

Final Report: Telehealth Opiate Treatment Pilot Project

June, 15, 2017

The original term of this grant was issued for April 1, 2016-December 31, 2016, however, an extension was granted through June of 2017. Prior to the commencement of the implementation of the telehealth project with patients, a number of tasks needed to be addressed.

They included:

1. Identify a VDOT (Video Directly Observed Therapy) Client Management System that would be user friendly and meet the HIPAA standards.
2. Staff training on the VDOT Client Management System
3. Order supplies
4. Staff training on the e-Pill dispensers
5. Identify point persons to carry out the project
6. Establish workflows, create patient education information, training videos, forms, contracts, and satisfaction surveys
7. Identify patients who would benefit from this process and establish requirements
8. Train and enroll patients in the project
9. Go live (review videos of patients taking medication)
10. Daily Report- compliance report completed in Sure Adhere
11. Ongoing reviews, monthly reports and updates

1 & 2. The Howard Center IT Department was given the responsibility of researching VDOT programs that would fit our needs. It was decided that a company called Sure Adhere from California would be the best match. They had experience video monitoring patient compliance with TB medication. The two owners of the company presented a four hour training for a number of our staff. We learned the process of uploading the application to our computer system and phone and actually practiced videotaping ourselves. Training manuals were given to us. It was clear that only individuals who had either Android or iPhones with certain specifications would be able to participate.

3. We ordered 77 wheels for the project, 27 methadone wheels and 50 Suboxone (Buprenorphine). Administrative staff was assigned to be in charge of the inventory and updated this weekly.

4. Several Nursing staff was initially identified to be in charge of training patients on the use of the wheel, however, we eventually decided it was more efficient to train all nurses in this the process. In addition to training patients, it took more time than anticipated for the nursing staff to problem solve the issues that arose with the use of the wheel. The Buprenorphine wheel was designed to hold only a certain number of pills. We ran into problems with the Methadone wheels. They were much larger than

the Buprenorphine wheels and the pills were getting lodged between the cells denying patient access to their medication.

5. Staff at the Chittenden Clinic was assigned roles, the Project Director, Data manager and Technical Support, Site Coordinator, Medical Director, Viewing Monitors.

6. It was our responsibility to develop the workflows, training videos and paperwork necessary to enroll patients. I have included our training pamphlets as examples.

7 & 8. Clinicians identified patients who would benefit from the Tele-monitoring project. We worked with the Medical Director to establish the criteria. Typically, patients who had difficulty accessing the clinic, had employment conflicts and who were not using targeted drugs were deemed eligible. Clinicians submitted paperwork to the Tele-monitoring site Coordinator who reviewed this with the MD. Once approved, the Site Coordinator met with the patient to explain the requirements, upload the application on their phone and train them in videotaping. Once trained in this area, the patient was scheduled to meet with a training nurse for the wheel education. He/she then received their medication. All patients who had less than 6 take homes, had to video record themselves daily. Those who had earned 6 or more, only had to video tape themselves on the day of a callback, however, had more time to come to the clinic to leave a urine drug screen.

9 & 10. We assigned Security staff to monitor the videos daily and report any deficiencies that occurred. The appropriate staff was expected to follow up with the patient if needed. As we progressed with this process, we decided to make the process more efficient and pulled the data from the daily Sure Adhere report and send out a compliance report to staff at the end of each week. Staff was to address these deficiencies and report back to the tele-monitoring group the outcome of their conversations and follow up plans implemented after consultation with the MD.

11. The Program Director worked with the tele-monitoring group to compile data on a monthly basis and submit a report to the Director of the Medication Assisted Treatment Programs at Howard Center in addition to James Westrich overseeing the Grant.

We started out with enrolling patients in October of 2016. It took us more time than anticipated to train staff and develop workflows and patient forms. The plan was to enroll 16 patients a month, however, due to the time required to prepare the wheel for dispensing by the nurses, we limited the intakes. We also put a temporary hold on intakes over a number of weeks due to methadone wheel malfunctions and methadone pill availability. As of June 2017, we have enrolled 36 patients.

Our current status is as follows:

Total enrolled-36

Active participants-27

Methadone wheel-18

Buprenorphine wheel-9

Dropped out-6

Transfer to spoke-1

Suspended-2

Callbacks-28

Failed callback-5

Reason for failed callback-transportation, did not hear number, and work conflict.

% of patient UA's negative for opioids after three months of treatment-94.29% (two individuals were positive one time).

% of patient UA's negative for cocaine after the first three months of treatment-74.29% (3 individuals positive, one person was positive 5 times, one was positive 2 times, and one was positive one time) This had an effect on the score.

% of patient UA's negative for benzodiazepines after the first three months of treatment-100%.

Self-sufficiency matrix after six months of treatment (see graphs later in the report)

Number of patients who are:

Employed Full Time-14

Employed Part time-5

Homemakers-4

Volunteer-0

Disabled-1

Students-1

Unemployed-9

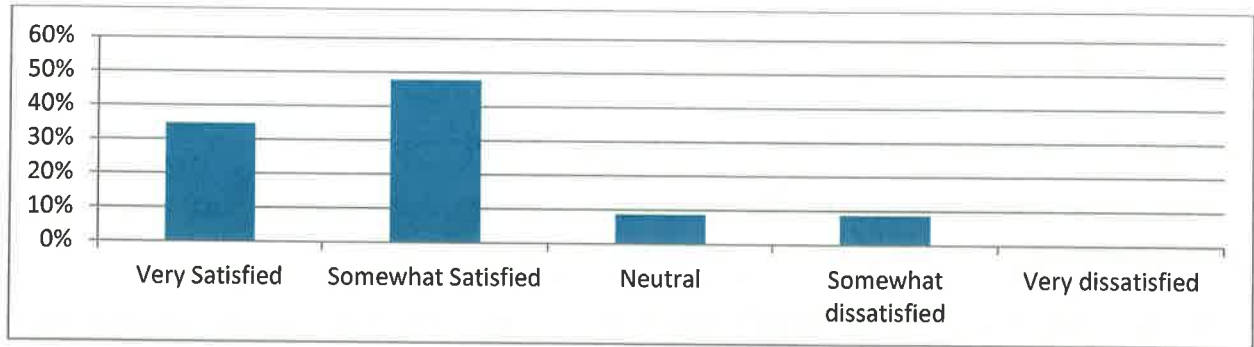
Unknown-2

Patient Satisfaction survey: I have enclosed the results of the patient satisfaction survey. They were very positive and indicated that the wheels and video monitoring saved time and money coming to the clinic. Although there was some frustration with the early stage of wheel problems and uploading videos, most patients stayed with the project.

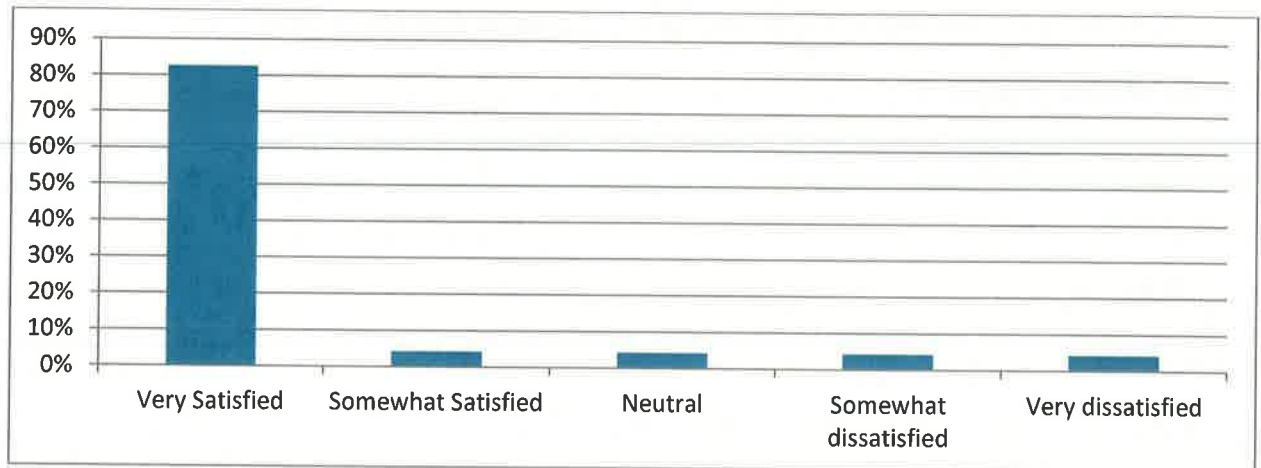
Tele monitoring Patient Survey Results

Total of 23 people surveyed

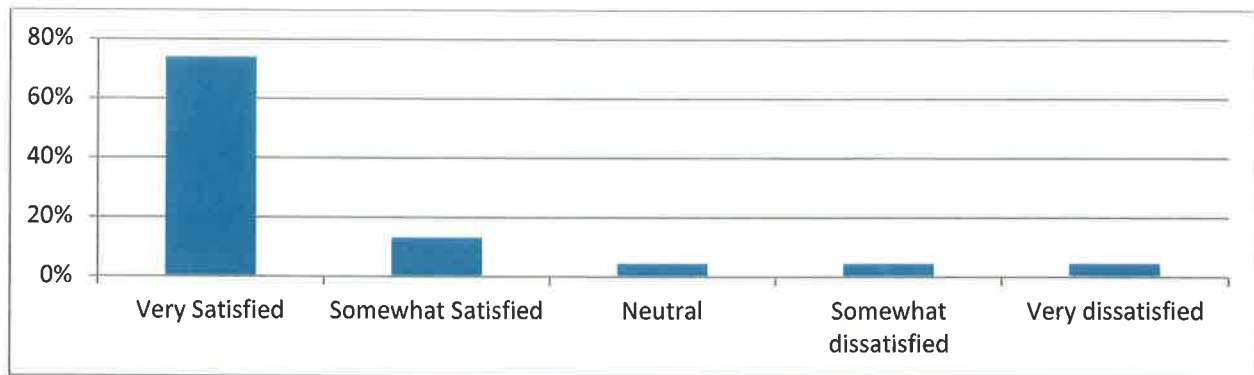
How satisfied were you with the Med-O-Wheel device?



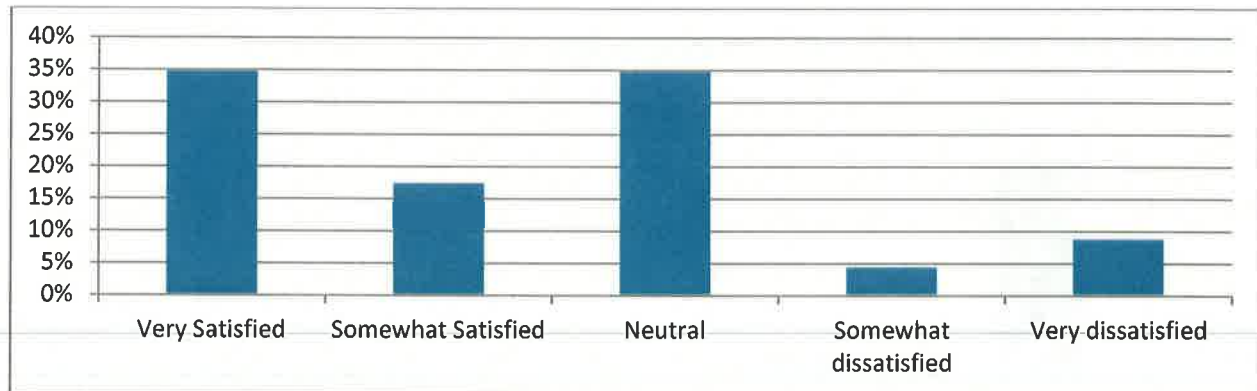
How satisfied were you with the training you received on how to use the Med-O-Wheel?



How satisfied were you with the training you received for the video recording?



Did you have any problems with the video uploads?

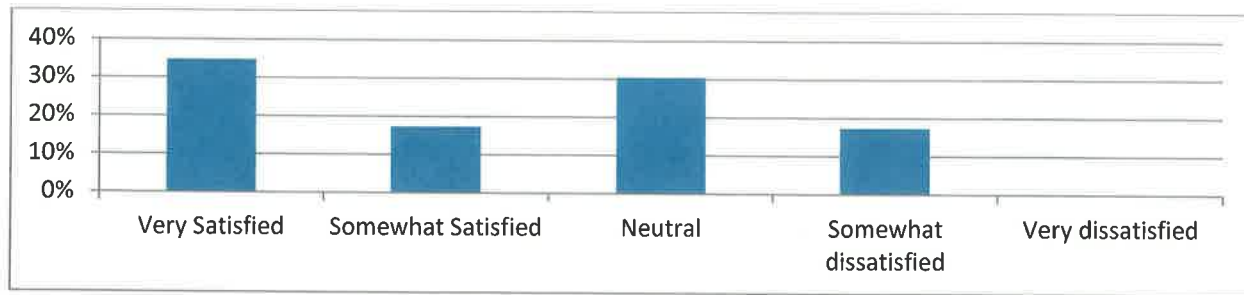


Problems with Uploading

Count of answers

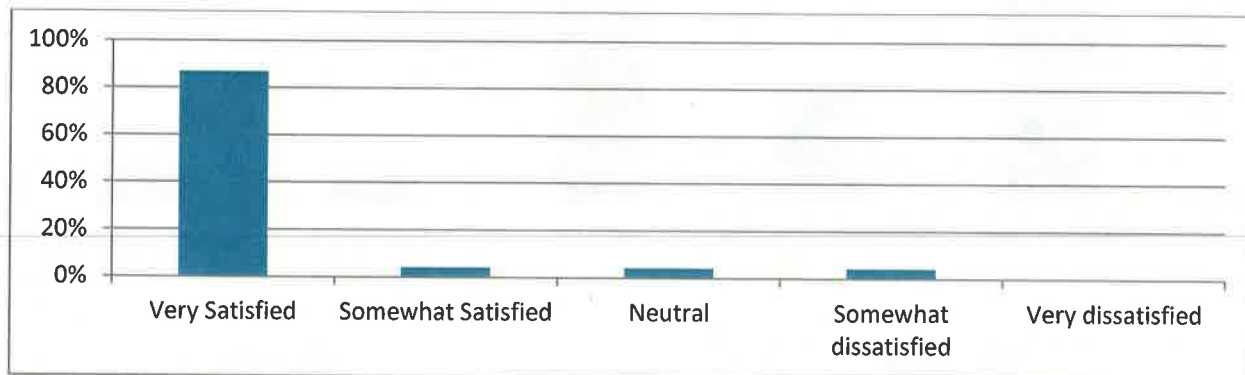
Video didn't upload	4
Couldn't upload because pills jammed	2
Problem updating the app	3
No problems	2
Dissatisfied with video training	1
Reviewers too strict	2

Did you have any problems with the Med-O-Wheel device?



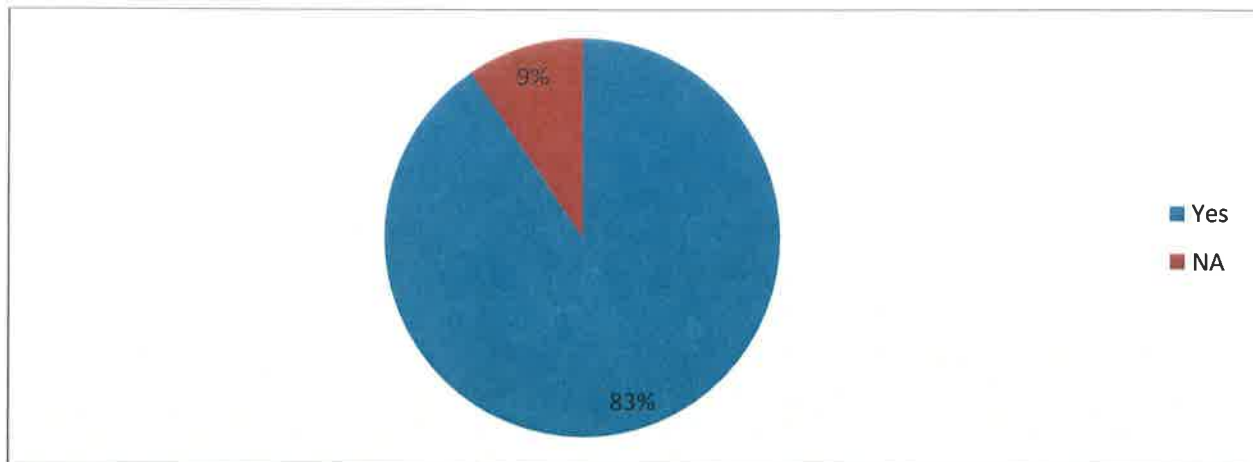
<u>Problems with Device</u>	<u>Count of answers</u>
Broken device	1
Pills jammed	9
Alarm wasn't set correctly	2
Device did not advance correctly	3

Do you feel the wheel has been helpful in reducing time traveling to the clinic?



<u>Time Saved on Average per week</u>	<u>Count of answers</u>
1-3 Hours	8
4-6 Hours	3
7-10 Hours	4

Does having the wheel allow for more flexibility in employment, school, parenting, and other activities?



Staff Satisfaction Survey: 100% of staff felt this project (wheel and tele-monitoring) was helpful to patients.

81% of nursing reported that the wheels did not save time on medicating.

91% of nursing reported problems with the methadone wheel.

Dispenser evaluation

Methadone e-pill dispenser

Medication getting lodged in the cells: This disruption required additional time from the nursing staff in problem solving in addition to time from the patient who needed to come in to the clinic in order to access their medication. Nursing time spent on the wheel averaged 15 hours per week. We also encountered issues with the medication. Initially we were able to fill the Methadone wheels with round tablets. The company we ordered from discontinued the round tablets and sent us oblong tablets. These contributed to the medication not dispensing properly. Until we were able to find a company that had the round pills, we had to switch those patients on methadone back to their original liquid methadone and discontinue the wheel with them. However, we did continue to video monitor them taking their medication. We are now ordering from a new company and are able to access the round pills.

- a) Length of time to fill
- b) Finding lock bags that would hold the larger container
- c) 24 hour dispensing window

- d) Pills getting lodged in cells
- e) Patient frustration with having to return to the clinic when there was a problem with medication not dispensing
- f) 81% of the nursing staff reported on the staff satisfaction survey that the Methadone wheel did not save time in medicating.

Buprenorphine e-pill dispenser

- a) Less pills-less nursing time
- b) Three hour dosing window was preferred
- c) Ease of storing in lockbox
- d) Medication available
- e) No issues with pills getting stuck
- f) Patient satisfaction

This comment was noted in the nursing section of the staff satisfaction survey: "In general, the telehealth wheels, primarily Methadone wheels, were very time consuming for the nursing staff for the following reasons: Preparation and dispensing, coordination with other departments on take home suspensions/reinstatements, changing Buprenorphine schedule of dosing, wheel education, inventory, trouble shooting with patients wheel related problems. Please consider a part-time nursing position dedicated to wheel management."

General evaluation

1) Successes

Positive satisfaction report from patients, especially regarding time and money saved coming to the clinic daily

Positive report from staff regarding helpful to patients

Less patients to medicate daily, reducing wait time for them and others

Tele-monitoring worked well after we worked out the issues, allowed for flexibility.

Sure Adhere was very responsive to our concerns and requests.

Patient centered process-developed trust with patients

More clinicians became involved in supporting the project

2) Problems

Length of nursing time it took to fill the wheels with Methadone pills

Pills getting lodged in the wheel requiring patients to come to the clinic for medication, resulted in several patients dropping out of the project

Shipment of Methadone tablets held up due to medication availability

Extra time required for trouble shooting problems

Required changes in workflows as issues arose. This became frustrating at times for staff.

3) Lessons learned

More planning was required than expected, especially before we started the project.

Patients were very flexible and willing to support changes.

It would make more sense to have only one or two individuals oversee and conduct the project thus reducing breakdown in communication.

After logging hours, it was apparent that this required a fulltime position or two part time positions.

Monitoring of the medication via video will increase as we expand the numbers on the program.

Security spent 1-2 hours a day viewing the videos

The consensus from our staff satisfaction survey was that the Buprenorphine wheel was much more preferable to the Methadone wheel.

Use of the tele-monitoring was helpful for patients on liquid Methadone. We may implement this procedure more often with those who are on Methadone and have issues getting to the clinic.

Training videos done by our Medical Director were very helpful.

Follow up with deficiencies were inconsistent. Developing a tighter plan as we proceed will be necessary.

Make sure necessary parties are in the communication loop.

***How do I care for my device?**

Keep the Med-O-Wheel device in a safe place, accessible only to you.

Keep out of the reach of children

Protect the device from high humidity, moisture, extreme heat or cold and water

If the Med-O-Wheel gets dirty, it can be wiped clean with a damp cloth.

Med-O-Wheel Information



THIS IS NOT A CHILD-PROOF OR CHILD SAFE DEVICE.

Keep the Med-O-Wheel in the locked bag and out of the reach of children at all times.

If a child does take your medication by accident—call 911 immediately

**Howard Center
Chittenden Clinic**
75 San Remo Drive
South Burlington, VT
05403

UHC Location
1 South Prospect
Street
Burlington, VT
05401

If you are having problems with the wheel please bring into the clinic at the end of dosing hours.



**HOWARD
CENTER**
Help is here.

**HOWARD
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Help is here.



What is a Med-O-Wheel?

- ◆ The Med-O-Wheel is a portable, disk-shaped device used to store and access your medication.
- ◆ This device is not a childproof or child safe device. You will be given the Med-O-Wheel in a locked bag.
- ◆ Keep this device and locked bag out of the reach of children at all times.
- ◆ Do not open the locked bag or operate the device in front of children.



HOW DO I TAKE MY DOSE?

- ◆ Remove the Med-O-Wheel from the bag.
- ◆ Your dose will be visible in the open dispensing slot
- ◆ Turn your wheel upside down to drop the tablets out of the wheel
- ◆ Take your medication as directed
- ◆ Turn your wheel upright and place back in the locked bag—and keep out of the reach of children.
- ◆ The Med-O-Wheel uses military time. You chose a dosing time to take your medication.
- ◆ If your wheel does not provide you with a dose call the clinic at **802-488-7373**

MED-O-WHEEL ALERTS

- ◆ The Med-O-Wheel will beep every day when you are scheduled to take your dose
- ◆ The alert tells you that the Med-O-Wheel has released a dose of your medication for you to take.
- ◆ If you try to pry a dose out of the wheel the tamper alarm will be activated. The tamper alarm will continue to be activated until it is reset
- ◆ You will need to bring in your device to the clinic to be reset.
- ◆ The wheel will not provide further doses until it is reset.
- ◆ If you take your wheel to another facility (ie: Emergency Dept) to try to get a dose, Chittenden Clinic staff will advise any other medical provider **NOT** to provide a substitute dose and instruct you to call the clinic to schedule a time to have your wheel reset.
- ◆ Bottom line: **DO NOT TAMPER**



Recording Instructions

- ◆ Person must be seated at a flat table in an upright chair
- ◆ Lighting must be on far end of the phone— not overhead and not behind the person
- ◆ Phone must be upright and propped in front of a sturdy object (large glass, candle, stacked books, etc.)
- ◆ Camera lens must be at the top of the phone
- ◆ Distance from phone to person must be 15 to 20 inches away from the person
- ◆ Phone must capture the surface of the table in front of the person
- ◆ All bottles or pills to be visible
- ◆ Hands must be kept visible at all times in and in the sight line of the camera
- ◆ Please state your name, medication, and dose amount

FOR METHADONE PILLS IN A SMALL WHEEL

NOTES:

- ◆ A clear glass with 6 oz. of water must be used to drink from and must be visible
- ◆ Turn wheel over and show the clear backing with the remaining pills in it
- ◆ Press button to advance the wheel
- ◆ Put medication in your hand to show the camera
- ◆ Take the medication and put them in the mouth and then take the hand and spread the fingers to show that there are no pills still in the hand
- ◆ Swallow the medication and open mouth and show under your tongue to show that it was ingested after dose taken
- ◆ Say your name and dose amount

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**Telehealth
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instructions of
dosing for smart
phones**



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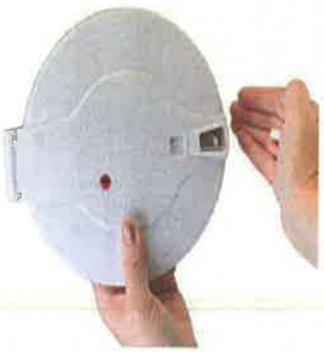
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**Telehealth
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- ◆ All bottles or pills to be visible
- ◆ Hands must be kept visible at all times in and in the sight line of the camera
- ◆ Please state your name, medication, and dose amount

FOR METHADONE PILLS IN A LARGE WHEEL

- ◆ A clear glass with 6 oz. of water must be used to drink from and must be visible
- ◆ Tip the wheel over and place all pills on a colored paper
- ◆ Take the medication and put them in the mouth and then take the hand and spread the fingers to show that there are no pills still in the hand
- ◆ Hover your phone screen down over the pills so that we can see them, hold the phone about 4 inches above the pills.
- ◆ Take the pills and put them in the mouth and then take the hand and spread the fingers over the paper to show that there are no pills still in the hand
- ◆ Hands **MUST** be visible at all times
- ◆ Take the glass of water and drink all of the water and swallow the pills
- ◆ Hold up the glass and show that it is empty
- ◆ Open the mouth and stick out the tongue
- ◆ Say your name and dose amount

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**Telehealth
recording
instructions of
dosing for smart
phones**



FOR METHADONE LIQUID

- ◆ Display the bottle close to the camera so the name, dose, date and contents can be seen.
- ◆ Remove the top of the bottle and show the seal to the camera
- ◆ Hold the bottle upside down and squeeze the bottle
- ◆ Open the seal and take all of the medication
- ◆ Show the bottle is empty by turning it upside down and shaking it
- ◆ State your name, dose and date
- ◆ If you wish to drink water after you have taken your dose, the glass must be visible to the camera and hold the glass and show it is empty



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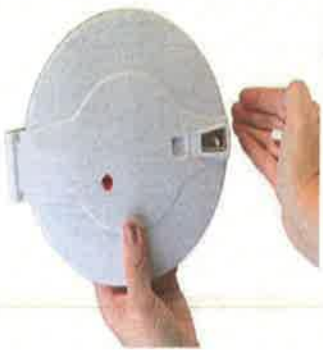
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- ◆ Camera lens must be at the top of the phone
- ◆ Distance from phone to person must be 15 to 20 inches away from the person
- ◆ Phone must capture the surface of the table in front of the person
- ◆ A sheet of 8 1/2 x 11 colored paper must be placed in front of the person on the table
- ◆ All pills must be visible on the white paper—close up of medication that shows the wording on the pills must be visible.
- ◆ Hands must be kept visible at all times in and in the sight line of the camera
- ◆ Please state your name, medication, and dose amount

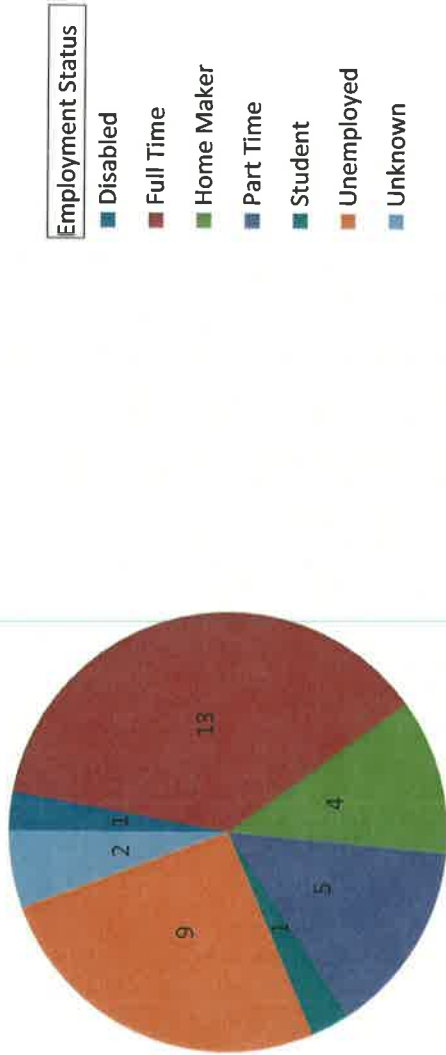
NOTES:

FOR BUPRENORPHINE

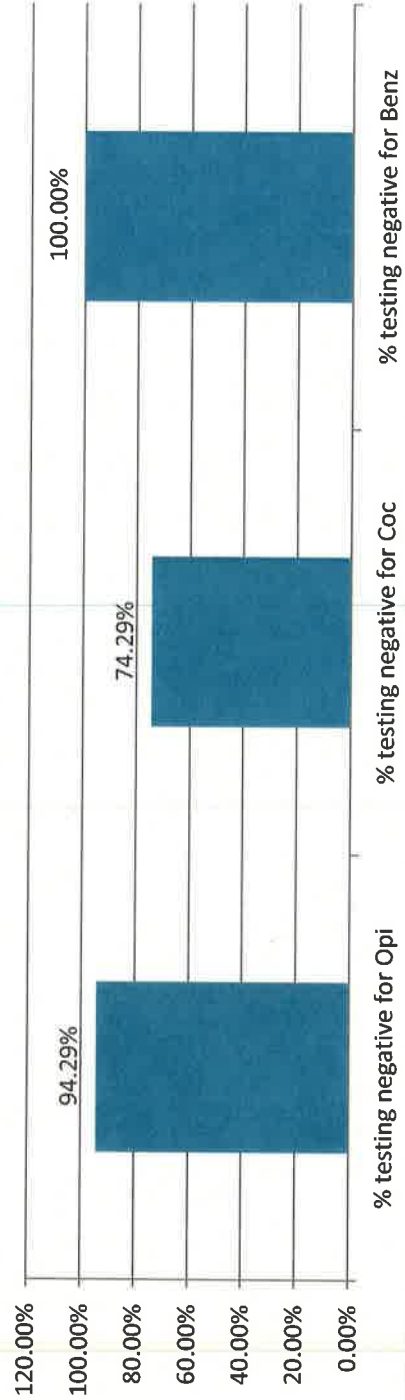
- ◆ Turn wheel over and show the clear backing with the remaining pills in it
- ◆ A clear glass with 6 oz. of water must be used to drink from
- ◆ Put the pills under the tongue
- ◆ After putting pills under the tongue, turn palm down and spread the fingers
- ◆ Open the mouth and show the pills under the tongue
- ◆ Keep the mouth closed for the full 5 minutes
- ◆ After 5 minutes open the mouth, stick out the tongue and then lift up the tongue
- ◆ Spit out or swallow remaining liquid
- ◆ Take a drink of water and swallow the liquid left in the mouth

Count of Client ID

Employment Status



UDS Results



Total Number of people for Telehealth

35 From November 2016 - June 23,2017

Total Number of callbacks
Total Number of failed callbacks

28
5

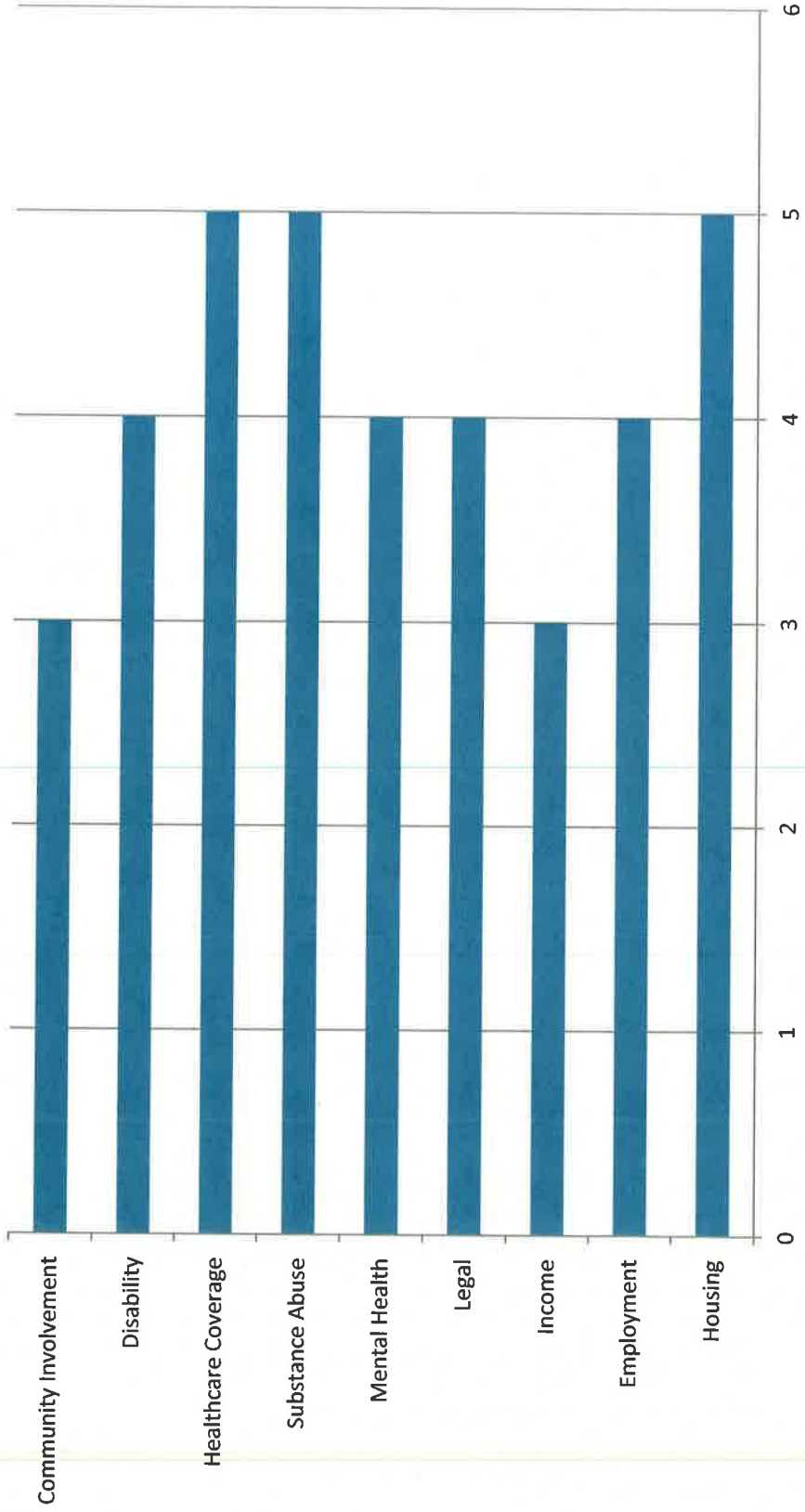
% testing negative for Opi
% testing negative for Coc
% testing negative for Benz

94.29%
74.29%
100.00%

Self-Sufficiency Matrix Averages

Housing	5
Employment	4
Income	3
Legal	4
Mental Health	4
Substance Abuse	5
Healthcare Coverage	5
Disability	4
Community Involvement	3

Self-Sufficiency Matrix Averages



Severity Score Key:

1 - In Crisis, 2 = Vulnerable, 3 - Safe, 4 - Building Capacity, 5 - Thriving

