</b>		
Yes	126	50.8
No	117	47.2
Unknown	5	2.0

Graph 6: Percent of VHO clients that used syringe exchange services 2014-2018

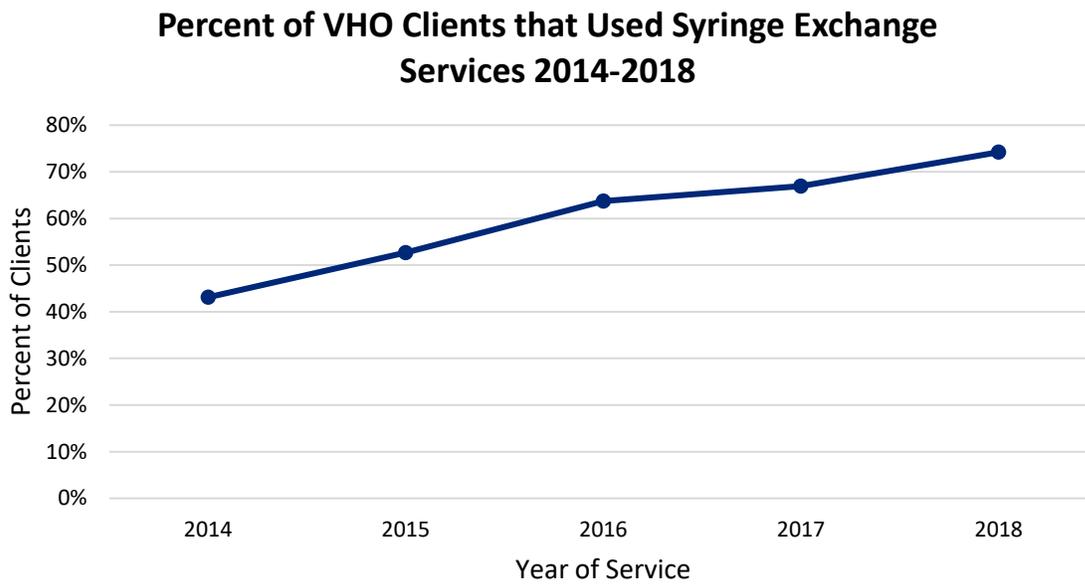


Table 6: Prescription drug use characteristics among VHO clients seen in 2018

Characteristic	Frequency	Percent
<b>Used prescription drugs for non-prescribed purpose</b>		
Yes	139	56.1
No	100	40.3
Unknown	9	3.6
<b>Used prescription drugs before injection drug use (n=139)</b>		
Yes	134	96.4
No	5	3.6
<b>How prescription drugs obtained (n=139)</b>		
Street	55	39.6
Own prescription	52	37.4
Home/Family	21	15.1
Multiple	8	5.8
Unknown	3	2.1

## **Drug overdose and naloxone use among VHO clients seen in 2018:**

Since 2015, the Viral Hepatitis Outreach program has been collecting data on drug overdoses and the use of naloxone during overdose events (table 7). Naloxone is a medication that works as an opioid antagonist. It counteracts the effects of opioids on the central nervous system. This is an important medication for the treatment of opioid overdoses and can save lives. Staff educate clients on the use of naloxone and how to obtain this vital medication.

Eighty VHO clients seen in 2018 said they had experienced a drug overdose (table 7). Only 51% of clients who had experienced a drug overdose were given naloxone during the event. The majority (73%) of clients who received naloxone during an overdose did not know who administered the rescue medication. Among the few clients that did know who administered the naloxone (n=11) most said it was emergency services.

In addition to asking clients if they personally had experienced an overdose, clients were also asked if they had witnessed a drug overdose event. Almost two-thirds of VHO clients had witnessed a drug overdose (table 8). Naloxone use was observed in 58% of witnessed overdoses. A little over 10% of VHO clients gave naloxone to someone experiencing a drug overdose. This accentuates the need for education and easy access to naloxone. VHO clients can save lives through the use of this powerful opioid antagonist.

Table 7: Opioid drug overdose and naloxone use among VHO clients seen in 2018

	Frequency	Percent
<b>Experienced an opioid overdose</b>		
No	149	60.1
Yes	80	32.3
Unknown	19	7.6
<b>Number of times client overdosed (n=80)</b>		
1-2	49	61.3
3-4	11	13.7
5+	16	20.0
Unknown	4	5.0
<b>Client received naloxone (n=80)</b>		
Yes	41	51.3
No	26	32.5
Unknown	13	16.2
<b>Who administered naloxone to client (n=41)</b>		
Emergency services	10	24.4
Friend	1	2.4
Unknown	30	73.2

Table 8: Witnessed opioid overdose and naloxone use among VHO clients seen in 2018

	Frequency	Percent
<b>Witnessed an opioid overdose</b>		
Yes	163	65.7
No	70	28.2
Unknown	15	6.1
<b>Naloxone used during witnessed overdose (n=163)</b>		
Yes	95	58.3
No	56	34.4
Unknown	12	7.3
<b>Who administered naloxone during witnessed overdose (n=95)</b>		
Emergency services	12	12.6
VHO client	11	11.6
Friend	3	3.2
Safe injection site	1	1.1
Multiple	16	16.8
Unknown	52	54.7

### Drug treatment among VHO clients seen in 2018:

Almost 80% of VHO clients seen in 2018 had participated in drug treatment at least once (table 9). Over one third of VHO clients had received multiple types of drug treatment including medication assisted treatment.

In 2016 the VHO program started to collect data on the use of Suboxone (table 10). Suboxone is an important medication assisted treatment for opioid use disorder. Unlike methadone, Suboxone can be diverted and available on the streets for self-detoxification and treatment of opioid withdrawal.

Over half of all VHO clients seen in 2018 had used Suboxone (table 10). Suboxone was primarily obtained on the streets (56%). The main reason VHO clients took Suboxone was for self-detoxification and withdrawal. Very few (3%) of VHO clients reported that they took Suboxone to get high.

Table 9: Substance use disorder treatment and Suboxone use characteristics among VHO clients seen in 2018

<b>Characteristic</b>	<b>Frequency</b>	<b>Percent</b>
<b>Number of times in drug treatment</b>		
0	53	21.4
1	73	29.4
2-3	66	26.6
4+	52	21.0
Unknown	4	1.6
<b>Type of drug treatment</b>		
Multiple types	65	26.2
Inpatient (non-MAT)	55	22.2
Outpatient (non-MAT)	34	13.7
Medication Assisted Treatment (MAT)	20	8.0
No treatment	53	21.4
Unknown	21	8.5

Table 10: Suboxone use among VHO clients seen in 2018

Characteristic	Frequency	Percent
<b>Used suboxone</b>		
Yes	141	56.9
No	91	36.7
Unknown	16	6.5
<b>How client obtained suboxone (n=141)</b>		
Street	79	56.0
Treatment	42	29.8
Both (treatment and street)	19	13.5
Friend	1	0.7
<b>Reason used suboxone (n=141)</b>		
Self-detox/withdrawal	76	53.9
Treatment center	37	26.2
Both treatment and self-detox	24	17.0
To get high	4	2.9

## VHO screening services for clients seen January through December 2018:

Tables 11-13 describe VHO services from January through December 2018. These include the number of visits provided to individual clients, where service encounters occurred, and results of viral hepatitis C screening services.

The majority of clients served in 2018 were new to the program (n=135). A total of 320 service visits completed in 2018. Fifty clients had multiple service encounter between January and December 2018 (table 11). Common sites where VHO services were provided included: correctional institutions, Snohomish County syringe exchange and medication assisted treatment (MAT) clinics (table 11 and graph 5). Over the last 5 years the VHO program has increasingly seen clients at Snohomish County Corrections and the syringe exchange, while decreasing the number of clients seen at juvenile corrections and the Snohomish Health District clinic (graph 6). Note, 2018 was the last year VHO services were provided at the medication assisted treatment clinic. This service site is now performing HCV screening on all clients and no longer needs the assistance of the VHO program.

Testing for hepatitis C antibody was performed on 247 VHO clients in 2018. (One client declined screening.) Over one hundred VHO clients tested positive for hepatitis C in 2018 (table 12). VHO clients that test negative for hepatitis C are retested every 6 months. (Note: not all clients can be located for rescreening). Rescreening is an integral part of the Viral Hepatitis Outreach program. It assists with targeted, enhanced hepatitis C surveillance.

Starting mid-2018, hepatitis C antibody positive clients seen at Snohomish County Corrections (SCC) were also offered confirmatory testing for viral hepatitis C ribonucleic acid (RNA). RNA testing is important to confirm HCV infection. Hepatitis C antibodies remain positive for life once a person has been exposed. RNA testing confirms the presence of virus in the person’s blood. This helps identify individuals who need treatment for HCV infection, and to educate concerning transmission risk to others. Out of 50 hepatitis C antibody positive clients screened at SCC, twenty-two clients had RNA testing performed. (Testing may not have been performed for a variety of reasons including patient refusal or inability to obtain blood sample.) Eighty-six percent of all clients tested for hepatitis C RNA were positive (table 12).

Table 11: Viral Hepatitis Outreach program services among 248 clients seen January through December 2018

	Frequency	Percent
<b>Number of service visits</b>		
1	198	79.8
2	32	12.9
3	14	5.7
4	4	1.6
<b>A total of 320 service visits were completed for 248 individual clients</b>		
<b>Site</b>		
Corrections	127	51.2
Syringe exchange	95	38.3
MAT Center	16	6.5
Multiple sites	4	1.6
SHD clinic	3	1.2
Juvenile corrections	3	1.2

Graph 7: Site of VHO Services 2014-2018

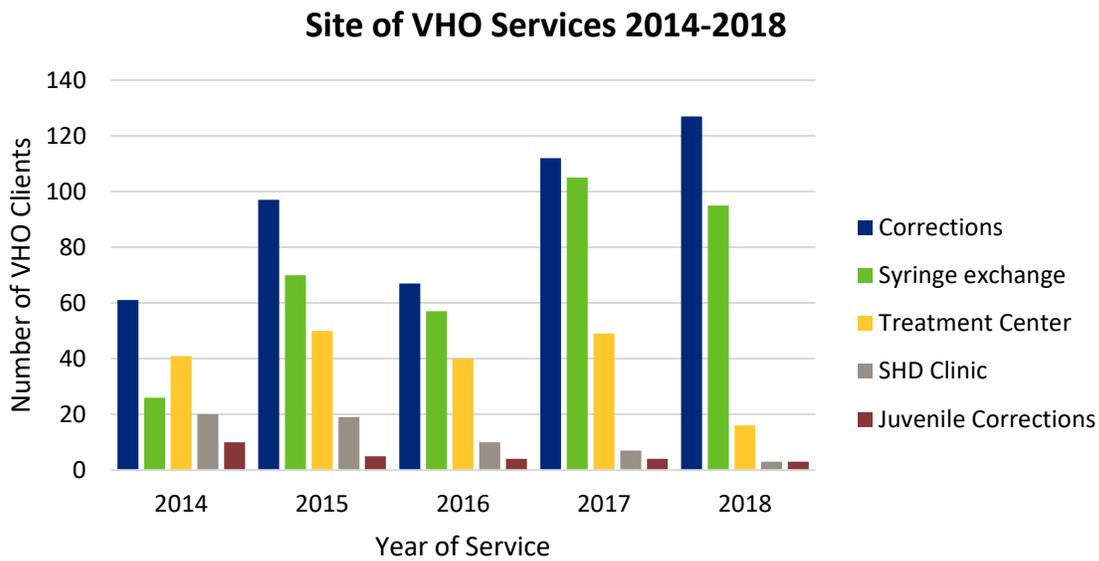
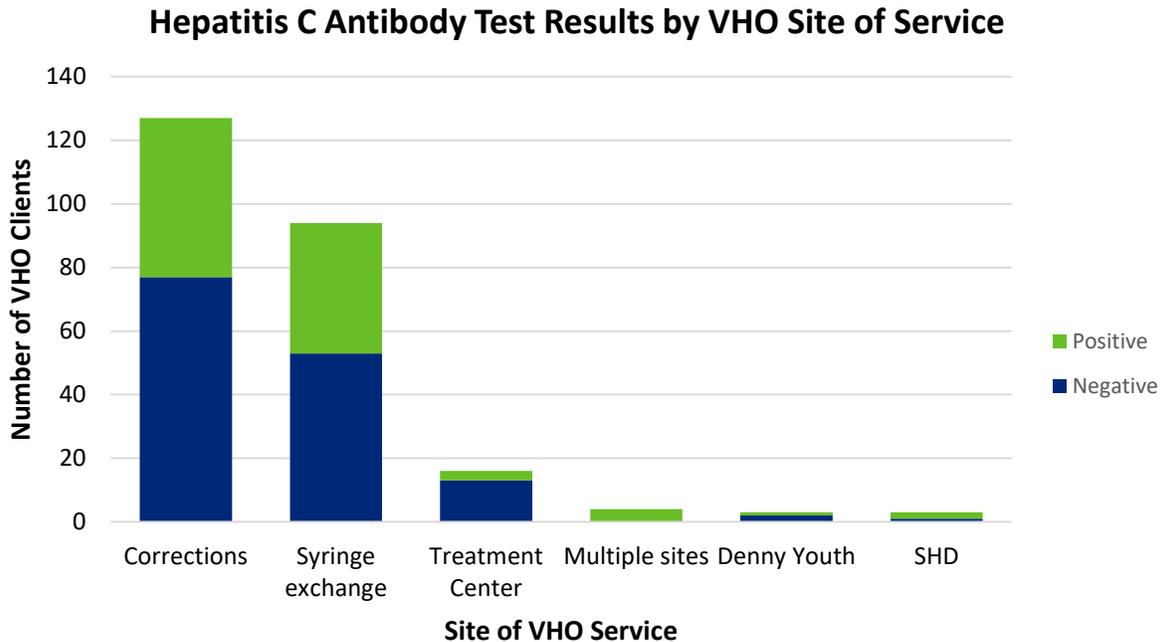


Table 12: Prevalence and seroconversion of HCV among 247 VHO clients seen in 2018

Lab test	Positive (%)	Negative (%)
Anti-HCV antibody	101 (40.9)	146 (59.1)
<b>Seroconverted to HCV positive (n=101)</b>	<b>Frequency</b>	<b>Percent</b>
Yes	40	39.6
No (positive on 1 <sup>st</sup> screening)	61	60.4
<b>HCV RNA test result (n=22)*</b>	<b>Frequency</b>	<b>Percent</b>
Positive	19	86.4
Negative	3	13.6

\*Note: confirmatory testing was not performed on all HCV Ab positive clients see at SCC

Graph 8: Hepatitis C antibody test results by VHO site of service



### Hepatitis C positive client demographics and treatment:

Tables 13 and 14 describe the demographics and type of medical care and treatment received by hepatitis C positive clients (n=101).

Hepatitis C positive clients had similar demographics to all clients seen by the VHO program. They were fairly evenly split between females and males; tended to be younger with over 80% under the age of 40; and were experiencing homelessness and unemployment (table 13).

Hepatitis C is a curable ‘chronic’ disease. Primary medical care and treatment for Hepatitis C is rare among VHO clients. Only two out of 101 hepatitis C positive clients were being followed by a primary healthcare provider (table 14). None of the HCV antibody positive clients said they had received treatment for hepatitis C infection. The VHO program provides viral hepatitis screening and education to a population that is not likely to receive services elsewhere.

Table 13: Demographics and medical follow-up among the 101 HCV positive VHO clients seen in 2018

<b>Characteristic</b>	<b>Frequency or Mean</b>	<b>Percent or Range</b>
<b>Age in years</b>	33.3	18-56
<b>Age group in years</b>		
15-19	2	2.0
20-29	37	36.6
30-39	43	42.6
40-49	13	12.9
50+	6	5.9
<b>Gender</b>		
Female	49	48.5
Male	52	51.5
<b>Type of housing</b>		
Homeless	65	64.3
Lives with family	22	21.8
Rents	11	10.9
Friends	1	1.0
Owns	1	1.0
Unknown	1	1.0
<b>Employment status</b>		
Unemployed	84	83.2
Employed	16	15.8
Unknown	1	1.0

Table 14: Medical follow-up among the 101 HCV positive VHO clients seen in 2018

Characteristic	Frequency	Percent
<b>Primary healthcare provider follow-up for positive HCV antibody test</b>		
No	17	15.5
Yes	2	1.8
Unknown	91	82.7
<b>Received treatment for HCV</b>		
No	16	15.8
Unknown	85	84.2

## Conclusions and future recommendations:

The VHO program primarily serves people who inject drugs. PWIDs often do not receive medical services or health education. This program reaches out to those most at risk of contracting viral hepatitis. The medical and educational services provided are vital to helping reduce the transmission of hepatitis C in Snohomish County.

The data collected by the VHO program provide a good overview of the difficulties facing PWIDs:

- Homelessness, unemployment and drug injection show overlap in the VHO client base.
- Sharing of drug paraphernalia is high, despite access to and use of the syringe exchange.
- Incidence of HCV acquisition is high.
- Experiencing or witnessing a drug overdose is common, but use of naloxone is less common.
- Most current users have made at least one previous attempt to enter drug treatment; while very few had access to the standard of care (medicated assisted treatment).
- Access to HCV treatment appears limited.

Limitations of these data include: (1) self-reports by clients are difficult to validate and (2) recall bias may affect the comparability of reports between anti-HCV-positive versus anti-HCV-negative respondents.

Currently the program uses the following strategies to address the health of people who inject drugs:

- Retests all eligible VHO clients for hepatitis C every 6 months to determine seroconversion rates
- Re-educates on HCV transmission and prevention at each client visit
- Provides overdose prevention education at each client visit
- Identifies and collaborates with community partners to address issues surrounding those at high risk for contracting viral hepatitis
- Supports the Snohomish County syringe exchange program
- Hepatitis C and Hepatitis B (HBV) screening and confirmatory testing at Snohomish County corrections

Future recommendations and strategies for Viral Hepatitis Outreach within Snohomish County include:

- HCV and HBV screening and confirmatory testing at Snohomish County syringe exchange
- Hepatitis B surveillance among clients seen at SCC and the Snohomish County syringe exchange
- Perform enhanced surveillance on newly confirmed, chronic hepatitis C cases
- Track the continuum of care and treatment outcomes of newly confirmed, chronic hepatitis C cases
- Target younger populations
- Expand and evaluate opioid overdose prevention education
- Increase PWID access to naloxone
- Work with community partners to increase service capacity for medication assisted treatment for opioid addiction and treatment for HCV infection among VHO clients
- Communicable Disease Leadership Committee through Washington State Association of Local Public Health Officials has focused on HCV elimination through expanded testing, investigations and referrals for HCV treatment.