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Prescription Medication Adherence
Provider and Patient Perspective

Final Report

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Qualitative Evaluation
Prescription Medication Adherence

Executive Summary

The purpose of the research was to garner the perceptions, opinions, beliefs and attitudes (POBAs) of health providers and patients concerning medication adherence. The research explored the following:

Patients

- How they define adherence
- How they understand and perceive adherence
- The importance patients place on adherence as a dimension of overall health.

Providers (groups comprised of multiple specialties)-

- The definition of adherence
- How to overcome barriers to medication adherence
- Strategies employed to assist with adherence
- The importance providers place on adherence as a dimension of their patients' overall health

Two patient focus groups and three health provider groups (two mini) were held in Philadelphia, PA on April 21st and 22nd, 2009.

The Executive Summary that follows summarizes the findings of the five groups. An in-depth analysis, complete with respondent verbatim comments, can be found in the Detailed Key Findings section.

A. Short-term Patients and Patients with Chronic Conditions - Warm Up Exercises

During a warm up exercise, short-term patients were asked to describe what elements made up their health. **Short-term patients consider diet, exercise and stress as the most significant elements (contributors) to health.** The neglect of any of these same elements is also considered to be the most significant detractors to health as well.

Chronic Condition patients participated in a different warm up exercise that asked them to work through the steps they take to obtain a medication. **First time visitors to the physician exhibit anxiety, distrust and concern for their diagnosis. Patients who are already familiar with the physician are more likely to express feelings of confidence, comfort and even relief.**

B. Patients' with Chronic Conditions - Perceptions of Prescription Medications

A mind mapping exercise was conducted with this group only after the 'Health Element' exercise was deemed as not useful. (A detailed visual of the map is located on page 16). **The most significant free associations concerning the concept of 'prescription medication' include the following areas: cost, availability of medications in and out of the US, side effects and treatment regimen just to name a few.**

An underlying theme revealed in both patient groups is their desire to not have to take prescription medications. Here are the main reasons:

Reasons Why Patients Do Not Want To Take Medication	
Ingesting Chemicals/Foreign Object	Inconvenient - safety for storage and children
Causes Addiction/Dependency	Possible organ damage (kidney)
Unrealized Reactions	Contraindications

C. Exploration of Patients' Adherence to Medications

1. Taking Prescription Medications as Instructed

Both patient groups self report that they take medications as instructed almost all of the time, citing worsening health condition, pain, confidence in physician and family/spouse as some of the major motivators.

2. Helpful Aids

All respondents provided examples of tactics or aids that would make adhering to a treatment regimen easier**.** They range from pill placement (pill box, visible location, additional set of pills) to combination pills (one pill treating several illnesses). Additional considerations that aid with adherence are dosing frequency, age and living arrangements.

3. Medication Interruption After Treatment Regimen is Started

Both patient groups agree that once a medication or treatment regimen is initiated, they may stop taking them. Most commonly, patients will interrupt their regimen when symptoms have been eliminated or there is a change in finances.

4. Role of Cost in Medication Adherence

The Short Term patient group claims that cost is not an issue; however, the Chronic Condition group boldly confesses that cost has a significant impact on their ability to maintain a treatment regimen.

5. Role of Health Insurance

According to patients in both groups, **health insurance companies play a big role in patient's taking their medication**; after all they do act as an overseer. They have formularies, provide branded/ generic drug options and limits pill quantity.

6. Adherence Patterns: Adherent to Non-Adherent or Initially Non-Adherent to Adherent

The Short-Term patients and most of the Chronic Condition Patients agree that it is easier to be adherent when a medication is first prescribed. Once they start feeling better or they

have been on a medication for a while, they can become less adherent. Several Chronic Condition Patients had a different perspective and stated it gets easier to remain adherent as time goes on.

D. Providers Describe "Easy" and "Challenging" and Their Role in Medication Adherence

1. Defining Easy and Challenging Patients

Easy patients are often those patients who are easy to treat, educate and be around. Providers speak often of a person's ability to listen, understand and respond to the information they provide. A *challenging* patient requires more time and exhibits distrust.

2. Providers' Definition of Adherence

All providers groups define adherence to medication as patients who follow dosing instructions as directed. A few providers suggest that if the patient is less than perfect (i.e. 85-90% adherent) that also counts as adherent.

3. How Adherent to Prescription Medications are Patients?

Providers were asked what percentage of their patient base is adherent Almost All of the Time, Adherent Most of the Time and Adherent Some of the Time.

Specialists seemed to have the highest percentage of patients in the Adherent Almost All of the Time category whereas Primary Care Physicians' and Clinicians' findings were diverse and spread among all three categories.

E. Providers' Prescribing Patterns

Explanation of Medications

Physicians by far do most of the prescribing and are the explanation givers regarding their patients' medications. The amount of time a provider spends explaining the medication can depend if it is a new prescription vs. refill and the severity of possible side effects. Other factors such as age, how sick they are, their education level, if they are alone or accompanied by someone during the visit, as well as the patient's temperament also play a role.

Generally, providers in the groups recognize that the more time they spend explaining the medication treatment plan the more likely it will be to positively impact adherence.

F. Providers' Rankings of Non-Adherence Reasons

Providers were given handouts that list 12 possible reasons for patient non-adherence to prescription medications. One table was for providers to consider patients in general; the other handouts were for patients with diabetes, patients with heart disease, and patients with asthma.

In all four categories (overall patients, patients with diabetes, heart disease and asthma), out of pocket cost (OOPC) received the most votes as the top reason for patient non-adherence. Notably, the Primary Care Physicians rank "doesn't understand their illness" higher than cost.

G. Strategies Providers Use to Increase Adherence

Providers mentioned various ways they encourage/support their patients to stay motivated and maintain adherence. They included follow up phone calls, placing less emphasis on the medications and more on the patient as a whole and patient's well being, providing an explanation of the outcomes of not taking medications, and many more.

H. Providers' Recommendations for Adherence Messages

Providers supplied various ideas for messages to help communicate the importance of adherence to patients. These ideas included messages based on fear by showing the consequences of not taking medications, and explaining the medication or condition.

I. Insights into Providers' and Patients' Role in Medication Adherence

To identify how patients and providers perceive themselves and how they feel in the medication prescription process, each group of respondents was taken through a visualization of what they may experience when either a provider is prescribing a prescription medication to a non-adherent and adherent patient or a patient is receiving a prescription from a provider.

1. Patients' Perceptions

Patients' thoughts reflect fear, anxiety, resolve and some resistance. Patients' center their views around not wanting to take another medication, concern about what the actual treatment plan will be, fear of the possible side effects and interactions from the medication, hope that taking the medication will lead to feeling better, and trusting the provider. Most patients express a desire to do as the provider has prescribed.

Patients' thoughts toward providers communicate a tone of respect. Most providers start with instructive information about the disease or dosing. The provider seems to empathize with the patient's struggle as they rationalize if they will do as they have been directed.

2. Providers' Perceptions

Providers were asked to complete two handouts: one for the non-adherent patient and the other for the adherent patient.

For non-adherent patients, the majority of the providers had cynical, judgmental and skeptical thoughts about the patient's actions toward adherence. Only a few providers try to find ways to reach their patients so they will become more adherent.

For the non-adherent patient, **providers observed that patients are always on a different page than the provider.** They also detect an undercurrent of deceit that the patient shares information with them that is not always in keeping with reality.

Physicians express a significantly different tone and outlook in writing and countenance when they talk about adherent patients. All of the providers wrote about how pleasurable and easy it is to treat adherent patients.

In the patient's thought bubble, providers wrote in positive, complimentary, cheerful and happy thoughts.

J. What Factors Motivate Providers to Help Patients Take Their Medication As Prescribed?

Although many providers already appear to be motivated to help patients stay committed to their treatment plans, there are many items that would continue to motivate and make it easier for providers to expect patient adherence. **These include low cost for medications, minimal out of pocket costs, simple dosing regimen, a clear concise explanation of medication, and understanding the disease**.

K. Summary and Recommendations

The study's objectives were achieved in that patients' and providers' POBAs on medication adherence and non-adherence were obtained. Reasons for non-adherence, including the cost of medications and unconvinced need for therapy, were explored, as were tools that help with adherence. Respondents made recommendations for increasing patient adherence as well as provided possible public service announcement messages.

While cost/affordability of medications was most often mentioned as a reason from both segments for non-adherence, it should be also noted that ineffective patient/provider interaction, lack of patients' understanding their disease and complex treatment plans all contribute to non-adherence.

The information garnered from both providers and patients can help develop and shape ad concepts for a meaningful and high impact medication adherence awareness campaign.

Prescription Medication Adherence
Final Report

I. Study Purpose

Three organizations, National Consumers League (NCL), AcademyHealth (AH) and the Agency for Healthcare Research and Quality (AHRQ), commissioned five (5) focus groups with patients and healthcare providers to garner their perceptions, opinions, beliefs, attitudes (POBAs) related to adherence to prescription medications, how patients define adherence, and the importance patients place on adherence as a dimension of their overall health.

The information will be used as baseline data for the development of an awareness campaign on the importance of adherence to prescription medications.

II. Methodology and Participant Selection

The study methodology consisted of two (2) patient groups and three (3) provider groups.

Patient Groups

- Group 1 (n=7) was composed of patients that have been prescribed medications for a minimum of 10 days in the last 12 months or less.

- Group 2 (n=10) was made up of patients that were prescribed at least one prescription medication for over 12 months for treatment of chronic conditions such as mood disorder, asthma, diabetes, high blood pressure and high cholesterol.

For ease of identification, patients taking prescription medications for 12 months or less will be referred to as Short Term Patients or Group 1 and patients prescribed medications for over 12 months will be referred to as Patients with Chronic Condition or Group 2.

Participants in both groups had health insurance, did not work in the medical field and included a mix of: education levels, ethnic backgrounds, martial status. They ranged in age from 25-80.

Participants prescribed medications for over 12 months also needed to self-report how well they follow their providers' instructions when taking a medication. They used a scale of 1-5, 1=never follow and 5= always follow. Although a mix of self-reporting patients was sought, all but one patient self-reported between the 4-5 ranges and that one patient was in the 3 range.

Provider Groups

- Group 3 consisted of clinicians (three registered nurses, two nurse practitioners, two physician assistants, and three pharmacists). Although the term “clinicians” typically includes physicians, in this report it refers only to providers such as nurse practitioners, physician assistants, registered nurses, and pharmacists.

- Group 4 was made of physician specialists (two pulmonologists, one cardiologist, and one endocrinologist).

- Group 5 consisted of five primary care physicians, including one geriatrician.

Providers must have had:

- A minimum of 3 years in practice after completing residency or clinical program
- Treat minimum of 50% adults age 25+
- Spend a minimum of 50% of clinical time on direct adult patient care
- Not work for market research firm or a pharmaceutical firm
- A patient base of privately insured, Medicaid and Medicare patients.

Please refer to Appendix A for a copy of the screeners used for respondent recruitment.

III. Schedule of Groups

	Group 1	Group 2	Group 3	Group 4	Group 5
Group Description	Patients prescribed medications 12 months ago or less	Patients with chronic conditions prescribed medications for at least 10 days for a duration of more than 12 months	Clinicians Group (Nurse practitioners, Physician Assistants, RNs, Pharmacists)	Specialists mini group (cardiologists, pulmonologists and endocrinologists)	Primary care physicians mini group (includes 1 geriatrician)
Number of Participants Per Group	7	9	10	4	5
Date **Time**	April 21, 2009 7:30-9:30 PM	April 22, 2009 12:30-2:30 PM	April 21, 2009 5:00-7:00 PM	April 22, 2009 5:00-7:00PM	April 22, 2009 7:00-9:00 PM
All the groups were conducted by Matheus Marketing LLC and held at JRA, a traditional focus group facility. Address: 1600 Market Street, Philadelphia, PA. Contact: Michael Georgianna Telephone: (215) 981-0120 Website: www.reckner.com/facilities/index.htm					

IV. Issues Covered

Topics explored during the focus groups included:

Patient Groups	Provider Groups
• Experiences around prescription medications • Exploration of medication adherence • Role of healthcare provider in medication adherence	• Exploration of patient education of prescription medications at place of work • Rankings of non-adherence reasons • Role of provider and patient in medication adherence

Please refer to Appendix B for a copy of the moderator's guides used during the focus groups.

V. Limitations

- The key findings of this final report are based on an in-depth analysis and comparison of information elicited from the groups.

- Qualitative research seeks to develop insight and direction, rather than obtain quantitatively precise measures. The value of qualitative focus groups is demonstrated in their ability to provide unfiltered comments from a segment of the targeted population. While focus groups cannot provide definitive answers regarding the potential success of a medication adherence awareness campaign, the sessions can play a large role in garnering information that is useful to the development of the campaign and the messages used in the campaign.

VI. Legend

Throughout this analysis, verbatim comments from the respondents are used to support various key findings. Following each verbatim comment, the group in which the statement was made is noted.

Key:
Short Term Patient = Group 1
Chronic Condition Patient = Group 2
Clinician = Group 3
Multi-specialty = Group 4
PCP (primary care physicians) = Group 5

VII. Detailed Findings

A. Was the Study Purpose Achieved?

The study purpose was achieved by:

1. Garnering information on prescription medication adherence from patient and provider participants.

2. Capturing patients' perceptions, experiences and feelings surrounding prescription medications as well as providers' perceived reasons for non-adherence for patients in general, patients with diabetes, patients with heart disease, and patients with asthma.

3. Obtaining suggestions from both patient and provider segments on what may motivate patients to take medications as instructed by providers.

B. Short-term Patients and Patients with Chronic Conditions - Warm Up Exercises

1. Short-term Patients View on Dimensions of Health

During a warm up exercise patients were provided with Webster's Universal College Dictionary definition of *health* as "the general condition of the body or mind," and asked to consider individually what elements made up their health. They shared both contributors and detractors to health, shown in the chart below.

Contributors to Health	Detractors to Health
Diet	High co-pays
Exercise	Out of pocket expenses
Lifestyle	Poor diet
Relationship with friends/family	Poor lifestyle habits
Capacity to sleep (rest)	No exercise
Medication	Stress
Low levels of stress	Poor relationships
Ability to afford or finance the upkeep of health (health insurance, out of pocket expenses)	Inability to take a medication due to its harm/side effects
Genes/DNA*	

*Note: *Added when probed by moderator*

The group was then asked to individually rank the contributors to health using a scale of 1-5, one being most important and 5 being the least important. As the chart below indicates, respondents named 11 elements (economics and affordability were collapsed into one category).

Short-term Patients Vote on the Importance of Elements of Health Scale 1-5 1= most important 5 = least important						
Element	**1**	**2**	**3**	**4**	**5**	**Total Votes**
Diet	2	3	1	1		7
Exercise		1	1	1		3
Lifestyle	2		2	1	1	6
Relationships		1	1			2
Capacity to sleep				1		1
Medicine				1		1
Stress		1	1	1	2	5
Economic/affordability				1	1	2
Health insurance	1	1	1			3
Genes/DNA	1				3	4
Happiness	1					1

Diet, lifestyle, and stress were all ranked as the primary factors that contribute to respondents' health. According to participants, diet controls the body and can impact the need for medication.

> *"I think diet basically controls your system so to speak, there are various elements of your body that may be controlled by diet or at least have a certain impact on point areas of your body." (Short-Term Patient)*

> *"Well, they say that if you lose weight or whatever you probably don't have to take medications that…but for me maybe the medication will not be as involved." (Short-Term Patient)*

Respondents suggest that **lifestyle choice can determine the existence or quality of the other 'elements of health'** such as whether someone exercises, gets enough sleep or generally takes care of their body.

> *"Your lifestyle determines whether or not you diet; exercise, whether you have the capacity to sleep, whether you have stress, all of these things kind of play in together. If you have a crazy lifestyle then you are less likely to have the capacity to sleep, to diet, to exercise and all of those things that kind of go along with that. If your lifestyle is healthy then you are probably more apt to list lifestyle exercise, diet and all of those things." (Short-Term Patient)*

Several respondents believe that having **health insurance dictates ones ability to maintain health,** since it provides both access to health providers and medications.

> *"Actually I had diet first but then I changed it to health insurance because without health insurance that is what dictates ones ability to be healthy through insurance, like medicines and things like that, going to doctors and making sure you are healthy." (Short-Term Patient)*

Stress can be directly impacted if any of the other elements are not properly managed; it is also recognized as an important element that must be maintained.

> *"My number five was stress. I actually see that as the glass half full, I still thought it was important to put it on the top five, if all the other things such as relationship, diet, and everything is in order then I think you can handle your stress but its still something that has to be watched." (Short-Term Patient)*

Lastly, **genes/DNA are important, however to a lesser extent because although they are the "unknown" factor**, diet, lifestyle and medicine can potentially overcome many health issues resulting from genes/DNA.

"I think genes, assuming you have some bad genes, I think you can partially overcome with proper diet and exercise to a certain degree." (Short-Term Patient)

2. Short-term Patients Experiences with Prescription Medications- A Visualization Exercise

Respondents were asked to close their eyes and visualize themselves walking through the steps they may take to obtain a medication, starting with the symptoms they are feeling, calling their provider to get the prescription filled and taking the medication. The following is a summary of respondent's initial impressions. **Those that are visiting a physician for the first time express a number of emotions such as anxiety, distrust and concern of the diagnosis/outcome.**

"Anxious, hopeful, relieved, determined to get better, worried about the cost, I hope the nurse gets my blood the first time, do I trust my doctor? " (Short-Term Patient)

"Do I trust my doctor? You are entering a new relationship that is important as anything and you are wondering if he is the right person for you." (Short-Term Patient)

"When I walk in, I am definitely anxious. It is always a relief to leave the office without a physician indicating a serious problem. I hope the medicine that was prescribed to me will work on me and make me feel good, and get rid of my problem." (Short-Term Patient)

For respondents who have been with their physicians for a significant length of time they are less likely to be anxious or distrustful. **Physician familiarity fosters expressions of confidence, comfort and relief.**

"Well, actually I had the same physicians for long periods of time so what I wrote is that actually I am glad to be home, I am feeling blessed because the situation could have been worse, my condition is something that I can control with proper diet and exercise, so I will take my medication for now till….." (Short-Term Patient)

"I feel very comfortable; they have been my doctors for over 20 years at least so it is almost like having a conversation with a family member. I am so comfortable with them because it has been so many years." (Short-Term Patient)

Once a prescription is necessary, respondents remark that they rely on the physician as well as the pharmacy to understand the dosing and side effect information. The majority do state that their physicians do attempt to provide an explanation about their medication.

"The doctor explains things but with my particular thing, when I got the prescription, maybe it is the place where I got it at but its this long sheet and it had all the information (I got it at the pharmacy), but the doctor also explained it to me as well." (Short-Term Patient)

"It's usually the bottle. Oftentimes I will pull it out quick, look at it and then ask the pharmacist because it is not always understood, it's apparently explained." (Short-Term Patient)

"I look at the big long sheet." (Short-Term Patient)

Several respondents admit that when the physician explains the medication particulars they are unfocused or forget the information. Therefore, the information (described as a pamphlet, brochure or a long print out) provided by the local pharmacy is an essential component of patient education.

"Sometimes the doctor explains it but usually at that point I forget and I don't catch it." (Short-Term Patient)

"I agree with him, sometimes when the provider is giving you all of this information you have so many other things going through your mind, like I have to take medication or you know at the end when you get to the pharmacy that you are going to get that pamphlet and you are going to look at the bottom to see what you take once per day." (Short-Term Patient)

"The doctors do not explain it, I usually ask the pharmacist or I will read the pamphlet." (Short-Term Patient)

"I go to CVS also and I can call my pharmacist because they know everything that I have been through." (Chronic Condition Patient)

In certain instances, physician assistants (PA) and or nurse practitioners (NP) provide information on patient's medication. **NPs and PAs are said to provide the same amount of information as the physician.**

"I have had experiences getting information both ways, I usually trust the doctor." (Short-Term Patient)

"In my doctor's practice they do have a nurse practitioner. I think she is knowledgeable as the doctor, she does a lot of sick calls, she will sit down and explain everything and what she thinks. She provides just as much information as my doctor." (Short-Term Patient)

Generally speaking, **most respondents admit that they are satisfied with the explanation they receive concerning their medication**; however, a few respondents report less explanation is often associated with samples.

"For the particular medication that I am on right now I feel that my doctor explained it very well. I have had mixed experiences in the past though." (Short-Term Patient)

"I am pretty satisfied because I am on one medication but I have had experiences when they are giving out samples in the interest of helping me and they seem to explain less, like I am doing you a favor, here are your samples so I don't necessarily have to explain. If you want, you can find out yourself." (Short-Term Patient)

"Well both of them. My provider for my meds and my doctor, they both explain. My mail in pharmacist includes a packet and I read the information. And if I have any questions I will ask my doctor, he is very good." (Chronic Condition Patient)

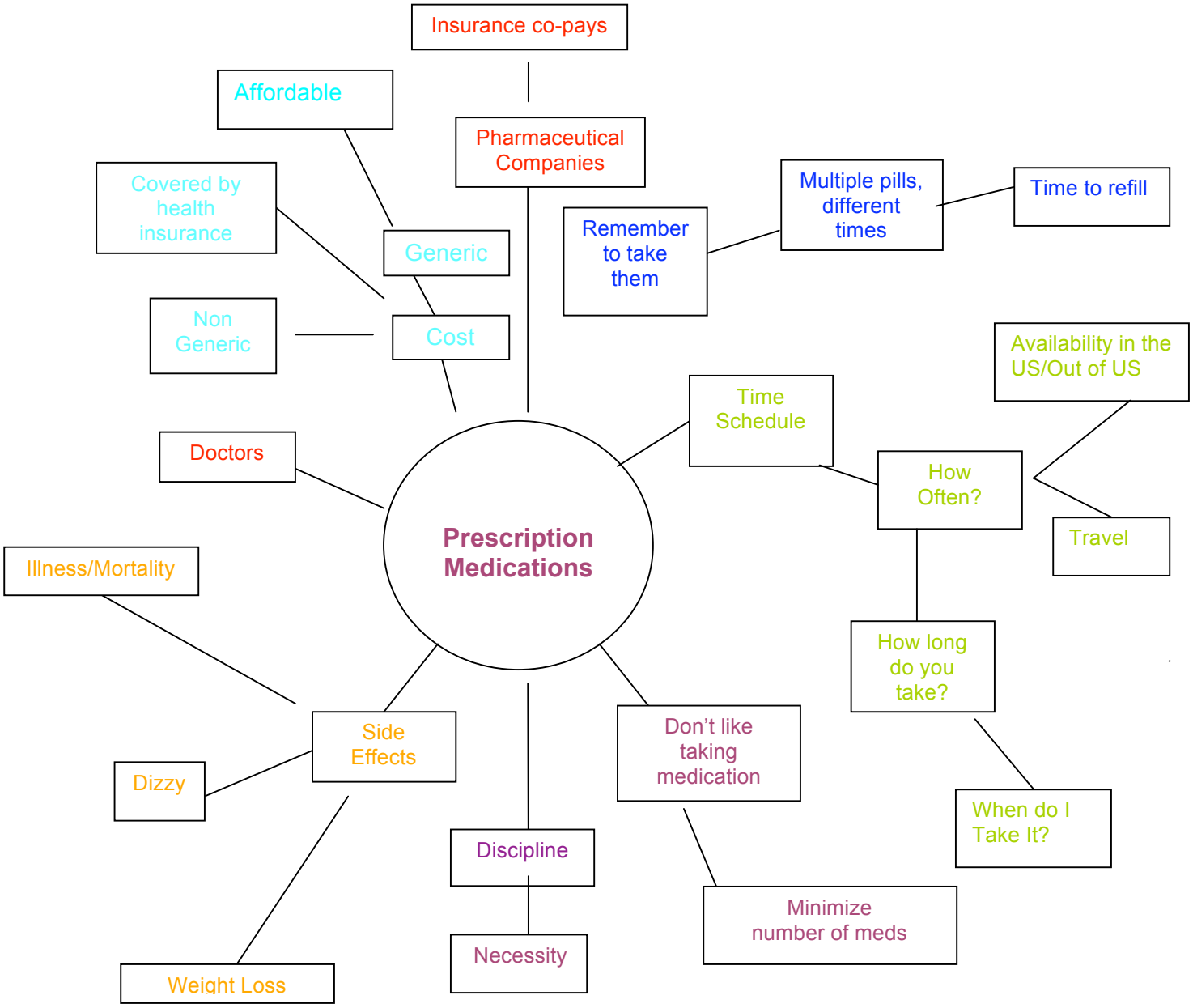
I am very fortunate like that; my doctor is very good about explaining everything and answering my questions. I have even asked my endocrinologist about new medication and he has talked to me about them and maybe I can switch over to them." (Chronic Condition Patient)

3. Patients' with Chronic Conditions Perceptions of Prescription Medications

After the first group was conducted, the utility of the information obtained from the Health Elements exercise was questioned by observers and changed to an alternative exercise.

A mind-mapping exercise was selected for respondents with chronic conditions. It is a technique in which respondents are asked to write down free associations and chains of free association thoughts around a concept, in this case, the concept was 'prescription medications'. At the end of the exercise, respondents were then asked to circle and share with the group the chain of thought that was most significant to them.

Visual Summary of the Mind Mapping Exercise



Respondents' most significant associations were diverse and covered such areas as:

- Cost of the medications and the importance of health insurance to pay for the medicines
- Shopping for medications in Canada where they are perceived to be less costly
- The need to take the medicines how often, for how long, and the need to remember to take them
- The availability of the medicines in the United States and abroad
- The issues surrounding traveling with medications, such as security, routine planning and discipline
- The concern of whether or not the medicines are working
- Minimizing the amount of medications since patients do not care to take medications.
- Alternate options to medications such as weight loss, diet
- Drug side effects
- Generic drugs and their impact on cost and deductibles

The common underlying themes presented from the mind mapping exercise are cost, medication availability/accessibility domestically/internationally, adhering to a treatment plan and minimizing medication use.

"Well, certain drugs are not sold outside of the USA probably for patent protection and such, so if I am on a medication it does not do me any good if I go away or I am at another place for a long period of time and I can't get it, it becomes a problem so that could be a major thing." (Chronic Condition Patient)

"Weight gain, bloating, dizzy, affordable and how long will I be on each medication and then do I really need each one." (Chronic Condition Patient)

"I am always trying to minimize the number of medications that I have to take despite the fact that right now that I take 5 or 6, I just don't like to take chemicals. I try to minimize the number that I take so I am constantly asking my doctor do I have to continue taking this, can I get off it and some don't have to be forever but there are others that I am trying to get off from. So minimizing the numbers, I don't like to take meds." (Chronic Condition Patient)

Reasons for Patients' Reluctance to Take Medication

An overwhelming undercurrent in both groups is patients' desire not to have to take medications at all. Before discussing adherence in further detail it is important to include the main reasons for their reluctance.

Reasons Why Patients Do Not Want To Take Medication	
Ingesting Chemicals/Foreign Object	Inconvenient- safety for storage and children
Causes Addiction/Dependency	Possibly damage organs (kidney)
Unrealized Reactions	Contraindications

C. Exploration of Patients' Adherence to Medications

1. Taking Medications as Instructed

Most respondents in both patient groups agree that they take prescribed medications immediately upon having them filled and may research them afterwards.

There does appear to be a variety of timeframes or practices that are followed before the medication is actually taken. Responses range from taking the medication immediately, taking it after research is done or waiting until their own efforts fail.

"I take it immediately, so I am hoping it is going to make me feel better whatever my problem is." (Short-Term Patient)

"I think they (patients) take it and then do the research." (Chronic Condition Patient)

"This particular one, I think I waited a day because I wanted to do some research to make sure there were no side effects. " (Short-Term Patient)

The drugs that I am taking are well known meds for my condition so I know that I am taking the top of the line for my condition. Depending on what the med is, if I already heard about it or know about it I don't research it." (Chronic Condition Patient)

" I know once the doctors say that I should go on 5mg of my BP medication, I say no way I don't want to take the meds, I don't know what its going to do to my body and so initially I didn't take it and I tried to handle the situation on my own." (Short-Term Patient)

When asked how often they take their medication as instructed by their provider, **patients in both groups self report taking the medications as instructed "almost all of the time**."

Patients Self Report On How Often They Take Medications as Instructed			
	90%-100% Almost All of the Time	**Less than 90% but more than 50% Most of the Time**	**Less than 50% of the time Some of the Time**
Short-term patients	6	1	0
Chronic Conditions Patients	9	1	0

"Because that is what the doctor prescribed for me to take, too, so I follow his advice. If he tells me to take a pill everyday, I will take the pill everyday." (Chronic Condition Patient)

"If you don't take it, it's either pain that you have, the discomfort that you have or the fact that your blood pressure is too high and it is the alternative. I have been non-compliant because I don't think I need to take something but 90-100% of the time I will." (Chronic Condition Patient)

'Well, you want to cure the problem that you have but if you don't take it, it might do more harm than good." (Short-Term Patient)

Respondents' Top 3 Motivators To Take Prescription As Prescribed		
Most Motivating	**Second Most Motivating**	**Third Most Motivating**
Worsening of health condition, such as stroke or death	*Lifestyle*	*Reduced long term health cost*
Spouse	*Worsening of health condition*	*Family/Family Support*
Seriousness of condition	*Children*	*Life*
Pain	*How much Dr. convinces of need*	*How much do I want to feel better*
Confidence in physician	*Fear*	*Maintenance of the problem*
Access to medication, namely cost	*Pain level*	*Feeling better/Improving health*
Improved lifestyle- live longer	*Weight loss benefit*	*Help aids to support adherence such as pill boxes etc.*
Emphasis by doctor with explanation of problem	*Confidence in medication after doing research*	*Good relationship with physician where dialogue exists*
	Convenience -combination pill and once daily	*Minimal side effects*
	Cost of medication so wasteful not to take it	
	Re-emphasis by doctor of condition regularly	

Note: These are verbatim comments from the respondents. Also, not all respondents gave top 3 "motivators'; some named fewer "motivators" and while others named more.

The underlying themes that motivate patients to take the medications as prescribed include:

- Curing the problem
- Maintaining patients' general well being and health
- Patients desire to avoid being sick or becoming more ill
- Following physician orders
- Relationship and confidence in the physician
- Possibility that patient may no longer need medication
- Family/spouse, children

"It depends on the medication, but there is always the possibility that you can come off it. You don't have to stay on it but you don't want to stay with hypertension, you can have a stroke and so medication is very important." (Short-Term Patient)

"I think about the alternative. My blood pressure is going to get high; I am at risk for a stroke along with all the other risks, knowing what the alternative is motivates me." (Chronic Condition Patient)

For the minority of respondents that fall lower than a 90% in adherence, they remark that they either stop taking medication when they believe they are feeling better or they simply do not have the pills with them, so there is an inability to stick to the treatment regimen.

"I think if I realize that I need to carry them with me. It's not that I don't want to take them, it's that I don't carry them with me." (Chronic Condition Patient)

Additionally, **several respondents suggest that stage of life and the amount of time available also contributes to how likely they will be to stay adherent.**

"I think that is an age thing to be honest, Robert is younger, he is working and you are too, you have other responsibilities but as a senior citizen I have nothing better to do than get up in the morning, take my pills, go the rest of the day, take my pills, so I am focused on it because I have less to do, so when you are talking 90-100% I think you are talking about age, not necessarily in terms of time." (Short-Term Patient)

2. Helpful Aids

When discussing the ease or difficulty respondents experience in following their medication regimen, there is an underlying sentiment that regardless of difficulty, taking medication is about being healthy and ensuring life.

"Health is number one; if you are feeling lousy everything goes wrong so you take the medication as prescribed." (Short-Term Patient)

"You are taking your medication because you want to live." (Short-Term Patient)

Some respondents also discussed that circumstances such as age, dosing, and living arrangements can impact a patient's ability to successfully maintain their treatment regimen.

"I always feel sorry for people who are in my age bracket and they forget to take their medication or that they get mixed up, it's so important." (Chronic Condition Patient)

"I think that the circumstances kind of depend on it as well. If you are taking several medications, if you live alone, it is a little bit more that goes into it. If someone only

takes one like me, I take once per day, that is easy - I get up and I take it but for someone who is taking five, six or seven and they are alone, that might be somewhat difficult, especially if they are older and depending on what their condition is." (Short-Term Patient)

There also appears to be a direct correlation between dosing frequency and perceived ease to follow a treatment regimen. Some patients that take multiple medications mentioned that the greater the number of medications needed, the more difficult it is to remember to take them.

All respondents provided examples of tactics or aids that would make sticking to a treatment regimen easier:

- Pill box
- Pills in a bag to keep at work, while away from home
- Separate pills into those to be taken at different times of the day
- Keep the medication visible to help with recall
- Having a time set to take medications on a digital clock or mobile phone
- Once per day dosing
- One pill for several illnesses (combination pills)
- Having more than one set of your medications
- Taking pills with meals
- Separating the pills you take in a day away from pills in bottle

3. Medication interruption after treatment regimen has initiated

Both patient groups agree that once a medication or treatment regimen is initiated, stopping is sometimes an option they take. As previously discussed, when patients believe their symptoms have been relieved or there is a change in their finances, medication adherence is often affected. Also commonly mentioned by providers and patients is the common scenario of being given antibiotics, and the patient stops taking the medication once they are feeling better.

"Well, maybe (stop taking medication} if I just didn't think I needed it at that point. I was feeling better." (Short-Term Patient)

"I agree, I mean the blood pressure medication you just can't stop, but if it is something for the flu or a bad back or something after a while you feel better you will stop taking it." (Short-Term Patient)

"This is true especially if it is a financial thing, yes. I would think a lot of people would do that {stop their medication.} They say, "I feel good now." (Chronic Condition Patient)

"What about an antibiotic, you have to take the whole entire prescription? How many people take six and they say, 'Oh, I feel better now' and they put in the drawer for next time." (Chronic Condition Patient)

The duration of medication treatment yields varying results. For short-term treatments, adherence may be high, however, providers and patients agree that with antibiotics, once patients begin to feel better, they may cease taking the medications and save them for future use. For other patients, the longer they are on medication the less stringent they become and non-adherence may follow.

4. Role of Cost in Medication Adherence

Although respondents in the short-term patient group claim cost is not an issue since they have good insurance plans, this maybe due to the fact that they are taking fewer pills for a shorter period of time. However, chronic patients boldly confess that cost has a significant impact on a patient's ability to maintain their treatment regimen. The result of medication cost can lead to non-adherence, minimizing how many pills are taken, ordering a higher dose and cutting pills in half, buying generic drugs and not filling prescriptions at all.

> *"Cost has no impact because I have very good prescription plan and second this could be life or death you are talking about so I get the meds regardless." (Short-Term Patient)*

> "*There are times when I was between employment and I did not have a health plan and I went to the doctor and I would ask him if he had samples or do I have to go out and pay full price." (Chronic Condition Patient)*

> *"To me cost is always an issue, sometimes I find ways, to either buy in quantity or split the pills." (Short-Term Patient)*

> *"My doctor prescribes 10mg and I only need 5mg, I have my snapper and I cut them in half. I am saving a fortune." (Chronic Condition Patient)*

5. Role of Health Insurance

According to patients in both groups, **health insurance companies play a big role in patient's taking their medication**; after all they do act as an overseer. They have formularies, provide branded/ generic drug options and limits pill quantity.

> *"The one thing that bugs me sometimes is that they have limits where you can only get the 30 day supply and then I forget and I would prefer that they don't have that and you can get some extra ahead of time and have that cushion." (Short-Term Patient)*

> *"They {health plan companies} force you into generics." (Chronic Condition Patient)*

> *"They have formularies now and the doctor might prescribe one thing and if its not on your formulary you pay more for it so you have to be educated as to what is on your formulary, I mean they give you a handout to give to your doctor." (Chronic Condition Patient)*

Most Short Term patients also remark that they do not call their health insurance company to ask questions; rather they rely on their providers or pharmacists.

6. Awareness of What Medications Are Being Taken

Both groups agree that there are individuals that are taking at least one medication that they are unaware of why they are taking it. When this question was asked of the Short Term Group, all of the respondents claim to be aware of why they are taking *all* of their medications. The Chronic Condition Group, echoes the same sentiment and adds that many patients today do not ask their physicians questions.

> *"Most people walk into a doctor's office, the doctor says this is what you need, this is what you take, thank you very much, goodbye and they fill it." (Chronic Condition Patient)*

> *"I agree with her because not a lot of people ask questions, I spend 2 hours with my primary, she had a waiting room full of people and my daughter was a new patient and she spent one hour with her after I saw her." ." (Chronic Condition Patient)*

7. Adherence Patterns: Adherent Initially to Non-Adherent or Initially Non-Adherent to Adherent

Short-Term patients and most of the Chronic Conditions Patients all agree that it is easier to be adherent when a medication is first prescribed. Once they start feeling better or they have been on it for a while, they can become less adherent.

> *"The first one, I was more compliant and then as the symptoms went away I might have weaned away from it." (Chronic Condition Patient)*

> *"In the beginning it's easier because if I start feeling better I usually take myself off the meds." (Short-Term Patient)*

> *"I agree. In the beginning because it is fresh in your mind, besides you feel that it's really helping you." (Short-Term Patient)*

Several Chronic Condition Patients provide an alternate perspective, saying they believe that it gets easier to remain adherent as time elapses.

> *"If you take it the more accustomed you become to it." (Short-Term Patient)*

> *"I realized the harm I was doing by not taking it." (Chronic Condition Patient)*

> *"You worsen as you grow older and so you are forced to be more compliant." (Chronic Condition Patient)*

D. Providers Describe "Easy" and "Challenging" Patients and their Role in Medication Adherence

To understand how providers define adherence to medications and how patients may play a role in adherence, providers were asked how:

- They define "easy" and "challenging" patients
- Adherent patients tend to be in their practices
- They define adherence
- They know if patient is adherent

1. Definition of "Easy" and "Challenging" Patients

Easy patients are patients who are easy to treat, educate and be around. Providers often speak of a person's ability to listen, understand and respond to the information they provide. Providers include the office setting as well as outpatient setting to describe these patients. There is also an appreciation by many providers that patients respect them and appreciate the advice/service they provide to improve their health.

> *"An easy patient is one who is responsive to suggestions." (Clinician)*

> *"In the outpatient setting, they show up on time. They have respect for us and respect our training and seeking second opinions before we have given our first opinion and they are compliant and have insight into the disease. They are interested in their disease process*." *(Multi-Specialty*)

> *"Someone that will listen to what you have to say, take those directions home and implement them. Not go home and do nothing or take the prescription and never get it filled or not take the medication as not directed or come in three months later and say I ran out of my meds two weeks ago and now I am here for a blood pressure check and then do the same thing 3 months later." (PCP)*

In all three groups, taking medications as instructed was used to describe an "easy" patient and not doing so was used to describe a "challenging" patient.

A challenging patient is described as a patient that requires more time and exhibits distrust {where the physician is not considered to be the exclusive authority, then alternate sources of information, such as the Internet, and alternative healing methods may be used to question or undermine providers}. A challenging patient also does not do what is required due to social barriers, lack of family support or an inability to comprehend instructions.

> *"Patients that believe in alternative treatments, they believe more in them, not just ask about them." (PCP)*

> *"Uneducated, low socioeconomic status, doesn't know their own history, doesn't bring records or know their history and how you were saying, doesn't follow anything you tell*

them, you spend a lot of time educating and you know the feeling that it comes in one ear and out the other. " (Multi-Specialty)

"They do not follow any directions in terms of lifestyle changes; they will not become a part of their own solution." (PCP)

Other factors providers use to describe "easy" patients include:

- Having an interest in their health and their condition
- Being somewhat knowledgeable but not so much that it may interfere or challenge the provider with erroneous information
- Trusting their provider and being appreciative of the service provided
- Having insurance and access to healthcare
- Having a support system and not many "outside" issues that may interfere with patient's treatment plan, i.e. socio-economic issues.

Factors used to describe "challenging" patients:

- Having no health insurance
- Lacking trust in the provider
- Having no support system and experiencing other socio-economic, language or cultural issues
- Having a "combative" and/or "demanding" attitude
- Not being "part of the solution"
- Requiring a lot of education due to either a lack of comprehension or lack of understanding because "you can't reason" with the patient or "it goes in one ear and out the other."

For a complete listing of how providers described "easy" and "challenging" patients, please refer to Appendix C.

2. Providers' Definition of Adherence

Respondents in all three provider groups define adherence to a medication treatment plan as patients following the directions that are provided, however, for a few providers less than perfect obedience is still considered adherence.

"So if you give it to them three times per day, they are taking it three times per day, not once per day or when they remember or when they are feeling bad, like how some asthmatics do, I only take my Advair when I don't feel good, that is not how you are supposed to take it." (PCP)

"Adherence is if they take their medication. What you prescribed is what they take and what they do." (Multi-Specialty)

"Probably 6 days out of 7 they are taking it properly." (Multi-Specialty)

"If they are following the directions, if they are doing what they are supposed to be doing." (Clinician)

3. How Do Providers Determine Whether Or Not Patients Are Taking Their Medications As Instructed?

There are a number of ways that providers can determine if their patients are being adherent ranging from patient symptoms and lab test results to questioning the patient. Providers comment that if they suspect non-adherence they can usually follow-up with any of the below options to confirm adherence.

- Patient symptoms exhibited during visit
- Patients bring their medications to a medical visit and providers look at the volume left.
- When speaking with patients, providers can often determine if they are following directions
- By patients' refill history
- Having patients write down their medications and, based on their recall, determine if patients are taking them
- By lab results and the patient's lab history.

"They tell you sometimes they are honest, or they will not refill their meds. You know that you ordered a prescription and they should be calling for refills and they haven't because they have not run out of what you gave them. (PCP)

"In addition patients should respond clinically. You can tell whether they have done it or not. Most of the time, if they are diabetic, hypertensive, something is a little more obvious." (Clinician)

"Examine the number of refills." (Multi-Specialty)

Providers offer mixed responses regarding the correlation between non adherent patients and challenging patients. A few providers suggest that there is no association between the two groups. However, the remaining providers admit that their most challenging patients are often non-adherent as well.

"Sometimes the challenges are not the medication. Challenges could be other things." (Clinician)

"It is not a factor." (Clinician)

"Yes there is an association between a challenging patient and a non-adherent one. Because if they are adherent they will not necessarily be challenging." (PCP)

4. How Adherent to Prescription Medications are Patients?

Providers were asked what percentage of their patient base is *Adherent Almost All of the Time, Adherent Most of the Time* and *Adherent Some of the Time*.

Specialists seemed to have the highest percentage of patients in the *Adherent Almost All of the Time* category, whereas the Primary Care Physicians' and the Clinicians' findings were diverse and spread among all three categories. (See chart below)

Specialists suggest that social economic status, affordability and drug effectiveness impact lower levels of adherence. The fact that patients see Specialists for chronic serious or even life-threatening conditions may explain why patients seem to be more adherent when compared to other groups.

> *"My patient base, I would say almost all the time, 70% almost all the time, and the other 30% would probably be split 15 and 15, between most of the time and some of the time…" (Multi-Specialty)*

> *"It really depends on where I am working; so where the patients are a high socioeconomic status, the percentage of adherence is almost always in the 80s or 90s, and then [downtown where patients have a lower socioeconomic background] 10 percent are (Adherent Almost all the Time)* and *5 percent (Adherent Most of the Time) …." (Multi-Specialty)*

Clinicians' responses seem to be more heavily weighted in the "most of the time" category. They suggest that patients may have many pills to take, select which ones they will take, and then remain adherent to the ones they select.

> *"I think that of the people that are very compliant, there are still some medications that they will pick and choose, taking into consideration that people are always compliant with all of their medications. They may decide to take some of them as opposed to others." (Clinician)*

> *"I have some in the less than 50% of the time adherent group just because they may be dual diagnosed and there are other reasons. Some are just not adherent and just don't get it, and some will never get it because of the schizophrenia or whatever is going on, so it is about 65% of patients are mostly adherent, and then I would say about 25% some time adherent, and the rest would be almost always adherent (highest category)." (Clinician)*

Overall PCPs report lower numbers for adherence across all of the categories when compared to other providers. PCPs comment that their patients remain adherent if their insurance benefits remain intact and if they are experiencing symptom relief. Patients in the "sometimes" category are believed to be less aware of the severity of their disease or there is a lack of time for self care.

"People in the "all the time" category really seeing a benefit from their medicine, they need it so they are the ones that come in with a UTI, with a yeast infection, and not chronic conditions. If you put them on blood pressure medication, they can't necessarily feel sick so to me that…or if they are getting a benefit out of it. They are seeing a benefit from the quality of their life." (PCP)

"I have had some very loyal patients for 10 years and then all of a sudden they lose their insurance coverage and if the medication is not generic they don't want it anymore. So, some patients can appear to be fine and then the financial part will really kind of show where their loyalty will lie. One of my patients who is on pain medication regularly seems to be very compliant." (PCP)

The tables below summarize providers' responses. Please note that not all providers responded.

Adherence in Clinicians' Patient Base			
Participant #	**Almost all of the time**	**Most of the time**	**Some of the time**
1	Not answered	70%	Not answered
2	65%	Unknown	Unknown
3	25%	50%	25%
4	25%	50%	25%
5	70%	10%	20%
6	20%	70%	10%
7	10%	75%	15%
8	15%	75%	10%

Adherence in PCPs' Patient Base			
Participant #	**Almost all of the time**	**Most of the time**	**Some of the time**
1	5 - 10%	Not applicable	90 – 95%
2	20%	30%	50%
3	30%	30%	40%
4	70%	20%	10%
5	50%	25%	25%

Adherence in Specialists' Patient Base			
Participant #	**Almost all of the time**	**Most of the time**	**Some of the time**
1	70%	15%	15%
2	70% - 80% Depends on setting	10 - 15%	5%
3	30%	40%	30%
4	60%	30%	10%

In summary, providers in all three groups pointed out that patients are more likely to be adherent when:

- Patients see or experience the benefits of taking their medications as prescribed
- Patients have a higher comfort level with the medication treatment plan
- There is a strong or positive relationship between the patient and the provider
- The patient has family members that are good role models (health-oriented and/or adherent)
- There is a generic, less costly version of the medication.

E. Providers' Prescribing Patterns

1. Explanation of Medications

Physicians by far do most of the prescribing and are the explanation givers regarding their patients' medications. The amount of time a provider spends explaining the medication to a patient during an office visit depends on:

- Whether or not it is a newly prescribed medication or a renewal of an existing medication
- Whether or not it is a newly diagnosed illness or condition
- The severity of the side effects possible with a given prescription

In conjunction with the above factors, providers often will assess the patient on other factors such as age, how sick they are, their education level, if they are alone or accompanied by someone during the visit, as well as the patient's temperament. All of these factors help to determine how much of an explanation will be required.

> *"When you are talk to the patient, you see how they answer your questions and what they know and have they been in this condition before, have they had previous testing done if they are old or new and clueless or something like that, they may need a longer explanation if no one is with them it is always good to have the wife there, you ask the husband a question you look at the wife for the answer. It is always good to have someone else in the room." (Multi-Specialty)*

"It depends on what it is. Is it a renewal, is it a brand new start. If it's insulin you are going to sit there because usually I will show them how to give it to themselves in the office, you have to explain it to them, so I guess it depends on what kind of medication it is. If it is an antibiotic you are going to tell them you need to take this twice per day for 10 days, finish it all." (PCP)

Generally, providers recognize that the more time they spend explaining the medication treatment plan, the less likely they are to receive call backs, and the more likely the patient is to take the prescription as instructed.

"If you are asking me personally {specialist}, I do try to explain the medicine because if I take the time doing that I can make the patient much more comfortable accepting my recommendation and the phone calls after the visits are less. The patient remembers 30% of what we tell them once the door is closed and sometimes I think it is less than that so if I spend the time up front explaining to the patient why this medicine is needed, I just find that the patient is much more comfortable accepting my recommendation and the patient has much less phone calls later on." (Multi-Specialist)

Patients' opinions on how well providers explain a medication varies from "satisfied" to "very well." For some patients, the nurse practitioner provides more detail, as does the pharmacist and the information that accompanies the medication. Between the nurse practitioner and the physician, respondents tend to trust the physician more. In many cases, it appears that patients with a strong, long, and trusting relationship with their providers perceive them as explaining the medication better than those without an established relationship or who distrust their providers.

2. Questions Patients Typically Ask Providers About Prescription Medications

Interestingly, questions focus on how to take the medication and include: frequency, duration, efficacy and side effects. Questions specific to the condition that is being treated are asked less often. Questions asked most often included:

- How often does it need to be taken?
- Is it to be taken with or without food?
- What are the side effects?
- How long has it been out in the market?
- How much does it cost?
- How long will I have to take it?
- How is the medication working?
- Why this medication versus another medication (less common)

"Sometimes they may ask how is it working and the more educated they are, they want to know why did you pick this one versus the other one but I think that is less common." (Multi-Specialty)

"I have a very elderly clientele and I don't know if it is just the mentality of how they were brought up, I think a lot of my patients don't like to ask their doctors a lot of questions. They don't want to waste their doctor's time or think the doctor is too important and my question might not be worthy of asking. I get patients who come in all the time and ask what is this for, why am I taking this." (Clinician)

3. How Providers Handle Patients' Questions Regarding Medications

Providers respond in a variety of ways to questions, utilizing a number of approaches. The list below attempts to show examples of their resourcefulness.

- Use scare tactics, for example, "I tell them they don't need it after they are dead" in response to a patient's question of how long they need to take the medication.
- Employ the online tool of E-prescribing which can provide what tier of drug it is
- Additional referrals to pharmacist or insurance company
- Refer the patient to a website for a particular condition
- Refer to societies or support groups
- Provide a drug information sheet after an explanation and ask the patient to call if questions
- Offer alternatives that may limit the amount of time they will be on the drug such as weight loss
- With the exclusion of pharmacists, the providers cautiously avoid providing all of the possible side effects because this may create fear in patients and impact adherence; a few providers sometimes view the information that accompanies medications as "undoing" their work and eroding the confidence they instilled in their patient.
- Providers typically provide patients with handouts on the medication, refer to pharmacist, send to non-profit organizations such as American Heart Association, and/or their insurance company.

  "I first ask them what they know about the drug or what have you been instructed to do. Can you tell me what you are supposed to be doing with this drug? That way I can get a sense of what they know and what they don't know and then take it from there." (Clinician)

  I think if you talk about it {explanation} they don't recall. If you have the time you write it down - if you can't they rely on the pharmacist to write it down or that it will be on the bottle." (PCP)

  "There are some cases that they are pretty knowledgeable and they don't know but they want to ask more questions. I will send them with the drug information sheet and

ask them to call me later if they have read it and that works because I gave them a lot of background information I don't waste my time, they can read it and then if they have questions they will call me, and that works in some cases." (Clinician)

"Something else I will say if someone is 200 pounds overweight, and they ask me how long do I have to be on CPAP, well, if you lose weight we can stop it, otherwise it is lifelong so, you give them a little bit of a leeway, it is a motivation, if you don't want to be on the pill exercise or something." (Multi-Specialty)

4. How Many Patients Do Not Know Why They Are Taking at Least One Medication?

Providers were asked what percentages of their patients do not know why they are taking at least one of their medications.

"I {PCP} do a lot of geriatrics and at least 30% of my geriatrics don't know why, which is pretty high and my non-geriatric probably 10%." (PCP)

"Some of the medicines I would agree with it {patients are{unaware of why they are taking med}, they might have known when they started it but by the time they are on 10 different meds, maybe 40%, some meds they don't understand what they are." (Multi-Specialty)

"Due to different social economic areas I think the upper ones are like 20% and the other area may be as high at 50-60%." (Multi-Specialty)

As the table below indicates, **Specialists' perceive that a greater number of their patients understand their medications compared to the other provider groups.** This may be explained by the fact that patients with serious or life threatening conditions are seeing Specialists and may be more motivated, while clinicians, such as pharmacists, tend to have a broader spectrum of patients. Clinicians are often responsible for educating patients as they may have more time than physicians and, as a result, they may have first hand knowledge of patient education needs.

Patients Who Do Not Know Why They are Taking at Least One Medications Providers' Responses		
Clinicians	**PCPs**	**Specialists**
• 95% • 100% • 85-90% • 80% • 85% • 20% • 55% • 10%	• 30% of geriatric patients • 10% of non geriatric patients • 40% • 10%	• At least 40% • 30-33% • 20-60%

F. Providers' Rankings of Non-Adherence Reasons

Providers were given handouts of a chart listing 12 possible reasons for patient non-adherence to prescription medications. A total of four handouts were distributed. The reasons are based on a presentation of literature review conducted by IMS. One table was for providers to consider patients in general; the other handouts were for patients with diabetes, patients with heart disease, and patients with asthma. Respondents were asked to complete one handout and share their rankings before moving onto the next handout.

Providers were instructed to rank the three most important reasons for patient non-adherence using a scale from 1-3, 1 being most important and 3 least important. Next, they were asked to place Xs next to two or three reasons that are not significant factors in patient medication adherence. (See Appendix D)

Since responses were so widespread and although each provider groups' responses were tallied (see Appendix E), the aggregate responses from all the provider groups for each reason were more telling. Also, it is important to note that since the clinicians' group had more respondents, their responses received more weight. However, in viewing all three providers' responses collectively, there are definite trends.

For all four categories (overall patients, patients with diabetes, heart disease and asthma), out of pocket cost (OOPC) received the most number of votes as the top reason for patient non-adherence. Notably, the primary care physicians did not rank cost as high as the other provider groups. They ranked "doesn't understand their illness" higher than costs.

Providers agree that overall patient non-adherence is typically due to cost and lack of patient education in areas such as medication necessity or disease state management. PCPs stand out from the other providers since they perceive the lack of understanding about how to adhere to a medication as consistently less significant.

Non-Adherence to Prescription Medications	
Overall Patients	
Most Significant Reasons	**Least Significant Reasons**
• Out of pocket cost • Worried about safety of medication • Doesn't understand their illness	• Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it • Run out of the medicine because they aren't tracking need for refills • Unconvinced of need for therapy* • Cognitive impairment of patient* • Doesn't understand their illness* *All 3 reasons received same number of votes

1. Diabetic Patients

Overwhelmingly, Clinicians view out of pocket costs as the most significant reason for a diabetic's non-adherence, while PCPs and Specialists perceive other factors such as dosing, no change in condition, limited understanding of illness and difficulty with administration as more significant reasons for non-adherence.

Non-Adherence to Prescription Medications Patients with Diabetes	
Most Significant Reasons	**Least Significant Reasons**
• Out of pocket cost • Difficulty with administration (needles) • Number of doses per day is too much to adhere to	• Unconvinced of need for therapy* • Unconvinced of effectiveness* • Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it* • Running out of medicine *All 3 reasons received same number of votes

2. Patients with Heart Disease

Again, Clinicians and Specialists express a consistent perspective that non-adherence in heart disease patients is due to out of pocket costs. PCPs suggest that side effects and lack of knowledge concerning a patient's illness are the main reasons for non-adherence.

Non-Adherence to Prescription Medications Patients with Heart Disease	
Most Significant Reasons	**Least Significant Reasons**
• Out of pocket cost • Side effects of medication/doesn't know what to do about unpleasant side effects • Worried about safety of medication	• Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it • Number of doses per day is too much to adhere to • Difficulty with administration (needles, inhaler, etc.)* • Cognitive impairment of patient* *Reasons received same number of votes

There are some diverse opinions on the reasons for non-adherence among the group of providers. Again, Clinicians associate out of pocket expenses with non-adherence. PCPs and Specialists share some common ground: PCPs overwhelming perceive patients lack of understanding the disease while Specialists concur with this perspective they also add difficulty of administration as another significant reason for non-adherence.

3. Patients with Asthma

Non-Adherence to Prescription Medications	
Patients with Asthma	
Most Significant Reasons	**Least Significant Reasons**
• Out of pocket cost • Difficulty with administration (needles, inhaler, etc.) • Doesn't understand their illness	• Unconvinced of need for therapy* • Cognitive impairment of patient* • Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it *Reasons received same number of votes

A possible conclusion for PCPs belief that non-adherence in each of these disease states and overall is caused by patient education needs rather than cost could be due to the fact that they often see these types of patients more frequently over a shorter period of time. The other providers may also focus on cost as an inhibitor to adherence because when they interact with the patient, it may be after they are out of the examining room when they can deal with the results of their visit {PA, NP} or when the patient is preparing to pay for their medication {Pharmacist}.

4. Other Factors Impacting Adherence

After completing the tables, providers were asked what other factors may impact adherence. **Respondent in all groups were in agreement that family support is essential to adherence. More highly educated patients may also be more adherent.**

> *"Family support is a very crucial part, especially someone who comes with them to the visit and asks did you take your medicine, are you checking your blood sugar, whatever it is. I think family support is something positive. Level of education is key, initially you split up the patients between challenging and easy, challenging patient who does not understand their illness and does not understand what the medications do and thinks that they are sort of invincible and are going to get better by whatever method but not medication*." *(Multi-Specialty)*

Also discussed is the importance of role models. If there have been "good" role models, (i.e. a patient's parent may have been sick or a parent may not have been a good example of self care) both scenarios can contribute favorably to influencing a patient to be adherent. Also, if a provider does a "good job" in educating the patient, adherence tends to be greater.

> *"Sometimes I ask did your parent or grandparent have this condition? If they know a parent went through it they are more likely to be adherent because they understand, they have seen their parent or grandparent." (PCP)*

> *"I had a patient who said his grandfather died young from heart disease so he wanted to get his cholesterol checked. If his cholesterol is high, he is more likely to be*

adherent because of what he experienced with his grandfather. He might be getting closer to this grandfather' age and he has that fear. They understand it, they get it." (PCP)

According to respondents, younger patients may not comply as they see themselves as invincible and older patients may not comply due to cognitive impairment or more socio-economic issues and complications. According to providers, patients between the ages of 50-70 have the greatest adherence.

"The older they get the more complicated life gets and their memory starts to slow down." (Multi-Specialty)

"I would have to agree with that also and the opposite side of the coin is the younger people and certainly in my specialty, the younger people who do not comply with the regimen, the adolescence or the young teenager, the young adult, he doesn't take his insulin and thinks he is going to be fine so I believe the two age spectrums." (Multi-Specialty)

Some providers perceive that patients tend to be adherent at the initiation of a treatment plan, for example, patients with such conditions like asthma may wean of their medications once they are feeling better.

"I would say no {patients are adherent at initiation} this is not the case in my practice." (Multi-Specialty)

"I think asthma might be a little like that. If they are in a stable phase they will self wean off or self treat because they are stable." (Clinician)

Providers also describe examples of patients who have an encounter with a health condition where either a medication is introduced in a hospital setting or a new medication may be introduced in an outpatient setting. These circumstances can result in patient adherence being favorably impacted.

"After their bypass surgery, when they have seen God and all that but after they are out of the hospital and they are going through rehab and they are fine, that period of after the bypass, they are invincible." (Multi-Specialty)

"There are studies that show that if you start a statin to lower cholesterol in the hospital after their first event they are more likely to stay on it for a long time." (Multi-Specialty)

G. Strategies Providers Use to Increase Adherence

Providers mention ways they encourage/support their patients to stay motivated and maintain adherence. The following is a composite of the items mentioned.

- Follow up with phone calls
- Place less emphasis on the medications and more on the patient as a whole and patient's well being
- Provide an explanation of the outcomes of not taking medications (decline in health and death)
- Become more persistent and insist of taking medications
- Provide an emotional explanation
- Threats
- Explain how poor outcomes may impact provider
- Setting alarms for reminders
- Assistance to curtail cost such as samples, manufacturer programs and generics
- Utilize electronic records which allows provider to print a list of patient medications
- Recommend wallet-sized cards with medications
- Use electronic records that outline the current regimen
- Write the reason for the medication on the bottle or box of medications
- Advise using pillboxes
- Set reminders on mobile phone or digital watch
- Determine how they will pay for medications and provide free samples or other alternatives, such as generic version of the medications
- Encourage prescribers to spend more time explaining the medication treatment plan

Additional strategies suggested by Clinicians include more focus on counseling while in the physician office, physicians being more forceful with patients about what it is they need to do and telling patients exactly what to expect when they start a new medication.

H. Providers' Recommendations for Adherence Messages

Providers supplied the following messages to help communicate the importance of adherence to patients.

Informative ads on diseases or conditions	Ads based on fear - show death as an outcome	Show outcomes of not taking the medications
Show positive outcomes of taking medications	Demonstrate the integration of medications into patient's lifestyle	Have patients do it for themselves if not for loved ones
Emphasize the cost of the medication versus death or outcome of not taking the medication	Use terminology that consumers will understand	Explain dangers of stopping medication without weaning
Prevention of future complications of not taking medications	Educating on silent symptoms	Link actions to possible disease states
Show visual illustrations of patients suffering with diseases and the impact they have had on the body	Have other patients share testimonies on poor health behavior and how they changed their lives	Inform patients of patient support programs available through pharmaceutical companies to counteract

		cost concerns

I. Insights into Providers' and Patients' Role in Medication Adherence

To identify how patients and providers perceive themselves and how they feel in the medication prescription process, each group of respondents was asked to visualize what they may experience when either a provider is prescribing a prescription medication to a non-adherent and adherent patient or a patient is receiving a prescription from a provider.

Afterward they were given a handout with two stick figures, one stick figure representing the provider and the other representing the patient; each stick figure has two callout bubbles, a rectangular bubble and a cloud-like bubble. The rectangular bubble represents what the provider/patient is staying and the other cloud like bubble represents what the provider/patient is saying. (See Appendix F) Respondents were asked to write down what each person was thinking and saying when the provider is prescribing a new prescription to the patient.

1. Patients' Perceptions

Patients' thoughts reflect fear, anxiety, resolve and some resistance. Patients' center their views around not wanting to take another medication, what may be involved in the actual treatment plan, fear of the possible side effects and interactions, taking the medications to feel better and live, and trusting the provider. Most patients attempt or desire to do as the provider has prescribed.

> *"Provider is saying, for your blood pressure take one per day and I am saying I don't feel my blood pressure is really that high. I think this is going to help you he is thinking and I am thinking she thinks this is going to help, I will take it." (Short-Term Patient)*

> *"I think I feel this so I think I need this and the doctor says, you need this, okay I will give you this and I am thinking who is the doctor, I have told her what my symptoms are and the doctor thinks I have no clue." (Short-Term Patient)*

> *"I wrote down this should help with the pain you are having and he is thinking, I hope he takes it, I am saying, okay, how do you know if I need to take more than one pill because I am thinking I have never taken this kind of medication and I hate to start taking it now." (Chronic Condition Patient)*

Patients' thoughts toward providers communicate a tone of respect. Most comments start out with instructive information about the disease state or dosing that the provider conveys to the patient. The provider seems to empathize with the patient's struggle as they rationalize if they will do as they have been directed. The following thoughts are also included:

- "Hope he (patient) is listening."
- "Hope she will take the medication."
- "It should work for this patient since it has worked for other patients."

- Hope there are no side effects that limit the patient from taking the medication
- If you trust me on this you will see a difference

"I wrote, the provider says, take this twice per day and he is thinking, I hope he listens to me. Then I say, sure thing doctor and I am thinking, I will try." (Short-Term Patient)

"I put down the provider is saying, I hope she takes her medication and does not have side effects that will make her stop taking it. But what he was saying is, I think you will see and feel a difference. Does my insurance company cover it because I had a doctor give me a prescription, I took it to the pharmacy and they were all gathering around looking at me and talking about me and they told me that they were only going to give me four pills because it is so expensive, and I am saying to myself, why did they give me this, I am going to die because I will not be able to afford it, so I took them home and I did take one and the next morning my face had broken out so I was done with that one, and I was glad because I could not afford that prescription, I was upset because I did need to take something for what was going on with me. In my head, I put Oh Lord; please make this work without any side effects so I can take it." (Chronic Condition Patient)

2. Providers' Perceptions

Providers were asked to complete two handouts: one for the non-adherent patient and the other for the adherent patient. **For the non-adherent patients, the majority of the providers had cynical, judgmental and skeptical thoughts about the patient's activities and actions outside of the office.** Several question why the patient continues to come for visits if he/she is not following orders; this is viewed by the provider as a waste of their time.

"I am thinking why does he come to me, he keeps smoking, doesn't take his meds and he is always late, but I said, your lungs are still wheezing, your shortness of breath can't improve if you don't take your medications and you keep smoking Mr. Smith. And he says, I feel fine but I will start taking the meds, doctor and he is thinking, he doesn't like me." (Multi-Specialty)

"I am saying why don't you try the Crestor again and I am thinking with an LDL of 200 you are a freaking time bomb. He says okay, but in his mind he says no way I am going to take this crap its going to make me sick." (PCP)

"I said, you must take all of your dosage of insulin everyday and follow your diet as I described on the first visit. And I am thinking, he is never going to get this, he is an idiot. And he is saying to me, I am trying to do better. And he is thinking, she doesn't understand me, I am going to eat what I want to eat, when I want to eat it and if I don't have my insulin, so be it." (Multi-Specialty)

I am saying "tell me how you are doing taking the medications?" And they are saying, "I am having no problems, everything is good." But they are thinking, "I hope he doesn't figure this out." (Clinician)

Only a few providers seek to finds ways to better reach their patients so that they can motivate the patient to care and take steps to become more adherent.

"I wrote, he is not understanding, he doesn't care, what way can I convince him to do something he doesn't want to do, why did he bother coming. And I am saying, your disease is severe taking this will make you feel better and live longer. It is really important for you. What are ways that we can figure out to get you to use this? And he is saying, sure doc, I will try it, there were circumstances from the last visit I just couldn't control. And he is thinking, here is another doc, who can't help me, she doesn't understand my situation, I can't do this, I can't be bothered." (Multi-Specialty)

"I said lets try changing the meds to see if this works better for the problem. I am thinking I have to convince this patient to be compliant maybe there is another problem going on and the patient is saying, I don't want medicine I want to feel better through another route, I am depressed." (PCP)

For the non-adherent patient, providers wrote from the perspective that patients are always on a different page than the one that the provider is on, there is also an undercurrent of deceit that the patient shares information with the provider that is not always the reality of the situation. Providers write that the non-adherent patient may be thinking about the high cost of the medication, how they currently feel fine, how the provider does not understand the patient nor can the provider help the patient, and the patient's unwillingness to take another medication that is unlikely to work.

"I wrote, 'how have you been doing with the meds I prescribed last visit' and I am thinking, oh boy, you know the answer to this one. And the patient says, 'well, you know I did not have time to fill that prescription and I am still having a lot of pain you know'. And they are saying, I don't have money for this stuff." (Clinician)

"The patient is saying I was feeling better so I never went to the pharmacy and they are thinking I am not paying $40 for some stupid pills." (PCP)

"I have, this is a new medication your doctor prescribed for XX, you have to take it once a day with or without food, do you have any questions. And I am thinking, this is a waste of my time, this guy won't take this. And the patient says, 'why do I need another medication for X" and he is thinking, I already take so many medications for it and they don't work, I am not taking another one, this is stupid." (Clinician)

In contrast, physicians express a significantly different tone and outlook when they speak of the adherent patient. The difference was also very evident in their countenance as they spoke about adherent patients. All of the providers wrote about how pleasurable and easy it is to treat adherent patients, how these patients "get it' and providers express a desire that all patients be that "easy." Other thoughts they wrote about were the satisfaction of seeing patients experience improved health. A common theme for providers was the idea of being valued and appreciated. A few providers also sought to understand more ways they could help the patient.

"I am saying. I am happy to tell you that your blood pressure and A1C are much better and I am thinking what a pleasure and the patient is saying would you like to see my finger sticks for the last 6 months and is thinking yeah, I did well." (PCP)

"I am thinking, thank God, this makes my job easier. I am saying, thank you for getting your health together, it is not often we get patients as smart as you in here. I knew you were smart and motivated when I saw you. You are going to live until your 80s, easy. And she is saying, I feel good, I lost 10 pounds, I am exercising, I am watching my diet, taking the medications and I feel great and she is thinking, he said I am going to make it to 80 easy, he realizes I am smart, I feel much better, he must be a good doctor." (Multi-Specialty)

"Patient says, I took it just like you told me I don't know why my blood tests isn't good. Patient is thinking, I followed her instructions and I hope she is not mad. And I said, remember what I told you its nothing you are doing wrong it's just the nature of the medicine, and in my head I am thinking I wonder what other educational tools I can use with this patient." (Clinician)

In the patient thought bubble, providers wrote in positive, complimentary, cheerful and happy thoughts. They also wrote about how the patient "loves" their doctor, how the provider must think the patient is smart, the patient's relief at following instructions and feeling better, and how the patient is happy and full of pride for following his instructions. It is interesting to note how many providers, particularly physicians, beamed when reading the adherent patient thoughts and how many wrote that the adherent patient "loves" the provider.

"Mine says, 'So, did you try the regimen after chemo that they gave you for nausea, how did things go?' And the patient says, 'Yes, thanks; I had no problems I didn't have to take off from work. Thanks.' And they are thinking, they really care about me here and in my head I am saying this is my favorite patient." (Clinician)

"I said, 'Have you been taking the medication?' and I am thinking it is always a pleasure to see her. 'How are you?' 'I am fine, I am taking my medication with no problem.' and she is thinking I just love to visit my doctor and nurse." (PCP)

"'How are you feeling today, any concerns with your medications?' The patient says, 'I am doing fine, no problems with meds.' I am thinking this is a great visit I am feeling very positive and the patient is thinking I am very happy with my treatment and my physician." (Multi-Specialty)

J. What Factors Motivate Providers to Help Patients Take Their Medication As Prescribed?

Although many providers already appear to be motivated to help patients stay committed to their treatment plans, the **following list contains items that would continue to motivate and make it easier for providers to expect patient adherence.**

- Low cost or no co-pay
- Minimal out of pocket costs
- Simple dosing regimen, such as one daily dosing
- Clear concise explanation of medication, importance of refilling
- Understanding disease process
- Minimal side effects
- Financial assistance
- Resources to learn more about the disease such as in office video loop
- Someone who can provide counsel about medications

K. What Will Motivate Patients to Take The Medications as Prescribed by their Providers?

This chart summarizes what it will take for both groups working together to affect a change in medication adherence. It is interesting to note that there are a number of common areas such as options to reduce health care costs, discussing the consequences of disease and lack of adherence, patients having more trust in providers and providers contributing more education and follow up.

Patients' and Providers' Suggestions to Increase Medication Adherence	
Patients	**Providers**
• Reduce long-term healthcare costs • Having an event like a stroke or heart attack and thinking about family • Thinking about wife, kids, and life • The seriousness of the condition, how much the doctor convinces patient that they need medication • Pain (several respondents) • Fear • Maintenance of problem • Confidence in doctor (several respondents) • Feeling better (several respondents) • The outcome of not taking the medication (the condition could get worse) • Patients becoming healthier and living longer • Message of "You may not live much longer!" • Show patients how they can manage medications with pillboxes, programming mobile to ring with a reminder, using a calendar • Confidence in medication (after researching it) • The support of family	• Low cost (affordability) of medications (numerous respondents) • Pharmacist to play role between physician and patient as in times of family pharmacist • Availability of financial assistance • Availability of generic version of medication • Universal healthcare with prescription coverage • Once a day or twice a day dosing/easy regimen (several respondents) • Convenience of dosage formulary • Minimal side effects (several respondents) • Information how medication fits into total treatment plan • Clearer explanation of why patient is taking the medication, dosage and side effects (several respondents) • Consequences of their disease • Decrease in morbidity • Benefits of medication through more patient education (several respondents) • Assure patient of open door policy for follow up questions and problems • Increase trust of healthcare providers • More nurses • Fear of bad outcome and awareness that medications decrease bad outcomes (several respondents)

	• Reminders and follow up by nurses, physicians and medical assistants • Encouragement and praise for small steps and ongoing adherence

VIII. Summary and Recommendations

The study's objectives were achieved in that patients' and providers' POBAs on medication adherence and non-adherence were obtained. Reasons for non-adherence, including the cost of medications and unconvinced of need for therapy, were explored, as were tools that help with adherence. Respondents made recommendations for increasing patient adherence as well as provided possible public service announcement messages.

While cost/affordability of medications was most often mentioned as a reason from both segments for non-adherence, it should be also noted that ineffective patient/provider interaction, lack of patients' understanding their disease and complex treatment plans all contribute to non-adherence. As evidenced by this report, non-adherence is multifaceted and will need to be dealt with in a number of ways in order to improve it.

Since the topic of adherence is complex and **dynamic, the awareness campaign should communicate and highlight its comprehensive nature.**

The information garnered from both providers and patients can help develop and shape ad concepts for a meaningful and high impact medication adherence awareness campaign.

Here are some highlights from the research that will be useful to include in future development of the awareness campaign.

- Inform the patient about the disease in all communications; highlight the importance of medication in the treatment of the disease.
- Show positive and negative outcomes of the disease; especially highlight what non-adherence can lead to.
- Provide information on disease progression or effect on body as many patients believe that if they feel well all is well.
- Promote options that can help patients overcome cost and affordability options where available.
- Show real life patients who are living successfully with the disease.
- Use terms that can be easily understood.

- Explain the dangers associated with stopping medications without weaning. Advise patients to talk to physicians before stopping their medications.

Providers also need to be addressed in communication efforts, in order to see improvements in adherence. The areas that resonates throughout the research are a need for improved counseling and patient education.
Since patients are not always forthright and their lives are always evolving, spending more time to educate as well as utilizing the right personnel (patient educator such as physician assistant, nurse practitioner etc) will certainly help.

Specialists have higher adherence overall with PCPs yielding the lowest perceived rates of adherence. There is opportunity to learn more about patients as well as Specialists to better understand the reason for this. Also by physician group, the main reason for lower levels of adherence for PCPs is based in patient education while the other providers cite cost. Providers can learn of better ways to equip themselves with resources/advice to aid patients that have financial/education challenges.

Additional qualitative research should be conducted once messages have been devised to determine relevancy and accuracy of messages toward the patient audience. Additionally, including more pharmacists and patient educators to view newly designed messages will help to determine their appropriateness. Message placement is also an area that should be explored.

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Final

Patient Screener

Recruit XX to seat 8-9 respondents for each group.

Q1. Hello, this is _____ from COMPANY NAME, an independent market research company. May I please speak with (name from sample)?

( ) Yes, speaking	CONTINUE
( ) Yes, I'll connect you	RE-INTRODUCE AND CONTINUE
( ) No, Not available	SCHEDULE CALLBACK

Q2. We are conducting research on the use of prescription medications. THIS IS NOT A SALES CALL, IT WILL IT NOT LEAD TO A SALES CALL AND WE NOT ARE NOT CALLING ON BEHALF OF A PHARMACEUTICAL COMPANY. May we ask you a few questions?

( ) Yes	CONTINUE
( ) No	RECORD REASON, THANK AND TERM

RECORD REASON _____

Q3. Record gender. Do not read.

( ) Female CONTINUE

( ) Male CONTINUE

RECRUIT A 50/50 MIX

Q4. Have you been employed by or are you affiliated with any of the following or do any of your immediate family members work for the following?

( )	Market research department of a company	THANK AND TERM
( )	Market research company	THANK AND TERM
( )	Pharmaceutical company	THANK AND TERM
( )	Pharmacy/Hospital/Clinic/Doctor's office	THANK AND TERM
( )	State/Local or Federal Health Agency	THANK AND TERM
( )	Health Insurance company	THANK AND TERM
( )	None of the above	CONTINUE

Q5. Within the last 6 months, how often have you participated in a focus group?

( )	Not once	CONTINUE
( )	1 time	CONTINUE*
please specify_____		ACCEPT AS LONG AS NOT ON HEALTHCARE TOPIC
( )	More than 1 time	THANK AND TERM

Q6. Do you currently have health insurance that pays for at least part of your prescription medications?

( ) Yes CONTINUE
Please specify if private, Medicaid or Medicare _____
RECRUIT A MIX

( ) No THANK AND TERM

Q7. Are you currently taking, or in the last year, have you been prescribed any medications that need to be taken at least once a day for 10 days?

( ) Yes	CONTINUE
( ) No	THANK AND TERM

Q8. In the last year, have you been prescribed medications for any of the following conditions?

( ) High Blood Pressure	CONTINUE FOR GROUP 1 OR 2
( ) High Cholesterol	CONTINUE FOR GROUP 1 OR 2
( ) Diabetes	CONTINUE FOR GROUP 1 OR 2
( ) Asthma	CONTINUE FOR GROUP 1 OR 2
( ) Mood Disorder*	CONTINUE FOR GROUP 1 OR 2
( ) No	CONTINUE FOR GROUP 1

Please specify_____ CONTINUE (RESEARCHER MAY NEED TO APPROVE)

( ) Other_____ CONTINUE (RESEARCHER MAY NEED TO APPROVE)

* IF NECESSARY, PROVIDE EXAMPLES OF MOOD DISORDER SUCH AS DEPRESSION, BIPOLAR, ANXIETY

Q9. If any of the above are checked (including Other), then ask:
For how long have you been prescribed a medication for [insert condition]?

( ) Less than 10 days	THANK AND TERM
( ) More than 10 days but less than one year	CONTINUE FOR GROUP 1
( ) 1-2 years	CONTINUE FOR GROUP 2
( ) 3-5 years	CONTINUE FOR GROUP 2
( ) More than 5 years	CONTINUE FOR GROUP 2

Q10. Using a scale described below, how well do you follow your doctor's, nurse's or pharmacist's instructions for taking medication?

1= never follow	CONTINUE
2= once in a while follow	CONTINUE
3= sometimes follow	CONTINUE

4= most of the time follow	CONTINUE
5= always follow	CONTINUE

RECRUIT A MIX IN EACH CATEGORY

Q11. As I read the following age categories, please stop when I reach the category that best fits you.

( ) 24 or younger	THANK AND TERM
( ) 25- 35	CONTINUE
( ) 36 - 45	CONTINUE
( ) 46 – 54	CONTINUE
( ) 55 - 65	CONTINUE
( ) 66 - 75	CONTINUE
( ) 76-80	CONTINUE
( ) 80+	THANK AND TERM

RECRUIT A MIX IN EACH OF THE CATEGORIES

Q12. As I read the following levels of education, please stop when I reach the category that best fits you:

( ) 8TH grade or less	THANK AND TERM
( ) Completed some high school	CONTINUE
( ) Graduated high school/ Received GED	CONTINUE
( ) Technical or trade school	CONTINUE
( ) Completed some college	CONTINUE
( ) Graduated college	CONTINUE
( ) Post graduate	CONTINUE

RECRUIT A MIX

Q13. If you could have dinner with anyone one person, who would you select? What would you want to learn from this person?

Q14. What is your current marital status?

( ) Single	CONTINUE
( ) Married	CONTINUE
( ) Divorced/widowed	CONTINUE

RECRUIT A MIX

Q15. As I read the following list, please stop me when I reach the category that best describes your employment status.

( ) Employed full-time	CONTINUE
( ) Employed part-time	CONTINUE
( ) Student	CONTINUE
( ) Retired	CONTINUE
( ) Not employed (outside the home)	CONTINUE
( ) Other_____(Specify)	CONTINUE

RECRUIT A MIX; NO MORE THAN 2 PER GROUP WHO ARE UNEMPLOYED

Q16. As I read the following list of ethnic and racial backgrounds, please stop me when I reach the one that best describes you. (READ AND RECORD)

( ) White/Caucasian	CONTINUE
( ) Black/African-American	CONTINUE
( ) Hispanic	CONTINUE
( ) Asian	CONTINUE
( ) Other_____Please specify	CONTINUE
( ) Prefer not to disclose	CONTINUE

RECRUIT A MIX

INVITATION

Thank you for answering my questions. I would like to tell you a little more about the discussion group now. The group discussion, known as a focus group, is an informal, free flowing discussion. It will take place on (DAY, DATE) from (GIVE TIME) at our offices (GIVE ADDRESS). The group will consist of 8 or 9 people with a background similar to yours and a moderator. It will last approximately 2 hours and you will be talking about different topics related to prescription medication. You will be paid $XX in cash for your participation in the focus group.

Q17. Are you available to participate and do you feel comfortable expressing your opinions in a group about the use of medications?

( ) Yes	CONTINUE
( ) No, qualified refusal	PROBE FOR REASON, RECORD BELOW
( ) No, not available day/time	CONTINUE

RECORD REASON _____

So that we can start and end on time, please plan to arrive about 15 minutes early to pick up your nametag and to have some refreshments. Throughout the discussion you may be asked to read some materials. We ask that you please bring your reading glasses to the discussion. We are counting on your participation, so please be sure to contact us as soon as possible if something arises and you find you can't attend. (GIVE PHONE NUMBER).

Before we hang up, let me get the correct spelling of your name, and your address and phone numbers so we can send you a confirmation letter with directions to our office and give you a reminder call the day of the group. Should you have any questions, please contact _____ (name) at _____ (provide telephone number).

NAME _____

HOME PHONE _____

ADDRESS _____

_____

WORK PHONE _____

Thanks again for your time and we'll see you at the group!

RECRUITING INFORMATION

Date recruited: _____ Recruiter Name: _____

Date of letter confirming participation: _____

Mini group reminder call: _____

Attended: _____Yes ____No

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Final

Healthcare Practitioners Recruiting Screener for Focus Group Testing On Medication Adherence

Provider Screener

Recruit X to seat 8-9 respondents for clinician focus group.
Recruit X to seat 5 respondents for physician mini group.

Q1. Hello, this is _____ from COMPANY NAME, an independent market research company. May I please speak with (name from sample)?

( ) Yes, speaking	CONTINUE
( ) Yes, I'll connect you	RE-INTRODUCE AND CONTINUE
( ) No, Not available	SCHEDULE CALLBACK

Q2. We are conducting research on patients and their adherence to prescription medications. THIS IS NOT A SALES CALL, NOR WILL IT LEAD TO A SALES CALL. May we ask you a few questions?

( ) Yes CONTINUE
( ) No RECORD REASON, THANK AND TERM

RECORD REASON _____

Q3. Record gender. Do not read

( ) Female CONTINUE

( ) Male CONTINUE

RECRUIT A MIX FOR CLINICIANS AND AT LEAST 1 FEMALE FOR EACH OF THE MINI GROUPS

Q4. Have you been employed by or are you affiliated with any of the following or do any of your immediate family members work for the following?

( ) Market research department of a company THANK AND TERM
( ) Market research company THANK AND TERM
( ) Pharmaceutical company THANK AND TERM
( ) State/local or Federal health care agency THANK AND TERM
( ) None of the above CONTINUE

Q5a. *Physicians:* How many years have you been in practice since you completed your residency?

( ) Less than 3 years THANK AND TERM
( ) 3 years or more CONTINUE
please specify_____

RECRUIT VARIED MIX

Q5b. *Nurse practitioners/physician assistants/registered nurses/pharmacists:* How long have you been working as a nurse practitioner, physician assistant, registered nurse or pharmacist?

( ) Less than 3 years THANK AND TERM

( ) 3 years or more CONTINUE
please specify_____

RECRUIT VARIED MIX

Q6. Within the last 6 MONTHS FOR CLINICIANS, 3 MONTHS FOR PHYSICIANS, how often have you participated in a focus group (or other market research study, such as one on one interview, dyad, triad, or mini group)?*

( ) Not once CONTINUE
( ) 1 time CONTINUE AS LONG AS NOT MEDICATION RELATED, OTHERWISE THANK AND TERM
PLEASE SPECIFY TOPIC_____
( ) More than 1 time THANK AND TERM

*** IF EXPERIENCING PROBLEMS RECRUITING PHYSICIANS WITH THIS PARTICIPATION LIMIT, PLEASE CONTACT RESEARCHER**

Q7. How would you describe the setting in which you work? (CHECK APPROPRIATE RESPONSE. READ THE LIST ONLY IF RESPONDENT DOES NOT MENTION THOSE LISTED BELOW)

____Group or Private Practice CONTINUE
____ Clinic CONTINUE
(Hospital-, University-, or Community-based outpatient clinic)
____Staff/group model HMO CONTINUE
____Retail or health system pharmacy CONTINUE
(NO INPATIENT HOSPITAL PHARMACY)
____ Emergency department THANK AND TERM
____ Inpatient unit of a hospital THANK AND TERM
____Hospice care THANK AND TERM

RECRUIT MIX AND AT LEAST 2 PHARMACISTS

Q8a. For physicians: Which of the following best describes the practice in which you work? **PLEASE RECORD RESPONSE**

____Family practice CONTINUE FOR GROUP 5 SKIP TO Q8c.
____General practice CONTINUE FOR GROUP 5 SKIP TO Q8c.
____Internal medicine CONTINUE FOR GROUP 5
____Geriatrics* CONTINUE FOR GROUP 5
____Cardiology CONTINUE FOR GROUP 4
____Pulmonologist CONTINUE FOR GROUP 4
___ Endocrinologist CONTINUE FOR GROUP 4

RECRUIT 1 OR 2 GERIATRICIANS, 2 OR 3 PCPS/INTERNAL MEDICINE, 2 CARDIOLOGISTS, MINIMUM 1 PULMONOLOGIST AND MINIMUM 1 ENDOCRINOLOGIST

*GERIATRICIANS DEFINED AS INTERNAL MEDICINE PHYSICIANS WITH A LARGE (APPROXIMATELY 60%) PATIENT BASE COMPOSED OF GERIATRIC PATIENTS. IF THERE ARE PROBLEMS RECRUITING SUCH PHYSICIANS, PLEASE CONTACT RESEARCHER.

Q8b. For clinicians: Which of the following best describes the practice in which you work?

PLEASE RECORD RESPONSE

_____ Adult primary care	CONTINUE SKIP TO Q8c.
_____ Cardiology	CONTINUE
_____ Pulmonology	CONTINUE
_____Endocrinology	CONTINUE
_____Geriatrics	CONTINUE
_____ Surgical and/or post-surgical care	THANK AND TERM
_____Plastic surgery or dermatology	THANK AND TERM
_____ Oncology	THANK AND TERM
_____ Obstetrics	THANK AND TERM
_____ Emergency room or urgent care only	THANK AND TERM
_____ Pediatrics	THANK AND TERM
_____ Specialty care, such as gastroenterology, , urologists, ophthalmology	THANK AND TERM

RECRUIT MAX OF 2 FROM CARDIOLOGY, MAX 2 IN GERIATRICS

Q8c. How much of your time is spent treating adults age 25 and over?

____ Less than 50%	THANK AND TERM
____50% or more	CONTINUE

Q9. ____Equal mix of private-pay and public assistance patients* CONTINUE

Would you describe your patient base as an:

____Equal mix of private-pay and public assistance patients*	CONTINUE
____OTHER MIX_____	CONTINUE
____IF MIX IS 75%+ PUBLIC ASSISTANCE PATIENTS	THANK AND TERM

*** PUBLIC ASSISTANCE DEFINED AS MEDICARE OR MEDICAID**

Q10. How much of your time is spent with direct patient care?

____ Less than 50%	THANK AND TERM
____ 50or more	CONTINUE

I

INVITATION

Thank you for answering my questions. I would like to tell you a little more about the discussion group now. The group discussion, known as a focus group/triad, is an informal, free flowing discussion. It will take place on (DAY, DATE) from (GIVE TIME) at our offices (GIVE ADDRESS). The group will consist of XX or XX people from a professional background similar to yours and a moderator. It will last approximately 2 hours and you will be talking about different topics related to adherence to prescription medications. You will be paid $XX in cash for your participation in the focus group.

Q11. Are you available to participate and do you feel comfortable expressing your opinions in a group?

____Yes	CONTINUE
____No, qualified refusal	PROBE FOR REASON, RECORD BELOW
____No, not available day/time	CONTINUE

RECORD REASON _____

____Yes	CONTINUE
____No, qualified refusal	PROBE FOR REASON, RECORD BELOW

RECORD REASON _____

So that we can start and end on time, please plan to arrive about 15 minutes early to pick up your nametag and to have a light lunch/dinner/some refreshments (WHICHEVER IS APPROPRIATE). We are counting on your participation, please bring reading glasses if you need them and be sure to contact us as soon as possible if something arises and you find you can't attend. (GIVE PHONE NUMBER).

Before we hang up, let me get the correct spelling of your name, and your address and phone numbers so we can send you a confirmation letter with directions to our office and give you a reminder call the day of the group. Should you have any questions, please contact _____ (name) at _____ (provide telephone number).

NAME _____

HOME PHONE _____

ADDRESS _____

_____

WORK PHONE _____

Thanks again for your time and we'll see you at the group/triad!

RECRUITING INFORMATION

Date recruited: _____ Recruiter Name: _____

Date of letter confirming participation: _____

Group/Triad reminder call: _____

Attended: _____Yes ____No

X. Appendix B – Moderator's Guides

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Patient Moderator's Guide

Patient Discussion Guide

- **Welcome, Purpose of Study**
  - Welcome respondents
  - Independent firm
    - Not sponsored by a pharmaceutical firm, hospital, insurance firm or a firm benefiting from the sale of medications
  - Explain purpose of discussion
    - To learn about your experiences surrounding prescription medications; learn from you to help patients take medications as instructed by their healthcare providers
  - Stress impartiality and confidentiality
    - No need to share their health condition; it is a private matter
  - No right or wrong answers; free flowing discussion; no need for consensus

- **Disclosures and Discussion Guidelines**
  - Audio/video taping
  - Only one person speak at a time
  - Speak loudly
  - Viewers
  - Writing report
  - Equal "air time" for all
  - Group will run 2 hours
  - Bathroom/smoke break
  - Exercises

- **Limited time/stick to questions/stay focused**

▪ Self Intros and Warm Up

- Self- Intros - Participants introduce themselves to group
  - First name or name you'd like to be called
  - Who and what makes up your household
  - How many medications prescribed?
  - How long ago were you prescribed your medication(s)?
  - For how long do you have to take it/them?
  - One word that best describes you/cannot repeat others' term
- Warm up

  When I ask you questions regarding you medications, please consider all of medications you are taking, if you are taking more than one. Feel free to answer the questions thinking in general terms and about all of the medications you are taking

  MIND MAPPING EXERCISE

  Each of you will receive a blank page. I will give you concept and you will then write your experiences and thoughts related to it. For instance, (moderator will show and explain an example using Walt Disney World).

  Now write "medications" in the middle of the page. Please write about your thoughts and train of thoughts as they relate to medications.

  When you are done, please circle the thoughts that you feel the strongest about.

  Moderator will ask participants to discuss each of the dominant thoughts and ask participants to elaborate.

  If not mentioned, moderator will ask:

  1. How do you feel about medication use (ranging from side effects to interaction with health care providers, and more)

     Probe: do you fear the possible side effects or interactions with other medications? How have you dealt with this in the past?

▪ Experiences Around Prescription Medications – Visualization Projective Technique

Visualization Technique

Moderator will play soft music, ask respondents to get comfortable, to close their eyes and walk respondents through the steps they may take to obtain a medication, starting out with the symptoms they are feeling, calling their provider and walking them through the step of getting the prescription filled and taking the medication. These steps may include:

- Going to healthcare provider (who that is, who they interact with most, who communicates best with them)
- Diagnosis, prescription, pharmacy (in-store, hospital, by mail, etc.) if they choose to get it filled, possible outcomes if they don't get filled, if paying for medication (cost) is an issue
- Taking or not taking medication leads to outcomes such as improving, staying the same, side effects, get worse

At the conclusion, moderator will ask respondents to write down their feelings throughout the process, if they visualized something significant, etc. and discuss as a group.

▪ Exploration of Medication Adherence

When prescribing a medication to patient, healthcare providers usually explain the dosage, the frequency with which the medication needs to be taken and the possible side effects, and how long you will need to take the medications.

1. In your case, was all of this information explained? If so, who explained how to take it and the possible side effects/risks? How do you think most providers explain the information?

   Probe: How well was it explained? If not well explained or understood, do you obtain information related to the medication from other health care practitioners, or outside sources, such as friends, Internet, etc?

   Was this a medication that you requested (i.e., couldn't sleep so requested an aid), or was it recommended? (Internet, family/friends, library, etc)

2. Was the reason you need to take it explained? Explore.
3. Generally speaking, how well do you think providers explain medication treatment plans to patients?

4. When most people are prescribed a medication, do you think they take immediately or do they do research? How about you? do you take it immediately, do you research it before you take it, do you call your healthcare provider with follow up questions? Please explain.

5. Overall, how often would you say you take your medication(s) as instructed by your provider? (Note- multiple medication issue will be addressed up front)

   90%-100% of time less than 90% but more 50% less than 50% of the time

   How about other people you know that have medical conditions, such as diabetes, high blood pressure or other conditions, how often would you say they are in taking their medication?

   Probe: Ask the following questions for "most people" and the respondents. Thinking about most people, how important is it for most people to take their medicine? What happens (to their health) if they don't take it? What happens when they do take it? Why do they take it? Why don't they take it?

   What happened/motivated you to take it regularly as prescribed?

   What prevents you from taking it more often? What would make it easier?

6. When people pick up the medications from the pharmacist, do you think they read the instructions attached to the medication? Reasons for reading or not reading?
7. Would there ever be a reason someone does not fill a prescription. Explore.

8. Do you think most people speak with their pharmacist? Do you speak with the pharmacist? Explore reasons why and why not.
9. How has taking your medication required you to change your lifestyle?

   Probe: Has it been easy or difficult? What could make it easier or better? Explore in depth with chronic condition group.

Some medications require you to follow a certain regimen, take them multiple times a day, not with other meds, on a full stomach or avoiding certain foods.

10. Do you think people remember all these details? Do you recall these details for the medications you are taking? Do you know why it is important? (efficacy, side effects, safety etc.)

    Probe in-depth in the chronic condition group.

11. In your opinion, how easy or hard is it to take medications?

    Easy, Fair, Hard– Ask respondents to explain

Probe: What would make it easier?

If not provided, ask more information about why it's important, fewer side effects, pill boxes, phone reminders, pharmacy calls, guidance from provider, personal medication record, talking to others who take same medications, easier dosing – like only talking a pill once a day, instead of 3x a day, etc.)

Explore difficulties in taking medications for multiple conditions (maybe more probing in chronic condition group).

12. Some medications can be very costly. How do you think cost impacts people in taking medications? (explore short-term vs. long-term costs --- and if they are cutting back due to economy (splitting pills, skipping doses, managing on their own, etc.)

13. What role does health insurance play in whether or not people take their medications as instructed? How about with you? Do they offer support? What about people in general?

    Probe: Any adversity? Limit on # days supplied, Denied claims, excessive co-pays, charged more than expected, etc.

14. **Thinking about the people you know that have medical conditions or perhaps multiple medical conditions, do you think they may be taking a medication without understanding why they are taking it**? Probe responses.

15. Once people have begun taking a prescription medication as directed, do you think they stop taking it on their own, before the instructions require them to or their provider tells them to stop taking it? Why? How about in your case?

    Probe: If you don't see or feel any difference in your condition, do you stop taking it? Please explain.

    Probe: How do you know your medication is working?

16. Is adherence easier when you are first diagnosed or is it easer after you've been taking the medication(s) for awhile?

    - **Probe**: What motives you to continue to be adherent?

17. If a provider requests a patient to take a medication and they are not clear how it works in their system, generally speaking, do you think they take it as directed or do you think they find out more about the medication (ask the provider questions, conduct research on the Internet, visit specific websites, etc)?

- **Exploration of the healthcare provider's role in medication adherence – visualization and word bubble projective techniques**

Moderator will ask respondents to visualize themselves going to their healthcare provider.

Moderator will then distribute to each respondent a handout with two stick figures. One figure represents a healthcare provider and the other represents a patient. Each figure has two cartoon-like balloons. Moderator will explain this represents a provider prescribing a medication to the patient and ask respondents to fill in the bubbles: what is provider saying, what is provider thinking, what is patient saying and what is patient thinking.

Discuss as a group.

▪ Closing

Ask respondents to write down what are the top 3 things that will help or motivate patients to take their medications as prescribed by their healthcare provider.

> **Probe**: interventions like phone reminders, test messages, pill containers with counters on them, support groups, auto refill medications, lower co-pays, more time with providers

Moderator will step out to check with observers if there are follow up questions. Upon returning, responses will be discussed and additional questions will be asked.

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Email matheusmarket@aol.com

Provider Moderator's Guide

Provider Discussion Guide

- **Welcome, Purpose of Study**
  - Welcome respondents
  - Independent organization
    - Not sponsored by a pharmaceutical firm, hospital, insurance firm or a firm benefiting from the sale of medications
  - Explain purpose of discussion
    - Research indicates that millions of Americans either fail to take the full course of medication prescribed by their doctors, or they take it incorrectly. Worse still, many Americans fail to fill their prescriptions at all.
    - There is nearly universal agreement that increasing patient adherence could lead to improved health outcomes and lower overall health costs.
    - To learn about respondents' patients' experiences surrounding prescription medications; learn from respondents how to help patients with medication adherence
    - For the purpose of this discussion, we will be referring to patients 25 years and older
  - Stress impartiality and confidentiality
  - No right or wrong answers; free flowing discussion; no need for consensus

- **Disclosures and Discussion Guidelines**
  - Audio/video taping
  - Only one person speak at a time
  - Speak loudly
  - Viewers
  - Writing report

- Equal “air time” for all
- Group will run 2 hours
- Bathroom/smoke break
- Limited time/stick to questions/stay focused

▪ Self Intros and Warm Up

- Self- Intros - Participants introduce themselves to group
    - Your first name
    - Work setting (private practice, community clinic, hospital, etc)
    - Physicians: your specialty
    - How long you have been in practice/working
    - How do you like to spend your free time
- Warm up

  You all have patients that you consider “easy” or “ideal” and you have those that you may consider “challenging.”

  1. What makes a patient “easy” or “ideal?” Moderator will list on flip chart.
  2. What makes a patient “difficult” or “challenging?”

     Probe if adherence to treatment plan does not come up. What about following instructions on medications?
  3. How do you define adherence to a treatment plan?

  For the sake of this discussion, I will be using the term “adherence” instead of “compliance” because “adherence” is more patient-centered. Feel free to use them interchangeably.

  4. How do you know if a patient is adherent?
     a. Can you tell if they are being truthful or not?
  5. If not answered, how does adherence to treatment plan play out in "easy” patients?
  6. How does adherence to treatment plan play out in “challenging” patients?
  7. Generally speaking, what percentage of your patients would you say are adherent:

     almost all of the time most of the time some of the time (post on flip chart)

  8. In your practice, who does the prescribing to patients? OR Who other than yourself does the prescribing?

9. Do you think most physicians always explain the medication plan/regimen, or do would you say the sometimes rely on the pharmacy to do this? Please elaborate.
10. Thinking about the time most physicians spend with each patient that needs a prescription, how much time would yoy say they spend explaining the medication they are prescribing? What determines how much time they spend explaining the medication to the patient?

    Probe: Is it explaining the reasons the patient needs to take the medication? Is it the medication treatment plan? Probe more if necessary.
11. What are the questions patients typically ask around prescription medications? How do most physicians handle them?

    Probe: Are patients obtaining faulty information?
12. What sources of information do physicians provide/ or refer patients to re: prescription medications?

    Probe: Offer written instructions, oral instructions, tools to reinforce the directions, cater it to the patient? Ask them to repeat it back?
13. **Thinking about your patient base, what percentage of your patients do not know why they are taking at least 1 of their medications?**

▪ Non-Adherence Tables Exercise

Moderator will distribute handouts and ask providers to rank the top 3 reasons 1) patients as a whole are non-adherent and 2) patients in each condition category (diabetes, heart disease, asthma) that applies to them. If providers do not treat patients with a certain condition, they will be asked to consider what they know about patients with these conditions or otherwise write N/A on top of the column. Additionally, respondents will be asked to place an "X" next to the three least significant reasons for patient non-adherence.

Respondents will not be asked to identify themselves but they will be asked to specify their specialty on the handout. Their responses will be discussed as a group.

1. Discuss each respondent's response.

   Probe: What impact do other issues have, such as education, how long patient has been taking prescription medications, duration of the medication therapy plan, family support system, age, gender, taking other medications, temperament – introvert, extrovert .
2. Many patients start off adherent with their medications. What, in your opinions, are possible reasons, they go from being adherent to non-adherent? How about those that start off not being adherent to being adherent?

3. What is the difference with respect to medication adherence, if any, between patients that are taking medications on a short term basis and those that need to take them for a long period of time or for the rest of their lives?
4. What strategies do you employ to help a non-adherent patient become adherent? What about the patient that is adherent less than most of the time?

   Probe: What do you think motivates or deters them – fear, cost, etc?

5. What sorts of adherence messages do you think most need to be reinforced outside of the care delivery setting?
6. How do you determine if a patient is adhering to medication treatment? (ask them, check refills, etc)
7. Clinician group (non-prescribers): What do you think prescribers could do to improve adherence. How can you support the prescribers?

- **Exploration of the healthcare provider's and patient's roles in medication adherence – visualization and word bubble projective techniques**

  Moderator will ask respondents to visualize themselves treating a non-adherent patient. Instructions ask respondents to get comfortable and either close their eyes or look at their paper. Moderator will then visually walk respondents through the process of prescribing a medication. Afterward, respondents will be asked to write down how they were feeling, what was significant. Very brief group discussion follows.

  Moderator will then distribute to each respondent a handout with two stick figures. One figure represents them and the other represents a non-adherent patient. Each figure has two cartoon-like balloons. Moderator will explain this represents a provider prescribing a medication to the non-adherent patient and ask respondents to fill in the bubbles: what is provider saying, what is provider thinking, what is patient saying and what is patient thinking.

  Discuss as a group.

  Moderator will then distribute to each respondent a handout with two stick figures. One figure represents a healthcare provider and the other represents an adherent patient. Each figure has two cartoon-like balloons. Moderator will explain this represents a provider prescribing a medication to the adherent patient and ask respondents to fill in the bubbles: what is provider saying, what is provider thinking, what is patient saying and what is patient thinking.

  Discuss as a group.

- **Closing**

Ask respondents to write down what are the top 3 things that will motivate and/or help patients to take their medications as prescribed by their healthcare provider

> **Probe**: Ask about interventions like phone reminders, test messages, pill containers with counters on them, support groups, auto refill medications, lower co-pays, more time with providers
>
> Also, ask what health care providers (either themselves or their colleagues) can do to increase adherence, thinking in terms of unlimited resources, and using interventions above or others.

Moderator will step out to check with observers if there are follow up questions. Upon returning, responses will be discussed and additional questions will be asked.

Date_____ Specialty/Background_____ Group #_____

XI. Appendix C – Providers Description of "Easy" and "Challenging" Patients

"Easy" Patients		
• Responsive to suggestions • Self starter (already done homework, therapy) • Compliant (prescribe meds you expect them to come back, do what they are told) • Quiet • "One visit wonders" • Knowledgeable (read up on drug therapy, informed on the condition) • Follows directions • Cheerful without demands • Insured and have a good prescription plan	• Educated • Healthy • Come with questions • Interested in wellness • Limit complaints • Believe in conventional meds • Kind to front desk, mannered • Have trust in the health care system and in the provider • Have normal labs • Appreciative of service provided • Pleasant personality	• Show up on time • Respect for 'us' and training – "yes doc" vs "trust anybody" • Established relationship so outside environment does not interfere • Compliant – "if we ask them to take a medicine a certain way…" • Want insight into their disease • Family support • Not too many Internet searches • Do not have a lot of 'outside' problems unrelated to disease, Example: socioeconomic issues

"Challenging" Patients		
• Complain • Multiple med issues • Jumps from provider to provider • Drug seeker, i.e. for chronic pain or wants opiates for addiction • No family support (especially if elderly can't get to appointments) • No insurance	• Lack of trust - some people have internet printouts, advice from parents/loved ones, other sources, seeking treatment too late, miscalculation of statistics • Believe in alternative treatment over traditional • Will not become part of the solution to a problem – change lifestyle	• Uneducated • Low socioeconomic status • Does not bring records or know history (medical) • A lot of time educating with a feeling it goes in one ear and out the other • Difficult time reasoning - "can't get from point A to point B" • Language, social barriers or cultural barriers

Date_____ Specialty/Background_____ Group #_____

• Demanding (pills cut in half) • Homeless • Resistant to change • Lack of financial means • Language barrier • Argumentative or combative • Patients who are uninsured or poorly insured	• Patients that don't schedule follow up visits • Call at last minute for refills of Rx • No shows or very late shows • Patients who engage in risky behaviors	• Noncompliant with meds • Not organized • Can't focus on discussion or asks too many questions • People that want to get treated over the phone • Patients with psychiatric issues that are untreated

Date_____ Specialty/Background_____ Group #_____

XII. Appendix D – Handouts of Providers' Rankings of Non-Adherence Reasons Tables

Top 3 Reasons and Least Significant Reasons for Non-Adherence	
Reasons for patient non-adherence	**Overall Patients**
Number of doses per day is too much to adhere to	
Out of pocket cost	
Unconvinced of need for therapy	
Unconvinced of effectiveness	
Difficulty with administration (needles, inhaler, etc.)	
Doesn't see any difference in their condition or sees a difference in their condition that they don't like	
Worried about safety of medication	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it	
Run out of the medicine because they aren't tracking need for refills	
Cognitive impairment of patient	
Doesn't understand their illness	
Side effects of medication/doesn't know what to do about unpleasant side effects	
Other	

Date_____ Specialty/Background_____ Group #_____

Top 3 Reasons and Least Significant Reasons for Non-Adherence	
Reasons for patient non-adherence	**Patients with Diabetes**
Number of doses per day is too much to adhere to	
Out of pocket cost	
Unconvinced of need for therapy	
Unconvinced of effectiveness	
Difficulty with administration (needles, inhaler, etc.)	
Doesn't see any difference in their condition or sees a difference in their condition that they don't like	
Worried about safety of medication	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it	
Run out of the medicine because they aren't tracking need for refills	
Cognitive impairment of patient	
Doesn't understand their illness	
Side effects of medication/doesn't know what to do about unpleasant side effects	
Other	

Date_____ Specialty/Background_____ Group #_____

Top 3 Reasons and Least Significant Reasons for Non-Adherence	
Reasons for patient non-adherence	**Patients with Heart Conditions**
Number of doses per day is too much to adhere to	
Out of pocket cost	
Unconvinced of need for therapy	
Unconvinced of effectiveness	
Difficulty with administration (needles, inhaler, etc.)	
Doesn't see any difference in their condition or sees a difference in their condition that they don't like	
Worried about safety of medication	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it	
Run out of the medicine because they aren't tracking need for refills	
Cognitive impairment of patient	
Doesn't understand their illness	
Side effects of medication/doesn't know what to do about unpleasant side effects	
Other	

Date_____ Specialty/Background_____ Group #_____

Top 3 Reasons and Least Significant Reasons for Non-Adherence	
Reasons for patient non-adherence	**Patients with Asthma**
Number of doses per day is too much to adhere to	
Out of pocket cost	
Unconvinced of need for therapy	
Unconvinced of effectiveness	
Difficulty with administration (needles, inhaler, etc.)	
Doesn't see any difference in their condition or sees a difference in their condition that they don't like	
Worried about safety of medication	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it	
Run out of the medicine because they aren't tracking need for refills	
Cognitive impairment of patient	
Doesn't understand their illness	
Side effects of medication/doesn't know what to do about unpleasant side effects	
Other	

Date_____ Specialty/Background_____ Group #_____

XIII. Appendix E – Tally of Providers' Rankings of Non-Adherence Reasons

TOTAL PROVIDERS
Overall Patients

	#1	#2	#3	Total	X
Number of doses per day is too much to adhere to	2	1	2	5	3
Out of pocket cost	9	1	4	14	0
Unconvinced of need for therapy	0	1	0	1	6
Unconvinced of effectiveness	1	3	1	5	4
Difficulty with administration (needles, inhaler, etc.)	1	2	2	5	3
Doesn't see any difference in their condition or sees a difference in their condition that they don't like	1	2	1	4	1
Worried about safety of medication	0	4	2	6	2
Not sure how to adhere to medication therapy if they miss or delay a dose, so they don't take it	0	0	0	0	11
Run out of the medicine because they aren't tracking need for refills	1	1	2	4	7
Cognitive impairment of patient	1	1	1	3	6
Doesn't understand their illness	2	1	3	6	6
Side effects of medication / doesn't know what to do about unpleasant side effects	1	2	1	4	3
Other	0	0	0	0	0
	19	19	19	57	52

Date_____ Specialty/Background_____ Group #_____

CLINICIANS
Overall Patients

	#1	#2	#3	X
Number of doses per day is too much to adhere to			1	
Out of pocket cost	7		1	
Unconvinced of need for therapy				3
Unconvinced of effectiveness		2	1	4
Difficulty with administration (needles, inhaler, etc.)		1	2	1
Doesnt see any difference in their condition or sees a difference in their condition that they dont like	1		1	
Worried about safety of medication		3	1	2
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills		1	1	5
Cognitive impairment of patient	1	1	1	1
Doesnt understand their illness		1		6
Side effects of medication / doesnt know what to do about unpleasant side effects	1	1	1	
Other				
	10	10	10	25

PRIMARY CARE PHYSICIANS
Overall Patients

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1		1	2
Out of pocket cost		1	1	
Unconvinced of need for therapy		1		1
Unconvinced of effectiveness	1			
Difficulty with administration (needles, inhaler, etc.)				2
Doesnt see any difference in their condition or sees a difference in their condition that they dont like		1		
Worried about safety of medication		1		
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				5
Run out of the medicine because they arent tracking need for refills	1		1	1
Cognitive impairment of patient				3
Doesnt understand their illness	2		2	
Side effects of medication / doesnt know what to do about unpleasant side effects		1		1
Other				
	5	5	5	15

SPECIALISTS
Overall Patients

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1	1		1
Out of pocket cost	2		2	
Unconvinced of need for therapy				2
Unconvinced of effectiveness		1		
Difficulty with administration (needles, inhaler, etc.)	1	1		
Doesnt see any difference in their condition or sees a difference in their condition that they dont like		1		1
Worried about safety of medication			1	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills				1
Cognitive impairment of patient				2
Doesnt understand their illness			1	
Side effects of medication / doesnt know what to do about unpleasant side effects				2
Other				
	4	4	4	12

CLINICIANS
Diabetes

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1	3	2	
Out of pocket cost	6		1	
Unconvinced of need for therapy				3
Unconvinced of effectiveness				3
Difficulty with administration (needles, inhaler, etc.)	2	1	3	
Doesnt see any difference in their condition or sees a difference in their condition that they dont like		2		1
Worried about safety of medication			1	2
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it	1		1	2
Run out of the medicine because they arent tracking need for refills		2		4
Cognitive impairment of patient				4
Doesnt understand their illness		1	2	3
Side effects of medication / doesnt know what to do about unpleasant side effects		1		1
Other				
	10	10	10	23

PRIMARY CARE PHYSICIANS
Diabetes

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1			1
Out of pocket cost			2	
Unconvinced of need for therapy				1
Unconvinced of effectiveness			1	1
Difficulty with administration (needles, inhaler, etc.)	1	1		1
Doesnt see any difference in their condition or sees a difference in their condition that they dont like	1	1		
Worried about safety of medication				1
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills			1	
Cognitive impairment of patient				2
Doesnt understand their illness	1	1		
Side effects of medication / doesnt know what to do about unpleasant side effects		1		2
Other				
	4	4	4	12

SPECIALISTS
Diabetes

	#1	#2	#3	X
Number of doses per day is too much to adhere to	2	1		
Out of pocket cost			2	
Unconvinced of need for therapy				2
Unconvinced of effectiveness				2
Difficulty with administration (needles, inhaler, etc.)	1	1	1	
Doesnt see any difference in their condition or sees a difference in their condition that they dont like	1			1
Worried about safety of medication				1
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				1
Run out of the medicine because they arent tracking need for refills				1
Cognitive impairment of patient		1		2
Doesnt understand their illness		1	1	
Side effects of medication / doesnt know what to do about unpleasant side effects				2
Other				
	4	4	4	12

CLINICIANS
Heart Disease

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1	1		1
Out of pocket cost	8	1		
Unconvinced of need for therapy	1		1	4
Unconvinced of effectiveness				2
Difficulty with administration (needles, inhaler, etc.)			1	2
Doesnt see any difference in their condition or sees a difference in their condition that they dont like			1	
Worried about safety of medication			3	2
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it		2	1	2
Run out of the medicine because they arent tracking need for refills		3	1	4
Cognitive impairment of patient			1	2
Doesnt understand their illness			1	4
Side effects of medication / doesnt know what to do about unpleasant side effects		3		2
Other				
	10	10	10	25

PRIMARY CARE PHYSICIANS
Heart Disease

	#1	#2	#3	X
Number of doses per day is too much to adhere to				4
Out of pocket cost		2	1	
Unconvinced of need for therapy		1		1
Unconvinced of effectiveness			1	
Difficulty with administration (needles, inhaler, etc.)				1
Doesnt see any difference in their condition or sees a difference in their condition that they dont like				2
Worried about safety of medication		1	1	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills	1			
Cognitive impairment of patient				3
Doesnt understand their illness	2			1
Side effects of medication / doesnt know what to do about unpleasant side effects	2	1	2	
Other				
	5	5	5	15

SPECIALISTS
Heart Disease

	#1	#2	#3	X
Number of doses per day is too much to adhere to	1		1	2
Out of pocket cost	3	1		
Unconvinced of need for therapy			1	
Unconvinced of effectiveness				
Difficulty with administration (needles, inhaler, etc.)				3
Doesnt see any difference in their condition or sees a difference in their condition that they dont like		2	1	
Worried about safety of medication		1		1
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills				1
Cognitive impairment of patient				1
Doesnt understand their illness			1	
Side effects of medication / doesnt know what to do about unpleasant side effects				1
Other				
	4	4	4	12

CLINICIANS
Asthma

	#1	#2	#3	X
Number of doses per day is too much to adhere to		1	1	1
Out of pocket cost	6	2		
Unconvinced of need for therapy	1		1	5
Unconvinced of effectiveness			2	2
Difficulty with administration (needles, inhaler, etc.)		2	2	
Doesnt see any difference in their condition or sees a difference in their condition that they dont like		1		1
Worried about safety of medication	2		1	
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				3
Run out of the medicine because they arent tracking need for refills		1	1	3
Cognitive impairment of patient	1			3
Doesnt understand their illness		2		5
Side effects of medication / doesnt know what to do about unpleasant side effects		1	2	
Other				
	10	10	10	23

PRIMARY CARE PHYSICIANS
Asthma

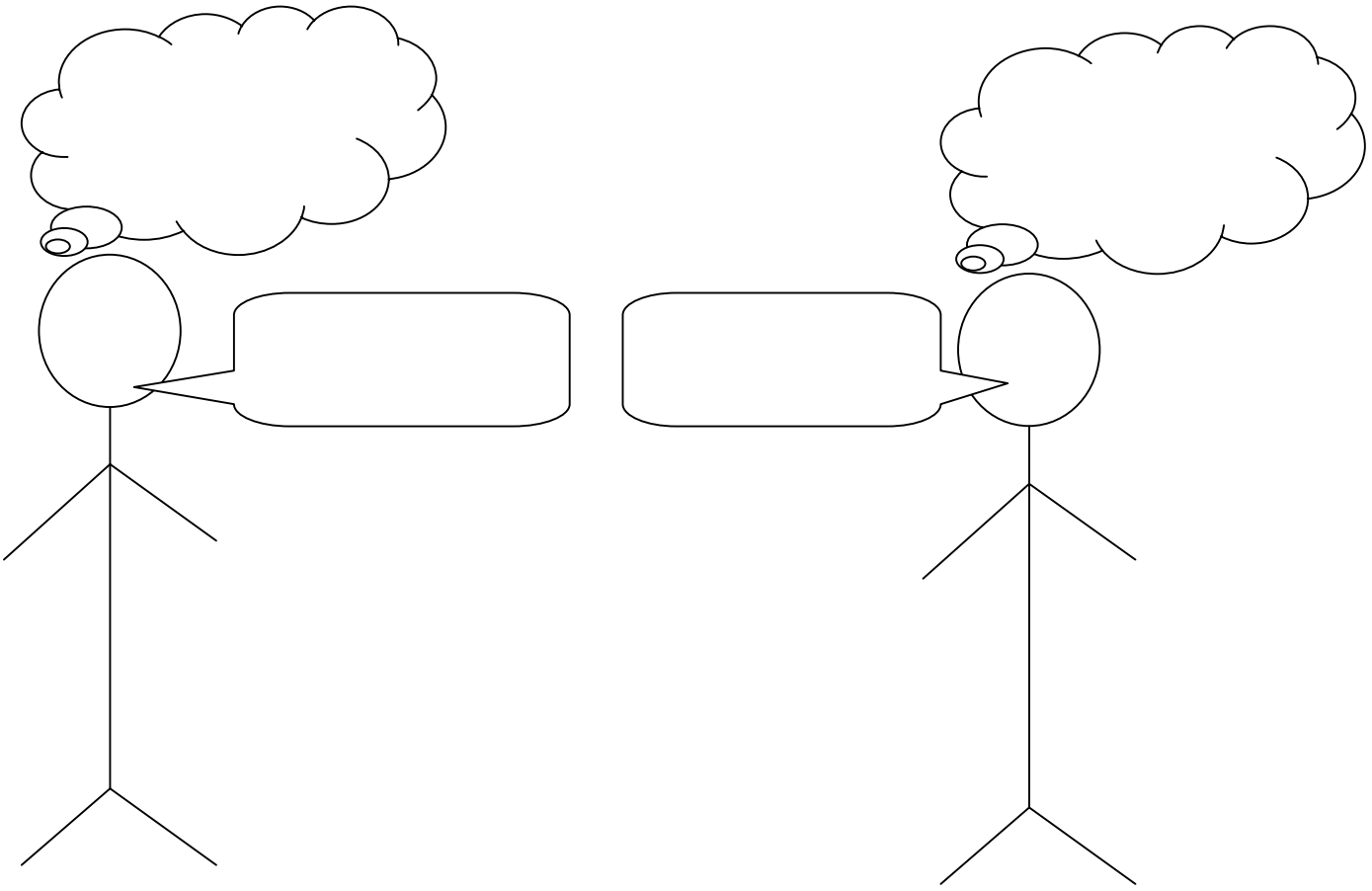
	#1	#2	#3	X
Number of doses per day is too much to adhere to		1		1
Out of pocket cost		1	1	
Unconvinced of need for therapy		1		3
Unconvinced of effectiveness				3
Difficulty with administration (needles, inhaler, etc.)		1	2	
Doesnt see any difference in their condition or sees a difference in their condition that they dont like			1	
Worried about safety of medication				2
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it		1		2
Run out of the medicine because they arent tracking need for refills	1		1	
Cognitive impairment of patient				3
Doesnt understand their illness	4			
Side effects of medication / doesnt know what to do about unpleasant side effects				1
Other				
	5	5	5	15

SPECIALISTS
Asthma

	#1	#2	#3	X
Number of doses per day is too much to adhere to				1
Out of pocket cost	3		1	
Unconvinced of need for therapy			1	
Unconvinced of effectiveness		1		1
Difficulty with administration (needles, inhaler, etc.)	1	3		
Doesnt see any difference in their condition or sees a difference in their condition that they dont like				
Worried about safety of medication			1	1
Not sure how to adhere to medication therapy if they miss or delay a dose, so they dont take it				2
Run out of the medicine because they arent tracking need for refills				2
Cognitive impairment of patient				2
Doesnt understand their illness			1	
Side effects of medication / doesnt know what to do about unpleasant side effects				3
Other				
	4	4	4	12

Date_____ Specialty/Background_____ Group #_____

XIV. Appendix F – Stick Figures Handout



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