

Patient Survey Analysis: Patterns of Demography, Background, and Treatment

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Chapter 1

Introduction

Drug use and subsequent overdose (among other negative outcomes) is a concern across the United States. Opioids in particular are contributing to a tremendous rise in overdose deaths across all ages, genders, and socioeconomic backgrounds. For example, overdose deaths in Ohio increased by 440% in the years between 1999 and 2011. In 2008 alone, 14,000 people died from overdoses of prescription painkillers.

As with many medical issues, genetic and environmental factors can variously contribute to an individual's likelihood to use and abuse prescription drugs. Drug use also transcends age groups—often beginning during teenage years—and other demographic and social attributes (although patients are not necessarily random and demographic patterns do exist). Despite the ubiquity of prescription drug and opioid use, it remains a critical task to best describe individuals using drugs, in order to 1) better understand individual and demographic risk, and 2) understanding outcomes and successes of available treatments. Legislative and cultural changes may reduce the number of users (for example, by closing drug sources such as pill mills), but effective treatment modalities remain a critical, if not the most important, aspect of treating the present opioid abuse epidemic.

In 1997, changes in pain medicine protocols opened the floodgates of prescription drugs for pain. In response to networks of doctors who overprescribed medications (led by oxycodone, fentanyl, hydrocodone and others), pill mills soon developed to feed the demand for pain medicines. By 2008, pain medicines had become a \$234 billion dollar industry. In Ohio, these “pill mills” were shut down in 2012, which greatly reduced drug availability for users and addicts—and shifted much of the focus over to heroin, a cheap opioid alternative.

Suboxone (buprenorphine) presents a unique treatment plan—unique in its high rate of success among opioid treatments options. Approved in 2000, Suboxone can help get patients off methadone and has the added benefit of a ceiling effect, meaning that high doses do not result in euphoria and risk of abuse. Suboxone is also long-acting and with fewer withdrawal symptoms. By binding with μ -opioid receptors, Suboxone renders other

opioids ineffectual. Over the past 15 years, a number of similar drugs (Subutex, Zubsolv, and the injectible Vivitrol) have been developed to add to the treatment options providers have.

In 2014, a set of patient surveys were conducted by Steve Midway in collaboration with the Rehabilitation Care Group (RCG) of Columbus, Ohio. The objective of these surveys was to collect patient information, attitudes, and opinions about their past drug use, decision to seek Suboxone (or comparable drug treatment), and their perception of the outcomes and success of that treatment. Survey questions were developed under the guidance of Dr. Nino DiIullo of RCG, and ultimately two surveys were used. The first survey was developed for existing patients—those patients who were established patients at RCG and had been participating in a Suboxone treatment plan prior to the survey. A second survey was developed for new patients—those patients making their initial visit to RCG in search of treatment. Although the groups do not necessarily represent a before and after group, they do present as (potentially) different groups. Following these descriptions, throughout this report there will be several instances where new and existing patients are referenced and compared.

Chapter 2

Demography

2.1 Patient Age and Gender

Question Patients were asked their age and gender.

Response Rate 231 of 233 (99%) patients provided their age, and 227 of 233 (97%) patients provided their gender. These rates are very high and non-respondents are unlikely to be bias or informative.

Overall Result The average age of a patient was 34.7 years old, with a standard deviation of approximately 9 years. This is a relatively wide standard deviation, but it describes the majority of patients, which are in their late-20s and 30s.

Interpretation Males and females were nearly equally represented in this question, with 121 and 104, respectively. No one gender is driving the age distribution, and the figures support this. Female patients are slightly more frequent than male patients at older ages, whereas a few more females patients occur at ages younger than 30. Despite these differences, it can safely be interpreted that male and female patients at RCG are very similar in ages.

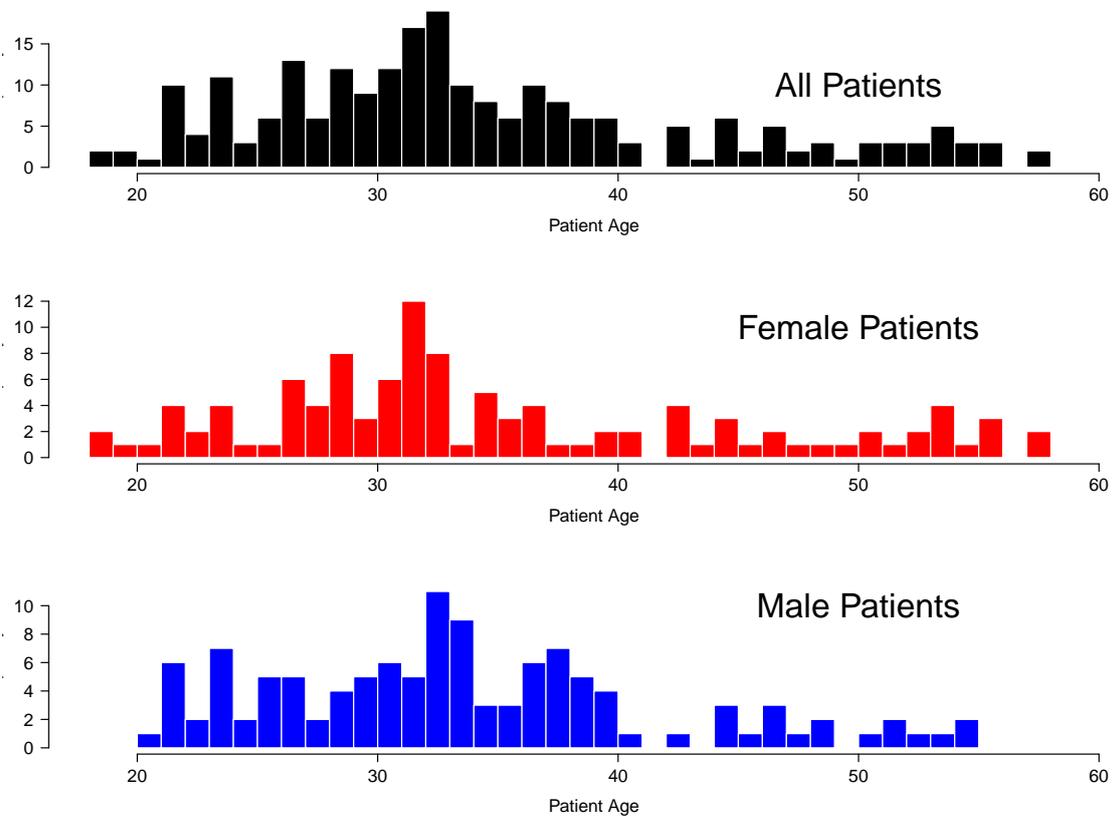


Figure 2.1: Age distributions of 231 RCG patients. Note different *y*-axes.

2.2 Marital Status

Question Patients were asked their marital status.

Response Rate 219 of 233 (94%) patients provided useful responses. Few declined to answer, and a few provided un-interpretable responses. (For example, patients were allowed to select multiple statuses, and some selected both married and single. These responses were likely mistakes and discarded from interpretation, and the option of multiple responses has been changed in the current survey.)

Overall Result Patients who had never married were dominant, followed by patients currently married—and these two groups combined represented 75% of patients. Divorced, single, and widowed patients represented about a quarter of patients.

Interpretation Patients had the option to select more than one status, so it could be that some married patients are also divorced, yet chose not to include that information. Otherwise, as an assessment of current marital status, these results are likely very reliable. According to recent estimates of the US population (Statistical Abstracts of the United States data from 2010), approximately 30% of males and 23% of females were not married. Although comparison of these numbers assumes a similar age distribution, RCG patients show a higher proportion of never having been married.

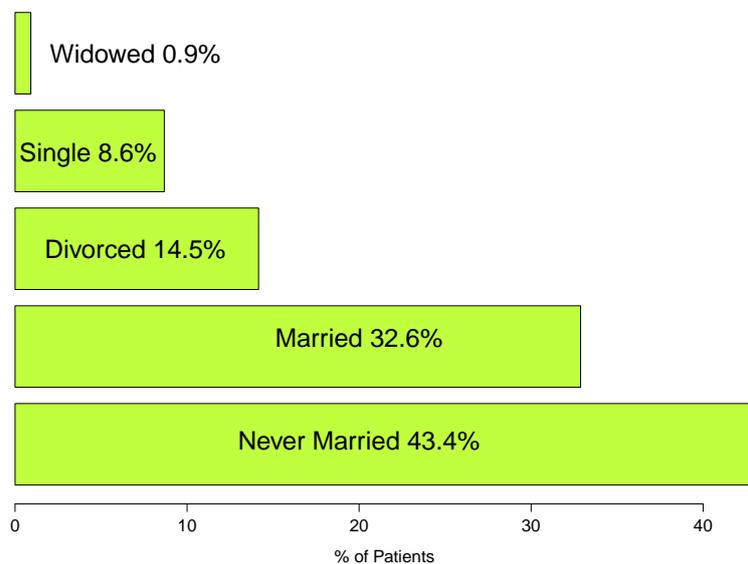


Figure 2.2: Marital status of 219 RCG patients.

2.3 Employment

Question Patients were asked their employment/work status.

Response Rate 216 of 233 (93%) patients responded.

Overall Result The responses were split between new patients and existing patients, primarily because of the expectation that existing patients on a treatment plan may have different abilities to find and keep employment than a new patient. The relative magnitude for all groups except full-time employment were similar.

Interpretation Unemployed and disabled were separate answers, although it could be that some patients confused the two. Regardless, the combined estimate should reflect those not working at all. It is also unclear whether those employed part-time desire more hours. A clear comparison of unemployment rates in Ohio and the nation was not made; however, at 13 and 17% (for new and initial patients it can safely be assumed that RCG patients have a higher rate of unemployment than the general population. Of particular note between new and existing patients was the relatively high full-time employment rate of initial patients (those on a treatment plan) compared to new patients. In fact, full-time employment was the most common response of those patients undergoing treatment, whereas unemployment was the most common answer for new patients.

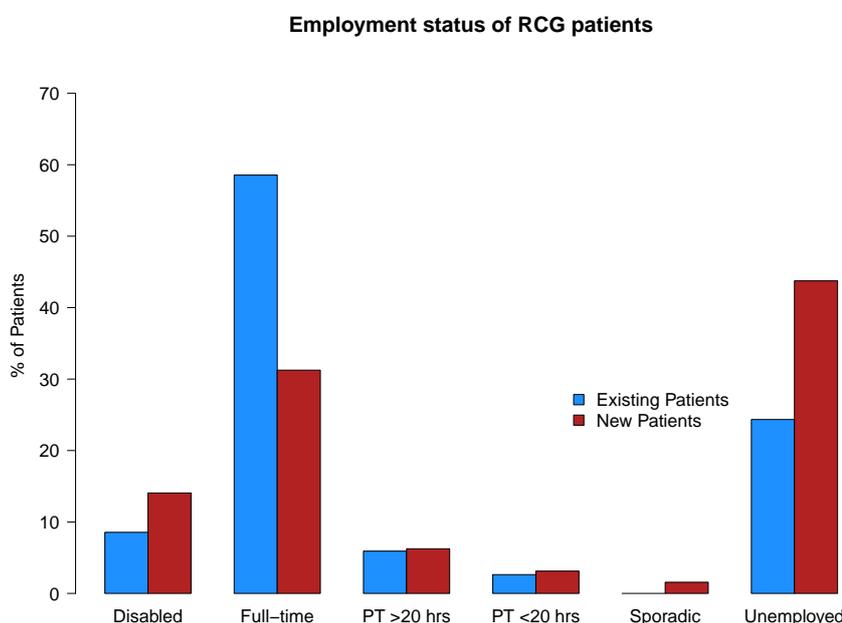


Figure 2.3: Employment status of 216 RCG patients.

Question Patients were asked if they enjoyed their job.

Response Rate 87 patients did not respond, leaving 146 of 233 responses (63%) to characterize these results. Non-responses were high for both new and existing patients, although proportionally higher for new patients who, as a group, had a higher proportion of unemployed individuals.

Overall Result Job satisfaction was generally high for both groups; 76% of existing patients reported that they liked their job, while 65% of new patients reported liking their job. New patients had a higher rate of disliking their job, while job indifference was comparable at 18 and 22%.

Interpretation Definition of job satisfaction was not included in this question, so while the results are likely robust we have no data to posit what it is about a job that a patient likes or dislikes. Of particular interest was the question of whether existing patients (those in RCG treatment) had higher job satisfaction than new patients, under the theory that existing patients may have access to treatment plans that provide them more stability in life (and therefore better job prospects) than new patients, who are presumably not participating in a treatment program. Interestingly, new patients had a job satisfaction ratio of 1.25:1, meaning that a new patient was only slightly more likely to enjoy their job than feel indifferent or dislike their job¹. Existing patients showed much higher job satisfaction at a ratio of 3.25:1, meaning that existing patients were three times more likely to be happy with their job than unhappy or indifferent.

¹Responses of 'Indifferent' and 'Dislike' were pooled for this question.

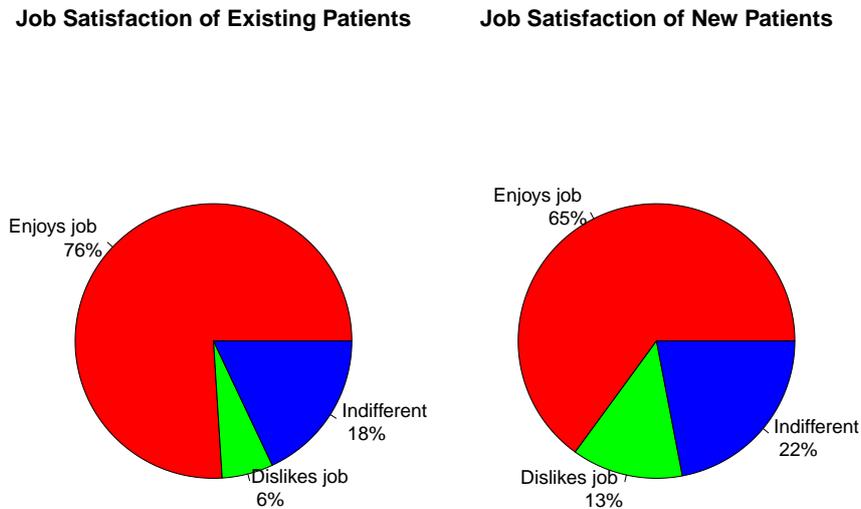


Figure 2.4: Job Satisfaction of 146 RCG patients (114 existing patients and 32 new patients).

Question Patients were asked if they were at the same job for the past two months.

Response Rate This question was asked only to existing patients, and 133 of 165 patients (81%) responded.

Overall Result 68% of existing patients were still working at the same job they held two months prior.

Interpretation This question is geared toward follow-up surveys, in which we will analyze on-going patient habits. An estimate of job retention is not available (was not asked) of new patients. Also of interest is the split in job retention among males and females. Females were almost equally likely to have been at their job for the previous two months as they were to have not been at the same job, while males were twice as likely to have stayed at the same job. Male job retention was much higher.

Again, this question will be explored over longer time periods as the database grows.

2.4 Finances

Question Patients were asked about their personal financial status.

Response Rate 225 of 233 patients (97%) responded regarding their finances. This question was set up in a Likert-style format, with answers ranging from financial stability and savings to continually struggling. Exact language can be found by referencing the surveys.

Overall Result Few patients expressed that they had all the money they need, but the most common response was that patients were able to pay the bills and usually have a little left over. Breaking even, borrowing, and generally struggling with finances were all about equally common, with around 20% of overall patients claiming each category. In general, although many fewer new patients were surveyed, they generally had a less desirable financial situation. Existing and new patients were also split to reveal that existing patients averaged the “break even” response, while new patients averaged the “struggle/borrow” response.

Interpretation Patient perception that they fall in the first three categories indicates that patients are financially self-sufficient, so it is good to see that a majority of patients feel financially capable of taking care of themselves or the family. It should be noted that this question could be open-ended; some patients could rightly interpret their personal finances as those of a spouse or family, and so answers to this question may not only pertain to one individual. Also, it is clear that new patients perceive that they are in a less desirable financial situation—the median response for existing patients was the break even response where as the median response for new patients was that money is a struggle and they sometimes borrow. Clearly, a greater proportion of patients not on Suboxone expressed financial concern or hardship.

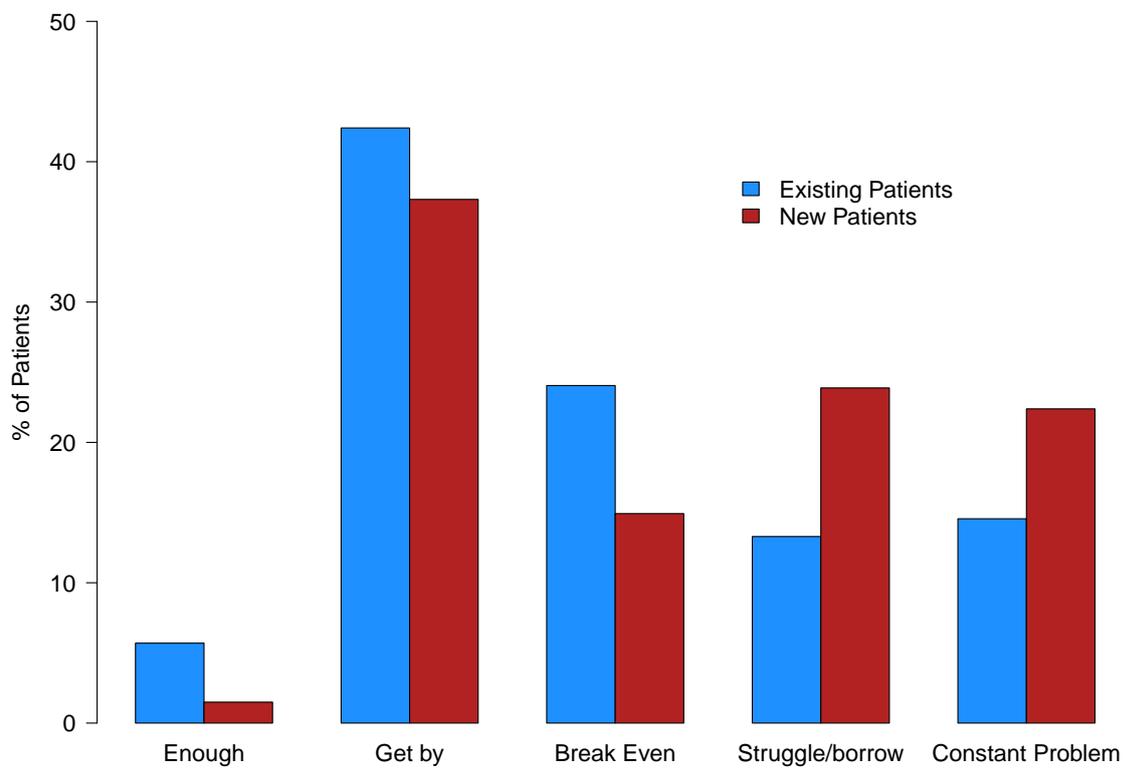


Figure 2.5: Financial status of 225 RCG patients.

2.5 Health

Question Patients were asked about their overall health unrelated to drug use.

Response Rate 226 of 233 patients (97%) responded about their general health. This question was set up in a Likert-style format, with answers ranging from excellent health to poor health. Exact language can be found by referencing the surveys.

Overall Result Few patients expressed that they were in excellent health—and only 4 new patients of 67 claimed excellent health. But for both new and existing patients, the responses were similar, even more so than for financial status (both groups averaged a response between “good” and “OK”). The majority of all patients considered themselves in good health, with OK health as the second most common response. Few patients considered themselves in poor health.

Interpretation This question was worded to target overall or general health, though it is difficult to disentangle overall health from how an addiction may be impacting someone’s health.

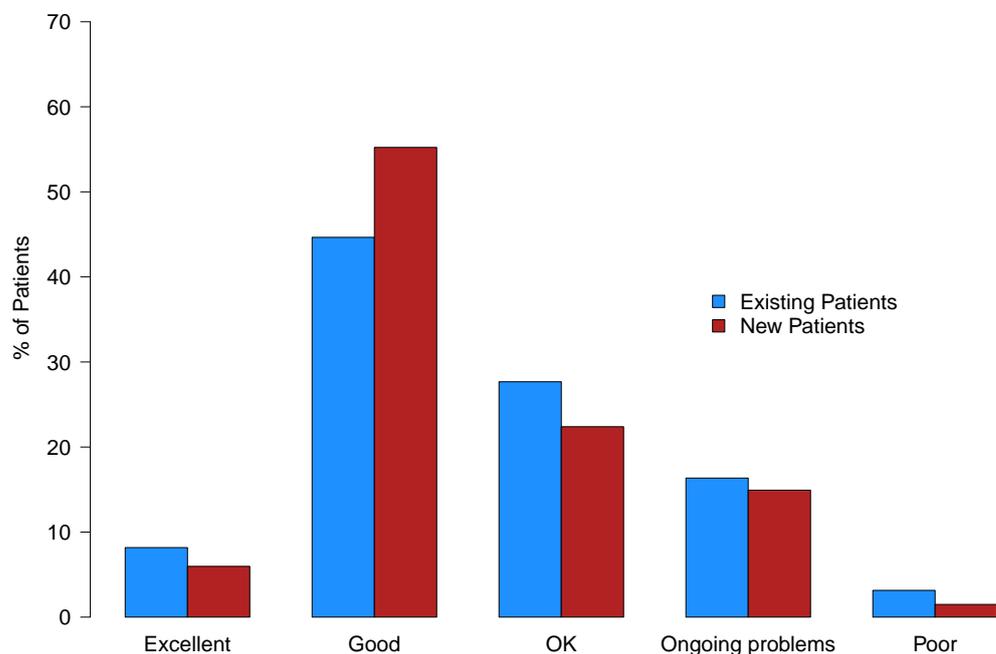


Figure 2.6: Health status of 225 RCG patients.

Chapter 3

Patient Drug Background

3.1 Legal Issues

Question Patients were asked if they had any legal issues or court appearances in the previous 2 months.

Response Rate 226 of 233 patients (97%) responded about recent legal issues. Although the question is left open to interpretation (for example, an affirmative response could be anything from paying a court fee to incarceration), it is safe to assume that positive responses are undesirable.

Overall Result The vast majority of both new and existing patients reported no recent court issues. Only 10% of existing patients and 11% of new patients reported recent legal problems.

Interpretation Again, this question is somewhat vague based on the number of different situations that might be interpreted as “legal trouble”; however, the response rate is high and likely is reporting an accurate proportion. It is also worth noting that new patients were slightly more likely to have recent or ongoing legal problems, where as patients being treated for with Suboxone were less likely to have similar problems.

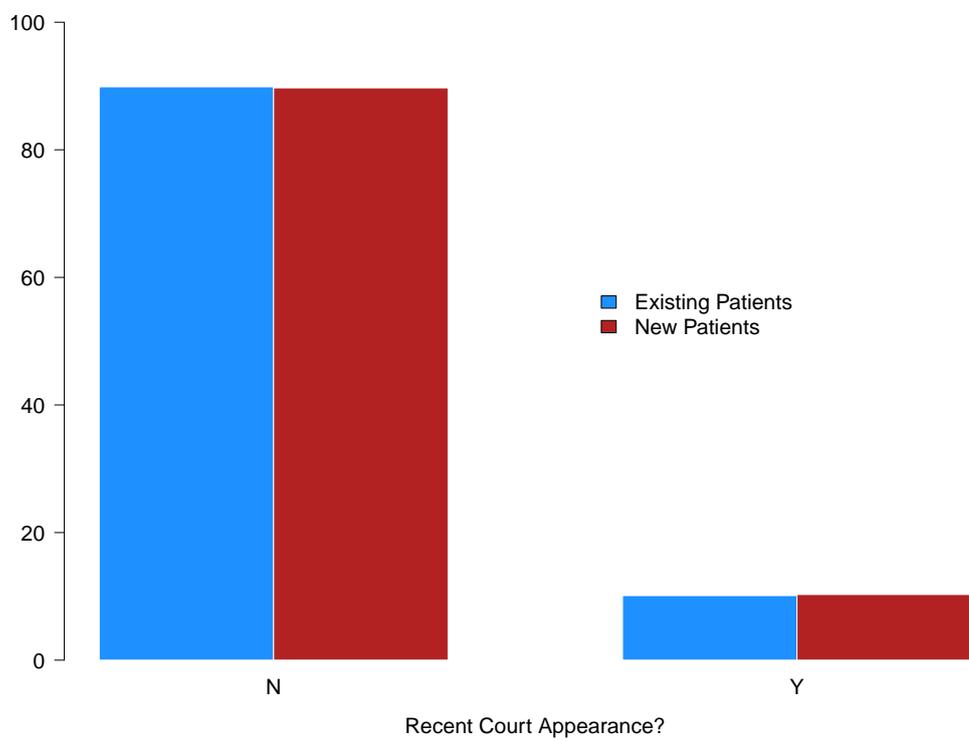


Figure 3.1: Recent legal issues of new and existing RCG patients.

The remaining questions in this chapter were asked only to new patients.

3.2 Beginning Drug Usage

Question New patients were asked at what age they began using any drugs.

Response Rate All 68 new patients answered the question.

Overall Result The ages at which a first drug was tried ranged from 8 years old to 43 years old, with an average age of 18.

Interpretation It is clear that the mid- to late-teenage years is the most common time for future opioid users to try their first drug (though this reported first drug was generally not an opioid; see later question). Males tended to try their first drug at a slightly young age than females; however, statistical tests showed that there was no statistically significant difference¹ in their average age of first drug use.

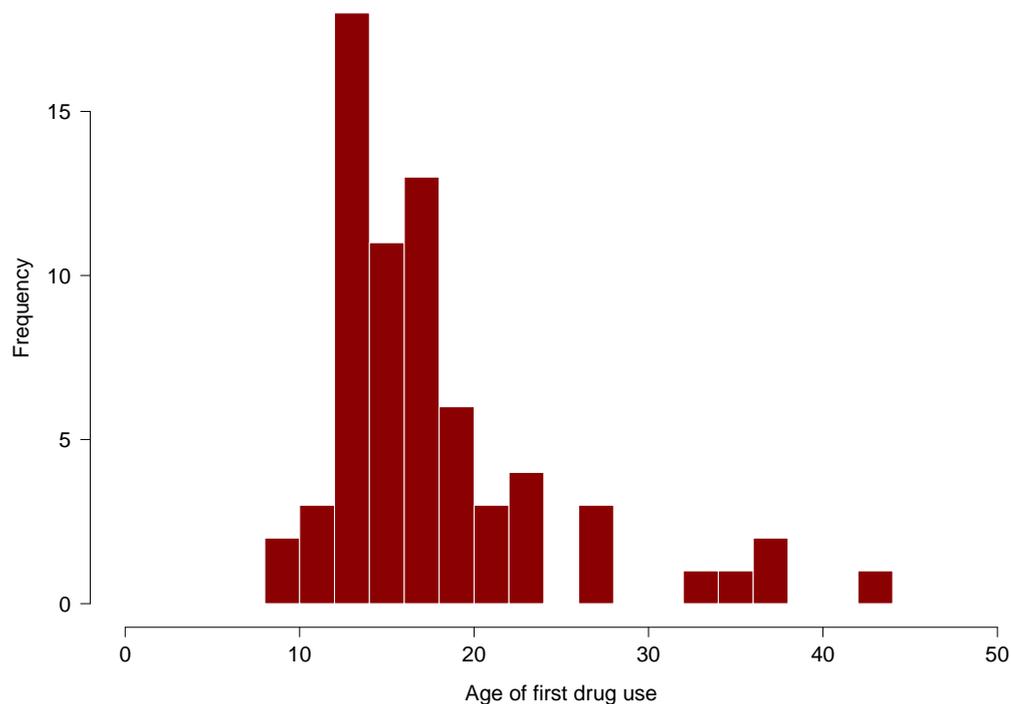


Figure 3.2: Distribution of ages at which future opioid users tried their first drug.

¹Results from a t -test: $t = 1.84; p = 0.07$

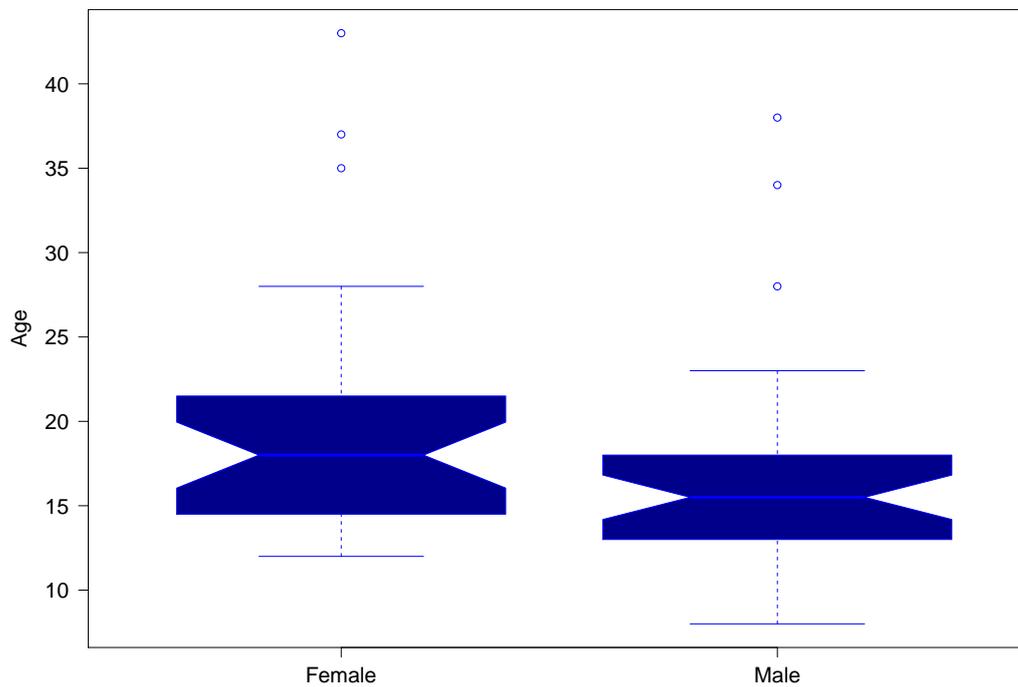


Figure 3.3: Box plot of ages at which future opioid users tried their first drug separated for males and females. Mean ages are expressed as the notches, the interquartile range with the box, and all extreme points in the whiskers or points. Males tried their first drug at an earlier age than females, though not significantly earlier.

Question New patients were asked the name of the first drug they used.

Response Rate All 68 new patients answered the question.

Overall Result Responses were open-ended and varied widely in specificity. For example, several different types of prescription opioids were listed, but were all pooled into the category “Prescription opioids.” Marijuana was the most common first drug of future opioid users.

Interpretation Clearly, marijuana and prescription opioids were the most common drugs that individuals started with. All other drugs were trivial in their contribution to first use. It is also likely that alcohol plays a larger role in this question, but that many patients do not view alcohol as a drug, or in the same category as other drugs.

Table 3.1: Reported first drug used by new RCG patients.

Drug	Users
Marijuana	43
Opioid (Prescribed or illicit)	14
Alcohol	4
Others (Acid, PCP, etc)	1

Question New patients were asked what year they began use of opioids.

Response Rate 57 of 68 new patients answered the question.

Overall Result Rather than reporting the years responded, the answer was subtracted from the year of the survey (2014 or 2015) to produce information on how long individual patients had been using opioids. Years using opioids ranged from 0 to 40, with an average of 12 years and most responses occurring between 6 to 13 years.

Interpretation It is clear that many new patients have been using opioids for a long time—up to a decade or more. The question does not differentiate whether this use has been continuous or off-and-on. It is safe to assume that many of these patients have relapsed several times, and these responses include periods during which opioids were not being used. Even if this is true, the data still suggest that most patients deal with addiction for over a decade and that much of this time may include previously unsuccessful treatment programs.

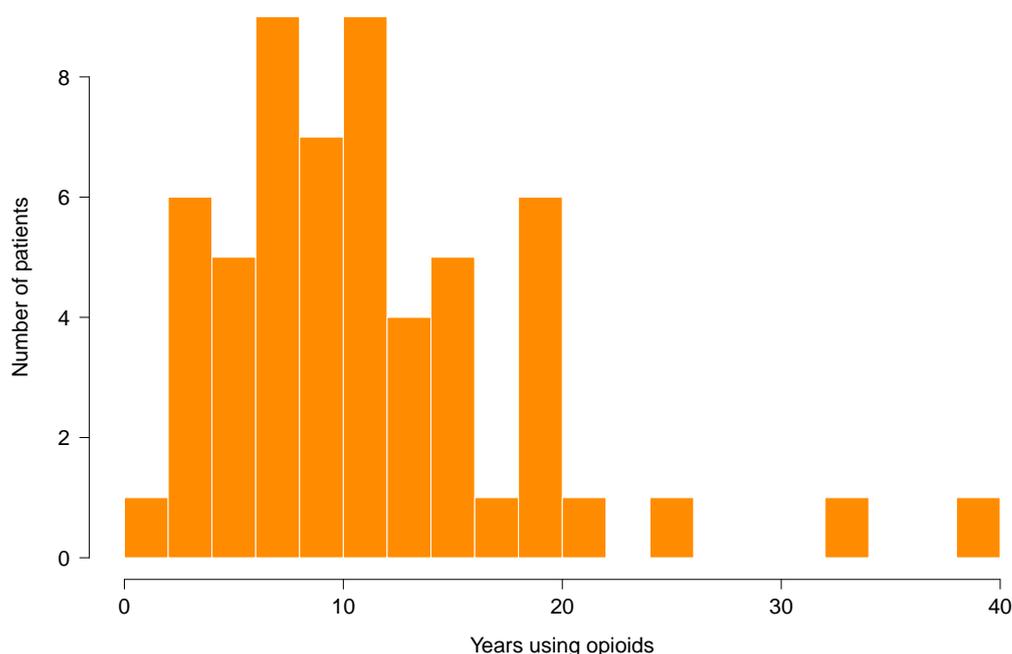


Figure 3.4: Distribution of duration (in years) new patients have used opioids.

Question New patients were asked the name of the first opioid they used.

Response Rate 45 new patients answered, although 2 responses were eliminated due to lack of specificity (e.g., “pills”).

Overall Result Percocet and Oxycodone dominated the responses, combining to be the first opioid used by 28 of 43 (65%) new RCG patients.

Interpretation Although this question does not address the issue of whether a prescription opioid was prescribed for the particular patient answering the question, it is clear that prescription opioids play a large role in the introduction of opioid use. Only 4 out of 45 (9%) new patients seeking Suboxone treatment for opioid use began their opioid addiction with heroin or opium; approximately 91% began with a prescription drug.

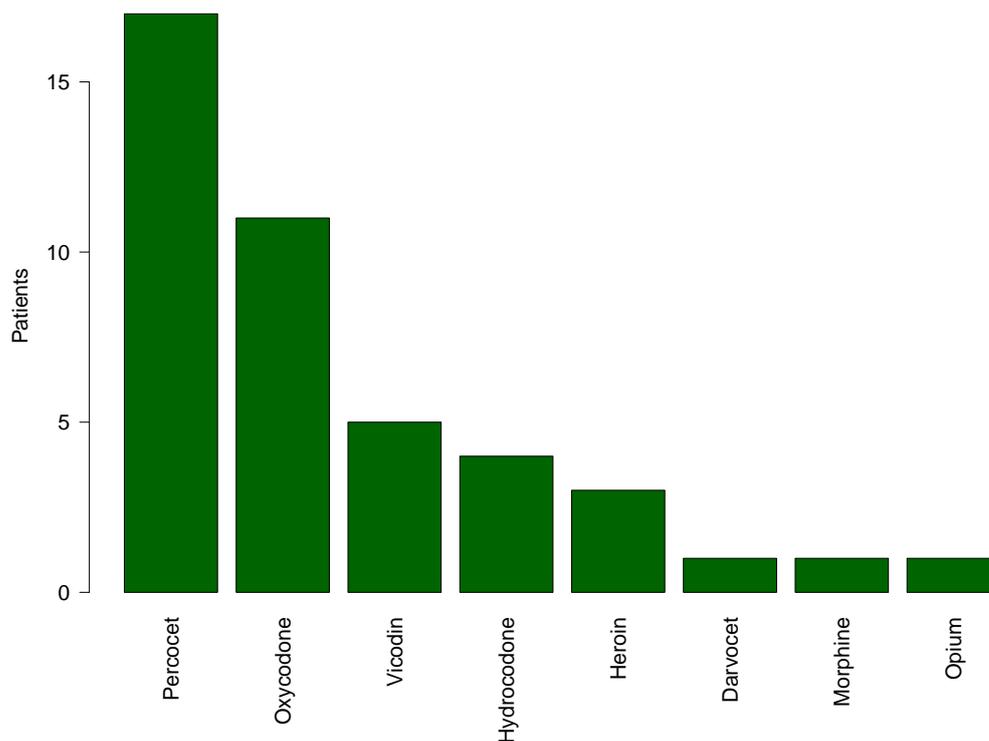


Figure 3.5: The first opioid used by new RCG patients.

Question New patients were asked if their initial use of opioids was started with a prescription from a doctor (presumable for that individual).

Response Rate 65 of 68 patients responded.

Overall Result 35 out of 65 new patients responded that their initial use of opioids was the result of a doctor's prescription. The other 30 responded that their initial use of opioid was not the result of a doctor's prescription.

Interpretation The data here are spilt nearly down the middle. A little more than half of future opioid users tried their first opioid as a result of a prescription from their doctor. Because of the preponderance of prescription drugs reported in a previous question, it could be hypothesized that a greater proportion of patients would have started with a doctor's prescription.

Was opioid use originated from a Doctor's Prescription?

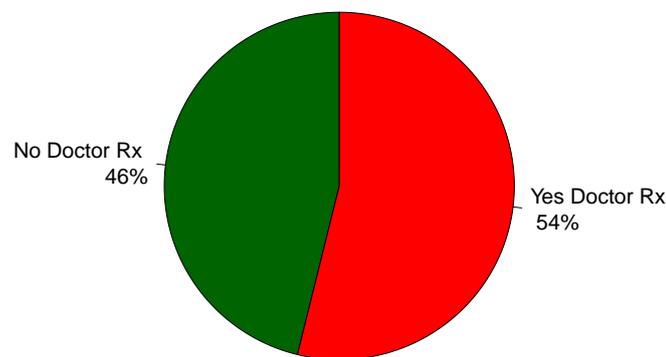


Figure 3.6: Proportions of future opioid users initial use as prescribed by a doctor.

Chapter 4

Perceptions of Current Treatment

4.1 Other Treatment Programs

Question All patients were asked if they have previously been in another drug rehabilitation program (for example, Narcotics Anonymous).

Response Rate 72 of 213 patients responded. It is not known if the other two-thirds of patients who opted not to respond were not comfortable listing their past treatment programs (or whether they were too numerous, or whether they were not in a treatment program).

Overall Result Because this was an open-ended question, patients were permitted to enter whatever response they wanted, and most who answered provided very specific names of treatment programs and doctors. A full list of providers is available upon request, but the total number of unique treatment providers was 44. Below are listed the most common providers.

Interpretation It is hard to interpret anything specific from these answers, but the main message one might see is that 1) opioid users would appear to have a wide variety of treatment options, and 2) this wide variety of treatment options fail (or in some way result in the patient desiring more or better treatment with Suboxone or at RCG¹).

¹It should be noted that 1 patient listed RCG as a previous treatment facility

Table 4.1: Most common pre-RCG treatment providers.

Provider	Patients Reporting
Talbot Hall	12
NA Meeting	6
Crossroads Care	3
Maryhaven	3
Parkside	3
<i>39 other providers</i>	<i>2 or fewer</i>

Question All patients were asked if they are currently in another treatment program (for example, counseling).

Response Rate 91 of 213 patients responded. Responses were open-ended, and the data were cleaned up to place responses in categories (for example, the name of a specific counselor resulted in “counseling” treatment).

Overall Result A total of 10 other treatment programs were listed (see table below for most common program names). Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) were the most common, along with general counseling.

Interpretation It is worth noting that the vast majority of concurrent treatment programs listed by RCG patients were talk therapies, suggesting that either other therapies have not worked for new patients, or that talk therapy has been an effective (or at least desired) complement to Suboxone treatment. Interestingly, males were much more likely to participate in an NA or AA (or both) treatment that takes place in a group, while females were much more likely to participate in “counseling”, which in many cases may be individual therapy.

Table 4.2: Most common concurrent treatment programs of RCG patients.

Provider	Female	Male
AA	7	12
AA and NA	3	7
Celebrate Recovery	1	1
Church	2	2
Consolidated	0	1
Counsel	12	3
New Beginnings	1	0
Spectrum	1	0
Step Chat	2	0
Tri-County	1	0

Question New patients were asked if any of their concurrent treatment programs are successful (however they defined successful) and responded on a 1–4 scale.

Response Rate 63 of 68 new patients responded.

Overall Result The most common response was that a patient did not have any other concurrent treatment programs. After that, about 33% reported that they needed their concurrent treatment program and that they thought it was successful. Another 23% reported to need more than their program was providing, or that their concurrent program was not effective.

Interpretation In some respects, if a patient has sought treatment at RCG, they almost by definition need more treatment and see their existing treatment program(s) as less than fully successful. That being said, it's important to let patient perceptions inform treatment, and it's clear that about one-third of patients do see value in their other treatments and therapies.

Do you perceive your concurrent programs to be successful?

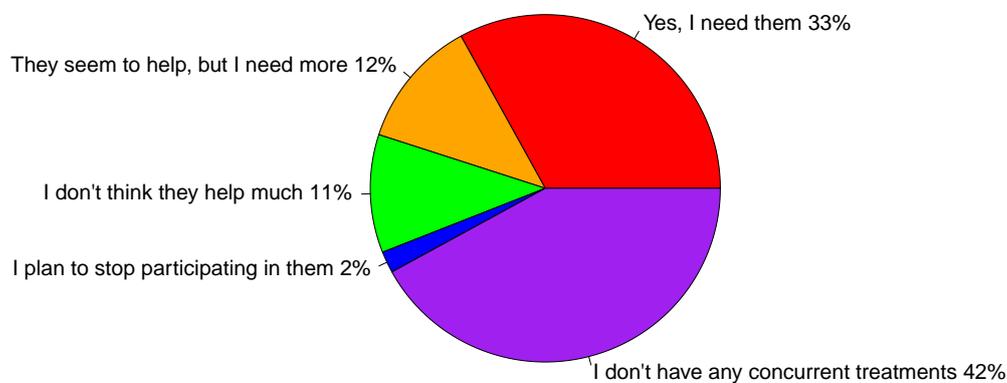


Figure 4.1: Perceptions of treatment programs concurrent to need for RCG among new patients.

4.2 Intravenous Drugs

Question New patients were asked if they have used or currently use intravenous (IV) drugs.

Response Rate 64 of 68 new patients responded.

Overall Result 28 patients (or 44%) responded that they used or currently use IV drugs. The other 56% reported no history of IV drug use.

Interpretation In general, I am not familiar with rates of IV drug usage among opioid users, so it's hard to tell exactly where this estimate is. One might not expect high usage given the availability and use of pills, but of course other forms of opioids can be taken intravenously.

**Another question regarding the use of an IV treatment drug follows later in this report.*

The next set of questions have to do with perceptions of treatment at RCG, and the answers reflect only existing patient responses.

4.3 Existing Patient Treatment at RCG

Question Existing patients were asked what year they began treatment at RCG.

Response Rate 154 of 168 existing patients responded.

Overall Result As expected, most patients began with RCG during more recent years. Few patients were still with RCG that started in 2010 or before, although 11 patients reported having begun with RCG in 2005, the first year it opened. 93 of 514 patients (or 60%) began with RCG in 2013 or more recently.

Interpretation It is hard to interpret this data for two reasons. First, successful patients are less likely to need RCG after a period of years, and so having few patients from several years ago may reflect the fact that patients have been successfully treated and are no longer coming to the clinic for treatment. Also, it is not known (to the author) how many patients were being seen in past years. For example, having less than 10 patients from years earlier than 2011 may also reflect the fact that fewer patients were seen in those years. Despite these caveats, it is clear that many patients stay with RCG for a period of years, and not months.

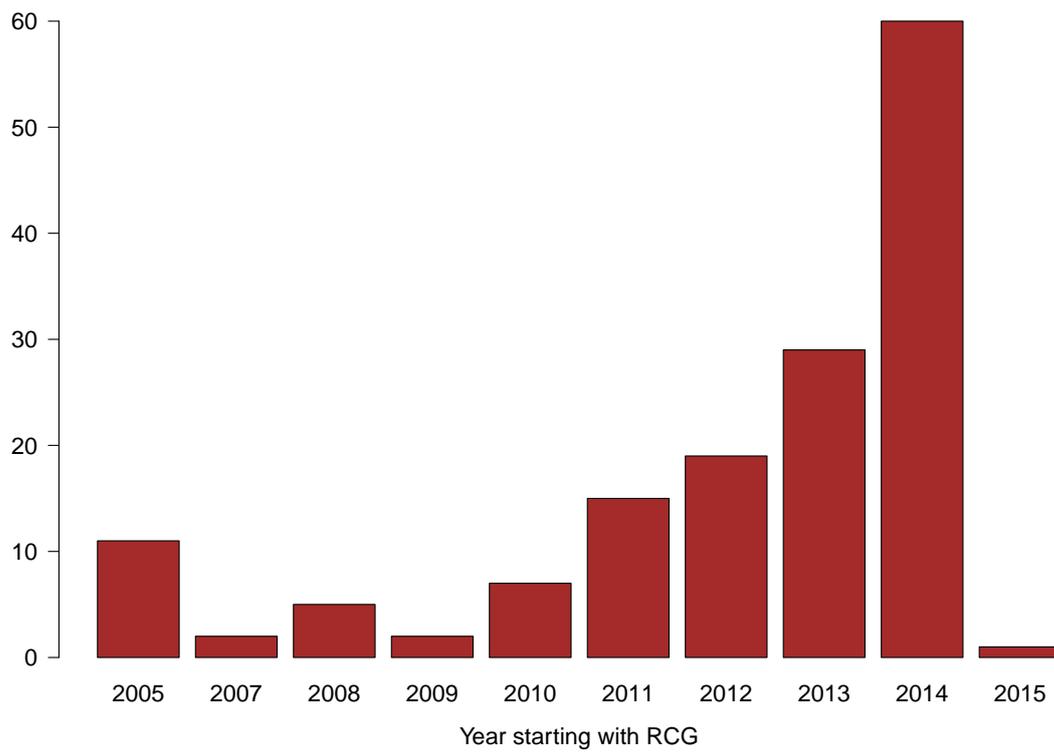


Figure 4.2: Years when current, existing RCG patients started coming to RCG for treatment.

Question The next two questions will be dealt with together. They include asking patients if they have noticed improvements in 1) **physical health**, and 2) **mental or emotional health** since starting treatment with RCG.

Response Rate Response rates were very high for this question. 98% (164 of 168) of patients responded to the physical health question and 97% (163 of 168) of patients responded to the mental health question.

Overall Result Results were very clear for both of these questions. Almost unanimously, patients responded that RCG treatment has improved both their physical (90%) and mental/emotional health (94%).

Interpretation The major concern for this question is “survivor bias”—are the patients that have remained with RCG going to be the best spokespersons for suboxone treatment. Because we can only survey those that come back for more treatment, are we also biasing the question to those patients that see the most value and improvement in RCG? This is possible, but the results of both questions (and later questions of lifestyle improvement) are also unequivocally supportive of what RCG has done. Also noteworthy is that of the patients who responded “No” for either of these questions, none of them responded “No” for both questions. This suggests that every respondent saw improvement in at least one category of health, with most reporting that both physical and mental health was improved.

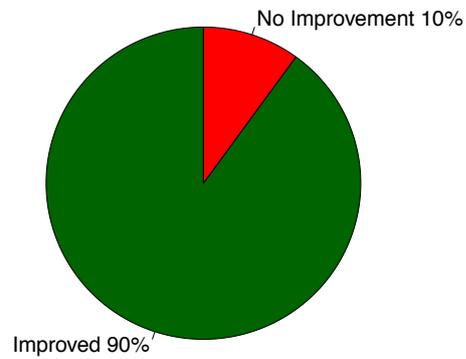
Has RCG improved your physical health?

Figure 4.3: Existing patient responses to the whether RCG treatment has improved their physical health.

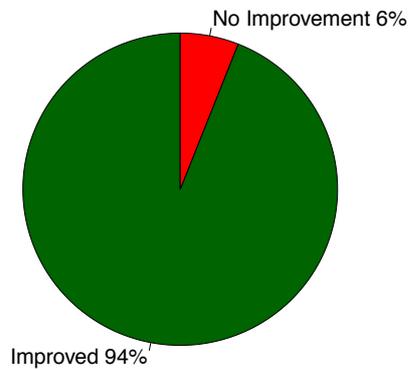
Has RCG improved your mental/emotional health?

Figure 4.4: Existing patient responses to the whether RCG treatment has improved their mental/emotional health.

Question Similar to the last two questions, existing patients were asked whether they were happy with their decision to seek treatment at RCG.

Response Rate Again, response rates were very high for this question with 96% (162 of 168) of patients responding.

Overall Result Results were almost unanimous—99% of patients responded that they were happy with their decision to seek treatment at RCG.

Interpretation Much like the last question, this question also is subject to “survivor bias”—it might stand to reason that those still coming in for treatment are the happiest with their treatment. While this dampens the overall message of the results, it should be noted that this is an extremely high rate of agreement and based on previous questions, many patients have been coming to RCG for years. Although other treatment types may have a time at which patients also register very high satisfaction, it is unlikely that their patients are as long-term as those with RCG.

Are you happy with your decision to seek treatment at RCG?

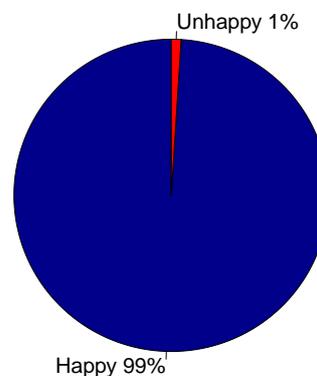


Figure 4.5: Existing patient responses to the whether they were happy with their decision to seek treatment at RCG.

Question Existing patients were asked which opioid treatment drug they are currently taking.

Response Rate 95% (160 of 168) of patients responded.

Overall Result Suboxone was the dominant drug, with 123 patients (or 77%) reporting. Subutex was used by 17 patients, Zubsolv by 13 patients, and generic suboxone by 7 patients (which could be lumped into the Suboxone category).

Interpretation There is not much to interpret here, and this data could be collected from RCG as they would have record of what treatment drugs are currently being prescribed. Further analyses can be done to examine any demographic trends among the patients that take subutex and Zubsolv.

Question Existing patients were asked if they had taken any non-prescription (illicit) opioids over the past two months.

Response Rate 93% (157 of 168) of patients responded.

Overall Result The vast majority (92%) of existing patients had not taken any non-prescription opioids over the past two months.

Interpretation The question does not get at whether an instance of non-prescription opioid use is considered a relapse, but it does suggest that a small percentage of RCG patients were tempted by opioid use outside of the RCG program. Most uses of illicit opioid were patients who started with RCG within the past two years. Almost all (8 of 9 patients) reported uses were from patients who began with RCG in 2014 (same year as the survey). Only one patient who began in 2013 reported illicit opioid use, and no patients beginning before 2013 reported illicit opioid use. After fewer patients exist from earlier years, illicit opioid use does appear to decline in relation to increasing time in the RCG program.

Question Existing patients were asked if they perceive their concurrent treatment programs are successful (however they defined successful) and responded on a 1–4 scale.

Response Rate 146 of 168 (87%) of existing patients responded.

Overall Result The most common response was that a patient thought of their counseling treatment as successful and perceived it as part of their overall treatment plan. After that, about 34% reported that they did not have any concurrent treatment. Another 26% reported to need more than their program was providing, or that their concurrent program was not effective.

Interpretation This figure can be interesting on its own, in which case it is clear that about half of RCG patients perceive some level of success from their counseling treatments to be successful, while another third of RCG patients do not participate in any additional treatments. This figure can also be compared to the figure above, which reports on the same question for new patients. Recall that about 10% more new patients (44%) did not have any treatment programs. In all other categories were new and existing patients had similar responses, except for perceptions of success, in which fewer new patients saw clear success from additional counseling therapies.

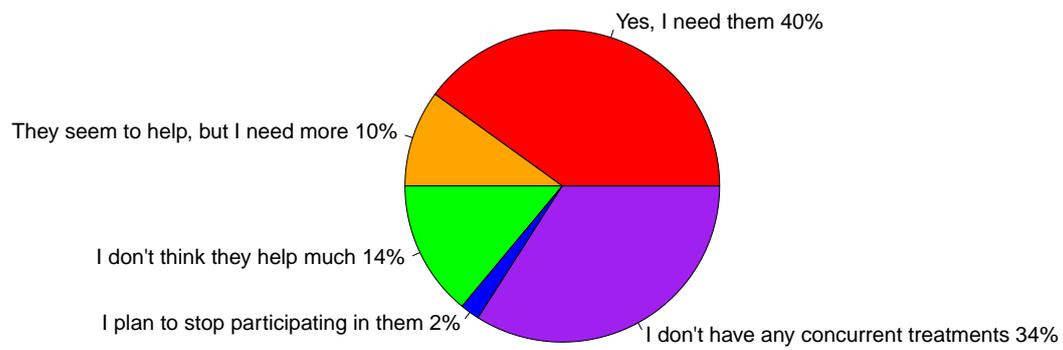
Do you perceive your concurrent programs to be successful?

Figure 4.6: Perceptions of treatment programs concurrent to need for RCG among existing patients.

4.4 Treatment Payment

Question All patients were asked who pays for their doctor visits and prescriptions.

Response Rate 223 of 233 (96%) of patients responded.

Overall Result Patient answers were pooled into one of six categories based on all responses. The results for this question were broken down into new and existing patients under the thinking that the two groups may have different patterns of payment. For both groups, self pay was the most common method; however, the second most common payer was (some form of) insurance for existing patients and a family member for new patients.

Interpretation Hardly any new patients used insurances for payment and were more likely to rely on a family member for assistance. Established RCG patients showed much greater self-reliance for pay and were more likely to use some form of insurance.

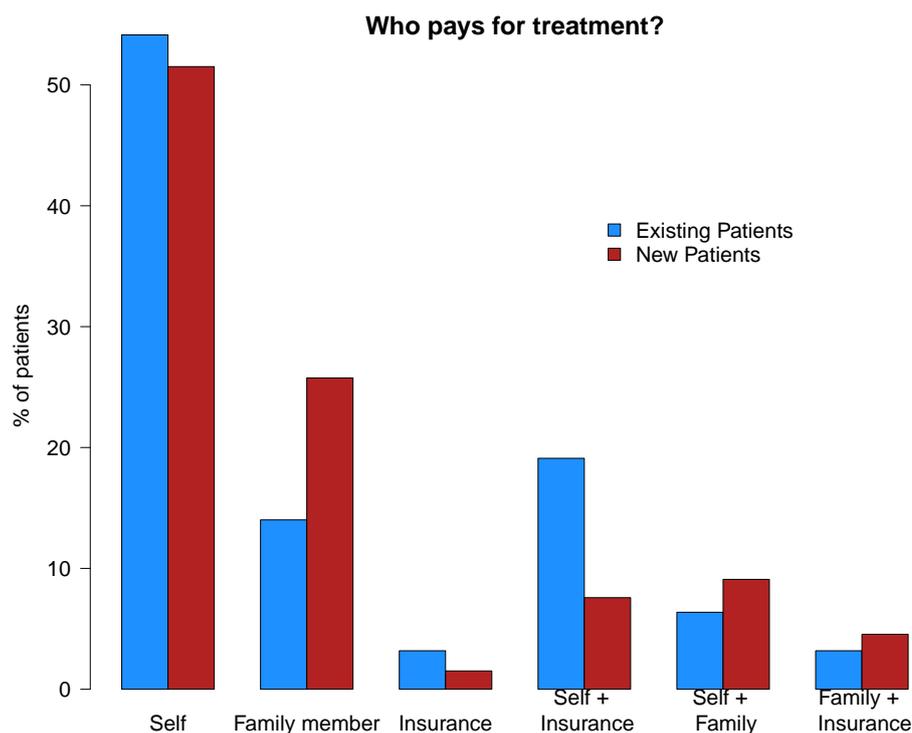


Figure 4.7: Sources of treatment pay for new and existing RCG patients.

4.5 Vivitrol

Question All patients were asked if they were willing to use Vivitrol, an injected, long-term opioid blocker that has been recently developed and available for treatment.

Response Rate 222 of 233 (96%) of patients responded.

Overall Result Patient answers were again broken into new and existing categories based on the likelihood that new patients might have different opinions on treatment when compared to existing patients already on a treatment drug. Existing patients were most likely to not want to take Vivitrol (56%), but 31% were open to learning more about it. New patients were less likely to say no (45%) and more likely to be interest in learning more (45%).

Interpretation It might stand to reason that existing patients have a successful treatment plan and are more interested in working with what they know then switching drugs. This may account for the high proportion of existing patients declining interest in Vivitrol. New patients may be open to more treatment drugs due to a willingness to try a new treatment given that they do not have a current treatment drug in place.

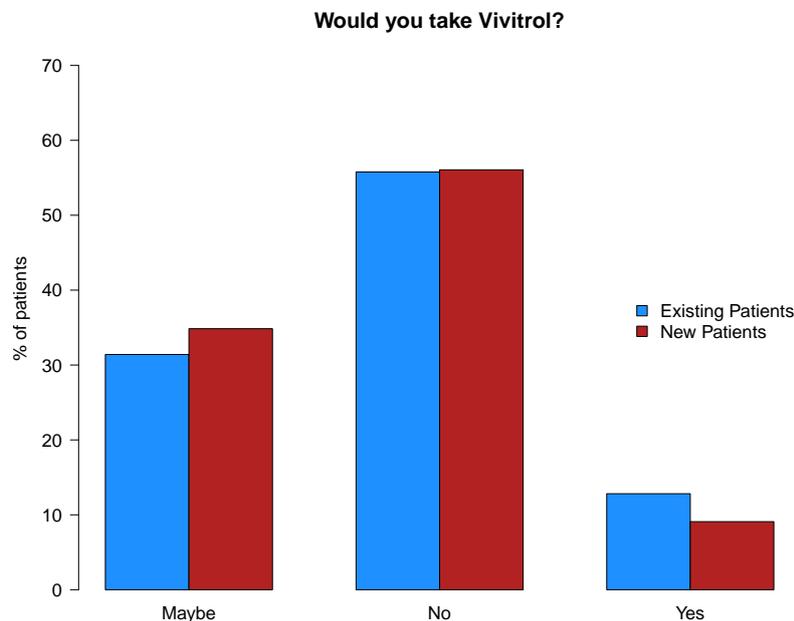


Figure 4.8: Willingness to take or learn about Vivitrol for new and existing RCG patients.

Chapter 5

Pregnancy Experiences

Pregnancy questions differed for new and existing patients, and this section will be split into those patient types rather than only by question. Generally, few patients were pregnant or had information to report, so rather than plots of descriptive statistics for most questions, this section will contain more descriptions of individual patient experiences. It might not be wise to try and interpret a trend from, for example, 3 cases of pregnancy; however, the specific experiences that patients report are still informative.

5.1 New Patient Pregnancy

Question New patients were asked if they are currently pregnant.

Response Rate 1 of 44 new patients responded yes. More specifically, there were 23 new patients that were female, so a better description of response rate would be 1 of 23 new female patients.

Question New patients were asked if they had previous pregnancies and delivered while on opioids.

Response Rate 6 of 23 new female patients responded yes.

Question The next two questions followed up the previous question, and asked patients what opioid and what (if any) complications they experienced in previous pregnancies.

Response Rate 6 of 23 new female patients responded.

Overall Result Rather than try to characterize a pattern in the responses, presented below are the individual cases.

1. Previously pregnant patient was on 60mg methadone and moved to Columbus hospital (from a small hospital) as a precautionary measure. No complications reported, but baby released after 7 days.
2. Previously pregnant patient indicated previous pregnancy on opioids, but did not respond to question regarding type and amount of opioids. Patient indicated yes, there were complications, but provided no details.
3. Previously pregnant patient was on 80mg oxycontin (daily), and reported no complications.
4. Previously pregnant patient was on “pain meds” and indicated yes, there were complications, but provided no details.
5. Previously pregnant patient was on “Perks or whatever I could get” and indicated that she experienced pre-term labor.
6. Previously pregnant patient was on prescription Vicodin, and reported no complications.

5.2 Existing Patient Pregnancy

Question Existing patients were asked if they are currently pregnant or delivered in the previous 2 months.

Response Rate 2 of 168 patients responded yes. More specifically, there were 73 existing patients that were female, so a better description of response rate would be 1 of 73 existing female patients.

Question The next two questions followed up the previous question, and asked patients if they experienced any complications in their current pregnancy and what they were.

Response Rate Both patients indicated yes to current pregnancies or recently deliveries both did not respond to this question. There was an option for a response of No, yet they left the answer blank so it is unclear whether or not they did experience any complications. Two other existing patients did answer this question, however, likely interpreting the question as applying to any previous pregnancies (not just current pregnancies). Because the conditions in which they answered this question were unknown, the answers are likely not very informative (for example, were they even on opioids?). Despite that, the answers provided were “High ristorante and c section” and “miscarriage.”

Question Existing patients were asked what the baby's Apgar score was, if they had delivered in the past two months.

Response Rate Again, I sense that patients interpreted this question outside of the 2 month window; however, the results may still be useful. 16 existing female patients (include one who indicated in a previous question that she was currently pregnant) provided Apgar scores, which ranged from 0–10.

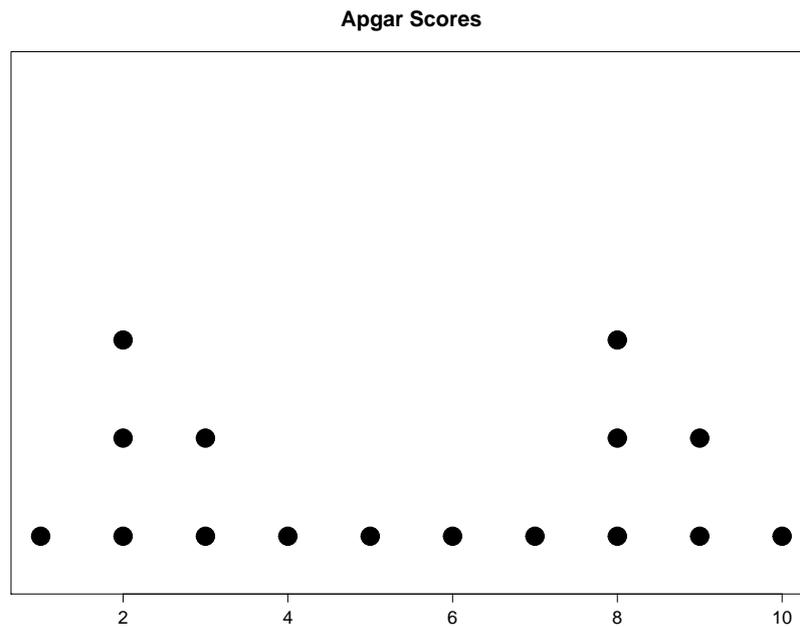


Figure 5.1: Dotplot of Apgar scores. One dot represents one newborn.

Question Existing patients were asked if the infant went home with them (within 2–3 days after delivery)?

Response Rate Out of 5 respondents, 2 indicated No and 3 indicated yes. Again, it should be noted that this was asked as a follow-up to the condition of current pregnancy, which only had 2 respondents. Either some patients didn't indicate they recently delivered or are currently pregnant, or some patients are answering this question as it might pertain to pregnancies that were not within the most recent 2 months.

Question Existing patients were asked if the infant spent any time in the ICU (intensive care unit)?

Response Rate Out of 10 respondents, 6 indicated that the infant spent no time in the ICU, while 4 indicated they did. One patient responded with an ICU stay of 2 days, two patients responded with an ICU stay of 3–6 days, and one patient responded with an ICU stay of a week or longer.

Question Existing patients were asked if they took any morphine during pregnancy or delivery.

Response Rate 5 patients responded, and all indicated No.

Question The next two questions regard breastfeeding, and asked patients if they breastfed their newborn, and if they experienced any difficulties.

Response Rate 6 Existing patients responded, 4 indicating they did not attempt breastfeeding (and therefore had no difficulties) and 2 indicating they were breastfeeding. Of these 2 breastfeeding patients, one indicated no difficulties and the other did not respond to the follow-up question about difficulties.

5.3 Summary of Pregnancy Results

Inferring any patterns or trends from pregnancy survey data should be done cautiously. A number of problems prevent clear interpretation of this data. First, a relatively small proportion of patients are pregnant or were recently pregnant. Therefore sample sizes were very small for these answers. This might be expected. However, the second problem was an apparent mis-interpretation of the questions. Specifically, it would appear that several existing patients answered questions interpreting that the question was asking about any previous pregnancy, where as the questions clearly state that they pertain to recent or current pregnancies. Although this increase in sample sizes might be a good thing, these answers should be interpreted cautiously as it is not known if the reported pregnancies occurred while a patient was on opioids. Additionally, there was a surprising lack of consistency among respondents, particularly for follow-up questions that would seem to apply to a patient. For example, a patient might indicate they were breastfeeding, but not respond as to whether they experienced difficulties. Or, a patient might not respond to whether a baby went home within 2–3 days of delivery, but they then provide details on ICU duration.

In summation, the low sample sizes probably preclude any serious inferences on these data. However, it should be noted that the above inconsistencies also make pregnancy while on opioids a difficult subject to characterize.

Chapter 6

Patient Goals

Question New patients were asked why they were seeking help at RCG?

Response Rate 43 of 45 patients responded.

Overall Result This question was left open-ended, and there is no clear way to categorize the results. Answers include: “To get my life in order,” “To be a better person,” and “I’m going to accidentally OD,” among others. All answers had an element of wanting to improve the patient’s life or family life. I saw no natural categories within these answers that could inform whether different demographics had different desires for help.

Interpretation All new patients need help in getting their lives off the cycle of opioid addiction.

Question New patients were asked how they learned about RCG?

Response Rate 43 of 45 patients responded.

Overall Result The vast majority of new patients learned about RCG from either a friend or family member or from the internet. Health care providers were not suggesting RCG to many future patients, and patients in the RCG program were not recruiting new patients in any appreciable number.

Interpretation It's unclear if a reference might be both a friend or family member, and someone in the program. They should be distinct; however, some respondents may see a referring individual first as a friend, and second as someone in the program. Either way, it's clear that word of mouth and internet searches are driving new patient interest in RCG.

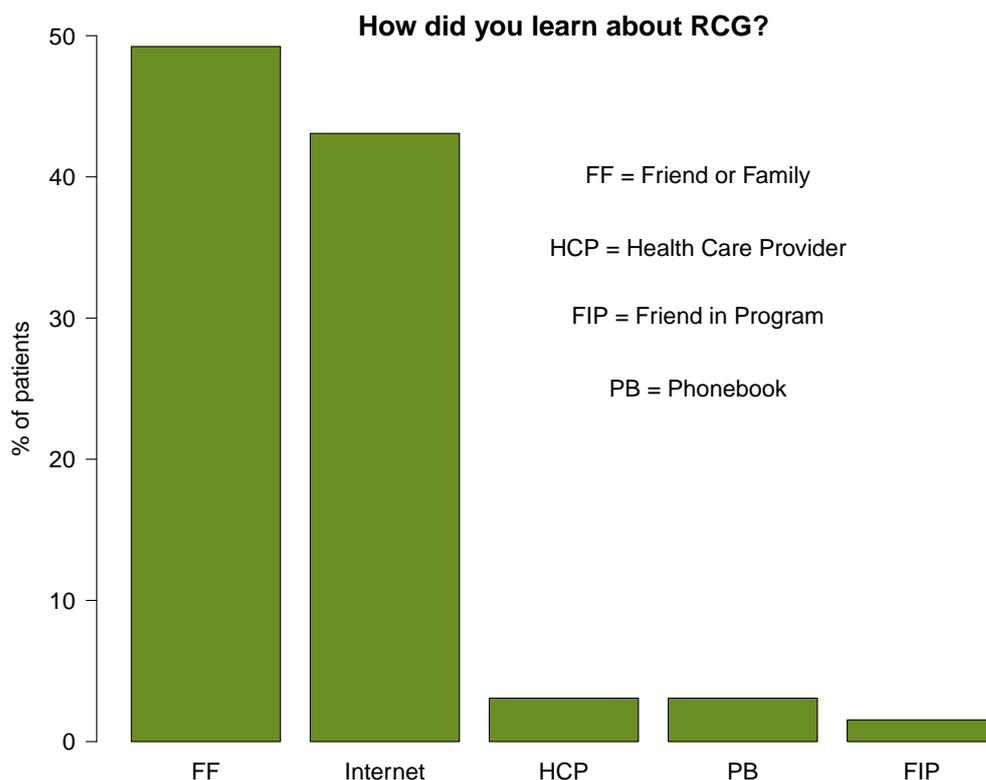


Figure 6.1: Referral sources of RCG for new patients.

Question New patients were asked what their personal program goals (other than recovery from drug use) are in the RCG program? Existing patients were asked a similar question, which was whether they identified any new goals over the past 2 months.

Response Rate 42 of 45 new patients responded, and 122 of 168 existing patients responded.

Overall Result This question was left open-ended, and again the results are all over the place. Most responses for new patients had to do with getting something back—for example, relationships, health, a job. Existing patient responses were much more with improving their situation, such as exercising more, buying a house, and continuing to stay clean.

Interpretation It is hard to make sense of these responses collectively, or at least to find any pattern with them. Obviously opioid users want to get and stay clean for a number of reasons, and without some type of multiple choice or ranking it's difficult to pick a theme from these answers. (In addition to the fact that some are unclear; for example, one person responded to the question of their new goals by simple answering “my kids.”)

Question All patients were asked if they see themselves drug free (“cured”) in 1–2 years.

Response Rate 202 of 213 patients responded.

Overall Result Responses were very positive, with both new and existing patients most common response being “Absolutely.” The second most common response for both groups was “Hopefully.”

Interpretation What is interesting here is that existing patients had a much higher sense of confidence about a drug-free future. 65% of existing patients responded that they absolutely saw themselves drug free in the future, whereas 53% of new patients had the same confidence in their future. Although it could be argued that both new and existing patients had very positive responses to this question, it is also apparent that those in Suboxone therapy were more confident about a good future and recovery.

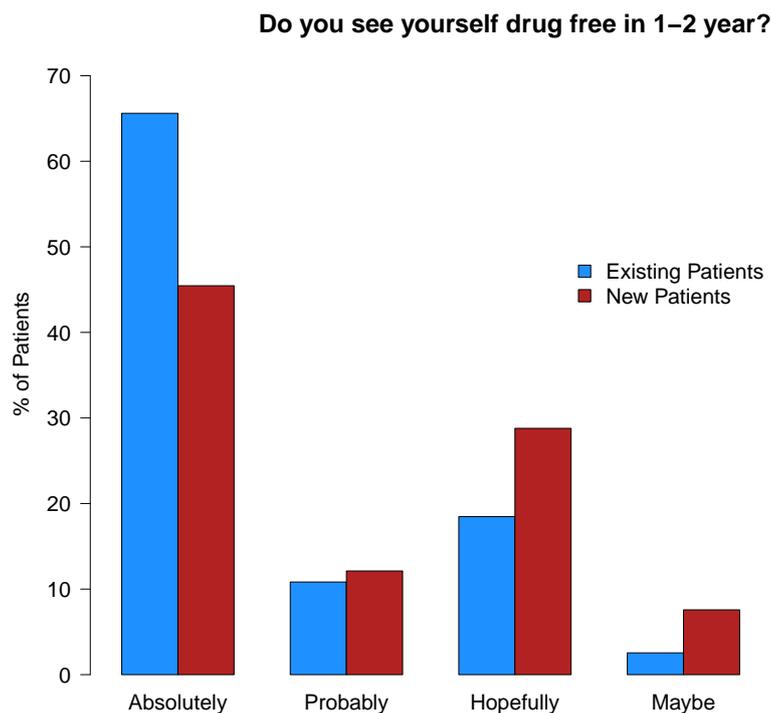


Figure 6.2: How patients see their drug-free future.

Chapter 7

Summary and Conclusions

7.1 Strengths and Weaknesses of the Study

As with any study, we encountered strengths and weaknesses. The primary strength of our study is that our results were consistent in their support for patients on Suboxone treatment showing improvement in basic areas of life. For example, patients on Suboxone were more likely to be employed, to have improved emotional health, and to report fewer legal issues than patients not (yet) on Suboxone. We saw no areas in which Suboxone patients reported less desirable outcomes than patients not on Suboxone; however, there were a few areas in which all patients were similar (for example, overall health was equivalent between patient groups).

Some study weaknesses were beyond our control, and some can be fixed for future iterations of survey work. First, as with any survey, the data are only as good as the respondents are reliable. For example, we can ask about a patient's financial situation, but we only have their answer to go on, and it remains possible that they might be lying or even interpreting the question incorrectly or differently (such as their family's financial situation). These errors are assumed to have occurred, but ideally at a low enough rate that they do not obscure the true patterns. Throughout this report there are indications where survey questions may be differently interpreted. Secondly, some questions and answers were omitted from analysis because they were left to be responded to openly, meaning patients could type out an answer rather than select a multiple choice answer. Although we designed the survey to avoid this, some seemingly-straightforward questions were answered in unclear ways. Future versions of the surveys will revise and remove many of these types of responses. The third possible weakness of our survey is something that is difficult to control—"survivor bias." This refers to the idea that while we are out to address the question of how well Suboxone works to improve patients' lives, we are collecting our data from those patients who are coming for treatment or otherwise likely have had a positive experience with Suboxone treatment. We are not able to survey patients who, for example, tried Suboxone, presumably did not stick with their treatment plan and did not return to RCG. Although we recognize this potential weakness, we also draw strength from the fact that we are surveying new patients who are not yet on a

Suboxone treatment plan.

7.2 Trends of Suboxone Patients

Our survey study provided multiple lines of evidence to support the idea that recovering opioid users improve in multiple aspects of life when they are part of a Suboxone treatment program. The following list summarizes our results:

- Patients on a Suboxone treatment plan were **employed more** (~60% were employed full-time) than those not on a Suboxone treatment plan (~30% were employed full-time).
- Patients on a Suboxone treatment plan reported **enjoying their work/job more** than those not on a Suboxone treatment plan.
- Patients on a Suboxone treatment plan reported **~70% job retention** over a 2 month time period.
- Patients on a Suboxone treatment plan reported a **better financial situation** than those not on a Suboxone treatment plan.
- Patients on a Suboxone treatment plan reported **fewer legal issues** than those not on a Suboxone treatment plan.
- Patients on a Suboxone treatment plan reported **better physical and mental health** than those not on a Suboxone treatment plan.
- Patients not yet on a Suboxone treatment plan reported still beginning opioid use through prescription drugs.
- Other treatment programs (for example, counseling) were reported to be **more successful while on a Suboxone treatment plan** compared to patients in other treatments and not using Suboxone. Suboxone, therefore may not only provide direct treatment benefit, but likely indirectly improves the outcomes of other therapies.
- 92% of patients on a Suboxone treatment plan reported not taking any illicit opioids in the preceding 2 months.
- Use of illicit opioids showed a marked decreased with time spent on a Suboxone treatment plan.
- Two-thirds of patients on a Suboxone treatment plan saw themselves as “absolutely” cured, whereas only about half of patients not using Suboxone reported the same expectation.

- 99% of patients reported they were happy with their decision to seek treatment at RCG.

In summation, data from over 200 RCG patients helps establish the clear picture that Suboxone treatment is a highly-effective means for treating opioid addiction. Patients using Suboxone were happier, healthier, working more, spending less time in court, getting more out of their counseling efforts, and improving their attitudes about recovery.