



2013 NATIONAL CONSUMER SURVEY ON THE MEDICATION EXPERIENCE

For an interactive map that summarizes descriptive findings by U.S. Census Division, go to:
www.d.umn.edu/gac/main/schommer.html

2013 NATIONAL CONSUMER SURVEY ON THE MEDICATION EXPERIENCE

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EXECUTIVE SUMMARY

Over 500 million times a day in the United States, individuals make the decision to take or not to take a prescription medication. Eighty percent of the way chronic diseases are prevented and managed is with medications. In any given week, 81% of U.S. adults take at least one medication, and nearly one-third take five or more different medications. A person's regular interaction with medications is not only a frequently and consistently occurring health care event, it also interfaces with almost all other aspects of his or her health care.

As the U.S. health-care system moves away from fragmented approaches and closer to a patient-centered care approach, there is a need for a way to unify and coordinate individual's health care even as these individuals enter and exit various components of the health-care system and as they shift between their preferred identity as a person and their sometimes necessary identity as a patient. We suggest that the "medication experience" can be used as a unifying and coordinating concept to bridge this dichotomy.

A person's medication experience is his or her personal approach to the use of medicines and is shaped by a person's traditions, religion, culture, life experiences, and what they have learned from others. A person's medication experience influences: expectations for care, concerns about care, understanding of care, involvement in care, levels of confidence in health care services, confidence in clinicians' abilities, trust in information, medication-taking behaviors, and other health-related behaviors.

Study Objectives and Methods

The overall goal for the **National Consumer Survey on the Medication Experience** was to collect initial data for describing respondents' medication experiences. The specific objectives for this study were to identify and describe consumer segments based on the following components of the medication experience:

1. Healthcare consumer type
2. Medication beliefs
3. Patient activation
4. Information seeking
5. Nature of interactions with health professionals for decision-making

A cross-sectional, descriptive mailed survey design was used for collecting and analyzing data. A random sample of 1,000 adult individuals residing in the United States was obtained from KM Lists, Inc. At the time this study was conducted, this company maintained a mailing list of 182,821,870 adult individuals in the United States. These lists contain unduplicated individuals, are cleaned, and are updated to link individuals with their most recent mailing address on record. According to census estimates, there were 234,564,071 individuals age 18 years and older in the United States at the time this project was conducted.

Of the 1,000 sample members, 136 (14%) mailings were undeliverable and 93 (9%) provided a response signifying that the person to whom the survey was addressed was not able to participate in the study. Reasons for not being able to participate included such things as: person is no longer alive, debilitating health problems, not taking medications so not a good study subject, not wanting to be involved, don't take surveys, person no longer living at that address. Of the remaining 771 surveys, 218 (28%) responded.

Psychometric properties for variables were assessed using descriptive, Cronbach coefficient alpha, factor analytic, and cluster analysis techniques. The identified clusters were described through descriptive statistics and also through geographic distribution, demography, and psychographic profiles. Due to the relatively small sample size for this study, we mapped findings based upon the nine U.S. Census Divisions as the unit of analysis. For an interactive map that summarizes descriptive findings by census division, go to:

www.d.umn.edu/gac/main/schommer.html.

Results, Conclusions, and Recommendations

Overall, unique segments were identified for each component of the medication experience that we studied. Healthcare consumer type, medication beliefs, patient activation, information seeking, and nature of interactions with health professionals for decision making are relevant and can be used for identifying unique segments of patients. Furthermore, unique aspects of generational cohorts and those individuals who experience financial hardship from purchasing prescription drugs also are important considerations.

The findings showed that the medication experience is more than a clinical experience ... it is a social and personal experience. Typically, the health care system views the medication experience in terms of clinical problem-solving (prescribing, monitoring, reconciling) and in terms of medication regimen adherence (following directions). Our findings revealed that the medication experience is rooted in medication beliefs, personal abilities and motivations, information processing, decision-making, relationships, finances, and the effects of life experiences.

Patients vary widely in their make-up, their preferences, and their needs. Some patients don't want to receive any information from others about their medications while others desire to take an active role in making decisions about them. Some people want information about effects of medications and others want to know about safety. In addition, when people seek information about medicines, there is a high likelihood that they will involve a personal contact, either lay or professional, in their search. This all underlines the importance of social networks in the decisions we make about prescription drugs. Patients have different abilities, motivations, and needs when it comes to medication use. The challenge, then, is to meet the needs of each individual.

We propose that the findings provide insights for (a) establishing national priorities for patient-centered outcomes research, (b) accounting for treatment heterogeneity in comparative-effectiveness studies, and (c) incorporating individuals' medication experiences into improved quality and efficiency of health care. When considering national priorities, comparative-effectiveness studies, and improved quality and efficiency of health care, a one-size-fits-all approach (in which population-level priorities, comparisons, and outcomes are established) may not be the best approach. This approach leads to offending one part of the population by overly intrusive intervention and neglecting the other part of the population by not addressing their true needs. It is like trying to help a person who has one hand burning in a fire by placing his other hand in a bucket of ice-water in order to bring his two hands to a suitable temperature, on average. The average temperature might be fine, but one hand is burning while the other hand is becoming frozen.

This applies to the medication experiences of individuals. We propose that a useful approach would be the application of the concordance concept [57] which is "an agreement reached after negotiation between a patient and health care professional that respects the beliefs and wishes of the patient in determining whether, when and how medicines are to be taken. Although reciprocal, this is an alliance in which the health care professionals recognize the primacy of the patient's decisions about taking the recommended medications."

Quality would be determined by the level of concordance reached between individuals and the health care system and the extent to which an individual's beliefs and wishes are being met. Concordance is based on the notion that the work of a healthcare provider and patient in the consultation is a negotiation between equals and that therefore the aim is a therapeutic alliance between them. This alliance may, in the end, include an agreement to differ. Its strength lies in a new assumption of respect for the patient's agenda and the creation of openness in the relationship, so that both doctor and patient together can proceed on the basis of reality and not of misunderstanding, distrust or concealment.

Concordance involves (1) building a partnership, (2) managing a shared consultation, and (3) sharing a decision.

Building a Partnership

- Listening: actively listening to the patient.

- Communicating: helping the patient to interpret information in a way that is meaningful.

Managing a Shared Consultation

- Context: with the patient, defining and agrees to the purpose of the consultation.
- Knowledge: having up-to-date knowledge of the area of practice and wider health services.

Sharing a Decision

- Understanding: recognizing that the patient is an individual.
- Exploring: discussing illness and treatment options, including no treatment
- Deciding: deciding with the patient the best management strategy.
- Monitoring: agreeing with the patient what happens next.

We recommend that future work is needed for (1) expanding the identification and description of segments based on components of the medication experience, (2) incorporating components of the medication experience into patient care processes, and (3) building systems for identifying and matching patients and providers based upon preferences and capacities in the medication experience domain.

SECTION 1
BACKGROUND, STUDY OBJECTIVES, METHODS AND RESPONSE RATE

Background

Over 500 million times a day in the United States, individuals make the decision to take or not to take a prescription medication [1]. Arguably, this decision is the most frequently occurring health care event, far outpacing such things as the number of pharmacy visits (6 million per day) [1], physician office visits (2.6 million per day) [2], hospital inpatient procedures (123,287 per day) [3], and hospital discharges (108,041 per day) [3]. Eighty percent of the way chronic diseases are prevented and managed is with medications [4]. In any given week, 81% of U.S. adults take at least one medication, and nearly one-third take five or more different medications [5-6]. Over a lifetime, it is estimated that a typical person will take 14,000 pills [7]. When one considers that a 60-year span of adulthood is about 22,000 days, the frequency with which individuals interact with medications is astounding.

A person's regular interaction with medications is not only a frequently and consistently occurring health care event, it also interfaces with almost all other aspects of his or her health care. For example, four out of five people who visit a physician leave with at least one prescription [6]. When transitions in care, such as hospital discharge, are experienced by individuals, they become especially vulnerable for medical errors as a result of incomplete or inaccurate communication about medication therapies. After hospital and intensive care unit discharges, individuals are at high risk for unintentional discontinuation of medications with proven efficacy for treating chronic diseases [8]. Avoidable hospital readmissions are directly related to medication-related events about one-third of the time [9].

As the U.S. health-care system moves away from fragmented approaches and closer to a patient-centered care approach, there is a need for a way to unify and coordinate individual's health care even as these individual's enter and exit various components of the health-care system and as they shift between their preferred identity as a person and their sometimes necessary identity as a patient. We suggest that the "medication experience" can be used as a unifying and coordinating concept to bridge this dichotomy.

A person's medication experience is his or her personal approach to the use of medicines and is shaped by a person's traditions, religion, culture, life experiences, and what they have learned from others [10]. A person's medication experience influences: expectations for care, concerns about care, understanding of care, involvement in care, levels of confidence in health care services, confidence in clinicians' abilities, trust in information, medication-taking behaviors, and other health-related behaviors [10]. This patient-specific "medication experience" has the potential to serve as a unifying element for coordinating and improving the quality and efficiency of all of a person's health-care services.

Study Objectives

The overall goal for the **National Consumer Survey on the Medication Experience** was to collect initial data for describing respondents' medication experiences. Its design was based upon relevant research [10-19] that showed that patients hold patient-centered viewpoints of medication use based on their personal expectations and life experiences. This differs from prescribers, pharmacists, and patient advocates who use healthcare-centered viewpoints based upon their professional training and experience [13, 19]. Research suggests that there are different segments of patients that vary in their characteristics regarding: (1) the type of healthcare consumer they are, (2) beliefs about medications, (3) their level of involvement/activation in their healthcare, (4) information seeking behaviors, and (5) the nature of interactions they have with health professionals as they make healthcare decisions.

Thus, the specific objectives for this study were to:

Identify and describe consumer segments based on the following components of the medication experience:

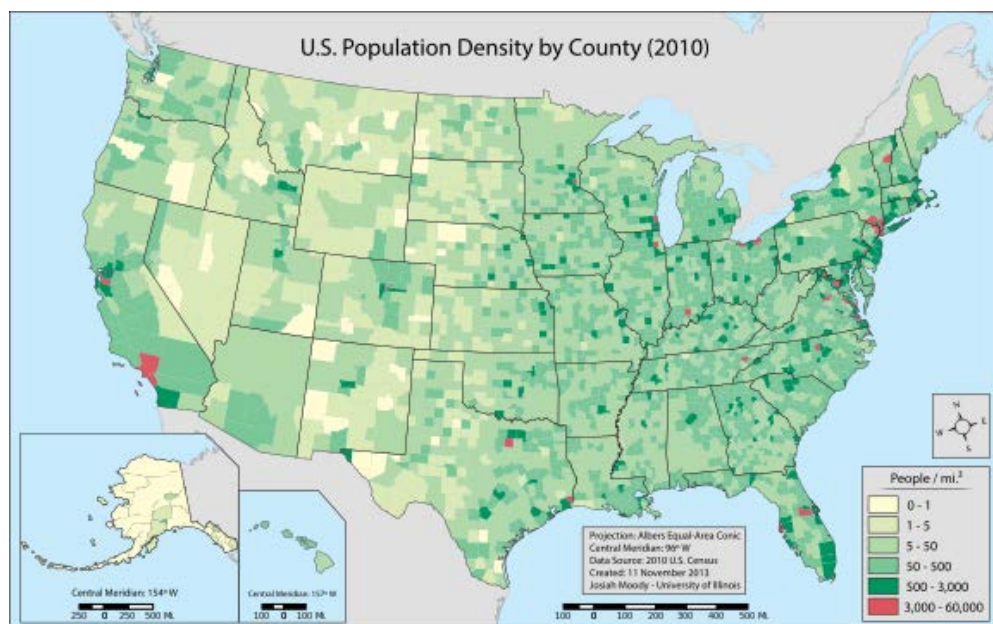
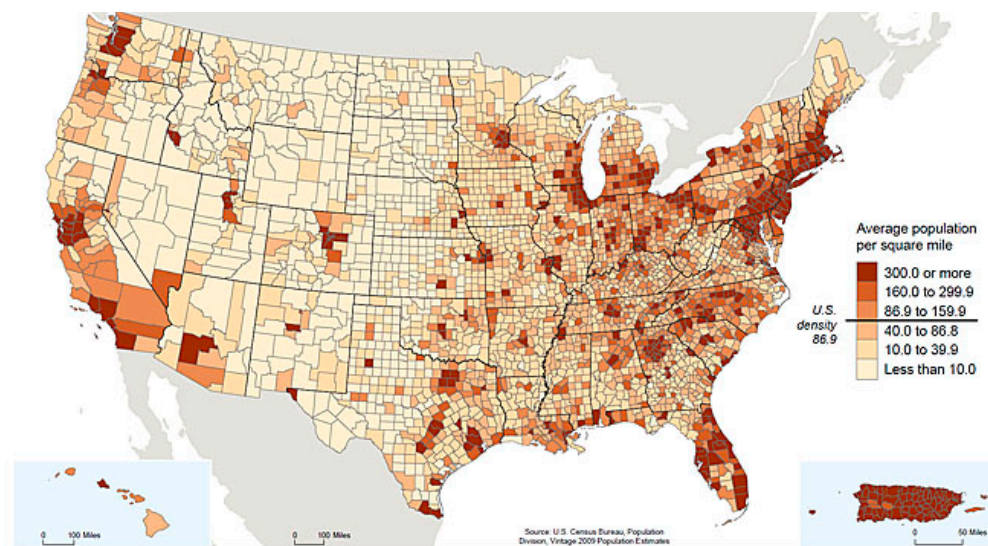
1. Healthcare consumer type
2. Medication beliefs
3. Patient activation
4. Information seeking
5. Nature of interactions with health professionals for decision-making

The findings will serve as an initial step for describing medication experiences and to identify segments of the U.S. populations based on these characteristics. The findings also may provide insights for (a) establishing national priorities for patient-centered outcomes research, (b) accounting for treatment heterogeneity in comparative-effectiveness studies, and (c) incorporating individuals' medication experiences into improved quality and efficiency of health care.

Methods and Response Rate

Data Collection

A cross-sectional, descriptive mailed survey design was used for collecting and analyzing data [20]. A random sample of 1,000 adult individuals residing in the United States was obtained from KM Lists, Inc. At the time this study was conducted, this company maintained a mailing list of 182,821,870 adult individuals in the United States. These lists contain unduplicated individuals, are cleaned, and are updated to link individuals with their most recent mailing address on record. According to census estimates, there were 234,564,071 individuals age 18 years and older in the United States at the time this project was conducted. The geographic distribution of the U.S. population is shown on the next two maps as (1) average population per square mile and (2) population density by county.

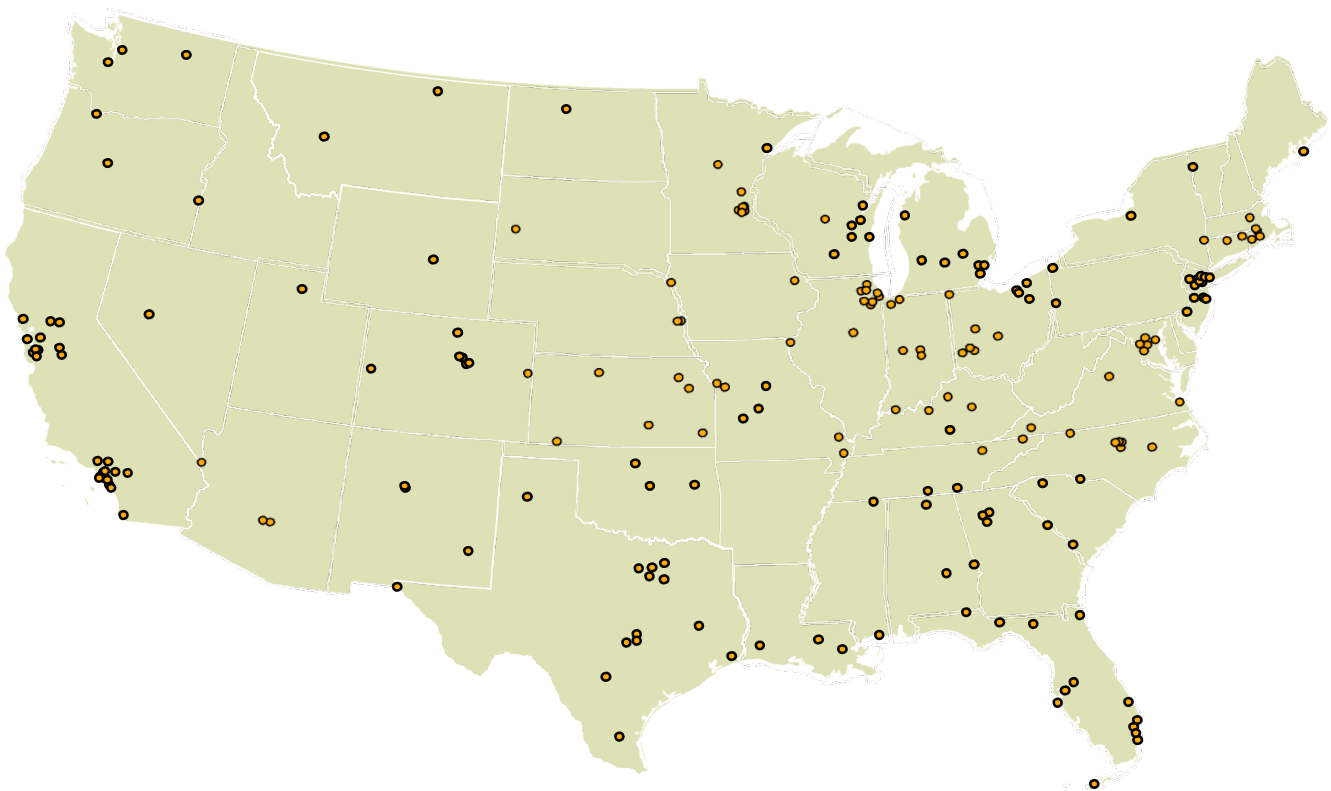


During September 2013, a prenotification letter and form were mailed to 1,000 sample members. Copies of data collection letters and forms are provided in **Appendix A**. The corresponding Data Code Book is provided in **Appendix B**. In October 2013, a cover letter and survey form were mailed to eligible sample members. In this mailing, a \$5 gift certificate to Target (a national retailer) was included as a token of appreciation. In November 2013, a closing wrap up letter and another survey form were mailed to eligible sample members who had not yet responded.

Of the 1,000 sample members, 136 (14%) mailings were undeliverable and 93 (9%) provided a response signifying that the person to whom the survey was addressed was not able to participate in the study. Reasons for not being able to participate included such things as: person is no longer alive, debilitating health problems, not taking medications so not a good study subject, not wanting to be involved, don't take surveys, person no longer living at that address. Of the remaining 771 surveys, 218 (28%) responded.

The geographic distribution of responders is shown in the next map and is similar to population distribution patterns of the United States overall.

Geographic Distribution of Responders to the Survey (n = 214)



For an interactive map that summarizes descriptive findings by census division, go to:
www.d.umn.edu/gac/main/schommer.html

SECTION 2
MEASURE DEVELOPMENT, DATA ANALYSIS, AND CONTEXTUAL BACKGROUND

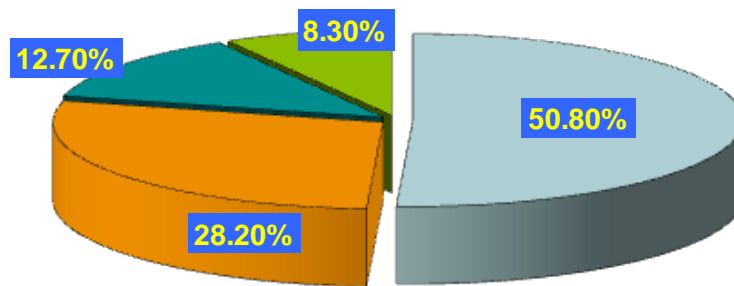
Measure Development

The focus of this study was on five components of the medication experience:

- a. Healthcare consumer type
- b. Medication beliefs
- c. Patient activation
- d. Information seeking
- e. Nature of interactions with health professionals for decision-making

Healthcare Consumer Type

Research regarding **Healthcare Consumer Type** already was completed by White et al. [17] and was applied for this study. In their study published in the International Journal of Advertising, White and colleagues acknowledged that “not everyone responds to drug information in the same way.” To help understand different segments of the American population, they conducted a statistical analysis of consumer characteristics and identified four broad groups based on how they respond to health information and advertising of health-related products.



The first group, the **“Healthy Half,”** consists of the 51 percent who have no obvious health problems and consider themselves to be in excellent health. They have little interest in health information from any source and are largely immune to commercial messages.

The 28 percent who make up the second cluster, the **“Doctor-Led,”** tend to have lifestyle-restricting conditions and are receptive to the messages in drug advertisements. Although they often discuss advertised medicines with their doctors, they unfailingly defer to their physician’s judgment and advice, using only those treatments that their doctor prescribes. Individuals in this group are likely to be reminded by advertising to refill an existing prescription or to resume treatment.

Thirteen percent fall into the third group, **“Self-Managers.”** They report above-average health, and their complaints tend to be occasional or seasonal. This group tends to self-treat with over-the-counter medications. They are not particularly responsive to advertising or other health-related information.

The fourth cluster, **“Solution Seekers,”** consists of the remaining eight percent of U.S. adults. This group suffers from conditions that restrict their lifestyle, and they are receptive to advertising messages because they proactively seek new solutions to their health care wants and needs. They report below-average health and are more inclined than the other groups to take medicines to prevent symptoms rather than just treat symptoms of a disease and to respond to advertised messages about their conditions. In addition to using information from advertisements, they read health-

related publications and use the Internet to research their conditions and possible treatments. After doing their homework, they discuss what they have learned with their physician and often ask to try a particular drug.

Most of the 214 responders to the **National Consumer Survey on the Medication Experience** (NCSME) were able to select one of these four categories as a descriptor for themselves. However, based on written comments from some responders, we adjusted the definitions of the categories for use in this study as follows:

HEALTHY HALF – typically have no obvious health problems and/or consider themselves to be in excellent health. Most don't pay much attention to information about medications on TV, in print, or on the internet since they don't use medications or would rather not use medications.

DOCTOR LED – typically have lifestyle-restricting conditions and most pay attention to information about medications on TV, in print, or on the internet. They prefer to discuss this information with their physician and defer to their physician's judgment and advice about what medications to use.

SELF-MANAGER – Most in this category aspire to have above-average health with many health complaints being only occasional or seasonal. They most usually self-treat with medicines or other remedies that are available without a doctor's prescription (or aspire to be able to do this). If they use a prescription medication, it is typically for just a short time. They usually don't pay much attention to information about medications when they see it on TV, in print, or on the internet.

SOLUTION SEEKER - typically suffer from conditions that restrict their lifestyle and they are receptive to health information from various sources. They actively seek new solutions to their health care wants and needs. Most are below-average health (or strive to avoid being in this situation) and sometimes take medicines to prevent symptoms rather than just treat symptoms of a disease. They seek out information about health and medicines. After doing their homework, they often discuss what they have learned with their physician and often ask to try a particular drug.

Of the 212 respondents who answered this question in our study, 38 percent were Self-Managers, 36 percent were Doctor Led, 14 percent were in the Healthy Half, and 12 percent were Solution Seekers. The table below shows the distribution of responses for our study compared with the study by White and colleagues.

Healthcare Consumer Type	White et al. Study Sample Survey conducted 2002-2003 (n = approximately 21,000)	Study Sample Survey conducted 2013 (n =212)
Healthy Half	51%	14%
Doctor Led	28%	36%
Self-Managers	13%	38%
Solution Seekers	8%	12%

Our study differed from the White et al. study for two reasons. First, our study was focused upon the medication experience and a primary reason for not participating in our study was given as "do not take any medications." Thus, individuals in the Healthy Half were the least likely to respond to our survey.

Second, our study was conducted over 10 year later than the White et al. study and the composition of the population changed over that time period. It is likely that the new generations of medication users are in the more self-reliant Baby Boomer generation. Thus, they would be less likely to be in the Doctor led group and more likely to be in the Self-Manager group.

We will keep these differences in mind as we analyze and interpret the findings.

Medication Beliefs

The second component we studied was called **Medication Beliefs** which reflects the perceived necessity and the perceived concern regarding the medications a person is using. Previous research suggests that some people tend to view their medications as life savors that provide desired benefits and are a necessity in their lives [13-16,21-26]. Conversely, other people view their medications as life disruptors that are a reminder of illness and are a burden in their lives. In addition to the necessity – concern viewpoint, medication beliefs also reflect individuals' opinions regarding the extent to which medications are overused in health care and their potential for harm.

For the **National Consumer Survey on the Medication Experience** (NCSME), 24 items were included for measuring Medication Beliefs (see Appendix A). Data for these 24 items were analyzed using Factor Analysis to help identify the underlying structure of our data. Factor analysis describes the structure of a correlation matrix and it helps categorize a relatively large number of variables into a few overall factors. In this study, varimax rotation was used for factor analysis to maintain orthogonality of factors and to minimize the number of variables that had high loadings on a factor. Only factors with eigenvalues greater than one were included in the factor solution. In addition, only items with factor loadings with absolute values > 0.50 on one, and only one, factor were included for identifying factors. This was done to: (1) maintain orthogonality (independence) among factors, (2) establish parsimony in the application of the factors, and (3) provide comprehensibility for interpretation of findings. Scores for the overall factors were computed by summing the scores of the items that loaded on the corresponding factor. Each factor was assigned a name based upon the items that comprised that particular construct. Means, standard deviations, and measure reliability (Cronbach coefficient alpha) were computed for each factor.

Twenty out of the 24 items met our criteria and loaded on four underlying factors as follows:

LIFESAVE = MEDLIFE1 + MEDLIFE4 + MEDLIFE5 + MEDLIFE11 + MEDLIFE13 + MEDLIFE16

Medicines are a life savior and a necessity. (potential range of scores: 6 to 30, midpoint = 18)

MEDLIFE1 - My current health depends on my medicines.

MEDLIFE4 - My life would be impossible without my medicines.

MEDLIFE5 - My medicines are a life savior.

MEDLIFE11 - Without my medicines I would be very sick.

MEDLIFE13 - My health in the future will depend on my medicines.

MEDLIFE16 - My medicines protect me from becoming worse.

LIFEBURDEN = MEDLIFE6 + MEDLIFE7 + MEDLIFE9 + MEDLIFE10 + MEDLIFE14 + MEDLIFE15

Medicines are a life burden and a concern. (potential range of scores: 6 to 30, midpoint = 18)

MEDLIFE6 - Having to take medicines worries me.

MEDLIFE7 - I feel like my medicines are controlling me.

MEDLIFE9 - My medicines are a burden.

MEDLIFE10 - I sometimes worry about the long term effects of my medicines.

MEDLIFE14 - My medicines disrupt my life.

MEDLIFE15 - I sometimes worry about becoming too dependent on my medicines.

OVERUSE = DOCMED1 + DOCMED6 + DOCMED7 + DOCMED8

Doctors overprescribe medications. (potential range of scores: 4 to 20, midpoint = 12)

DOCMED1 - Doctors prescribe too many medicines.

DOCMED6 - Doctors place too much trust on medicine.

DOCMED7 - If doctors had more time with patients, they would prescribe fewer medicines.

DOCMED8 - Doctors don't understand their patients well enough to make good choices about the best medicines to use.

HARM = DOCMED2 + DOCMED3 + DOCMED4 + DOCMED5

Medications do more harm than good. (potential range of scores: 4 to 20, midpoint = 12)

DOCMED2 - People who take medicines should stop their treatment for a while every now and then.

DOCMED3 - Most medicines are addictive.

DOCMED4 - Medicines do more harm than good.

DOCMED5 – All medicines are poisons.

Summary of Factors associated with Medication Beliefs

Variable Name	Mean (s.d)	Range	Per-Item Mean	Number of Items	Cronbach Alpha
LIFESAVE (n = 156)	18.6 (6.2)	6 - 30	3.1	6	0.90
LIFEBURDEN (n = 158)	14.8 (5.1)	6 - 30	2.5	6	0.86
OVERUSE (n = 205)	12.2 (3.5)	4 - 20	3.1	4	0.83
HARM (n = 207)	8.4 (3.2)	4 - 19	2.1	4	0.84

Items were rated on a scale from 1 = strongly disagree to 5 = strongly agree.

Identification of consumer segments was accomplished through the application of cluster analysis to the two variables named LIFESAVE and LIFE BURDEN to create "Save-Burden Clusters." Also, cluster analysis was applied to the two variables named OVERUSE and HARM to create "Use-Harm Clusters."

A *k*-means clustering algorithm was applied in order to partition the respondents to our survey into groups, or 'clusters', so that the responses to key variables for respondents in the same cluster are smaller than the differences between respondents from different clusters. [27-28] To help identify the number of clusters that was most meaningful for interpretation, we also applied a two-step cluster analysis with a scalable cluster algorithm, an agglomerative hierarchical clustering method, and a log-likelihood distance measure (a probability-based distance).

Summary of Clusters associated with Medication Beliefs

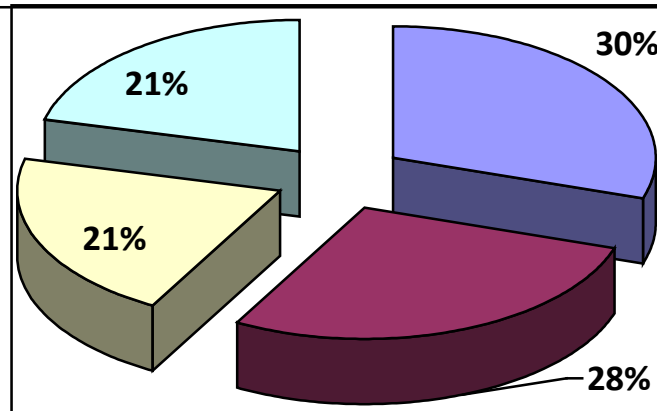
Cluster (Segment) Composition for SAVE – BURDEN

	Segment 1 n = 46	Segment 2 n = 43	Segment 3 n = 33	Segment 4 n = 32	Overall N = 154
	HI SAVE HI BURDEN	HI SAVE LO BURDEN	LO SAVE HI BURDEN	LO SAVE LO BURDEN	
Segment Size (% of total)	(30%)	(28%)	(21%)	(21%)	(100%)
LIFESAVE [mean (sd)] ANOVA; p < 0.001	25.6 (2.9)	19.4 (2.7)	16.2 (3.1)	10.4 (2.8)	18.7 (6.2)
LIFEBURDEN [mean (sd)] ANOVA; p < 0.001	18.6 (3.1)	11.3 (2.7)	19.2 (3.4)	9.6 (2.5)	14.8 (5.1)

Four distinct clusters (segments) of respondents were identified using the SAVE – BURDEN variables. The largest segment (30% of the responders) viewed medicines as a life savior and a necessity but also as a burden and concern. The next largest segment (28% of responders) viewed medicines as a life savior and a necessity. However, they scored relatively low in terms of medicines being a burden or concern. The next segment (21% of responders) scored relatively low for medicines as a life savior/necessity and relatively high for medicines as a burden/concern. The final segment

(21% of responders) scored relatively low on both savior/necessity and on burden/concern. It is noteworthy that none of the four segments contained greater than 30% of the respondents.

■ HI SAVE / HI BURDEN ■ HI SAVE / LO BURDEN ■ LO SAVE / HI BURDEN ■ LO SAVE / LO BURDEN

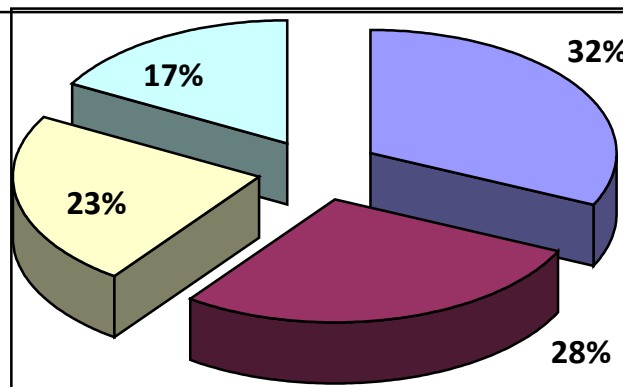


Cluster (Segment) Composition for USE - HARM

	Segment 1 n = 65	Segment 2 n = 57	Segment 3 n = 47	Segment 4 n = 34	Overall N = 203
	LO USE LO HARM	LO USE HI HARM	HI USE LO HARM	HI USE HI HARM	
Segment Size (% of total)	(32%)	(28%)	(23%)	(17%)	(100%)
OVERUSE [mean (sd)] ANOVA; $p < 0.001$	8.4 (2.3)	11.6 (1.3)	14.9 (1.5)	16.4 (1.7)	12.2 (3.5)
HARM [mean (sd)] ANOVA; $p < 0.001$	5.4 (1.4)	9.1 (1.7)	7.6 (1.7)	13.3 (2.3)	8.3 (3.2)

Four distinct clusters (segments) of respondents were identified when the USE – HARM variables were used. The largest segment (32% of the responders) scored relatively low regarding overuse and harmfulness of medicines. The next largest segment (28% of responders scored relatively low in terms of medicines being overused, but scored relatively high regarding doing more harm than good. The next segment (23% of responders) scored relatively high for overuse of medicines, but relatively low regarding doing more harm than good. The final segment (17% of responders) scored relatively high on both overuse and on doing more harm than good. It is noteworthy that none of the four segments contained greater than one-third of the respondents.

■ LO USE / LO HARM ■ LO USE / HI HARM ■ HI USE / LO HARM ■ HI USE / HI HARM



Patient Activation

The third component we studied was called **Patient Activation** which reflects the level of involvement and engagement a person has for being active in efforts aimed at improving his or her health [29-30]. For the **National Consumer Survey on the Medication Experience** (NCSME), 13 items were included for measuring Patient Activation (see Appendix A). Data for these 13 items were analyzed using Factor Analysis to help identify the underlying structure of our data. Varimax rotation was used for factor analysis and only items with factor loadings with absolute values > 0.50 on one, and only one, factor were included for identifying factors. This was done to: (1) maintain orthogonality (independence) among factors, (2) establish parsimony in the application of the factors, and (3) provide comprehensibility for interpretation of findings. Scores for the overall factors were computed by summing the scores of the items that loaded on the corresponding factor. Each factor was assigned a name based upon the items that comprised that particular construct. Means, standard deviations, and measure reliability (Cronbach coefficient alpha) were computed for each factor.

Eleven out of the 13 items met our criteria and loaded on three underlying factors as follows:

RESP = INV1 + INV2 + INV3

Patient Activation for taking responsibility (potential range of scores: 3 to 15, midpoint = 9)

INV1 - When all is said and done, I am the person who is responsible for managing my health.

INV2 - Taking an active role in my own health care is the most important factor in determining my health.

INV3 - I am confident that I can take actions that will help prevent health problems in the future.

BEH = INV6 + INV7 + INV10 + INV13

Patient Activation for behaviors (potential range of scores: 4 to 20, midpoint = 12)

INV6 - I am confident I can tell my health care provider concerns I have even when he or she does not ask.

INV7 - I am confident that I can follow through on medical treatments I need to do on my own.

INV10 - I have been able to make the lifestyle changes that are needed for my health.

INV13 - I am confident that I can maintain a healthy lifestyle even during times of stress.

KNOW = INV8 + INV9 + INV11 + INV12

Patient Activation for knowledge (potential range of scores: 4 to 20, midpoint = 12)

INV8 - I understand the causes of my health conditions.

INV9 - I know the different medical treatment options available for my health conditions.

INV11 - I know how to prevent further problems with my health.

INV12 - I am confident that I can figure out solutions when new problems arise with my health.

Summary of Factors associated with Patient Activation

Variable Name	Mean (s.d)	Range	Per-Item Mean	Number of Items	Cronbach Alpha
RESP (n = 210)	13.2 (2.0)	3 – 15	4.4	3	0.84
BEH (n = 199)	15.4 (2.7)	7 - 20	3.9	4	0.75
KNOW (n = 187)	15.2 (2.8)	7 - 20	3.8	4	0.81

Items were rated on a scale from 1 = strongly disagree to 5 = strongly agree.

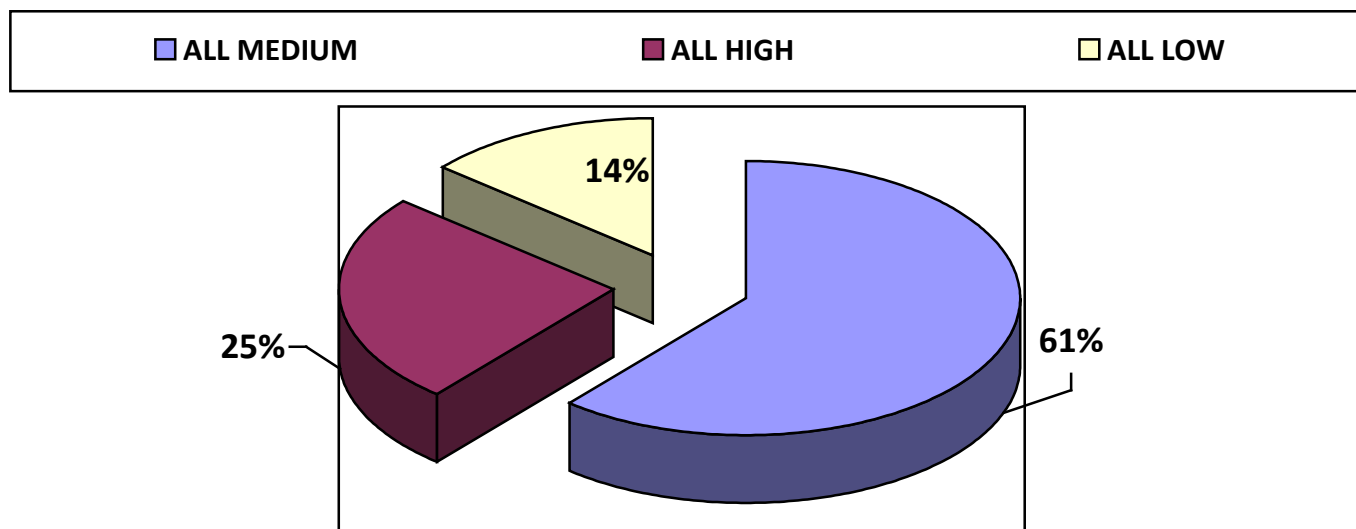
Identification of consumer segments was accomplished through the application of cluster analysis to the three variables named RESP, BEH, and KNOW to create “Patient Activation Clusters.”

A *k*-means clustering algorithm was applied in order to partition the respondents into groups, or ‘clusters’, so that the responses to key variables for respondents in the same cluster are smaller than the differences between respondents from different clusters. [27-28] To help identify the number of clusters that was most meaningful for interpretation, we also applied a two-step cluster analysis with a scalable cluster algorithm, an agglomerative hierarchical clustering method, and a log-likelihood distance measure (a probability-based distance).

Summary of Clusters associated with Patient Activation

	Segment 1 n = 113	Segment 2 n = 45	Segment 3 n = 26	Overall N = 184
	ALL MEDIUM	ALL HIGH	ALL LOW	
Segment Size (% of total)	(61%)	(25%)	(14%)	(100%)
RESP [mean (sd)] ANOVA; $p < 0.001$	13.2 (1.4)	14.6 (1.0)	11.0 (3.0)	13.2 (2.0)
BEH [mean (sd)] ANOVA; $p < 0.001$	14.9 (1.9)	18.4 (1.5)	12.5 (2.4)	15.4 (2.7)
KNOW [mean (sd)] ANOVA; $p < 0.001$	14.7 (1.3)	18.7 (1.5)	11.1 (2.1)	15.2 (2.8)

Three distinct clusters (segments) of respondents were identified. The largest segment (61% of the responders) scored in the medium range for RESP, BEH, and KNOW. The next largest segment (25% of responders) scored in the relatively high range for RESP, BEH, and KNOW. The final segment (14% of respondents) scored relatively low for RESP, BEH, and KNOW. It is noteworthy that the majority of respondents were in the ALL MEDIUM segment.



Information Seeking

The fourth component we studied was called **Information Seeking** which represents both behavioral and evaluative aspects of information search [18, 31-36]. The behavioral aspect relates to information sources that are used for information seeking and include: (1) homophilous sources (people with whom the seeker may have similar attributes), (2) professional sources, (3) websites (which tend to be unidirectional in nature), and (4) social media (which are bi-directional in nature). The evaluative aspects relate to (1) information satisfaction and (2) information overload.

For the **National Consumer Survey on the Medication Experience** (NCSME), 16 items were included for measuring the behavioral aspects of Information Seeking and 9 items were included for measuring the evaluative aspects (see Appendix A). Data for these items were analyzed using Factor Analysis to help identify the underlying structure of our data. Varimax rotation was used for factor analysis and only items with factor loadings with absolute values > 0.50 on one, and only one, factor were included for identifying factors. This was done to: (1) maintain orthogonality (independence) among factors, (2) establish parsimony in the application of the factors, and (3) provide comprehensibility for interpretation of findings. Scores for the overall factors were computed by summing the scores of the items that loaded on the corresponding factor. Each factor was assigned a name based upon the items that comprised that particular construct. Means, standard deviations, and measure reliability (Cronbach coefficient alpha) were computed for each factor.

INFORMATION SEEKING – BEHAVIORAL ASPECTS

Fifteen out of the 16 items met our criteria and loaded on four underlying factors as follows:

HOMOPHILY = TWOA + TWOB + TWOC

Homophilous social network as a source of information (potential range of scores: 3 to 15, midpoint = 9)

TWOA - Family Member

TWOB - Friend

TWOC - Acquaintance

PROFESSIONAL = TWOD + TWOE + TWOF + TWOG

Professional as a source of information (potential range of scores: 4 to 20, midpoint = 12)

TWOD - Physician

TWOE - Pharmacist

TWOF - Other Health Professional

TWOG - Written information received from a health care provider

WEBSITE = TWOI + TWOJ + TWOK + TWOL + TWOM

Website as a source of information (potential range of scores: 5 to 25, midpoint = 15)

TWOI - Government-Sponsored web site (such as PubMed Health).

TWOJ - Information Company web site (such as About.com or WebMD)

TWOK - Health Organization web site (such as mayoclinic.com or walgreens.com)

TWOL - Pharmaceutical Company web site (such as Lipitor.com or Nexium.com)

TWOM - Web Search through Google, Bing, or other search engine.

SOCIAL MEDIA = TWON + TWOO + TWOP

Social Media as a source of information (potential range of scores: 3 to 15, midpoint = 9)

TWON - Social Media Video Posting Service such as YouTube

TWOO - Social Media Interactive Sharing Service such as PatientsLikeMe.com

TWOP - Social Media Information Repository such as Wikipedia

Summary of Factors associated with Behavioral Aspects of Information Seeking

Variable Name	Mean (s.d)	Range	Per-Item Mean	Number of Items	Cronbach Alpha
HOMOPHILY (n = 212)	6.8 (2.4)	3 – 15	2.3	3	0.78
PROFESSIONAL (n = 212)	13.7 (3.3)	4 - 20	3.4	4	0.67
WEBSITE (n = 212)	10.8 (4.7)	5 – 25	2.2	5	0.88
SOCIAL MEDIA (n = 212)	4.5 (2.1)	3 - 15	1.5	3	0.78

Items were rated on a scale from 1 = never use to 5 = always use.

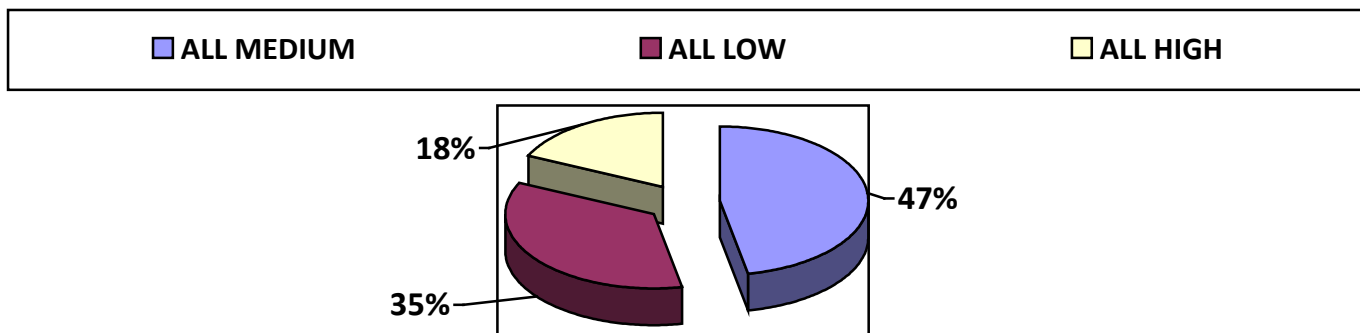
Identification of consumer segments was accomplished through the application of cluster analysis to the four variables named HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA to create “Information Behavior Clusters.”

A k-means clustering algorithm was applied in order to partition the respondents into groups, or ‘clusters’, so that the responses to key variables for respondents in the same cluster are smaller than the differences between respondents from different clusters. [27-28] To help identify the number of clusters that was most meaningful for interpretation, we also applied a two-step cluster analysis with a scalable cluster algorithm, an agglomerative hierarchical clustering method, and a log-likelihood distance measure (a probability-based distance).

Summary of Clusters associated with Information Behavior

	Segment 1 n = 100	Segment 2 n = 75	Segment 3 n = 37	Overall N = 212
	ALL MEDIUM	ALL LOW	ALL HIGH	
Segment Size (% of total)	(47%)	(35%)	(18%)	(100%)
HOMOPHILY [mean (sd)] ANOVA; $p < 0.001$	7.0 (2.0)	5.8 (2.4)	8.5 (2.5)	6.8 (2.4)
PROFESSIONAL [mean (sd)] ANOVA; $p < 0.001$	14.4 (2.4)	11.7 (3.7)	15.6 (2.7)	13.7 (3.3)
WEBSITE [mean (sd)] ANOVA; $p < 0.001$	11.8 (1.9)	6.0 (1.5)	18.0 (3.1)	10.8 (4.7)
SOCIAL MEDIA [mean (sd)] ANOVA; $p < 0.001$	4.5 (1.4)	3.4 (1.2)	6.6 (3.1)	4.5 (2.1)

Three distinct clusters (segments) of respondents were identified. The largest segment (47% of the responders) scored in the medium range for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA. The next largest segment (35% of responders) scored in the relatively low range for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA. The final segment (18% of respondents) scored relatively high for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA. It is noteworthy that only 18% of respondents were in the ALL HIGH segment and over one-third in the ALL LOW segment.



INFORMATION SEEKING – EVALUATIVE ASPECTS

All 9 out of the 9 items met our criteria and loaded on four underlying factors as follows:

INFOSAT = INFO1 + INFO2 + INFO3 + INFO4

Satisfaction with information about medications. (potential range of scores: 4 to 20, midpoint = 12)

INFO1 - Information I have about medicines is helpful.

INFO2 - Information I have about medicines is truthful.

INFO3 - Information I have about medicines is reliable.

INFO4 - Information I have about medicines is essential.

INFOLOAD = INFOLOAD1 + INFOLOAD2 + INFOLOAD3 + INFOLOAD4 + INFOLOAD5

Information overload when learning about medications. (potential range of scores: 5 to 25, midpoint = 15)

INFOLOAD1 - When learning about medications, I tend to feel confused.

INFOLOAD2 - When learning about medications, I tend to feel doubtful.

INFOLOAD3 - When learning about medications, I tend to feel frustrated.

INFOLOAD4 - When learning about medications, I tend to feel anxious.

INFOLOAD5 - When learning about medications, I tend to feel overwhelmed.

Summary of Factors associated with Evaluative Aspects of Information Seeking

Variable Name	Mean (s.d)	Range	Per-Item Mean	Number of Items	Cronbach Alpha
INFOSAT (n = 210)	14.9 (2.4)	4 – 20	3.7	4	0.84
INFOLOAD (n = 199)	12.2 (4.3)	5 - 25	2.4	5	0.92

Items were rated on a scale from 1 = strongly disagree to 5 = strongly agree.

Identification of consumer segments was accomplished through the application of cluster analysis to the two variables named INFOSAT and INFOLOAD to create “Information Evaluation Clusters.”

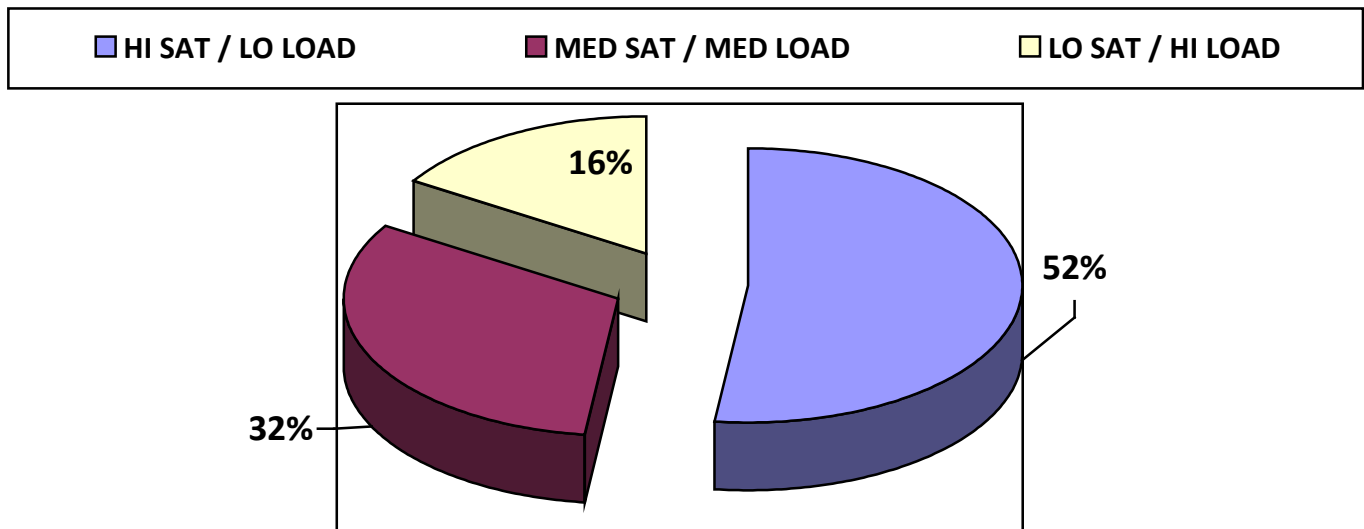
A k-means clustering algorithm was applied in order to partition the respondents into groups, or ‘clusters’, so that the responses to key variables for respondents in the same cluster are smaller than the differences between respondents from different clusters. [27-28] To help identify the number of clusters that was most meaningful for interpretation, we also applied a two-step cluster analysis with a scalable cluster algorithm, an agglomerative hierarchical clustering method, and a log-likelihood distance measure (a probability-based distance).

Summary of Clusters associated with Information Evaluation

	Segment 1 n = 104	Segment 2 n = 64	Segment 3 n = 33	Overall N = 201
	HI SAT LO LOAD	MED SAT MED LOAD	LO SAT HI LOAD	
Segment Size (% of total)	(52%)	(32%)	(16%)	(100%)
INFOSAT [mean (sd)] ANOVA; p < 0.001	15.9 (1.9)	14.3 (2.3)	13.7 (2.3)	15.0 (2.3)
INFOLOAD [mean (sd)] ANOVA; p < 0.001	8.9 (2.1)	13.8 (1.6)	19.3 (2.5)	12.2 (4.3)

Three distinct clusters (segments) of respondents were identified. The largest segment (52% of the responders) scored relatively high for satisfaction with information about medications and relatively low for experiencing information overload when learning about medications. The next largest segment (32% of responders) scored in medium range for

both information satisfaction and information overload. The final segment (16% of respondents) scored relatively low for information satisfaction and relatively high for information overload. Although about half of the respondents were in the HI SAT / LO LOAD segment, it is noteworthy that 16% were in the LO SAT / HI LOAD segment.



Nature of Interactions with Health Professionals for Decision-Making

The fifth component we studied was called **Nature of Interactions with Health Professionals for Decision-Making** which represents preferences for interacting with a:

1. physician during the prescribing of a medication [37-38],
2. pharmacist during the dispensing of a medication [19],
3. health professional during shared-decision making about medication use [39].

For the **National Consumer Survey on the Medication Experience** (NCSME), one question (see Appendix A) was asked regarding preferences for interacting with a **physician during the prescribing of a medication (INTERACTMD)** using four response categories [37-38] which were:

1 = PATERNALISTIC – I prefer that a prescriber of a medication makes the treatment decision on his or her own and then tells me about that decision using one-way communication, limited to a discussion of medical topics, with a minimum amount of information shared between us.

2 = INFORMED – I prefer one-way communication from the prescriber to me that is only about medical topics. However, I want the prescriber to share all of the relevant medical information with me and then let me make the treatment decision on my own.

3 = SHARED – I prefer two-way communication with the prescriber in which both medical and personal information is shared. After all relevant information is shared for decision-making, the prescriber and I make decisions together.

4 = NONE - I prefer little or no interaction or involvement with the physician. Getting the prescription is all I need.

For the **National Consumer Survey on the Medication Experience** (NCSME), one question (see Appendix A) was asked regarding preferences for interacting with a **pharmacist during the dispensing of a medication (INTERACTRPH)** using five response categories [19] which were:

1 = NONE – I prefer little or no interaction or involvement with the pharmacist. Getting the product is all I need.

2 = INFORMATION – I prefer receiving information (written and verbal) about the medication and standard instructions for how to use it.

3 = ADVICE – I prefer receiving advice from the pharmacist (consultation) to learn about his or her recommendations for how I should use the medication within my personal circumstances.

4 = NEGOTIATION – I prefer telling the pharmacist about my personal preferences and then having the pharmacist make necessary changes to make sure I can use the medications that I can afford and want to use.

5 = RELATIONSHIP – I prefer developing a professional relationship with my pharmacist so that we can go over all of my medication therapy related needs each time we meet.

For the **National Consumer Survey on the Medication Experience** (NCSME), 58 items were included in the survey form (see Appendix A) that asked about preferences for interacting with a **health professional during shared-decision making about medication use (SHARED DECISION-MAKING)** [39].

Data for these items were analyzed using Factor Analysis to help identify the underlying structure of our data. Varimax rotation was used for factor analysis and only items with factor loadings with absolute values > 0.50 on one, and only one, factor were included for identifying factors. This was done to: (1) maintain orthogonality (independence) among factors, (2) establish parsimony in the application of the factors, and (3) provide comprehensibility for interpretation of findings. Scores for the overall factors were computed by summing the scores of the items that loaded on the corresponding factor. Each factor was assigned a name based upon the items that comprised that particular construct. Means, standard deviations, and measure reliability (Cronbach coefficient alpha) were computed for each factor.

Thirty-nine out of the 58 items met our criteria and loaded on four underlying factors as follows:

LISTEN = CONC1 + CONC2 + CONC3 + CONC4 + CONC5 + CONC6 + CONC7

Health Professionals should actively listen to the patient (potential range of scores: 7 to 35, midpoint = 21)

- CONC1** - Reassure patients that they have time for them.
- CONC2** - Help patients feel at ease.
- CONC3** - Give patients the opportunity to express their views.
- CONC4** - Listen to patients' views and discuss concerns.
- CONC5** - Encourage patients to ask questions.
- CONC6** - Allow time for questions.
- CONC7** - Treat patients as equal partners.

TAILCOMM = CONC8 + CONC10 + CONC14 + CONC17 + CONC20 + CONC21 + CONC32

Health Professionals should tailor info in a way that is meaningful to the patient (potential range of scores: 7 to 35, midpoint = 21)

- CONC8** - Respect diversity.
- CONC10** - Identify barriers to communication.
- CONC14** - Use aids to help patient understanding.
- CONC17** - Maintain appropriate eye contact.
- CONC20** - Explain his or her role to the patient.
- CONC21** - Clarify timing, boundaries, and expectations for the meeting.
- CONC32** - Be aware of patients' cultural, religious, and societal beliefs that may impact on treatment.

COMPETENCE = CONC12 + CONC19 + CONC24 + CONC25 + CONC26 + CONC27 + CONC28 + CONC29 + CONC30

Health Professionals should have competent self- and other-awareness (potential range of scores: 9 to 45, midpoint = 27).

- CONC12** - Confirm patients' understanding.
- CONC19** - Review patient information before meeting.
- CONC24** - Know his or her own limitations.
- CONC25** - Maintain up-to-date knowledge.
- CONC26** - Know when to seek further advice.
- CONC27** - Refer to other professionals as needed.
- CONC28** - Work in partnership with colleagues.
- CONC29** - Share up-to-date information about support available to the patient.
- CONC30** - Be aware of practical resources to help patients.

SDECMAKING = CONC33 + CONC36 + CONC37 + CONC38 + CONC40 + CONC43 + CONC44 + CONC45 + CONC49 +

CONC50 + CONC51 + CONC52 + CONC53 + CONC54 + CONC57 + CONC58

Health Professionals should engage in Shared Decision Making with patients. (potential range: 16 to 80, midpoint = 48).

CONC33 - Agree to patients' goals.

CONC36 - Explore what patients understand about their condition.

CONC37 - Learn what patients have been doing to deal with their conditions.

CONC38 - Discuss with patients their expectations and concerns.

CONC40 - Discuss what may have caused the condition.

CONC43 - Discuss any misunderstandings about their conditions.

CONC44 - Encourage patients to express views about treatment / no treatment options.

CONC45 - Explain reasoning about why medicines may or may not be needed.

CONC49 - Check that patients understand reasons behind decisions.

CONC50 - Negotiate with patients about treatment decisions.

CONC51 - Give patients time to consider information before making decisions.

CONC52 - Accept patients' decisions.

CONC53 - Explore patients' ability to undertake the agreed plan.

CONC54 - Check that patients know what they are taking and why.

CONC57 - Express a willingness to review the decision.

CONC58 - Provide relevant contact details and encourage patients to use them.

Summary of Factors associated with Interacting with a Health Professional

Variable Name	Mean (s.d)	Range	Per-Item Mean	Number of Items	Cronbach Alpha
LISTEN (n = 211)	30.0 (5.0)	7 – 35	4.3	7	0.93
TAILCOMM (n = 211)	27.6 (6.2)	7 – 35	3.9	7	0.92
COMPETENCE (n = 210)	38.9 (7.2)	9 – 45	4.3	9	0.96
SDECMaking (n = 210)	65.9 (12.4)	16 - 80	4.1	16	0.97

Items were rated on a scale from 1 = strongly disagree to 5 = strongly agree.

Identification of consumer segments was accomplished through application of cluster analysis to the two variables named INTERACTMD and INTERACTRPH to create NATURE OF INTERACTIONS – PHYSICIAN AND PHARMACIST clusters. Also, cluster analysis was applied to the four variables named LISTEN, TAILCOMM, COMPETENCE, AND SDECMaking to create NATURE OF INTERACTIONS – SHARED DECISION-MAKING clusters.

A *k*-means clustering algorithm was applied in order to partition the respondents into groups, or 'clusters', so that the responses to key variables for respondents in the same cluster are smaller than the differences between respondents from different clusters. [27-28] To help identify the number of clusters that was most meaningful for interpretation, we also applied a two-step cluster analysis with a scalable cluster algorithm, an agglomerative hierarchical clustering method, and a log-likelihood distance measure (a probability-based distance).

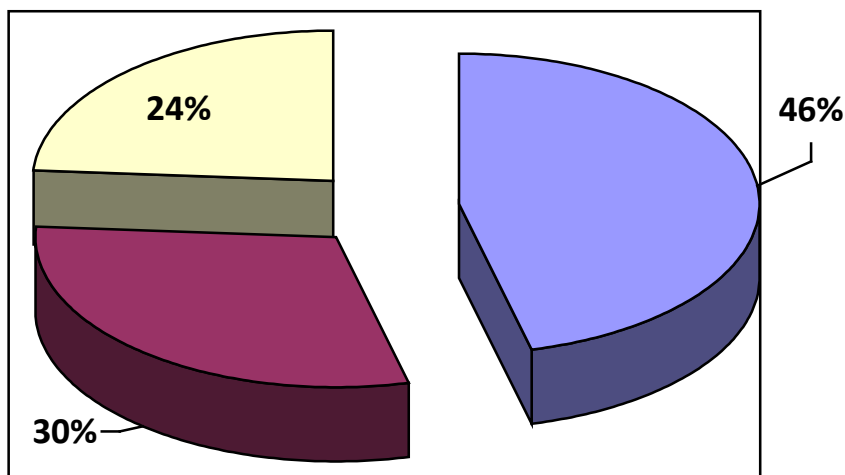
Summary of Clusters associated with Nature of Interactions with Health Professionals

Cluster (Segment) Composition for NATURE OF INTERACTIONS - PHYSICIAN AND PHARMACIST

	Segment 1 n = 98	Segment 2 n = 63	Segment 3 n = 51	Overall N = 212
	MD Shared RPH Information	MD Shared RPH Advice, Negotiation, Relationship	MD Informed, Paternalistic RPH Information	
Segment Size (% of total)	(46%)	(30%)	(24%)	(100%)
INTERACTMD Chi-Square; p < 0.001				
Paternalistic	0%	3%	29%	8%
Informed	0%	5%	71%	18%
Shared	97%	92%	0%	72%
None	3%	0%	0%	1%
INTERACTRPH Chi-Square, p < 0.001				
None	11%	0%	10%	7%
Information	89%	0%	65%	57%
Advice	0%	48%	25%	20%
Negotiation	0%	16%	0%	5%
Relationship	0%	37%	0%	11%

Three distinct clusters (segments) of respondents were identified using the INTERACTMD and INTERACTRPH variables. The largest segment (46% of the responders) preferred a shared relationship with their physician and preferred to use their pharmacist as an information source. The next largest segment (30% of responders) preferred a shared relationship with their physician and wanted to interact with their pharmacists for advice, negotiation, or professional relationship. The final segment (24% of responders) preferred an informed or a paternalistic relationship with their physician and to use their pharmacist as an information source. It is noteworthy that almost one-third of respondents preferred a shared relationship with their physician and wanted to interact with their pharmacists for advice, negotiation, or professional relationship.

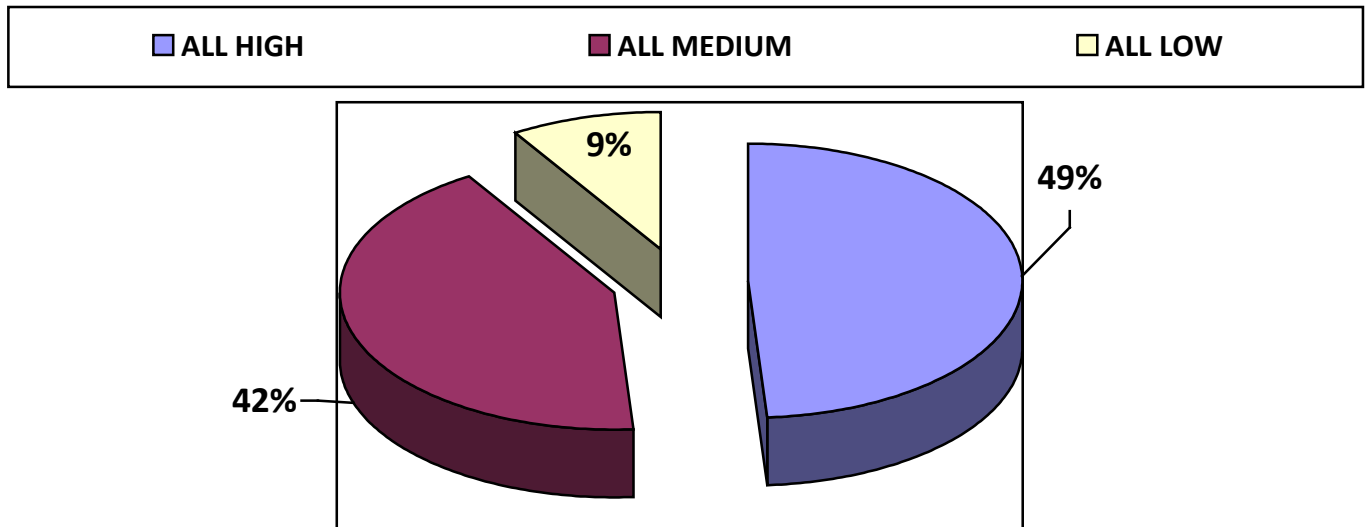
■ MD SHARED / RPH INFO
■ MD SHARED / RPH ADVICE,NEGOTIATION, RELATIONSHIP
■ MD INFORMED, PATERNALISTIC / RPH INFO



Cluster (Segment) Composition for NATURE OF INTERACTIONS - SHARED DECISION-MAKING

	Segment 1 n = 103	Segment 2 n = 87	Segment 3 n = 19	Overall N = 209
	ALL HIGH	ALL MEDIUM	ALL LOW	
Segment Size (% of total)	(49%)	(42%)	(9%)	(100%)
LISTEN [mean (sd)] ANOVA; p < 0.001	33.1 (2.7)	28.4 (3.4)	20.9 (6.7)	30.0 (5.1)
TAILCOMM [mean (sd)] ANOVA; p < 0.001	32.0 (3.2)	25.1 (3.6)	15.1 (5.0)	27.6 (6.3)
COMPETENCE [mean (sd)] ANOVA; p < 0.001	43.6 (2.0)	37.0 (4.4)	22.2 (7.6)	38.9 (7.3)
SDECMaking [mean (sd)] ANOVA; p < 0.001	75.3 (4.1)	60.6 (5.3)	38.8 (10.7)	65.9 (12.3)

Three distinct clusters (segments) of respondents were identified using the LISTEN, TAILCOMM, COMPETENCE, and SDECMaking variables. The largest segment (49% of the responders) scored relatively high on LISTEN, TAILCOMM, COMPETENCE, and SDECMaking. The next largest segment (42% of responders) scored in the medium range for the four variables. The final segment (9% of responders) scored relatively low on the four variables. It is noteworthy that only 9% of respondents were in the ALL LOW segment.



Data Analysis

Psychometric properties for variables were assessed using descriptive, Cronbach coefficient alpha, factor analytic, and cluster analysis techniques. The previous section (Measure Development) describes the final form of the variables used for analysis. The specific objectives for this study were to identify and describe consumer segments based on the following components of the medication experience:

1. Healthcare consumer type
2. Medication beliefs
3. Patient activation
4. Information seeking
5. Nature of interactions with health professionals for decision-making

The identified clusters were described through descriptive statistics and also through geographic distribution, demography, and psychographic profiles.

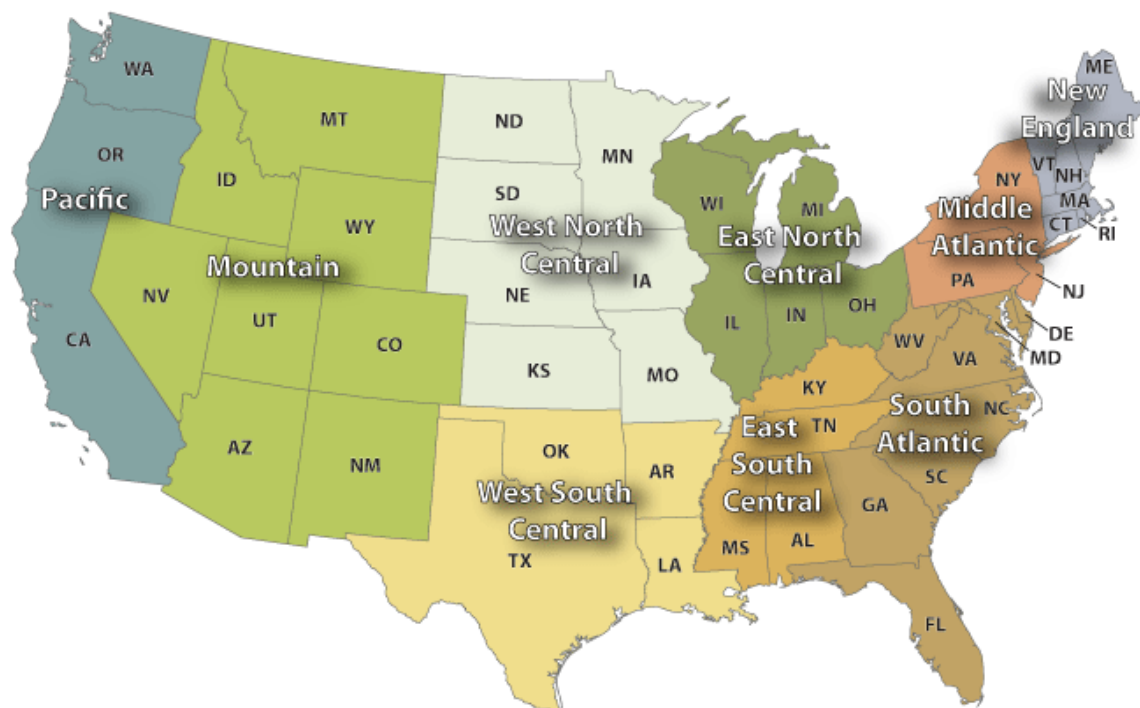
Contextual Background

Geographic information sciences applications were applied so that characteristics of the clusters could be mapped and compared with other geographic characteristics such as: (1) health professional shortage areas, (2) medically underserved areas, (3) distribution of health maladies such as diabetes, obesity, or cardiovascular disease, (4) geographic distributions of population demographics, and (5) geographic variations in medication use or pharmacy practice. The maps on the following pages provide context for our findings and can be useful for the consideration of weighting adjustments that might be needed [40,41] if the findings are used for making populations estimates.

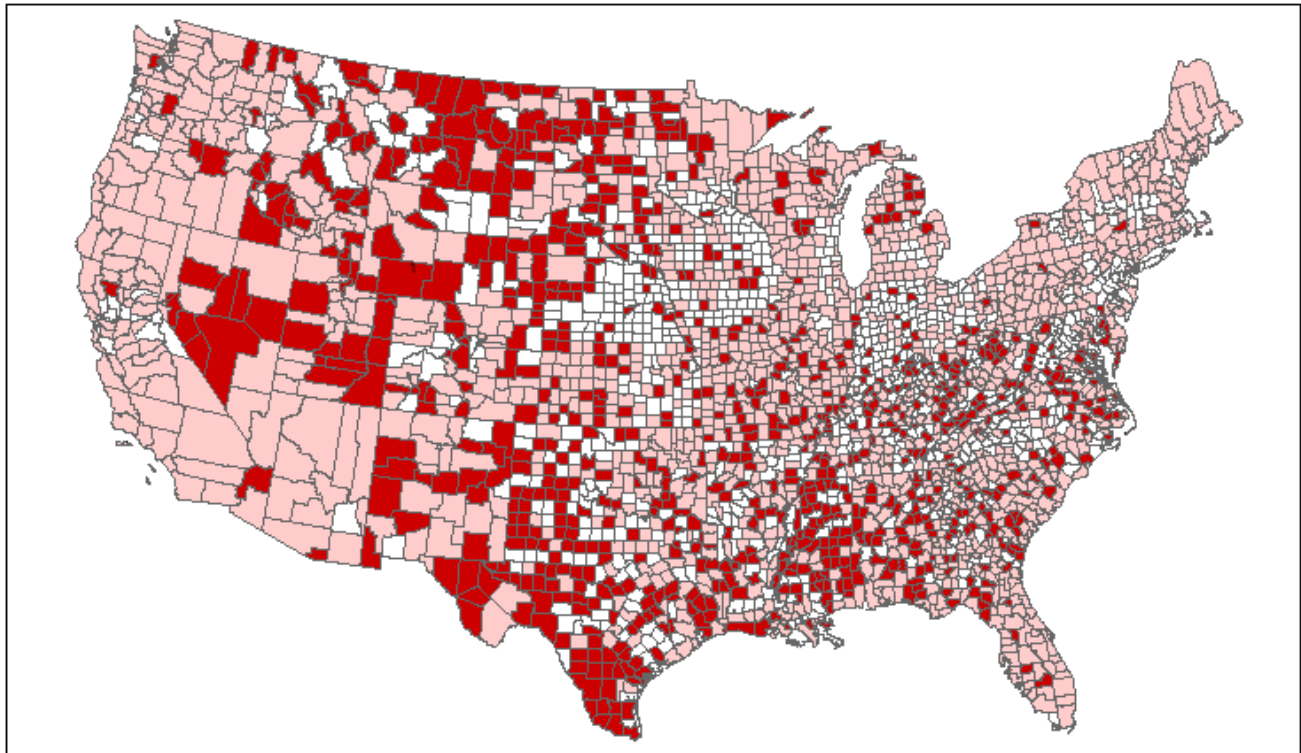
Due to the relatively small sample size for this study, we mapped findings based upon the nine U.S. Census Divisions as the unit of analysis. For an interactive map that summarizes descriptive findings by census division, go to:

www.d.umn.edu/gac/main/schommer.html.

U.S. Census Divisions



PRIMARY CARE HEALTH PROFESSIONAL SHORTAGE AREAS



2002 County HPSA Status

- Full Primary Care HPSA
- Partial Primary Care HPSA
- Not a HPSA

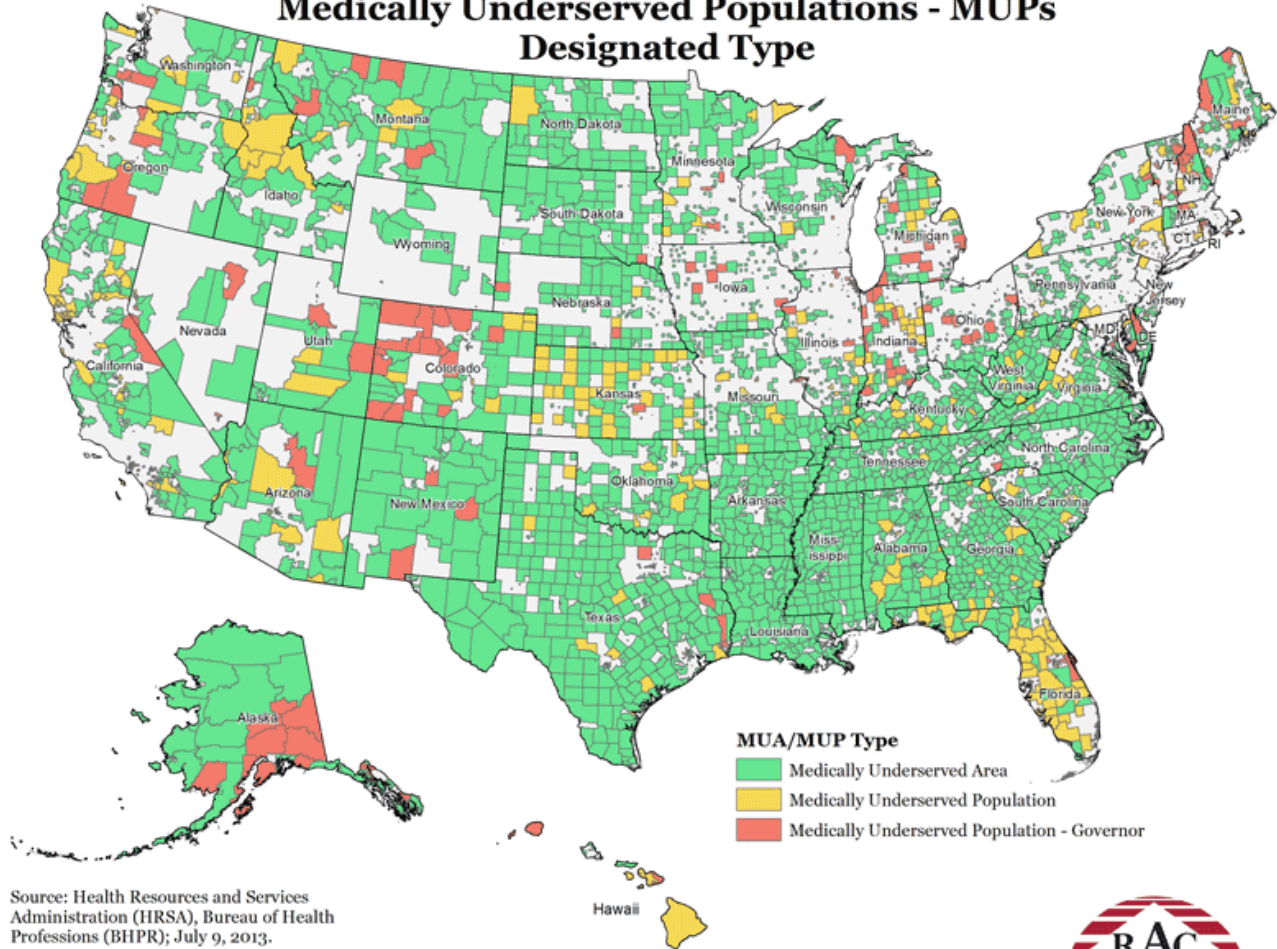


www.graham-center.org

Prepared by the Robert
Graham Center: Policy
Studies in Family
Medicine and Primary Care

Data Source: 2003 Area
Resource File (U.S.
Department of Health
and Human Services)

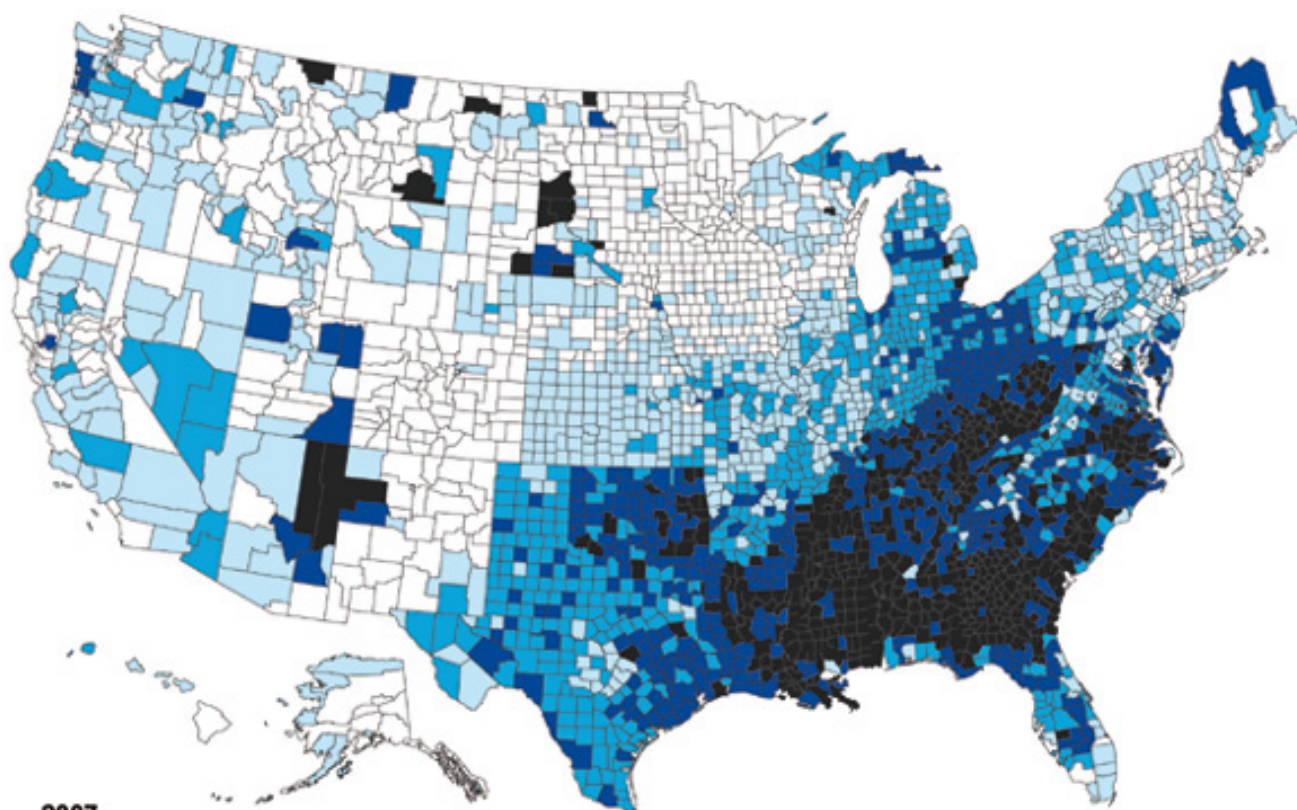
Medically Underserved Areas - MUAs and Medically Underserved Populations - MUPs Designated Type



Source: Health Resources and Services Administration (HRSA), Bureau of Health Professions (BHP); July 9, 2013.

Note: Alaska and Hawaii not shown to scale



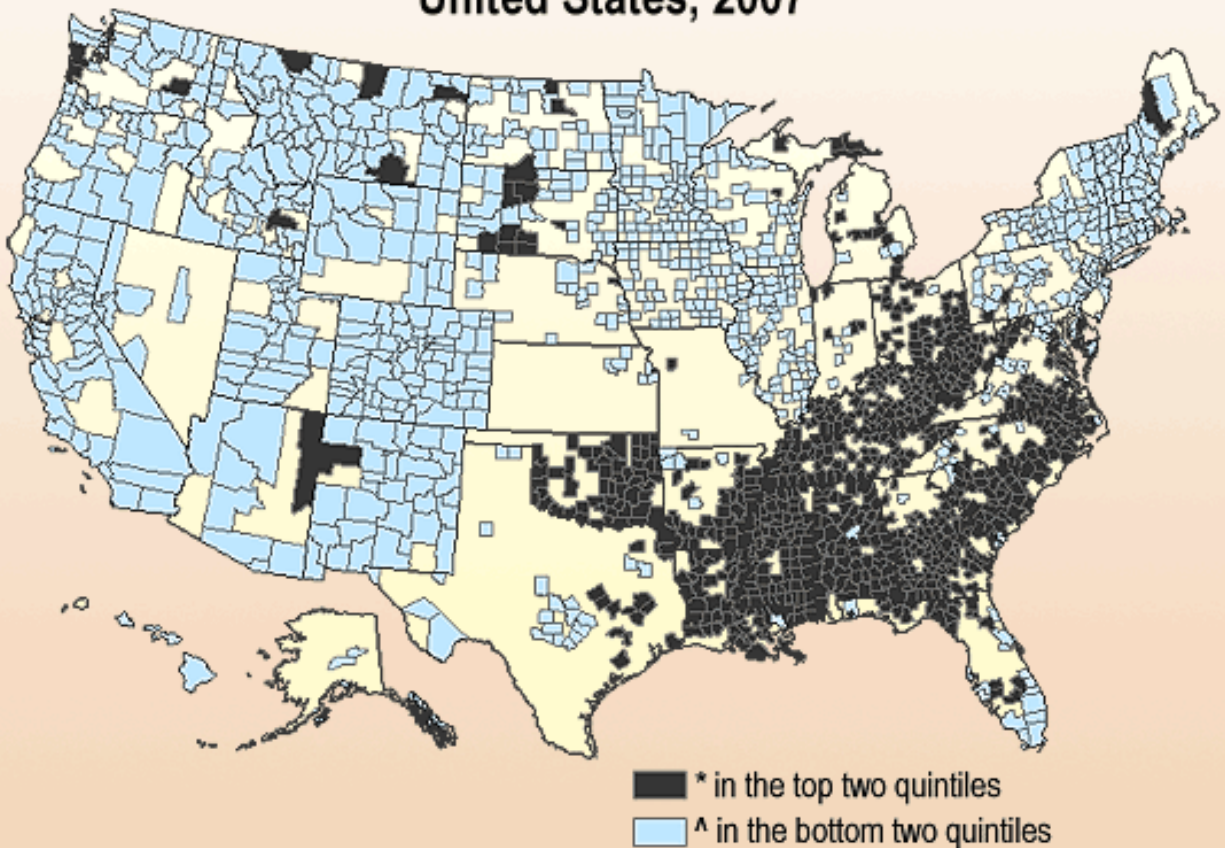


2007

Age-adjusted percent of adults ≥ 20 years old with diabetes

0 - 7.0 7.1 - 8.1 8.2 - 9.0 9.1 - 10.5 ≥ 10.6

**Diabetes and obesity, by county (in persons aged ≥ 20 years)
United States, 2007**



Heart Disease Death Rates, 2000-2006 Adults Ages 35+, by County

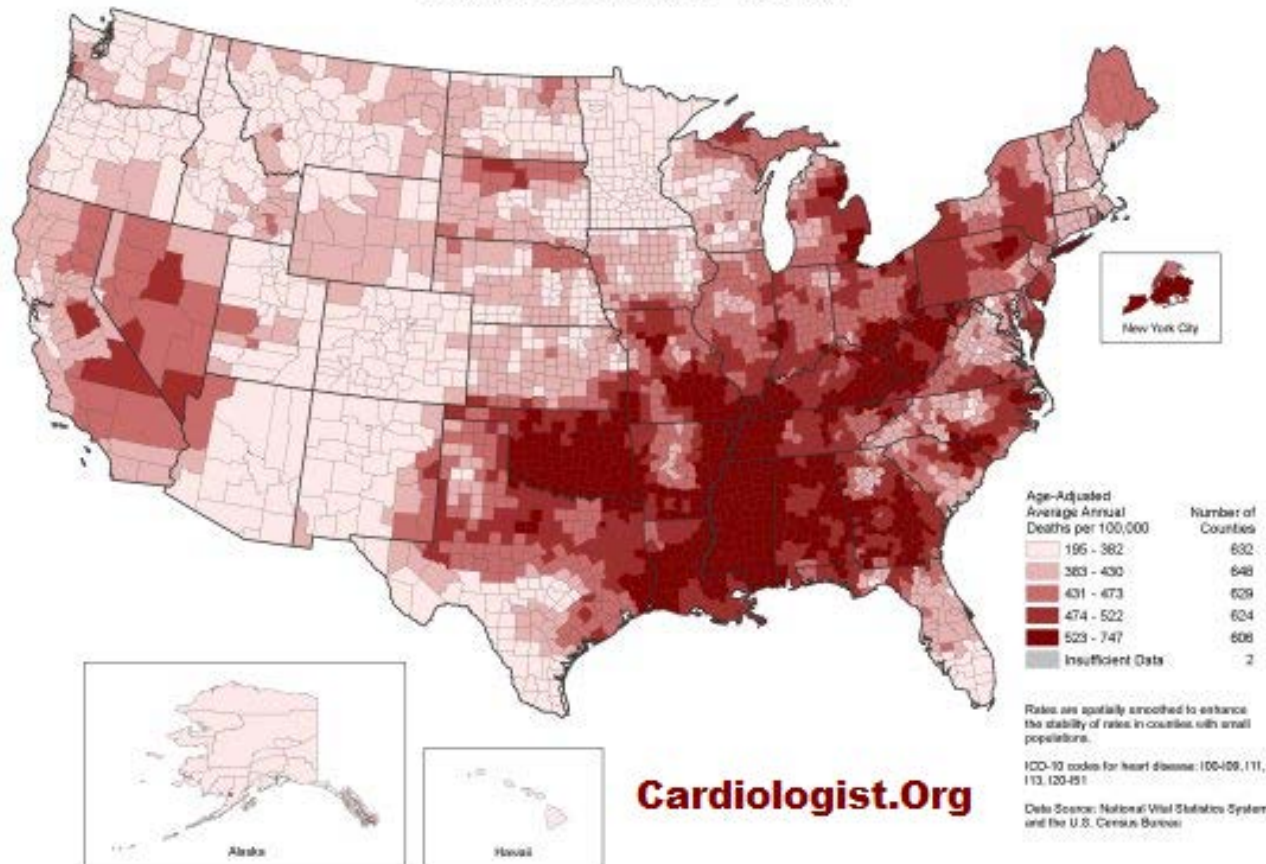
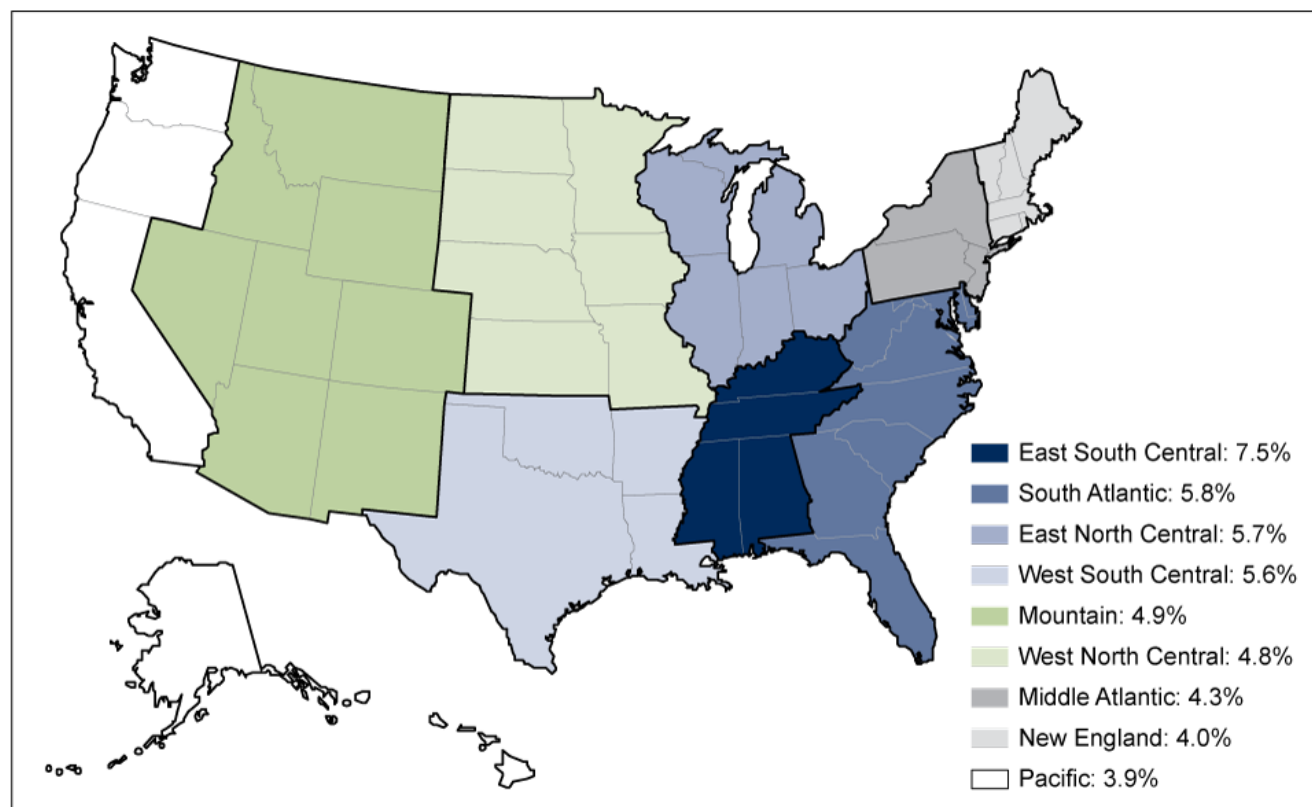
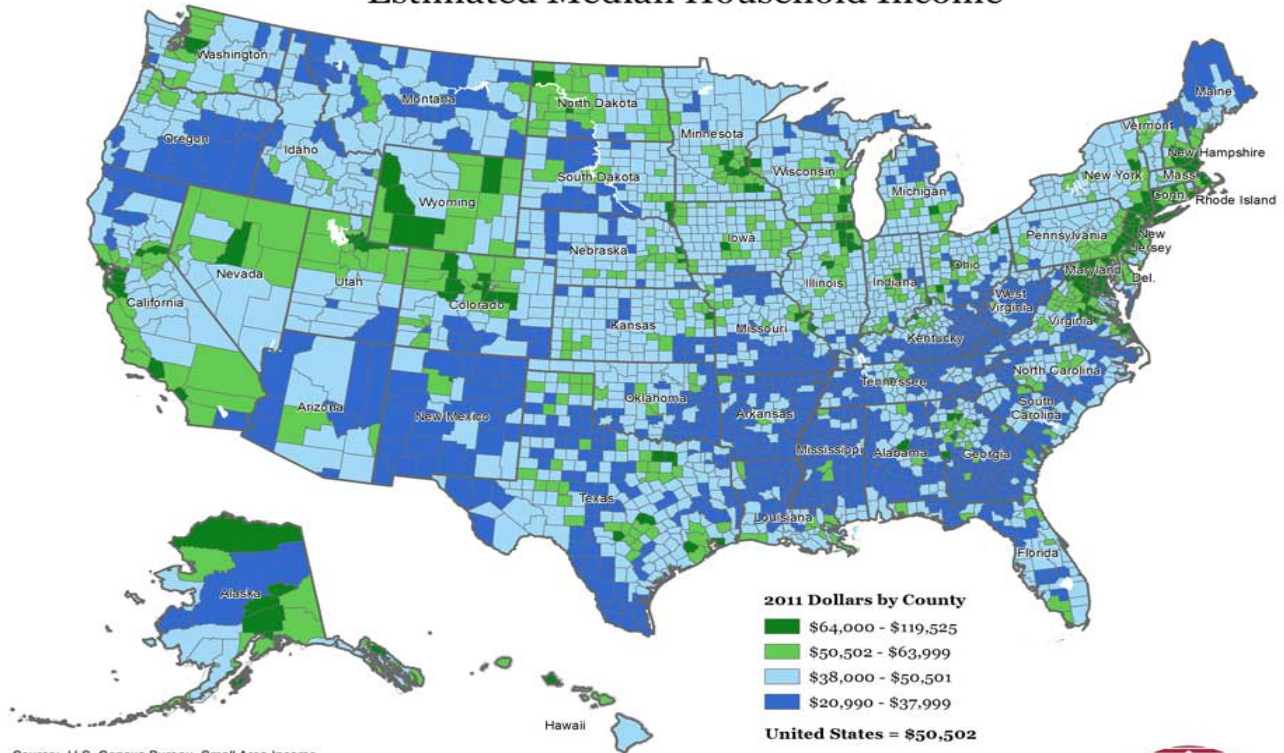


Figure 4. Prevalence of COPD among adults aged 18 and over, by U.S. Census division: United States, annual average 2007–2009



NOTES: COPD is chronic obstructive pulmonary disease. For definitions of Census divisions, visit: http://www.census.gov/geo/www/us_regdiv.pdf. Age-adjusted to the 2000 U.S. standard population. Access data table for Figure 4 at: http://www.cdc.gov/nchs/data/databriefs/db63_tables.pdf#4.
 SOURCES: CDC/NCHS, Health Data Interactive and National Health Interview Survey.

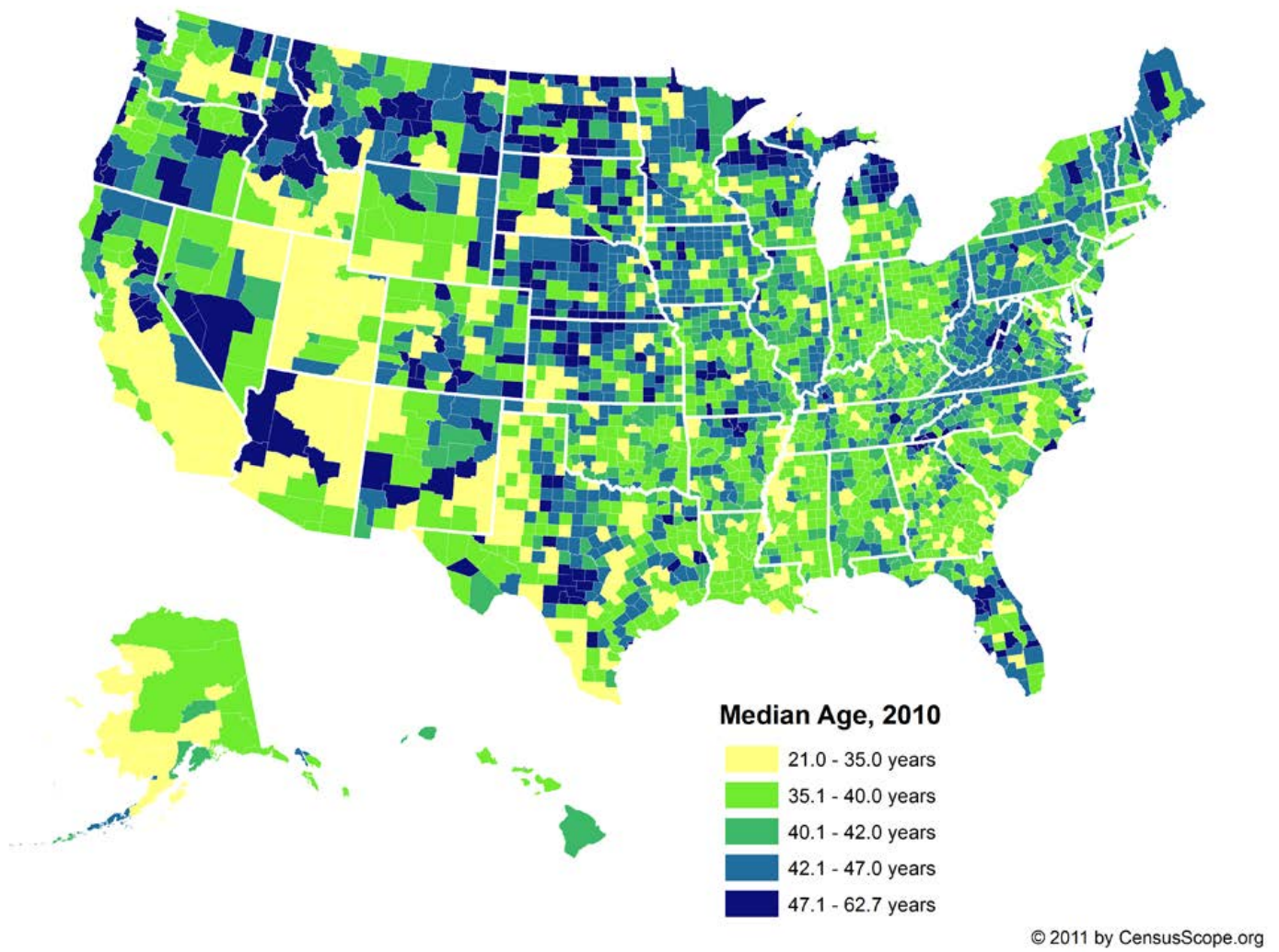
Estimated Median Household Income

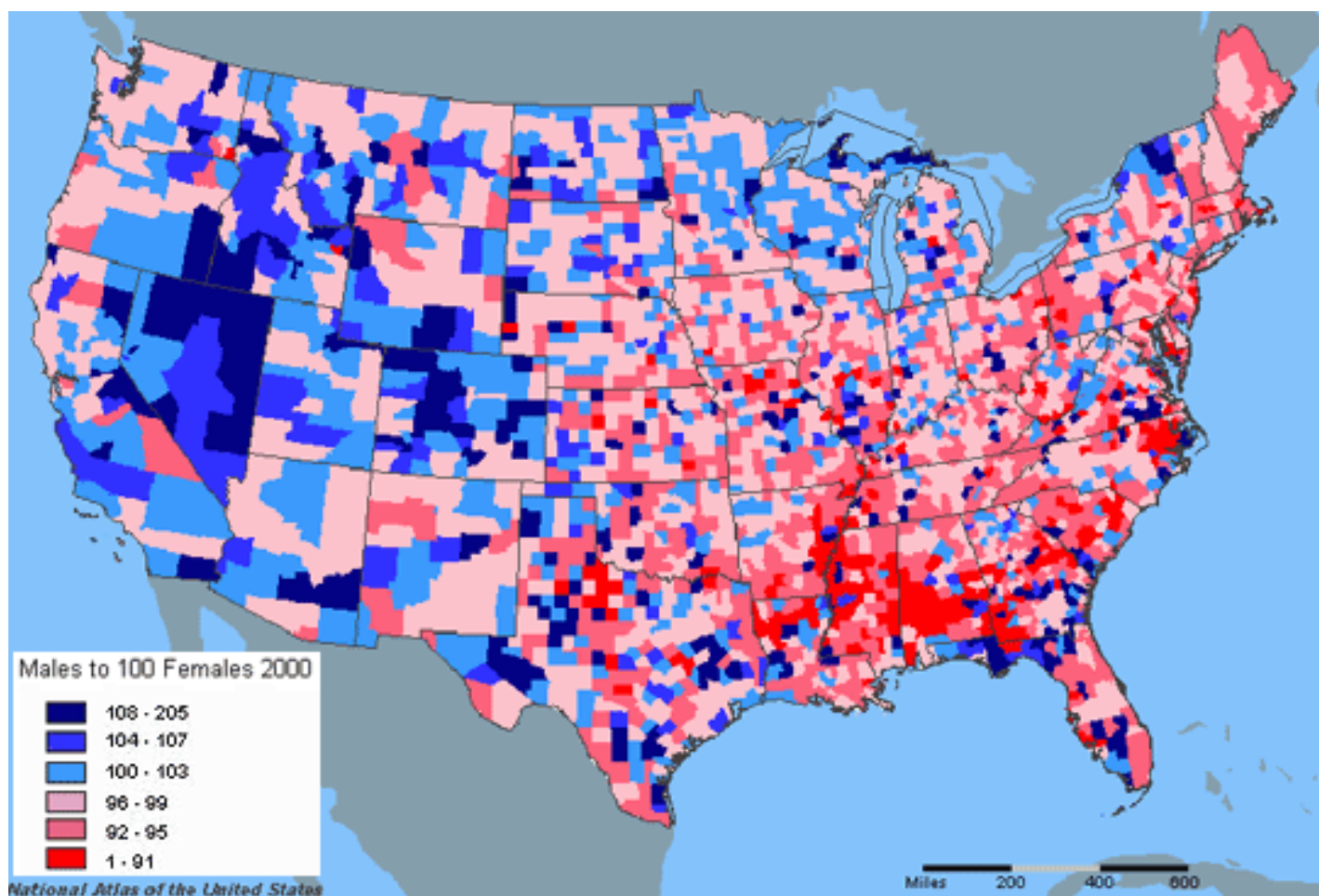


Source: U.S. Census Bureau, Small Area Income & Poverty Estimates (SAIPE), 2011.

Note: Alaska and Hawaii not shown to scale.







**Most over-
represented race/
ethnicity, 2000**

- Same as USA
- Hispanic
- White, non-Hisp.
- Black, non-Hisp.
- Am. Ind., non-Hisp.
- Asian, non-Hisp.
- Pacific Is., non-Hisp.
- Other race, non-Hisp.

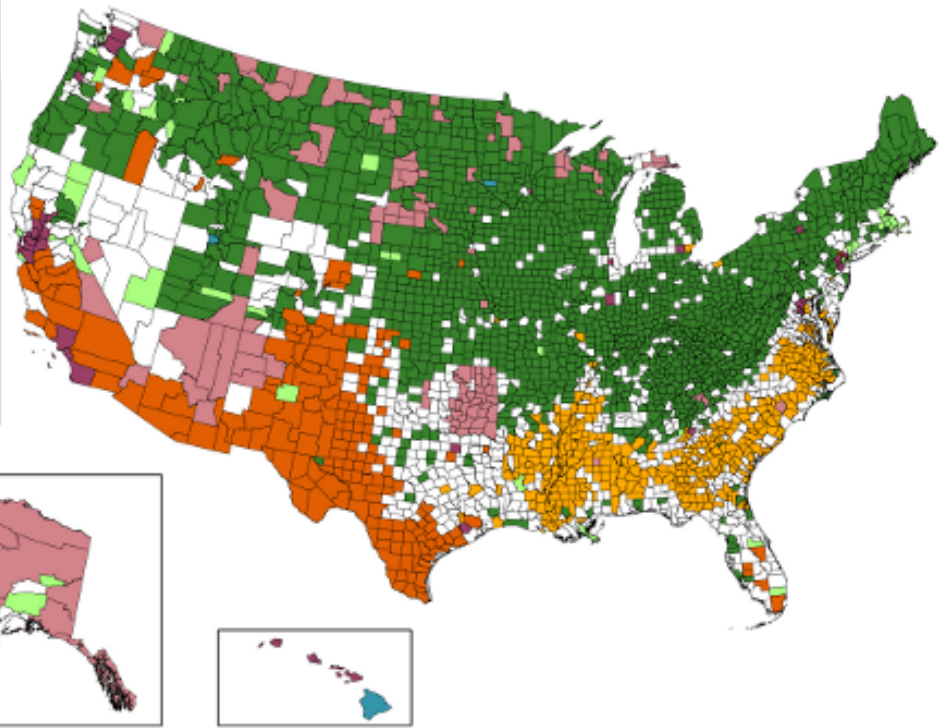
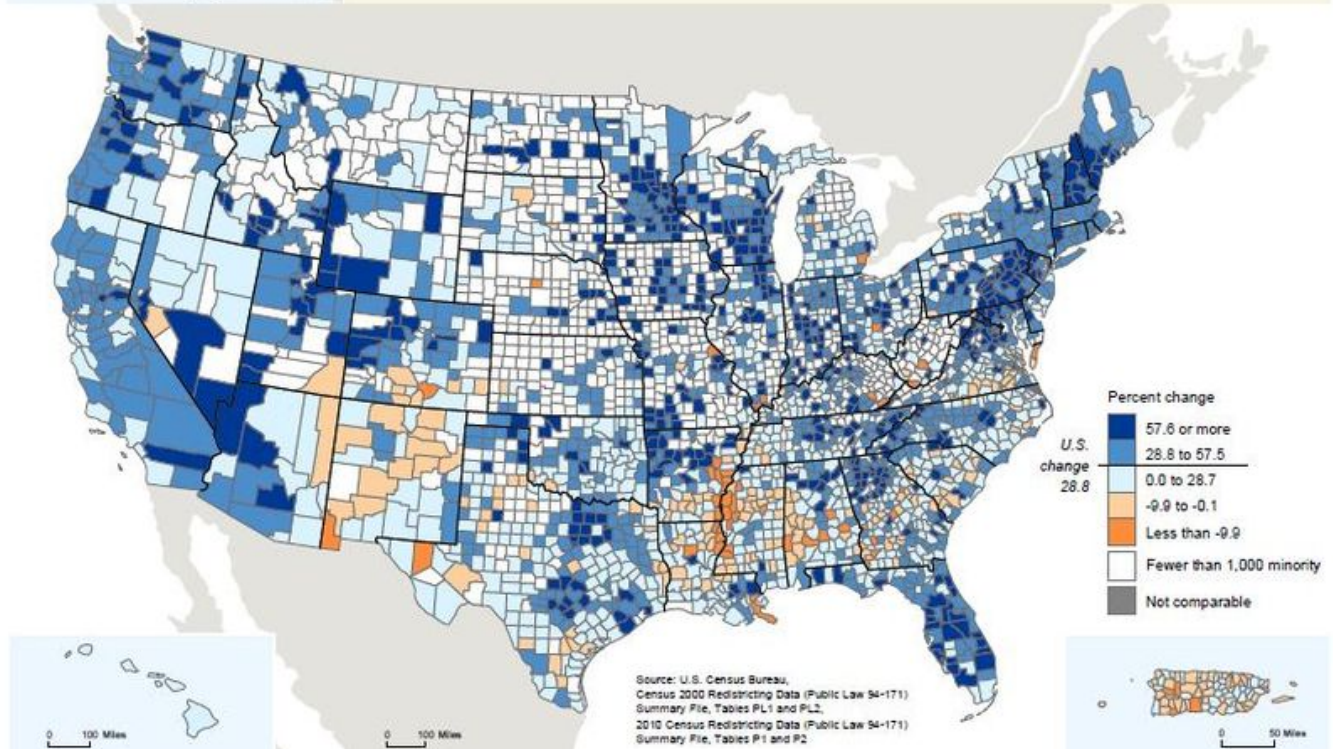


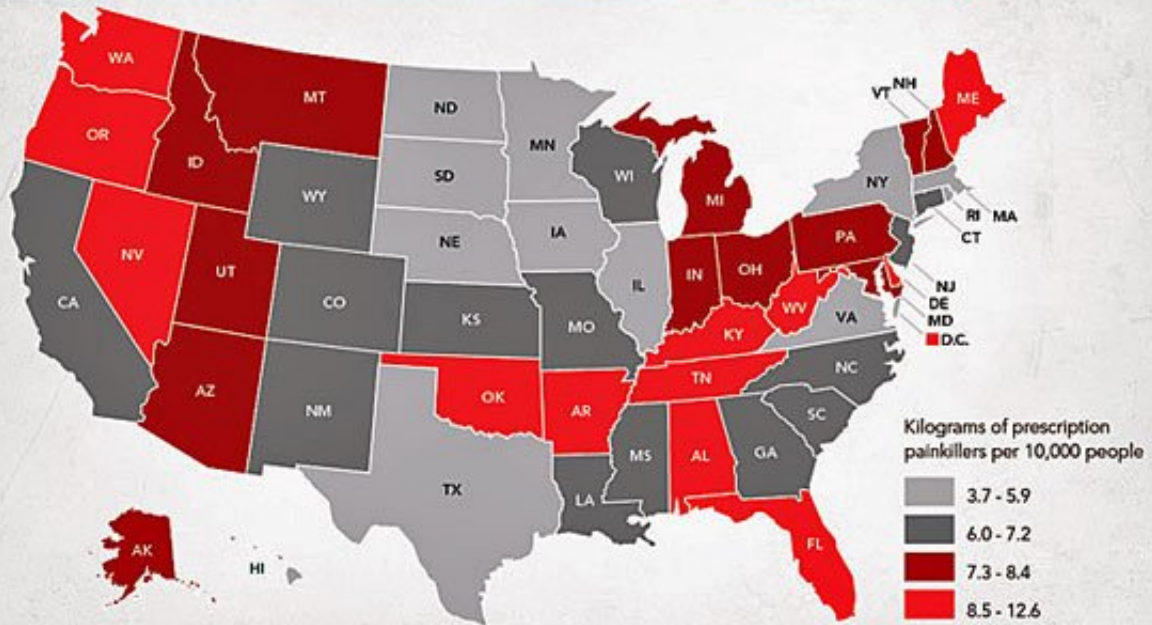


Figure 5:
Percent Change in Minority Population by County: 2000 to 2010

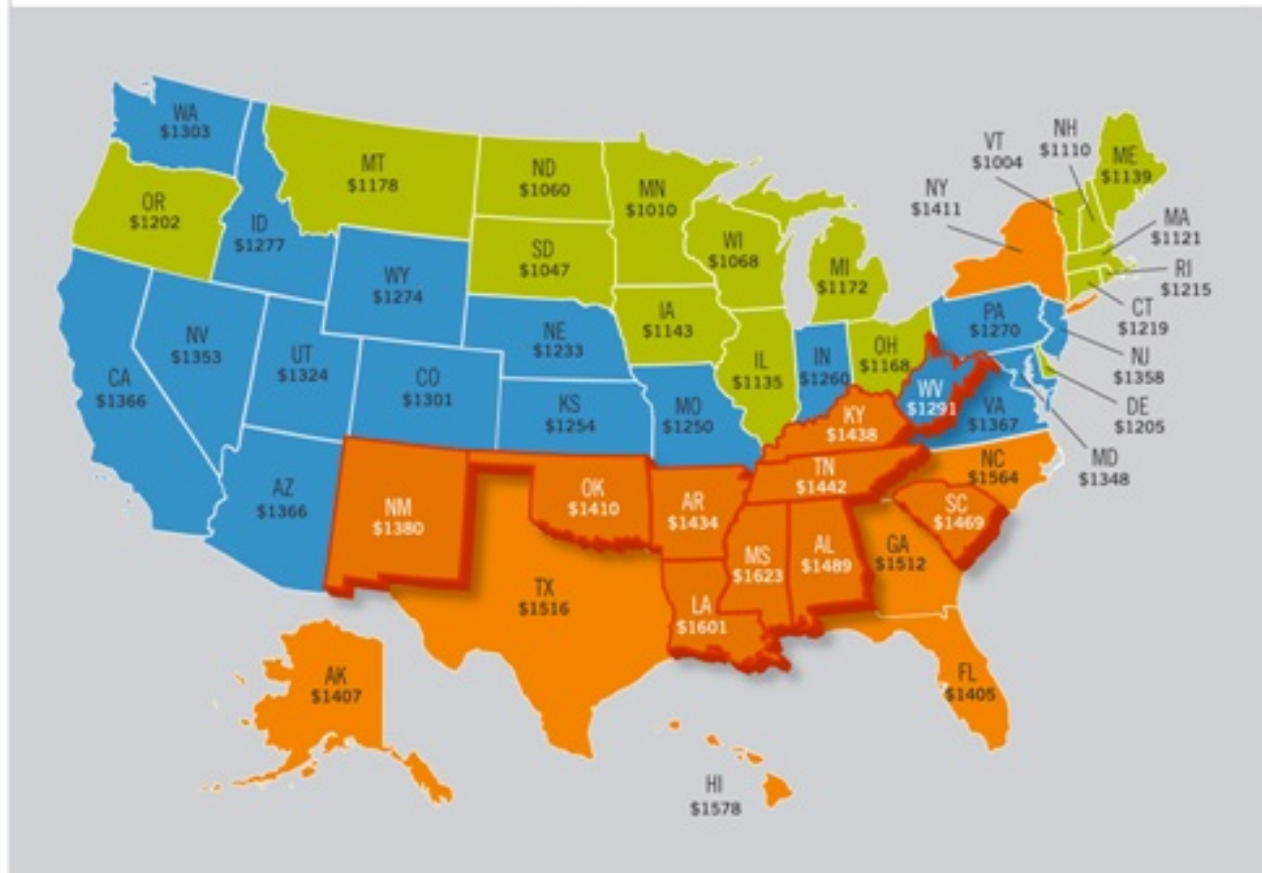
(Counties with a minority population of at least 1,000 are included in the map.
Minority refers to those who reported their ethnicity and race as something other than non-Hispanic White alone in the decennial census.
For information on confidentiality protection, nonsampling error, and definitions, see <http://www.census.gov/prod/cen2010/pl94-171.pdf>)



AMOUNT OF PRESCRIPTION PAINKILLERS SOLD BY STATE PER 10,000 PEOPLE (2010)



9 of 10 Poorest States Rank Among Most Wasteful in Medication-Related Costs



Dollars represent 2012 per capita medication-related waste*

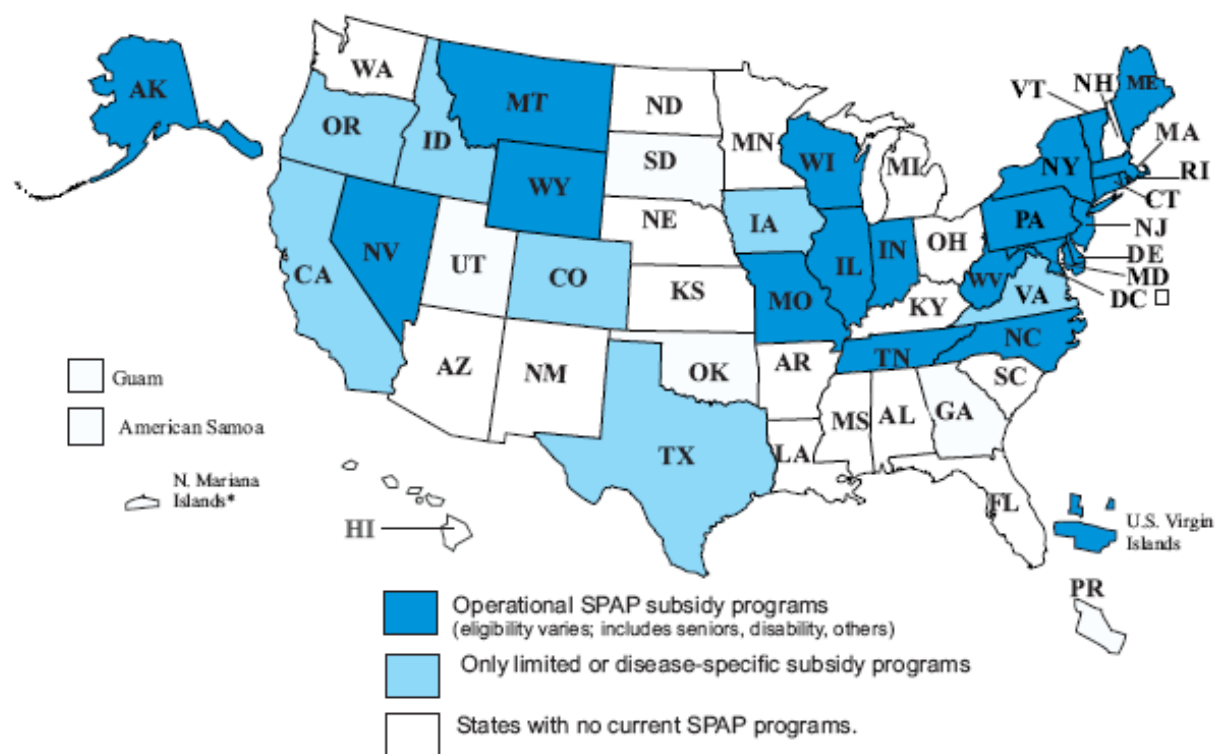
- States ranking in highest one-third of waste
- States ranking in middle one-third of waste
- States ranking in lowest one-third of waste

States with lowest median household income**

* Express Scripts Research, 2012 National Data

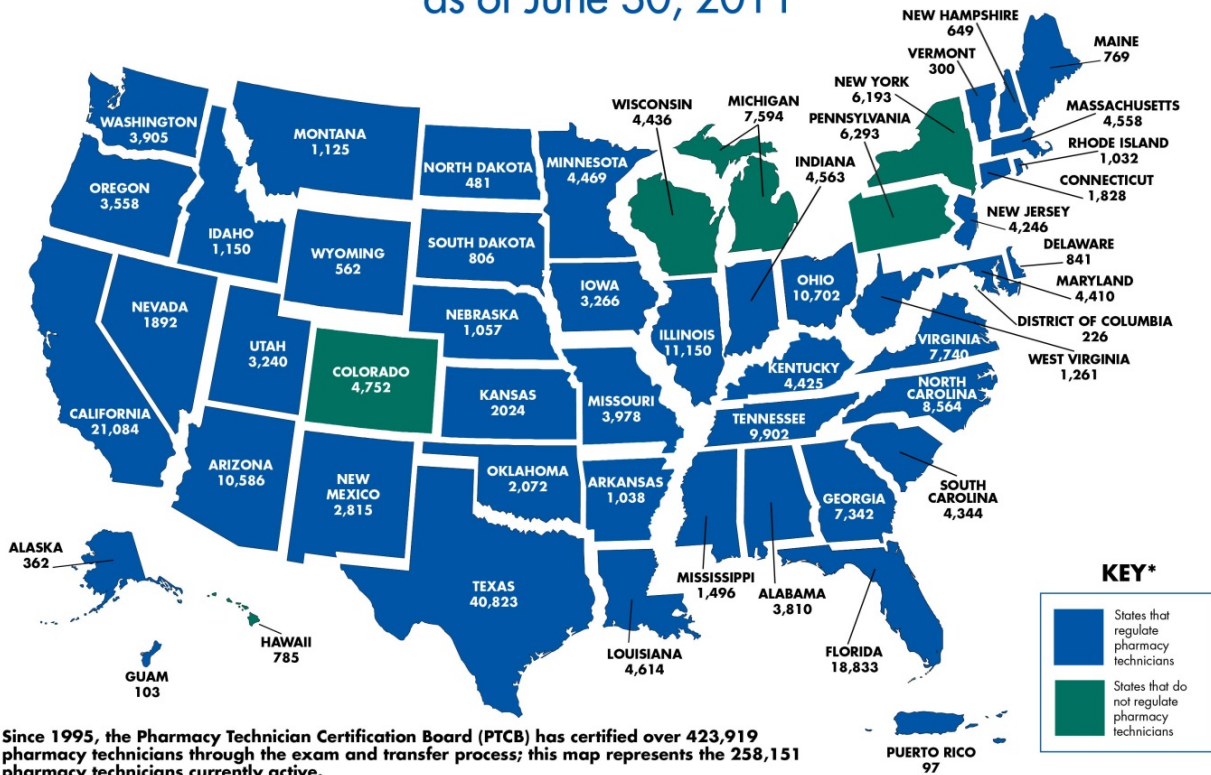
** U.S. Census Bureau, 2011 American Community Survey

State Pharmaceutical Assistance: Subsidy Programs



Compiled by National Conference of State Legislatures, Health Program, Denver, Colorado
Data as of June 23, 2011

Active PTCB CPhTs and State Regulations as of June 30, 2011



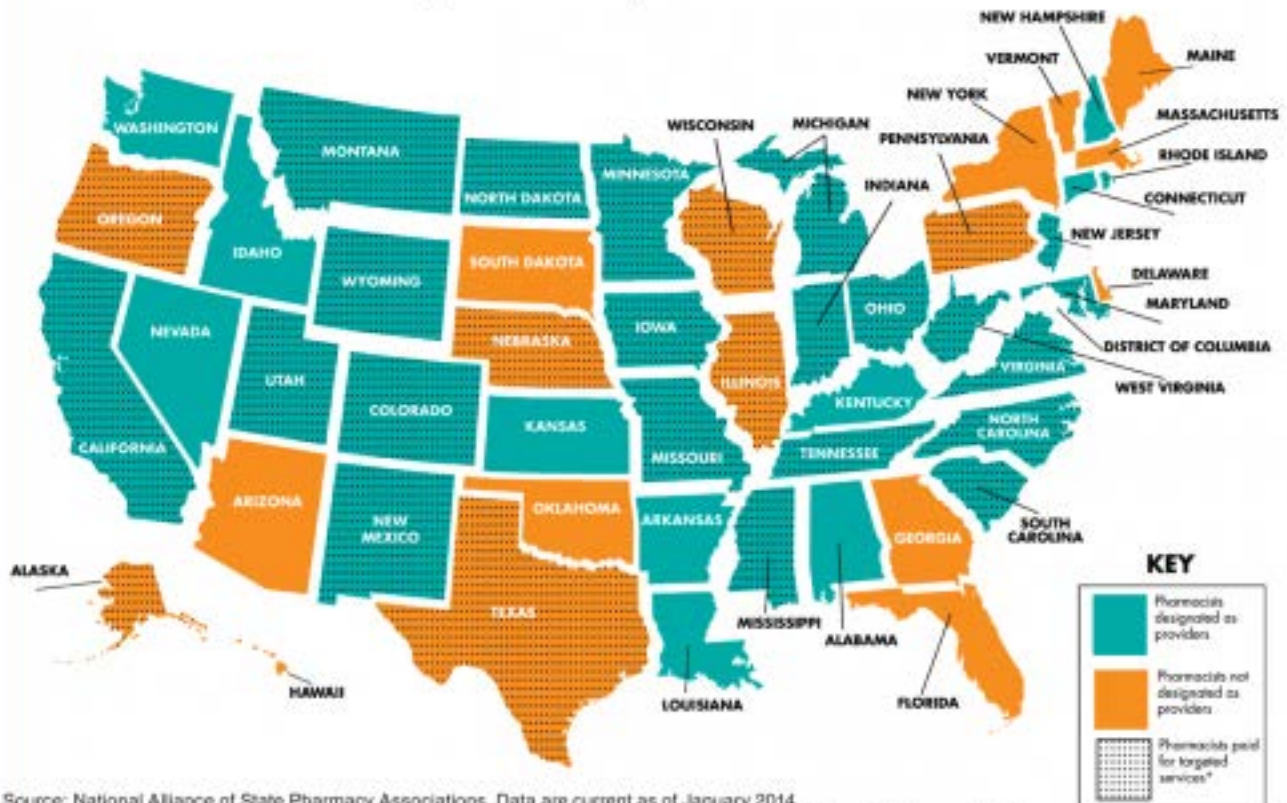
Since 1995, the Pharmacy Technician Certification Board (PTCB) has certified over 423,919 pharmacy technicians through the exam and transfer process; this map represents the 258,151 pharmacy technicians currently active.

*Source: 2011 NABP Survey of Pharmacy Law. This information is advisory only; rules and regulations change. Contact your State Board of Pharmacy for updated information.

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11-357

Pharmacist recognition as providers in the United States



Source: National Alliance of State Pharmacy Associations. Data are current as of January 2014.

* Payment includes Medicaid, state employee benefits, and network contracts with private payers beyond Medicare Part D, immunizations, and contracts between a single payer and a single provider, incident-to billing, and facility fee billing.

SECTION 3
DESCRIPTION OF RESPONDENTS

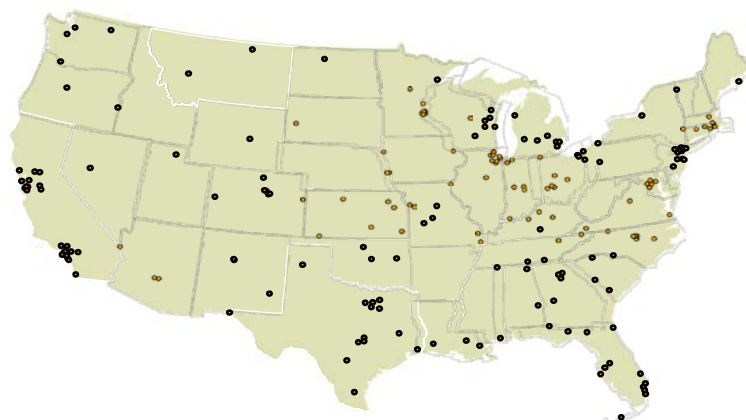
Of the 1,000 sample members used for this study, 136 (14%) had mailings that were undeliverable and 93 (9%) provided a response signifying that the person to whom the survey was addressed was not able to participate in the study. Reasons for not being able to participate included such things as: person is no longer alive, debilitating health problems, not taking medications so not a good study subject, not wanting to be involved, don't take surveys, person no longer living at that address. Of the remaining 771 surveys, 214 (28%) responded. Characteristics of the respondents are summarized in the table below. Respondents' written comments are summarized in **Appendix C**.

Variable	Sample Proportion
Generational Cohort (n = 209)	
GI and Silent (born 1945 or earlier)	20%
Baby Boomer I (born 1946-1955)	24%
Baby Boomer II (born 1956-1964)	25%
Gen X, Buster (born 1965-1983)	25%
Gen Y, Millennial (born 1984-2002)	5%
Gender (n = 210)	
Male	40%
Female	60%
Race (n = 210)	
American Indian	1%
Asian	4%
Black	5%
Hispanic	6%
White	85%
Marital Status (n = 209)	
Single	12%
Separated/Divorced	16%
Married	63%
Widowed	10%
Household Income in 2012 (n = 206)	
\$20,000 or less	9%
\$21,000 to \$40,000	20%
\$41,000 to \$60,000	23%
\$61,000 to \$100,000	26%
More than \$100,000	22%
Census Division (n = 211)	
New England	4%
Middle Atlantic	8%
East North Central	18%
West North Central	14%
South Atlantic	17%
East South Central	6%
West South Central	9%
Mountain	9%
Pacific	14%

Census Region (n = 211)		
	Northeast	12%
	Midwest	33%
	South	32%
	West	23%
Daily Prescription Drug Use (n = 210)		
	None	30%
	One	17%
	Two	14%
	Three	13%
	Four	12%
	Five or more	14%
Daily Use of Self-Care/Complementary Therapies (n = 210)		
	None	48%
	One	21%
	Two	17%
	Three or more	14%
Purchasing Medications Causes Financial Hardship (% Yes) (n = 210)		24%
Use of Medication Therapy Management services in the past (% Yes) (n = 210)		0.5%
Type of Pharmacy Typically Used for Obtaining Medications (n = 210)		
	Independent	12%
	Supermarket	13%
	Mass Merchandiser	12%
	Chain	31%
	Clinic	7%
	Mail Order	23%
	Other	2%
Healthcare Consumer Type (n = 212)		
	Healthy Half	14%
	Doctor Led	36%
	Self-Managers	38%
	Solution Seekers	12%
Medication Beliefs (SAVE/BURDEN) segments (n = 154)		
	HI SAVE / HI BURDEN	30%
	HI SAVE / LO BURDEN	28%
	LO SAVE / HI BURDEN	21%
	LO SAVE / LO BURDEN	21%
Medication Beliefs (USE/HARM) segments (n = 203)		
	LO USE / LO HARM	32%
	LO USE / HI HARM	28%

	HI USE / LO HARM HI USE / HI HARM	23% 17%
Patient Activation segments (n = 184)	ALL MEDIUM ALL HIGH ALL LOW	61% 25% 14%
Information Seeking (Behavioral Aspects) segments (n = 212)	ALL MEDIUM ALL LOW ALL HIGH	47% 35% 18%
Information Seeking (Evaluative Aspects) segments (n = 201)	HI SAT/LO LOAD MED SAT/MED LOAD LO SAT/HI LOAD	52% 32% 16%
Nature of Interactions – Physician and Pharmacist (n = 212)	MD shared / RPH information MD shared / RPH advice, negotiation, relationship MD informed, paternalistic / RPH information	46% 30% 24%
Nature of Interactions – Shared Decision-Making (n = 209)	ALL HIGH ALL MEDIUM ALL LOW	49% 42% 9%

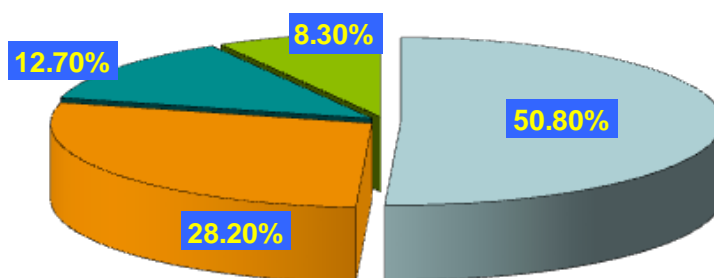
The distribution of responders revealed variation for demographic variables. When compared with estimates for the adult population in the United States, our responders were older and more likely female. Our responder group was underrepresented for Blacks and overrepresented for Whites. Income and geographic distributions were similar to that of the adult population overall.



For an interactive map that summarizes descriptive findings by census division, go to:
www.d.umn.edu/gac/main/schommer.html.

SECTION 4
HEALTH CARE CONSUMER TYPE

Research regarding **Healthcare Consumer Type** already was completed by White et al. [17] and was applied for this study. In their study published in the International Journal of Advertising, White and colleagues acknowledged that “not everyone responds to drug information in the same way.” To help understand different segments of the American population, they conducted a statistical analysis of consumer characteristics and identified four broad groups based on how they respond to health information and advertising of health-related products.



The first group, the **“Healthy Half,”** consists of the 51 percent who have no obvious health problems and consider themselves to be in excellent health. They have little interest in health information from any source and are largely immune to commercial messages.

The 28 percent who make up the second cluster, the **“Doctor-Led,”** tend to have lifestyle-restricting conditions and are receptive to the messages in drug advertisements. Although they often discuss advertised medicines with their doctors, they unfailingly defer to their physician’s judgment and advice, using only those treatments that their doctor prescribes. Individuals in this group are likely to be reminded by advertising to refill an existing prescription or to resume treatment.

Thirteen percent fall into the third group, **“Self-Managers.”** They report above-average health, and their complaints tend to be occasional or seasonal. This group tends to self-treat with over-the-counter medications. They are not particularly responsive to advertising or other health-related information.

The fourth cluster, **“Solution Seekers,”** consists of the remaining eight percent of U.S. adults. This group suffers from conditions that restrict their lifestyle, and they are receptive to advertising messages because they proactively seek new solutions to their health care wants and needs. They report below-average health and are more inclined than the other groups to take medicines to prevent symptoms rather than just treat symptoms of a disease and to respond to advertised messages about their conditions. In addition to using information from advertisements, they read health-related publications and use the Internet to research their conditions and possible treatments. After doing their homework, they discuss what they have learned with their physician and often ask to try a particular drug.

Most of the 214 responders to the **National Consumer Survey on the Medication Experience (NCSME)** were able to select one of these four categories as a descriptor for themselves. However, based on written comments from some responders, we adjusted the definitions of the categories for use in this study as follows:

HEALTHY HALF – typically have no obvious health problems and/or consider themselves to be in excellent health. Most don’t pay much attention to information about medications on TV, in print, or on the internet since they don’t use medications or would rather not use medications.

DOCTOR LED – typically have lifestyle-restricting conditions and most pay attention to information about medications on TV, in print, or on the internet. They prefer to discuss this information with their physician and defer to their physician’s judgment and advice about what medications to use.

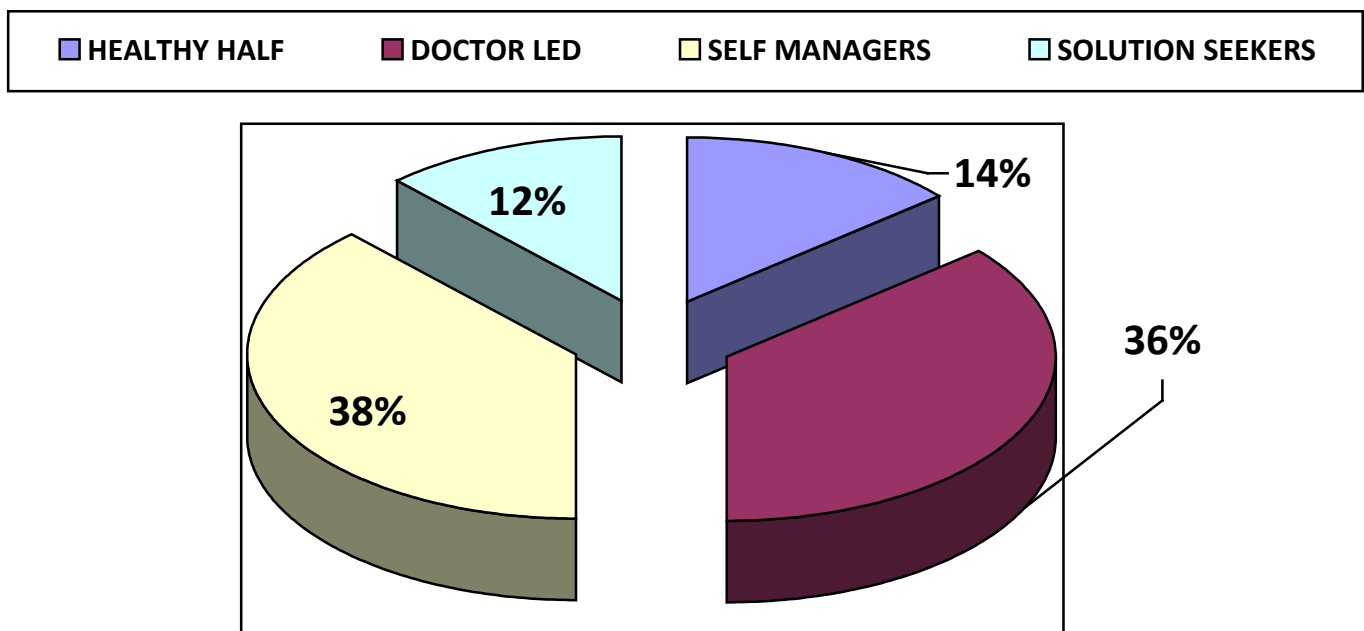
SELF-MANAGER – Most in this category aspire to have above-average health with many health complaints being only

occasional or seasonal. They most usually self-treat with medicines or other remedies that are available without a doctor's prescription (or aspire to be able to do this). If they use a prescription medication, it is typically for just a short time. They usually don't pay much attention to information about medications when they see it on TV, in print, or on the internet.

SOLUTION SEEKER - typically suffer from conditions that restrict their lifestyle and they are receptive to health information from various sources. They actively seek new solutions to their health care wants and needs. Most are below-average health (or strive to avoid being in this situation) and sometimes take medicines to prevent symptoms rather than just treat symptoms of a disease. They seek out information about health and medicines. After doing their homework, they often discuss what they have learned with their physician and often ask to try a particular drug.

Of the 212 respondents who answered this question in our study, 38 percent were Self-Managers, 36 percent were Doctor Led, 14 percent were in the Healthy Half, and 12 percent were Solution Seekers. The table below shows the distribution of responses for our study compared with the study by White and colleagues.

Healthcare Consumer Type	White et al. Study Sample Survey conducted 2002-2003 (n = approximately 21,000)	Study Sample Survey conducted 2013 (n =212)
Healthy Half	51%	14%
Doctor Led	28%	36%
Self-Managers	13%	38%
Solution Seekers	8%	12%



Our study differed from the White et al. study for two reasons. First, our study was focused upon the medication experience and a primary reason for not participating in our study was given as “do not take any medications.” Thus, individuals in the Healthy Half were the least likely to respond to our survey.

Second, our study was conducted over 10 year later than the White et al. study and the composition of the population changed over that time period. It is likely that the new generations of medication users are in the more self-reliant Baby Boomer generation. Thus, they would be less likely to be in the Doctor led group and more likely to be in the Self-Manager group. We will keep these differences in mind as we analyze and interpret the findings.

Characteristics of the respondents for HEALTH CARE CONSUMER TYPES are summarized in the table below.

Variable	Healthy Half	Doctor Led	Self - Managers	Solution Seekers	OVERALL
Generational Cohort	(n = 29)	(n = 74)	(n = 81)	(n = 25)	(n = 209)
GI and Silent (born 1945 or earlier)	7%	31%	14%	20%	20%
Baby Boomer I (born 1946-1955)	10%	35%	19%	28%	24%
Baby Boomer II (born 1956-1964)	21%	20%	32%	24%	25%
Gen X, Buster (born 1965-1983)	45%	11%	31%	28%	25%
Gen Y, Millennial (born 1984-2002)	17%	3%	5%	0%	5%
Chi-Square, p-value < 0.001					
Gender	(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
Male	38%	52%	32%	32%	40%
Female	62%	48%	68%	68%	60%
Chi-Square, p-value = 0.06					
Race	(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
American Indian	0%	0%	2%	0%	1%
Asian	0%	5%	5%	0%	4%
Black	0%	8%	1%	12%	5%
Hispanic	10%	3%	6%	8%	6%
White	90%	84%	85%	80%	85%
Chi-Square, p-value = 0.16					
Marital Status	(n = 29)	(n = 74)	(n = 81)	(n = 25)	(n = 209)
Single	17%	8%	10%	20%	12%
Separated/Divorced	21%	15%	17%	12%	16%
Married	62%	62%	65%	56%	63%
Widowed	0%	15%	7%	12%	10%
Chi-Square, p-value = 0.36					
Household Income in 2012	(n = 28)	(n = 73)	(n = 81)	(n = 24)	(n = 206)
\$20,000 or less	11%	11%	6%	8%	9%
\$21,000 to \$40,000	11%	19%	22%	29%	20%
\$41,000 to \$60,000	14%	21%	22%	42%	23%
\$61,000 to \$100,000	32%	27%	26%	13%	26%
More than \$100,000	32%	22%	24%	8%	22%
Chi-Square, p-value = 0.31					
Census Division	(n = 28)	(n = 75)	(n = 81)	(n = 25)	(n = 209)
New England	0%	7%	5%	0%	4%
Middle Atlantic	4%	12%	7%	0%	8%
East North Central	25%	13%	20%	24%	19%
West North Central	11%	17%	15%	8%	14%
South Atlantic	21%	20%	14%	8%	16%
East South Central	4%	5%	7%	8%	6%
West South Central	4%	7%	12%	16%	10%

Mountain Pacific		14% 18%	8% 11%	6% 14%	12% 24%	9% 14%
Chi-Square, p-value = 0.55						
Census Region		(n = 28)	(n = 75)	(n = 81)	(n = 25)	(n = 209)
Northeast		4%	19%	12%	0%	12%
Midwest		36%	31%	35%	32%	33%
South		29%	32%	33%	32%	32%
West		32%	19%	20%	36%	23%
Chi-Square, p-value = 0.23						
Daily Prescription Drug Use		(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
None		59%	3%	49%	12%	30%
One		17%	9%	25%	12%	17%
Two		10%	19%	11%	16%	14%
Three		10%	17%	6%	24%	13%
Four		3%	21%	6%	16%	12%
Five or more		0%	31%	2%	20%	14%
Chi-Square, p-value < 0.001						
Daily Use of Self-Care/Complementary Therapies		(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
None		69%	40%	51%	40%	48%
One		14%	20%	22%	28%	21%
Two		10%	21%	17%	8%	17%
Three or more		7%	19%	10%	24%	14%
Chi-Square, p-value = 0.15						
Purchasing Medications Causes Financial Hardship		(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
% Yes		0%	33%	19%	44%	24%
Chi-Square, p-value < 0.001						
Use of Medication Therapy Management services		(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
% Yes		0%	0%	0%	4%	1%
Chi-Square, p-value = 0.06						
Type of Pharmacy Typically Used		(n = 29)	(n = 75)	(n = 81)	(n = 25)	(n = 210)
Independent		10%	11%	15%	12%	12%
Supermarket		17%	9%	19%	0%	13%
Mass Merchandiser		10%	12%	10%	20%	12%
Chain		35%	21%	41%	24%	31%
Clinic		3%	9%	5%	8%	7%
Mail Order		10%	37%	11%	32%	23%
Other (none/compounding/hospital out-patient)		14%	0%	0%	4%	2%
Chi-Square, p-value < 0.001						
Healthcare Consumer Type		(n = 30)	(n = 76)	(n = 81)	(n = 25)	(n = 212)
Healthy Half		100%				14%
Doctor Led			100%			36%
Self-Managers				100%		38%
Solution Seekers					100%	12%

Medication Beliefs (SAVE/BURDEN) segments	(n = 10)	(n = 73)	(n = 49)	(n = 22)	(n = 154)
HI SAVE / HI BURDEN	0%	45%	2%	18%	30%
HI SAVE / LO BURDEN	10%	33%	27%	55%	28%
LO SAVE / HI BURDEN	30%	16%	29%	23%	21%
LO SAVE / LO BURDEN	60%	5%	43%	5%	21%
Chi-Square, p-value < 0.001					
Medication Beliefs (USE/HARM) segments	(n = 29)	(n = 74)	(n = 75)	(n = 25)	(n = 203)
LO USE / LO HARM	24%	42%	27%	28%	32%
LO USE / HI HARM	24%	28%	29%	28%	28%
HI USE / LO HARM	21%	19%	27%	28%	23%
HI USE / HI HARM	31%	11%	17%	16%	17%
Chi-Square, p-value = 0.33					
Patient Activation segments	(n = 21)	(n = 73)	(n = 67)	(n = 23)	(n = 184)
ALL MEDIUM	57%	70%	60%	43%	61%
ALL HIGH	43%	14%	30%	26%	25%
ALL LOW	0%	16%	10%	30%	14%
Chi-Square, p-value = 0.007					
Information Seeking (Behavioral Aspects) segments	(n = 30)	(n = 76)	(n = 81)	(n = 25)	(n = 212)
ALL MEDIUM	37%	50%	48%	48%	47%
ALL LOW	50%	37%	33%	20%	35%
ALL HIGH	13%	13%	19%	32%	18%
Chi-Square, p-value = 0.19					
Information Seeking (Evaluative Aspects) segments	(n = 25)	(n = 74)	(n = 77)	(n = 25)	(n = 201)
HI SAT/LO LOAD	44%	54%	55%	44%	52%
MED SAT/MED LOAD	44%	28%	29%	40%	32%
LO SAT/HI LOAD	12%	18%	17%	16%	16%
Chi-Square, p-value = 0.76					
Nature of Interactions – Physician and Pharmacist	(n = 30)	(n = 76)	(n = 81)	(n = 25)	(n = 212)
MD shared / RPH information	63%	47%	41%	40%	46%
MD shared / RPH advice, negotiation, relationship	33%	26%	27%	44%	30%
MD informed, paternalistic / RPH information	3%	26%	32%	16%	24%
Chi-Square, p-value = 0.04					
Nature of Interactions – Shared Decision-Making	(n = 28)	(n = 76)	(n = 80)	(n = 25)	(n = 209)
ALL HIGH	57%	42%	53%	52%	49%
ALL MEDIUM	29%	43%	43%	48%	42%
ALL LOW	14%	14%	5%	0%	9%
Chi-Square, p-value = 0.13					

The findings showed that the HEALTH CARE CONSUMER TYPES differed in terms of (1) Generational Cohort, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Type of Pharmacy Typically Used, (5) Medication Beliefs (SAVE/BURDEN), (6) Patient Activation, and (7) Nature of Interactions – Physician and Pharmacist.

As expected, the **HEALTHY HALF** segment was more likely to: (1) be the youngest, (2) be a non-user of prescription drugs on a daily basis, (3) experience no financial hardship from purchasing medications, (4) use no pharmacy at all, (5) view medications as neither a necessity nor a burden, (6) report high patient activation, and (7) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

In contrast, the **DOCTOR LED** segment was more likely to: (1) be the oldest, (2) be a high-user of prescription drugs, (3) experience financial hardship from purchasing medications, (4) use mail order pharmacies, (5) view medications as both a necessity and a burden, (6) report medium patient activation, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **SELF-MANAGER** segment was more likely to: (1) be of moderate age, (2) be a non-user or low-user of prescription drugs, (3) experience relatively low financial hardship from purchasing medications, (4) use chain pharmacies, (5) view medications as neither a necessity nor a burden, (6) report medium patient activation, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **SOLUTION SEEKER** segment was more likely to: (1) be of moderate age, (2) be a moderate-user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) use mail order pharmacies, (5) view medications as a necessity but not a burden, (6) report low patient activation, and (7) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

SECTION 5
MEDICATION BELIEFS

The second component we studied was called **Medication Beliefs** which reflects the perceived necessity and the perceived concern regarding the medications a person is using. Previous research suggests that some people tend to view their medications as life saviors that provide desired benefits and are a necessity in their lives [13-16,21-26]. Conversely, other people view their medications as life disruptors that are a reminder of illness and are a burden in their lives. In addition to the necessity – concern viewpoint, medication beliefs also reflect individuals’ opinions regarding the extent to which medications are overused in health care and their potential for harm.

Summary of Clusters associated with Medication Beliefs

Cluster (Segment) Composition for SAVE – BURDEN

	Segment 1 n = 46	Segment 2 n = 43	Segment 3 n = 33	Segment 4 n = 32	Overall N = 154
	HI SAVE HI BURDEN	HI SAVE LO BURDEN	LO SAVE HI BURDEN	LO SAVE LO BURDEN	
Segment Size (% of total)	(30%)	(28%)	(21%)	(21%)	(100%)
LIFESAVE [mean (sd)] ANOVA; p < 0.001	25.6 (2.9)	19.4 (2.7)	16.2 (3.1)	10.4 (2.8)	18.7 (6.2)
LIFEBURDEN [mean (sd)] ANOVA; p < 0.001	18.6 (3.1)	11.3 (2.7)	19.2 (3.4)	9.6 (2.5)	14.8 (5.1)

Four distinct clusters (segments) of respondents were identified. The largest segment (30% of the responders) viewed medicines as a life savior and a necessity but also as a burden and concern. The next largest segment (28% of responders) viewed medicines as a life savior and a necessity. However, they scored relatively low in terms of medicines being a burden or concern. The next segment (21% of responders) scored relatively low for medicines as a life savior/necessity and relatively high for medicines as a burden/concern. The final segment (21% of responders) scored relatively low on both savior/necessity and on burden/concern.

Cluster (Segment) Composition for USE - HARM

	Segment 1 n = 65	Segment 2 n = 57	Segment 3 n = 47	Segment 4 n = 34	Overall N = 203
	LO USE LO HARM	LO USE HI HARM	HI USE LO HARM	HI USE HI HARM	
Segment Size (% of total)	(32%)	(28%)	(23%)	(17%)	(100%)
OVERUSE [mean (sd)] ANOVA; p < 0.001	8.4 (2.3)	11.6 (1.3)	14.9 (1.5)	16.4 (1.7)	12.2 (3.5)
HARM [mean (sd)] ANOVA; p < 0.001	5.4 (1.4)	9.1 (1.7)	7.6 (1.7)	13.3 (2.3)	8.3 (3.2)

Four distinct clusters (segments) of respondents were identified. The largest segment (32% of the responders) scored relatively low regarding overuse and harmfulness of medicines. The next largest segment (28% of responders) scored relatively low in terms of medicines being overused, but scored relatively high regarding doing more harm than good. The next segment (23% of responders) scored relatively high for overuse of medicines, but relatively low regarding doing more harm than good. The final segment (17% of responders) scored relatively high on both overuse and on doing more harm than good.

Characteristics of the respondents for the SAVE – BURDEN CLUSTERS are summarized in the table below.

Variable	HI SAVE HI BURDEN	HI SAVE LO BURDEN	LO SAVE HI BURDEN	LO SAVE LO BURDEN	OVERALL
Generational Cohort	(n = 45)	(n = 43)	(n = 33)	(n = 32)	(n = 153)
GI and Silent (born 1945 or earlier)	36%	30%	12%	13%	24%
Baby Boomer I (born 1946-1955)	22%	30%	33%	16%	25%
Baby Boomer II (born 1956-1964)	24%	16%	33%	28%	25%
Gen X, Buster (born 1965-1983)	18%	23%	15%	28%	21%
Gen Y, Millennial (born 1984-2002)	0%	0%	6%	16%	5%
Chi-Square, p-value = 0.01					
Gender	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
Male	48%	35%	42%	47%	43%
Female	52%	65%	58%	53%	57%
Chi-Square, p-value = 0.61					
Race	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
American Indian	0%	0%	0%	3%	1%
Asian	2%	2%	3%	6%	3%
Black	7%	7%	3%	3%	5%
Hispanic	4%	2%	6%	9%	5%
White	87%	88%	88%	78%	86%
Chi-Square, p-value = 0.77					
Marital Status	(n = 46)	(n = 43)	(n = 32)	(n = 32)	(n = 153)
Single	7%	5%	19%	16%	10%
Separated/Divorced	13%	21%	6%	13%	14%
Married	67%	56%	69%	69%	65%
Widowed	13%	19%	6%	3%	11%
Chi-Square, p-value = 0.13					
Household Income in 2012	(n = 46)	(n = 42)	(n = 31)	(n = 32)	(n = 151)
\$20,000 or less	11%	17%	10%	0%	10%
\$21,000 to \$40,000	28%	12%	13%	22%	19%
\$41,000 to \$60,000	24%	24%	26%	13%	22%
\$61,000 to \$100,000	26%	26%	19%	28%	25%
More than \$100,000	11%	21%	32%	38%	24%
Chi-Square, p-value = 0.12					
Census Division	(n = 46)	(n = 43)	(n = 33)	(n = 31)	(n = 153)
New England	7%	5%	0%	10%	5%
Middle Atlantic	7%	9%	15%	13%	11%
East North Central	22%	16%	9%	13%	16%
West North Central	22%	12%	12%	10%	14%
South Atlantic	11%	19%	12%	16%	14%
East South Central	4%	7%	15%	7%	8%
West South Central	9%	12%	12%	7%	10%
Mountain	13%	5%	6%	13%	9%
Pacific	7%	16%	18%	13%	13%

Chi-Square, p-value = 0.73					
Census Region	(n = 46)	(n = 43)	(n = 33)	(n = 31)	(n = 153)
Northeast	13%	14%	15%	23%	16%
Midwest	44%	28%	21%	23%	30%
South	24%	37%	39%	29%	32%
West	20%	21%	24%	26%	22%
Chi-Square, p-value = 0.55					
Daily Prescription Drug Use	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
None	0%	9%	6%	31%	10%
One	0%	16%	36%	31%	19%
Two	26%	12%	12%	15%	17%
Three	13%	26%	18%	13%	18%
Four	24%	21%	12%	6%	17%
Five or more	37%	16%	15%	3%	19%
Chi-Square, p-value < 0.001					
Daily Use of Self-Care/Complementary Therapies	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
None	46%	40%	42%	53%	45%
One	22%	14%	39%	19%	23%
Two	11%	26%	9%	22%	17%
Three or more	22%	21%	9%	6%	16%
Chi-Square, p-value = 0.07					
Purchasing Medications Causes Financial Hardship	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
% Yes	41%	16%	30%	19%	27%
Chi-Square, p-value = 0.04					
Use of Medication Therapy Management services	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
% Yes	0%	0%	0%	0%	0%
Chi-Square, p-value = 1.00					
Type of Pharmacy Typically Used	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
Independent	7%	14%	15%	13%	12%
Supermarket	4%	12%	18%	19%	12%
Mass Merchandiser	11%	19%	9%	3%	11%
Chain	17%	21%	33%	34%	25%
Clinic	13%	5%	6%	9%	8%
Mail Order	48%	30%	18%	19%	31%
Other	0%	0%	0%	3%	1%
Chi-Square, p-value = 0.08					
Healthcare Consumer Type	(n = 46)	(n = 43)	(n = 33)	(n = 32)	(n = 154)
Healthy Half	0%	2%	9%	19%	6%
Doctor Led	72%	56%	36%	13%	47%
Self-Managers	2%	30%	42%	66%	32%
Solution Seekers	26%	12%	12%	3%	14%
Chi-Square, p-value < 0.001					

Medication Beliefs (SAVE/BURDEN) segments HI SAVE / HI BURDEN HI SAVE / LO BURDEN LO SAVE / HI BURDEN LO SAVE / LO BURDEN	(n = 46) 100%	(n = 43) 100%	(n = 33) 100%	(n = 32) 100%	(n = 154) 30% 28% 21% 21%
Medication Beliefs (USE/HARM) segments LO USE / LO HARM LO USE / HI HARM HI USE / LO HARM HI USE / HI HARM Chi-Square, p-value = 0.008	(n = 46) 41% 33% 17% 9%	(n = 43) 54% 33% 12% 2%	(n = 32) 19% 28% 25% 28%	(n = 31) 32% 26% 32% 10%	(n = 152) 38% 30% 20% 11%
Patient Activation segments ALL MEDIUM ALL HIGH ALL LOW Chi-Square, p-value = 0.005	(n = 45) 58% 13% 29%	(n = 43) 72% 23% 5%	(n = 32) 69% 19% 13%	(n = 29) 52% 41% 7%	(n = 149) 63% 23% 14%
Information Seeking (Behavioral Aspects) segments ALL MEDIUM ALL LOW ALL HIGH Chi-Square, p-value = 0.69	(n = 46) 41% 37% 22%	(n = 43) 51% 37% 12%	(n = 33) 58% 33% 9%	(n = 32) 47% 34% 19%	(n = 154) 49% 36% 16%
Information Seeking (Evaluative Aspects) segments HI SAT/LO LOAD MED SAT/MED LOAD LO SAT/HI LOAD Chi-Square, p-value < 0.001	(n = 45) 42% 36% 22%	(n = 43) 86% 12% 2%	(n = 31) 36% 39% 26%	(n = 31) 48% 42% 10%	(n = 150) 55% 31% 15%
Nature of Interactions – Physician and Pharmacist MD shared / RPH information MD shared / RPH advice, negotiation, relationship MD informed, paternalistic / RPH information Chi-Square, p-value = 0.02	(n = 46) 33% 30% 37%	(n = 43) 70% 21% 9%	(n = 33) 42% 30% 27%	(n = 32) 41% 34% 25%	(n = 154) 47% 29% 25%
Nature of Interactions – Shared Decision-Making ALL HIGH ALL MEDIUM ALL LOW Chi-Square, p-value = 0.34	(n = 46) 41% 52% 7%	(n = 42) 50% 33% 17%	(n = 33) 52% 46% 3%	(n = 32) 50% 41% 9%	(n = 153) 48% 43% 9%

The findings showed that the SAVE-BURDEN segments differed in terms of (1) Generational Cohort, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Health Care Consumer Type, (5) Medication Beliefs

(USE/HARM), (6) Patient Activation, (7) Information Seeking (Evaluative Aspects), and (8) Nature of Interactions – Physician and Pharmacist.

The **HI SAVE / HI BURDEN** segment was more likely to: (1) be of older age, (2) be a high-user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) be a Doctor Led or Solution Seeker consumer type, (5) vary in terms of USE/HARM medication beliefs, (6) report low patient activation, (7) experience low satisfaction and high overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **HI SAVE / LO BURDEN** segment was more likely to: (1) be of older age, (2) be a moderate-user of prescription drugs, (3) experience the lowest financial hardship from purchasing medications, (4) vary in terms of health care consumer type, (5) have the lowest USE/HARM medication beliefs, (6) report medium patient activation, (7) experience high satisfaction and low overload with information about medications, and (8) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **LO SAVE / HI BURDEN** segment was more likely to: (1) be of moderate age, (2) be a low-to-moderate user of prescription drugs, (3) experience moderate financial hardship from purchasing medications, (4) vary in terms of health care consumer type, (5) have the highest USE/HARM medication beliefs, (6) report medium patient activation, (7) experience low satisfaction and high overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **LO SAVE / LO BURDEN** segment was more likely to: (1) be of younger age, (2) be a low user of prescription drugs, (3) experience low financial hardship from purchasing medications, (4) be a Healthy Half or Self-Manager consumer type, (5) vary in terms of USE/HARM medication beliefs, (6) report the highest patient activation, (7) experience moderate satisfaction and moderate overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

Characteristics of the respondents for the USE - HARM CLUSTERS are summarized in the table below.

Variable	LO USE LO HARM	LO USE HI HARM	HI USE LO HARM	HI USE HI HARM	OVERALL
Generational Cohort	(n = 64)	(n = 57)	(n = 47)	(n = 33)	(n = 201)
GI and Silent (born 1945 or earlier)	28%	19%	13%	15%	20%
Baby Boomer I (born 1946-1955)	25%	21%	21%	30%	24%
Baby Boomer II (born 1956-1964)	19%	32%	28%	24%	25%
Gen X, Buster (born 1965-1983)	23%	25%	32%	24%	26%
Gen Y, Millennial (born 1984-2002)	5%	4%	6%	6%	5%
Chi-Square, p-value = 0.77					
Gender	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
Male	43%	47%	32%	38%	41%
Female	57%	53%	68%	62%	59%
Chi-Square, p-value = 0.43					
Race	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
American Indian	2%	0%	0%	3%	1%
Asian	3%	2%	2%	9%	3%
Black	3%	5%	6%	6%	5%
Hispanic	5%	9%	2%	6%	5%
White	88%	84%	89%	76%	85%
Chi-Square, p-value = 0.66					
Marital Status	(n = 65)	(n = 57)	(n = 46)	(n = 34)	(n = 202)
Single	6%	12%	15%	15%	11%
Separated/Divorced	17%	14%	20%	15%	16%
Married	63%	70%	59%	56%	63%
Widowed	14%	4%	7%	15%	9%
Chi-Square, p-value = 0.45					
Household Income in 2012	(n = 64)	(n = 57)	(n = 46)	(n = 32)	(n = 199)
\$20,000 or less	16%	7%	2%	6%	9%
\$21,000 to \$40,000	16%	28%	22%	16%	21%
\$41,000 to \$60,000	19%	26%	22%	25%	23%
\$61,000 to \$100,000	28%	19%	33%	22%	26%
More than \$100,000	22%	19%	22%	31%	23%
Chi-Square, p-value = 0.34					
Census Division	(n = 64)	(n = 57)	(n = 47)	(n = 34)	(n = 202)
New England	6%	4%	6%	0%	4%
Middle Atlantic	9%	7%	4%	6%	7%
East North Central	14%	19%	26%	21%	19%
West North Central	16%	11%	15%	15%	14%
South Atlantic	16%	18%	21%	9%	16%
East South Central	3%	12%	6%	3%	6%
West South Central	11%	18%	2%	6%	10%
Mountain	9%	5%	6%	15%	8%
Pacific	16%	7%	13%	27%	14%

Chi-Square, p-value = 0.26					
Census Region	(n = 64)	(n = 57)	(n = 47)	(n = 34)	(n = 202)
Northeast	16%	11%	11%	6%	11%
Midwest	30%	30%	40%	35%	33%
South	30%	47%	30%	18%	33%
West	25%	12%	19%	41%	23%
Chi-Square, p-value = 0.04					
Daily Prescription Drug Use	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
None	17%	21%	40%	47%	29%
One	15%	19%	14%	15%	16%
Two	15%	16%	13%	12%	14%
Three	15%	12%	19%	3%	13%
Four	11%	21%	6%	12%	13%
Five or more	26%	11%	6%	12%	15%
Chi-Square, p-value = 0.02					
Daily Use of Self-Care/Complementary Therapies	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
None	51%	51%	34%	56%	48%
One	15%	23%	26%	24%	21%
Two	18%	9%	23%	15%	16%
Three or more	15%	18%	17%	6%	15%
Chi-Square, p-value = 0.34					
Purchasing Medications Causes Financial Hardship	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
% Yes	14%	33%	30%	24%	25%
Chi-Square, p-value = 0.07					
Use of Medication Therapy Management services	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
% Yes	0%	0%	2%	0%	1%
Chi-Square, p-value = 0.34					
Type of Pharmacy Typically Used	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
Independent	14%	14%	13%	3%	12%
Supermarket	8%	14%	21%	9%	13%
Mass Merchandiser	8%	21%	9%	12%	12%
Chain	23%	28%	38%	35%	30%
Clinic	9%	5%	2%	12%	7%
Mail Order	38%	18%	15%	18%	24%
Other	0%	0%	2%	12%	2%
Chi-Square, p-value = 0.001					
Healthcare Consumer Type	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
Healthy Half	11%	12%	13%	27%	14%
Doctor Led	48%	37%	30%	24%	36%
Self-Managers	31%	39%	43%	38%	37%
Solution Seekers	11%	12%	15%	12%	12%
Chi-Square, p-value = 0.33					

Medication Beliefs (SAVE/BURDEN) segments	(n = 58)	(n = 46)	(n = 31)	(n = 17)	(n = 152)
HI SAVE / HI BURDEN	33%	33%	26%	24%	30%
HI SAVE / LO BURDEN	40%	30%	16%	6%	28%
LO SAVE / HI BURDEN	10%	20%	26%	53%	21%
LO SAVE / LO BURDEN	17%	17%	32%	18%	20%
Chi-Square, p-value = 0.008					
Medication Beliefs (USE/HARM) segments	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
LO USE / LO HARM	100%				32%
LO USE / HI HARM		100%			28%
HI USE / LO HARM			100%		23%
HI USE / HI HARM				100%	17%
Patient Activation segments	(n = 63)	(n = 52)	(n = 41)	(n = 23)	(n = 179)
ALL MEDIUM	60%	67%	59%	61%	62%
ALL HIGH	32%	15%	20%	26%	23%
ALL LOW	8%	17%	22%	13%	15%
Chi-Square, p-value = 0.26					
Information Seeking (Behavioral Aspects) segments	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
ALL MEDIUM	48%	49%	47%	38%	46%
ALL LOW	35%	37%	30%	41%	36%
ALL HIGH	17%	14%	23%	21%	18%
Chi-Square, p-value = 0.84					
Information Seeking (Evaluative Aspects) segments	(n = 64)	(n = 54)	(n = 45)	(n = 31)	(n = 194)
HI SAT/LO LOAD	78%	50%	40%	16%	52%
MED SAT/MED LOAD	17%	41%	31%	52%	32%
LO SAT/HI LOAD	5%	9%	29%	32%	16%
Chi-Square, p-value < 0.001					
Nature of Interactions – Physician and Pharmacist	(n = 65)	(n = 57)	(n = 47)	(n = 34)	(n = 203)
MD shared / RPH information	58%	44%	40%	32%	46%
MD shared / RPH advice, negotiation, relationship	23%	23%	45%	38%	31%
MD informed, paternalistic / RPH information	18%	33%	15%	29%	24%
Chi-Square, p-value = 0.02					
Nature of Interactions – Shared Decision-Making	(n = 65)	(n = 55)	(n = 47)	(n = 34)	(n = 201)
ALL HIGH	52%	44%	43%	59%	49%
ALL MEDIUM	35%	45%	55%	29%	42%
ALL LOW	12%	11%	2%	12%	9%
Chi-Square, p-value = 0.16					

The findings showed that the USE-HARM segments differed in terms of (1) Census Region, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Type of Pharmacy Typically Used, (5) Medication Beliefs (SAVE/BURDEN), (6) Information Seeking (Evaluative Aspects), and (7) Nature of Interactions – Physician and Pharmacist.

The **LO USE / LO HARM** segment was more likely to: (1) reside in the Northeast census region, (2) be a high-user of prescription drugs, (3) experience the lowest financial hardship from purchasing medications, (4) use a mail order pharmacy, (5) have HI SAVE / LO BURDEN medication beliefs, (6) experience high satisfaction and low overload with information about medications, and (7) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **LO USE / HI HARM** segment was more likely to: (1) reside in the South census region, (2) be a moderate user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) use a mass merchandiser pharmacy, (5) vary in terms of SAVE / BURDEN medication beliefs, (6) experience medium satisfaction and medium overload with information about medications, and (7) prefer an informed/paternalistic relationship with their physician and to prefer to use their pharmacist as an information source.

The **HI USE / LO HARM** segment was more likely to: (1) reside in the Midwest census region, (2) be a low-user of prescription drugs, (3) experience relatively high financial hardship from purchasing medications, (4) use a supermarket or chain pharmacy, (5) vary in terms of SAVE / BURDEN medication beliefs, (6) experience relatively low satisfaction and high overload with information about medications, and (7) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

The **HI USE / HI HARM** segment was more likely to: (1) reside in the West census region, (2) be a low-user of prescription drugs, (3) experience moderate financial hardship from purchasing medications, (4) use a clinic pharmacy or no pharmacy at all, (5) have LO SAVE / HI BURDEN medication beliefs, (6) experience low satisfaction and high overload with information about medications, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

SECTION 6
PATIENT ACTIVATION

The third component we studied was called **Patient Activation** which reflects the level of involvement and engagement a person has for being active in efforts aimed at improving his or her health [29-30].

Summary of Clusters associated with Patient Activation

	Segment 1 n = 113	Segment 2 n = 45	Segment 3 n = 26	Overall N = 184
	ALL MEDIUM	ALL HIGH	ALL LOW	
Segment Size (% of total)	(61%)	(25%)	(14%)	(100%)
RESP [mean (sd)] ANOVA; p < 0.001	13.2 (1.4)	14.6 (1.0)	11.0 (3.0)	13.2 (2.0)
BEH [mean (sd)] ANOVA; p < 0.001	14.9 (1.9)	18.4 (1.5)	12.5 (2.4)	15.4 (2.7)
KNOW [mean (sd)] ANOVA; p < 0.001	14.7 (1.3)	18.7 (1.5)	11.1 (2.1)	15.2 (2.8)

Three distinct clusters (segments) of respondents were identified. The largest segment (61% of the responders) scored in the medium range for RESP, BEH, and KNOW. The next largest segment (25% of responders) scored in the relatively high range for RESP, BEH, and KNOW. The final segment (14% of respondents) scored relatively low for RESP, BEH, and KNOW.

Characteristics of the respondents for the PATIENT ACTIVATION CLUSTERS are summarized in the table below.

Variable	ALL MEDIUM	ALL HIGH	ALL LOW	OVERALL
Generational Cohort	(n = 111)	(n = 45)	(n = 26)	(n = 182)
GI and Silent (born 1945 or earlier)	22%	11%	31%	20%
Baby Boomer I (born 1946-1955)	29%	22%	15%	25%
Baby Boomer II (born 1956-1964)	30%	20%	27%	27%
Gen X, Buster (born 1965-1983)	16%	42%	23%	24%
Gen Y, Millennial (born 1984-2002)	4%	4%	4%	4%
Chi-Square, p-value = 0.05				
Gender	(n = 112)	(n = 45)	(n = 26)	(n = 183)
Male	42%	24%	54%	39%
Female	58%	76%	46%	61%
Chi-Square, p-value = 0.03				
Race	(n = 112)	(n = 45)	(n = 26)	(n = 183)
American Indian	0%	2%	0%	1%
Asian	4%	2%	4%	4%
Black	5%	4%	0%	4%
Hispanic	6%	9%	0%	6%
White	84%	82%	96%	85%
Chi-Square, p-value = 0.48				
Marital Status	(n = 112)	(n = 45)	(n = 25)	(n = 182)
Single	10%	11%	16%	11%
Separated/Divorced	16%	13%	12%	15%
Married	63%	64%	64%	64%
Widowed	11%	11%	8%	10%
Chi-Square, p-value = 0.97				

Household Income in 2012	(n = 110)	(n = 45)	(n = 25)	(n = 180)
\$20,000 or less	7%	16%	4%	9%
\$21,000 to \$40,000	18%	18%	32%	20%
\$41,000 to \$60,000	22%	22%	28%	23%
\$61,000 to \$100,000	28%	22%	24%	26%
More than \$100,000	25%	22%	12%	22%
Chi-Square, p-value = 0.47				
Census Division	(n = 112)	(n = 44)	(n = 26)	(n = 182)
New England	4%	5%	8%	4%
Middle Atlantic	9%	9%	0%	8%
East North Central	19%	16%	19%	18%
West North Central	15%	9%	15%	14%
South Atlantic	17%	14%	23%	17%
East South Central	7%	2%	12%	7%
West South Central	10%	11%	8%	10%
Mountain	7%	14%	8%	9%
Pacific	13%	21%	8%	14%
Chi-Square, p-value = 0.79				
Census Region	(n = 112)	(n = 44)	(n = 26)	(n = 182)
Northeast	13%	14%	8%	12%
Midwest	34%	25%	35%	32%
South	34%	27%	42%	34%
West	20%	34%	15%	23%
Chi-Square, p-value = 0.41				
Daily Prescription Drug Use	(n = 112)	(n = 45)	(n = 26)	(n = 183)
None	18%	31%	23%	22%
One	15%	29%	8%	17%
Two	19%	9%	19%	16%
Three	18%	9%	12%	15%
Four	13%	11%	23%	14%
Five or more	18%	11%	15%	16%
Chi-Square, p-value = 0.15				
Daily Use of Self-Care/Complementary Therapies	(n = 112)	(n = 45)	(n = 26)	(n = 183)
None	43%	58%	50%	48%
One	24%	18%	12%	21%
Two	19%	11%	19%	17%
Three or more	14%	13%	19%	15%
Chi-Square, p-value = 0.54				
Purchasing Medications Causes Financial Hardship	(n = 112)	(n = 45)	(n = 26)	(n = 183)
% Yes	24%	18%	42%	25%
Chi-Square, p-value = 0.07				
Use of Medication Therapy Management services	(n = 112)	(n = 45)	(n = 26)	(n = 183)
% Yes	0%	0%	0%	0%
Chi-Square, p-value = 1.00				

Type of Pharmacy Typically Used	(n = 112)	(n = 45)	(n = 26)	(n = 183)
Independent	13%	9%	8%	11%
Supermarket	17%	13%	8%	15%
Mass Merchandiser	8%	11%	19%	10%
Chain	28%	31%	35%	30%
Clinic	8%	7%	4%	7%
Mail Order	26%	22%	27%	25%
Other	0%	7%	0%	2%
Chi-Square, p-value = 0.23				
Healthcare Consumer Type	(n = 113)	(n = 45)	(n = 26)	(n = 184)
Healthy Half	11%	20%	0%	11%
Doctor Led	45%	22%	46%	40%
Self-Managers	35%	44%	27%	36%
Solution Seekers	9%	13%	27%	13%
Chi-Square, p-value = 0.007				
Medication Beliefs (SAVE/BURDEN) segments	(n = 94)	(n = 34)	(n = 21)	(n = 149)
HI SAVE / HI BURDEN	28%	18%	19%	30%
HI SAVE / LO BURDEN	33%	18%	62%	28%
LO SAVE / HI BURDEN	23%	29%	10%	21%
LO SAVE / LO BURDEN	16%	35%	10%	20%
Chi-Square, p-value = 0.005				
Medication Beliefs (USE/HARM) segments	(n = 111)	(n = 42)	(n = 26)	(n = 179)
LO USE / LO HARM	34%	48%	19%	35%
LO USE / HI HARM	32%	19%	35%	29%
HI USE / LO HARM	22%	19%	35%	23%
HI USE / HI HARM	13%	14%	12%	13%
Chi-Square, p-value = 0.26				
Patient Activation segments	(n = 113)	(n = 45)	(n = 26)	(n = 184)
ALL MEDIUM	100%			61%
ALL HIGH		100%		25%
ALL LOW			100%	14%
Information Seeking (Behavioral Aspects) segments	(n = 113)	(n = 45)	(n = 26)	(n = 184)
ALL MEDIUM	50%	44%	46%	48%
ALL LOW	32%	36%	42%	34%
ALL HIGH	18%	20%	12%	17%
Chi-Square, p-value = 0.80				
Information Seeking (Evaluative Aspects) segments	(n = 110)	(n = 44)	(n = 25)	(n = 179)
HI SAT/LO LOAD	51%	80%	20%	54%
MED SAT/MED LOAD	34%	16%	36%	30%
LO SAT/HI LOAD	15%	5%	44%	17%
Chi-Square, p-value < 0.001				
Nature of Interactions – Physician and Pharmacist	(n = 113)	(n = 45)	(n = 26)	(n = 184)
MD shared / RPH information	42%	53%	46%	45%
MD shared / RPH advice, negotiation, relationship	35%	29%	15%	30%

MD informed, paternalistic / RPH information	24%	18%	38%	24%
Chi-Square, p-value = 0.17				
Nature of Interactions – Shared Decision-Making	(n = 112)	(n = 45)	(n = 25)	(n = 182)
ALL HIGH	44%	69%	36%	49%
ALL MEDIUM	43%	27%	60%	42%
ALL LOW	13%	4%	4%	9%
Chi-Square, p-value = 0.01				

The findings showed that the PATIENT ACTIVATION segments differed in terms of (1) Generational Cohort, (2) Gender, (3) Health Care Consumer Type, (4) Medication Beliefs (SAVE/BURDEN), (5) Information Seeking (Evaluative Aspects), and (6) Nature of Interactions – Shared Decision-making.

The **ALL MEDIUM** segment was more likely to: (1) be of moderate age, (2) be a balanced mix of males and females, (3) vary in terms of health care consumer type, (4) vary in terms of SAVE / BURDEN medication beliefs, (5) vary in terms of satisfaction and overload with information about medications, and (6) vary in their preferences for shared decision-making with healthcare providers.

The **ALL HIGH** segment was more likely to: (1) be of younger age, (2) be female, (3) be the Self Manager health care consumer type, (4) have LO SAVE / LO BURDEN medication beliefs, (5) experience high satisfaction and low overload with information about medications, and (6) be in the ALL HIGH segment for shared decision-making with healthcare providers.

The **ALL LOW** segment was more likely to: (1) be of older age, (2) be male, (3) be the Solution Seeker health care consumer type, (4) have HI SAVE / LO BURDEN medication beliefs, (5) experience low satisfaction and high overload with information about medications, and (6) be in the ALL MEDIUM segment for shared decision-making with healthcare providers.

SECTION 7
INFORMATION SEEKING

The fourth component we studied was called **Information Seeking** which represents both behavioral and evaluative aspects of information search [18, 31-36]. The behavioral aspect relates to information sources that are used for information seeking and include: (1) homophilous sources (people with whom the seeker may have similar attributes), (2) professional sources, (3) websites (which tend to be unidirectional in nature), and (4) social media (which are bi-directional in nature). The evaluative aspects relate to (1) information satisfaction and (2) information overload.

Summary of Clusters associated with Information Behavior

	Segment 1 n = 100	Segment 2 n = 75	Segment 3 n = 37	Overall N = 212
	ALL MEDIUM	ALL LOW	ALL HIGH	
Segment Size (% of total)	(47%)	(35%)	(18%)	(100%)
HOMOPHILY [mean (sd)] ANOVA; p < 0.001	7.0 (2.0)	5.8 (2.4)	8.5 (2.5)	6.8 (2.4)
PROFESSIONAL [mean (sd)] ANOVA; p < 0.001	14.4 (2.4)	11.7 (3.7)	15.6 (2.7)	13.7 (3.3)
WEBSITE [mean (sd)] ANOVA; p < 0.001	11.8 (1.9)	6.0 (1.5)	18.0 (3.1)	10.8 (4.7)
SOCIAL MEDIA [mean (sd)] ANOVA; p < 0.001	4.5 (1.4)	3.4 (1.2)	6.6 (3.1)	4.5 (2.1)

Three distinct clusters (segments) of respondents were identified. The largest segment (47% of the responders) scored in the medium range for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA. The next largest segment (35% of responders) scored in the relatively low range for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA. The final segment (18% of respondents) scored relatively high for HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA.

Summary of Clusters associated with Information Evaluation

	Segment 1 n = 104	Segment 2 n = 64	Segment 3 n = 33	Overall N = 201
	HI SAT LO LOAD	MED SAT MED LOAD	LO SAT HI LOAD	
Segment Size (% of total)	(52%)	(32%)	(16%)	(100%)
INFOSAT [mean (sd)] ANOVA; p < 0.001	15.9 (1.9)	14.3 (2.3)	13.7 (2.3)	15.0 (2.3)
INFOLOAD [mean (sd)] ANOVA; p < 0.001	8.9 (2.1)	13.8 (1.6)	19.3 (2.5)	12.2 (4.3)

Three distinct clusters (segments) of respondents were identified. The largest segment (52% of the responders) scored relatively high for satisfaction with information about medications and relatively low for experiencing information overload when learning about medications. The next largest segment (32% of responders) scored in medium range for both information satisfaction and information overload. The final segment (16% of respondents) scored relatively low for information satisfaction and relatively high for information overload.

Characteristics of the respondents for the INFORMATION BEHAVIOR CLUSTERS are summarized in the table below.

Variable	ALL MEDIUM	ALL LOW	ALL HIGH	OVERALL
Generational Cohort	(n = 100)	(n = 73)	(n = 36)	(n = 209)
GI and Silent (born 1945 or earlier)	14%	34%	6%	20%
Baby Boomer I (born 1946-1955)	26%	27%	14%	24%
Baby Boomer II (born 1956-1964)	31%	14%	33%	25%
Gen X, Buster (born 1965-1983)	21%	21%	47%	25%
Gen Y, Millennial (born 1984-2002)	8%	4%	0%	5%
Chi-Square, p-value < 0.001				

Gender	Male	(n = 100)	(n = 73)	(n = 37)	(n = 210)
	Female	37%	45%	38%	40%
	Chi-Square, p-value = 0.53	63%	55%	62%	60%
Race	American Indian	(n = 100)	(n = 73)	(n = 37)	(n = 210)
	Asian	0%	1%	3%	1%
	Black	7%	0%	3%	4%
	Hispanic	3%	0%	19%	5%
	White	6%	8%	0%	6%
	Chi-Square, p-value < 0.001	84%	90%	76%	85%
Marital Status	Single	(n = 99)	(n = 73)	(n = 37)	(n = 209)
	Separated/Divorced	11%	11%	14%	11%
	Married	13%	18%	22%	16%
	Widowed	70%	55%	60%	63%
	Chi-Square, p-value = 0.20	6%	16%	5%	10%
Household Income in 2012	\$20,000 or less	(n = 99)	(n = 71)	(n = 36)	(n = 206)
	\$21,000 to \$40,000	8%	13%	3%	9%
	\$41,000 to \$60,000	20%	20%	22%	20%
	\$61,000 to \$100,000	27%	18%	19%	23%
	More than \$100,000	23%	28%	28%	26%
	Chi-Square, p-value = 0.70	21%	21%	28%	22%
Census Division	New England	(n = 100)	(n = 73)	(n = 36)	(n = 209)
	Middle Atlantic	3%	5%	6%	4%
	East North Central	3%	14%	8%	8%
	West North Central	17%	21%	19%	19%
	South Atlantic	17%	12%	11%	14%
	East South Central	18%	11%	22%	16%
	West South Central	5%	5%	11%	6%
	Mountain	12%	11%	0%	10%
	Pacific	7%	11%	8%	9%
	Chi-Square, p-value = 0.25	18%	10%	14%	14%
Census Region	Northeast	(n = 100)	(n = 73)	(n = 36)	(n = 209)
	Midwest	6%	19%	14%	12%
	South	34%	33%	31%	33%
	West	35%	27%	33%	32%
	Chi-Square, p-value = 0.28	25%	21%	22%	23%
Daily Prescription Drug Use	None	(n = 100)	(n = 73)	(n = 37)	(n = 210)
	One	28%	30%	32%	30%
	Two	21%	11%	16%	17%
		17%	7%	22%	14%

Three	10%	16%	14%	13%
Four	14%	15%	3%	12%
Five or more	10%	21%	14%	14%
Chi-Square, p-value = 0.11				
Daily Use of Self-Care/Complementary Therapies	(n = 100)	(n = 73)	(n = 37)	(n = 210)
None	41%	59%	46%	48%
One	23%	15%	27%	21%
Two	23%	11%	11%	17%
Three or more	13%	15%	16%	14%
Chi-Square, p-value = 0.14				
Purchasing Medications Causes Financial Hardship	(n = 100)	(n = 73)	(n = 37)	(n = 210)
% Yes	28%	18%	27%	24%
Chi-Square, p-value = 0.28				
Use of Medication Therapy Management services	(n = 100)	(n = 73)	(n = 37)	(n = 210)
% Yes	0%	0%	3%	1%
Chi-Square, p-value = 0.10				
Type of Pharmacy Typically Used	(n = 100)	(n = 73)	(n = 37)	(n = 210)
Independent	10%	15%	14%	12%
Supermarket	16%	5%	19%	13%
Mass Merchandiser	12%	14%	8%	12%
Chain	36%	22%	35%	31%
Clinic	7%	8%	3%	7%
Mail Order	18%	30%	22%	23%
Other	1%	5%	0%	2%
Chi-Square, p-value = 0.12				
Healthcare Consumer Type	(n = 100)	(n = 75)	(n = 37)	(n = 212)
Healthy Half	11%	20%	11%	14%
Doctor Led	38%	37%	27%	36%
Self-Managers	39%	36%	41%	38%
Solution Seekers	12%	7%	22%	12%
Chi-Square, p-value = 0.19				
Medication Beliefs (SAVE/BURDEN) segments	(n = 75)	(n = 55)	(n = 24)	(n = 154)
HI SAVE / HI BURDEN	25%	31%	42%	30%
HI SAVE / LO BURDEN	29%	29%	21%	28%
LO SAVE / HI BURDEN	25%	20%	13%	21%
LO SAVE / LO BURDEN	20%	20%	25%	21%
Chi-Square, p-value = 0.69				
Medication Beliefs (USE/HARM) segments	(n = 94)	(n = 72)	(n = 37)	(n = 203)
LO USE / LO HARM	33%	32%	30%	32%
LO USE / HI HARM	30%	29%	22%	28%
HI USE / LO HARM	23%	19%	30%	23%
HI USE / HI HARM	14%	19%	19%	17%
Chi-Square, p-value = 0.84				

Patient Activation segments	(n = 89)	(n = 63)	(n = 32)	(n = 184)
ALL MEDIUM	64%	57%	63%	61%
ALL HIGH	22%	25%	28%	25%
ALL LOW	13%	17%	9%	14%
Chi-Square, p-value = 0.80				
Information Seeking (Behavioral Aspects) segments	(n = 100)	(n = 75)	(n = 37)	(n = 212)
ALL MEDIUM	100%			47%
ALL LOW		100%		35%
ALL HIGH			100%	18%
Information Seeking (Evaluative Aspects) segments	(n = 97)	(n = 67)	(n = 37)	(n = 201)
HI SAT/LO LOAD	59%	40%	54%	52%
MED SAT/MED LOAD	28%	37%	32%	32%
LO SAT/HI LOAD	13%	22%	14%	16%
Chi-Square, p-value = 0.20				
Nature of Interactions – Physician and Pharmacist	(n = 100)	(n = 75)	(n = 37)	(n = 212)
MD shared / RPH information	43%	56%	35%	46%
MD shared / RPH advice, negotiation, relationship	34%	15%	49%	30%
MD informed, paternalistic / RPH information	23%	29%	16%	24%
Chi-Square, p-value = 0.004				
Nature of Interactions – Shared Decision-Making	(n = 99)	(n = 73)	(n = 37)	(n = 209)
ALL HIGH	44%	53%	54%	49%
ALL MEDIUM	47%	34%	41%	42%
ALL LOW	8%	12%	5%	9%
Chi-Square, p-value = 0.38				

The findings showed that the INFORMATION BEHAVIOR segments differed in terms of (1) Generational Cohort, (2) Race, and (3) Nature of Interactions – Physician and Pharmacist.

The **ALL MEDIUM** segment was more likely to: (1) be of moderate age, (2) vary in terms of race, and (3) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **ALL LOW** segment was more likely to: (1) be of older age, (2) be White, and (3) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **ALL HIGH** segment was more likely to: (1) be of younger age, (2) be Black, and (3) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

Characteristics of the respondents for the INFORMATION EVALUATION CLUSTERS are summarized in the table below.

Variable	HI SAT LO LOAD	MED SAT MED LOAD	LO SAT HI LOAD	OVERALL
Generational Cohort	(n = 103)	(n = 63)	(n = 32)	(n = 198)
GI and Silent (born 1945 or earlier)	17%	19%	28%	20%
Baby Boomer I (born 1946-1955)	26%	24%	25%	25%
Baby Boomer II (born 1956-1964)	28%	22%	28%	26%
Gen X, Buster (born 1965-1983)	23%	29%	19%	24%
Gen Y, Millennial (born 1984-2002)	5%	6%	0%	5%
Chi-Square, p-value = 0.76				
Gender	(n = 104)	(n = 64)	(n = 32)	(n = 200)
Male	41%	48%	28%	40%
Female	59%	52%	72%	60%
Chi-Square, p-value = 0.16				
Race	(n = 104)	(n = 64)	(n = 32)	(n = 200)
American Indian	1%	2%	0%	1%
Asian	2%	6%	6%	4%
Black	6%	5%	3%	5%
Hispanic	5%	5%	9%	6%
White	87%	83%	81%	85%
Chi-Square, p-value = 0.82				
Marital Status	(n = 104)	(n = 64)	(n = 32)	(n = 200)
Single	11%	13%	9%	11%
Separated/Divorced	20%	6%	22%	16%
Married	62%	70%	56%	64%
Widowed	8%	11%	13%	10%
Chi-Square, p-value = 0.28				
Household Income in 2012	(n = 104)	(n = 62)	(n = 31)	(n = 197)
\$20,000 or less	12%	6%	6%	9%
\$21,000 to \$40,000	14%	27%	23%	20%
\$41,000 to \$60,000	20%	23%	29%	22%
\$61,000 to \$100,000	28%	19%	32%	26%
More than \$100,000	26%	24%	10%	23%
Chi-Square, p-value = 0.25				
Census Division	(n = 103)	(n = 64)	(n = 32)	(n = 199)
New England	5%	5%	3%	5%
Middle Atlantic	9%	8%	3%	8%
East North Central	16%	17%	28%	18%
West North Central	15%	13%	16%	14%
South Atlantic	18%	11%	16%	16%
East South Central	8%	5%	6%	7%
West South Central	8%	14%	6%	10%
Mountain	8%	11%	9%	9%

Pacific	15%	17%	13%	15%
Chi-Square, p-value = 0.94				
Census Region	(n = 103)	(n = 64)	(n = 32)	(n = 199)
Northeast	14%	13%	6%	12%
Midwest	30%	30%	44%	32%
South	34%	30%	28%	32%
West	22%	28%	22%	24%
Chi-Square, p-value = 0.72				
Daily Prescription Drug Use	(n = 104)	(n = 64)	(n = 32)	(n = 200)
None	23%	36%	28%	28%
One	18%	16%	13%	17%
Two	14%	16%	16%	15%
Three	14%	14%	6%	13%
Four	15%	9%	13%	13%
Five or more	14%	9%	25%	15%
Chi-Square, p-value = 0.54				
Daily Use of Self-Care/Complementary Therapies	(n = 104)	(n = 64)	(n = 32)	(n = 200)
None	43%	45%	59%	47%
One	20%	31%	6%	22%
Two	18%	14%	19%	17%
Three or more	18%	9%	16%	15%
Chi-Square, p-value = 0.11				
Purchasing Medications Causes Financial Hardship	(n = 104)	(n = 64)	(n = 32)	(n = 200)
% Yes	22%	23%	41%	24%
Chi-Square, p-value = 0.10				
Use of Medication Therapy Management services	(n = 104)	(n = 64)	(n = 32)	(n = 200)
% Yes	0%	2%	0%	1%
Chi-Square, p-value = 0.34				
Type of Pharmacy Typically Used	(n = 104)	(n = 64)	(n = 32)	(n = 200)
Independent	11%	13%	13%	12%
Supermarket	13%	11%	16%	13%
Mass Merchandiser	11%	14%	9%	12%
Chain	33%	31%	28%	32%
Clinic	4%	11%	9%	7%
Mail Order	28%	17%	22%	24%
Other	1%	3%	3%	2%
Chi-Square, p-value = 0.82				
Healthcare Consumer Type	(n = 104)	(n = 64)	(n = 33)	(n = 201)
Healthy Half	11%	17%	9%	12%
Doctor Led	38%	33%	39%	37%
Self-Managers	40%	34%	39%	38%
Solution Seekers	11%	16%	12%	12%
Chi-Square, p-value = 0.76				
Medication Beliefs (SAVE/BURDEN) segments	(n = 82)	(n = 46)	(n = 22)	(n = 150)

HI SAVE / HI BURDEN	23%	35%	45%	21%
HI SAVE / LO BURDEN	45%	11%	5%	30%
LO SAVE / HI BURDEN	13%	26%	36%	29%
LO SAVE / LO BURDEN	18%	28%	14%	21%
Chi-Square, p-value < 0.001				
Medication Beliefs (USE/HARM) segments	(n = 100)	(n = 63)	(n = 31)	(n = 194)
LO USE / LO HARM	50%	17%	10%	33%
LO USE / HI HARM	27%	35%	16%	28%
HI USE / LO HARM	18%	22%	42%	23%
HI USE / HI HARM	5%	25%	32%	16%
Chi-Square, p-value < 0.001				
Patient Activation segments	(n = 96)	(n = 53)	(n = 30)	(n = 179)
ALL MEDIUM	58%	70%	57%	61%
ALL HIGH	37%	13%	7%	25%
ALL LOW	5%	17%	37%	14%
Chi-Square, p-value < 0.001				
Information Seeking (Behavioral Aspects) segments	(n = 104)	(n = 64)	(n = 33)	(n = 201)
ALL MEDIUM	55%	42%	39%	48%
ALL LOW	26%	39%	45%	33%
ALL HIGH	19%	19%	15%	18%
Chi-Square, p-value = 0.20				
Information Seeking (Evaluative Aspects) segments	(n = 104)	(n = 64)	(n = 33)	(n = 201)
HI SAT/LO LOAD	100%			52%
MED SAT/MED LOAD		100%		32%
LO SAT/HI LOAD			100%	16%
Nature of Interactions – Physician and Pharmacist	(n = 104)	(n = 64)	(n = 33)	(n = 201)
MD shared / RPH information	53%	42%	24%	45%
MD shared / RPH advice, negotiation, relationship	32%	25%	39%	31%
MD informed, paternalistic / RPH information	15%	33%	36%	24%
Chi-Square, p-value = 0.009				
Nature of Interactions – Shared Decision-Making	(n = 104)	(n = 62)	(n = 33)	(n = 199)
ALL HIGH	50%	47%	52%	49%
ALL MEDIUM	39%	44%	45%	42%
ALL LOW	11%	10%	3%	9%
Chi-Square, p-value = 0.73				

The findings showed that the INFORMATION EVALUATION segments differed in terms of (1) Medication Beliefs (SAVE/BURDEN), (2) Medication Beliefs (USE/HARM), (3) Patient Activation, and (4) Nature of Interactions – Physician and Pharmacist.

The **HI SAT / LO LOAD** segment was more likely to: (1) have HI SAVE / LO BURDEN medication beliefs, (2) have LO USE / LO HARM medication beliefs, (3) be in the ALL HIGH patient activation segment, and (4) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **MED SAT / MED LOAD** segment was more likely to: (1) vary in terms of SAVE/BURDEN medication beliefs, (2) vary in terms of USE/HARM medication beliefs, (3) be in the ALL MEDIUM patient activation segment, and (4) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **LO SAT / HI LOAD** segment was more likely to: (1) have HI SAVE / HI BURDEN medication beliefs, (2) have HI USE / HI HARM medication beliefs, (3) be in the ALL LOW patient activation segment, and (4) prefer an informed/paternalistic relationship with their physician and to prefer to use their pharmacist as an information source.

SECTION 8
NATURE OF INTERACTIONS WITH HEALTH PROFESSIONALS FOR DECISION-MAKING

The fifth component we studied was called **Nature of Interactions with Health Professionals for Decision-Making** which represents preferences for interacting with a:

1. physician during the prescribing of a medication [37-38],
2. pharmacist during the dispensing of a medication [19],
3. health professional during shared-decision making about medication use [39].

Preferences for **interacting with a physician during the prescribing of a medication (INTERACTMD)** was measured using one question with four response categories [37-38]:

1 = PATERNALISTIC – I prefer that a prescriber of a medication makes the treatment decision on his or her own and then tells me about that decision using one-way communication, limited to a discussion of medical topics, with a minimum amount of information shared between us.

2 = INFORMED – I prefer one-way communication from the prescriber to me that is only about medical topics. However, I want the prescriber to share all of the relevant medical information with me and then let me make the treatment decision on my own.

3 = SHARED – I prefer two-way communication with the prescriber in which both medical and personal information is shared. After all relevant information is shared for decision-making, the prescriber and I make decisions together.

4 = NONE - I prefer little or no interaction or involvement with the physician. Getting the prescription is all I need.

Preferences for **interacting with a pharmacist during the dispensing of a medication (INTERACTRPH)** was measured using one question with five response categories [19]:

1 = NONE – I prefer little or no interaction or involvement with the pharmacist. Getting the product is all I need.

2 = INFORMATION – I prefer receiving information (written and verbal) about the medication and standard instructions for how to use it.

3 = ADVICE – I prefer receiving advice from the pharmacist (consultation) to learn about his or her recommendations for how I should use the medication within my personal circumstances.

4 = NEGOTIATION – I prefer telling the pharmacist about my personal preferences and then having the pharmacist make necessary changes to make sure I can use the medications that I can afford and want to use.

5= RELATIONSHIP – I prefer developing a professional relationship with my pharmacist so that we can go over all of my medication therapy related needs each time we meet.

Based upon these two variables, the following clusters (segments) were identified for respondents' preferences for physician and pharmacist relationships.

Cluster (Segment) Composition for NATURE OF INTERACTIONS – PHYSICIAN AND PHARMACIST

	Segment 1 n = 98	Segment 2 n = 63	Segment 3 n = 51	Overall N = 212
	MD Shared RPH Information	MD Shared RPH Advice, Negotiation, Relationship	MD Informed, Paternalistic RPH Information	
Segment Size (% of total)	(46%)	(30%)	(24%)	(100%)
INTERACTMD Chi-Square; p < 0.001				
Paternalistic	0%	3%	29%	8%
Informed	0%	5%	71%	18%
Shared	97%	92%	0%	72%
None	3%	0%	0%	1%
INTERACTRPH Chi-Square, p < 0.001				
None	11%	0%	10%	7%
Information	89%	0%	65%	57%
Advice	0%	48%	25%	20%
Negotiation	0%	16%	0%	5%
Relationship	0%	37%	0%	11%

Three distinct clusters (segments) of respondents were identified. The largest segment (46% of the responders) preferred a shared relationship with their physician and preferred to use their pharmacist as an information source. The next largest segment (30% of responders) preferred a shared relationship with their physician and wanted to interact with their pharmacists for advice, negotiation, or professional relationship. The final segment (24% of responders) preferred an informed or a paternalistic relationship with their physician and to use their pharmacist as an information source.

Preferences for **interacting with a health professional during shared-decision making about medication use** was assessed using four factors which were related to the beliefs that health professionals should:

1. **actively listen to the patient (LISTEN)**
2. **tailor info in a way that is meaningful to the patient (TAILCOMM)**
3. **have competent self- and other-awareness (COMPETENCE)**
4. **engage in Shared Decision Making with patients (SDECMaking).**

Cluster (Segment) Composition for NATURE OF INTERACTIONS - SHARED DECISION-MAKING

	Segment 1 n = 103	Segment 2 n = 87	Segment 3 n = 19	Overall N = 209
	ALL HIGH	ALL MEDIUM	ALL LOW	
Segment Size (% of total)	(49%)	(42%)	(9%)	(100%)
LISTEN [mean (sd)] ANOVA; p < 0.001	33.1 (2.7)	28.4 (3.4)	20.9 (6.7)	30.0 (5.1)
TAILCOMM [mean (sd)] ANOVA; p < 0.001	32.0 (3.2)	25.1 (3.6)	15.1 (5.0)	27.6 (6.3)
COMPETENCE [mean (sd)] ANOVA; p < 0.001	43.6 (2.0)	37.0 (4.4)	22.2 (7.6)	38.9 (7.3)
SDECMaking [mean (sd)] ANOVA; p < 0.001	75.3 (4.1)	60.6 (5.3)	38.8 (10.7)	65.9 (12.3)

Three distinct clusters (segments) of respondents were identified. The largest segment (49% of the responders) scored relatively high on LISTEN, TAILCOMM, COMPETENCE, and SDECMaking. The next largest segment (42% of responders) scored in the medium range for the four variables. The final segment (9% of responders) scored relatively low on the four variables.

Characteristics of the respondents for the NATURE OF INTERACTIONS – PHYSICIAN AND PHARMACIST CLUSTERS are summarized in the table below.

MD-S = MD Shared MD-I/P = MD Informed, Paternalistic		RPH-I = RPH Information RPH-A/N/R = RPH Advice, Negotiation, Relationship			
Variable		MD-S RPH-I	MD-S RPH-A/N/R	MD-I/P RPH-I	OVERALL
Generational Cohort		(n = 97)	(n = 62)	(n = 50)	(n = 209)
GI and Silent (born 1945 or earlier)		21%	21%	16%	20%
Baby Boomer I (born 1946-1955)		27%	24%	20%	24%
Baby Boomer II (born 1956-1964)		20%	27%	34%	25%
Gen X, Buster (born 1965-1983)		26%	23%	28%	25%
Gen Y, Millennial (born 1984-2002)		7%	5%	2%	5%
Chi-Square, p-value = 0.65					
Gender		(n = 97)	(n = 63)	(n = 50)	(n = 210)
Male		43%	32%	44%	40%
Female		57%	68%	56%	60%
Chi-Square, p-value = 0.28					
Race		(n = 97)	(n = 63)	(n = 50)	(n = 210)
American Indian		1%	2%	0%	1%
Asian		3%	6%	2%	4%
Black		3%	8%	4%	5%
Hispanic		5%	6%	6%	6%
White		88%	78%	88%	85%
Chi-Square, p-value = 0.76					
Marital Status		(n = 96)	(n = 63)	(n = 50)	(n = 209)
Single		13%	13%	8%	11%
Separated/Divorced		14%	24%	12%	16%
Married		68%	49%	70%	63%
Widowed		6%	14%	10%	10%
Chi-Square, p-value = 0.17					
Household Income in 2012		(n = 95)	(n = 62)	(n = 49)	(n = 206)
\$20,000 or less		7%	11%	8%	9%
\$21,000 to \$40,000		17%	24%	22%	20%
\$41,000 to \$60,000		21%	24%	24%	23%
\$61,000 to \$100,000		26%	23%	29%	26%
More than \$100,000		28%	18%	16%	23%
Chi-Square, p-value = 0.71					
Census Division		(n = 97)	(n = 62)	(n = 50)	(n = 209)
New England		4%	3%	6%	4%
Middle Atlantic		7%	8%	8%	8%
East North Central		15%	18%	26%	19%
West North Central		15%	13%	14%	14%
South Atlantic		16%	16%	16%	16%
East South Central		6%	6%	6%	6%

	West South Central	10%	6%	12%	10%
	Mountain	10%	6%	8%	9%
	Pacific	14%	23%	4%	14%
	Chi-Square, p-value = 0.80				
Census Region		(n = 97)	(n = 62)	(n = 50)	(n = 209)
	Northeast	11%	11%	14%	12%
	Midwest	31%	31%	40%	33%
	South	33%	29%	34%	32%
	West	25%	29%	12%	23%
Chi-Square, p-value = 0.52					
Daily Prescription Drug Use		(n = 97)	(n = 63)	(n = 50)	(n = 210)
	None	27%	30%	34%	30%
	One	13%	19%	20%	17%
	Two	15%	16%	10%	14%
	Three	16%	11%	8%	13%
	Four	14%	10%	12%	12%
	Five or more	13%	14%	16%	14%
Chi-Square, p-value = 0.85					
Daily Use of Self-Care/Complementary Therapies		(n = 97)	(n = 63)	(n = 50)	(n = 210)
	None	49%	40%	56%	48%
	One	20%	22%	22%	21%
	Two	16%	19%	14%	17%
	Three or more	14%	19%	8%	14%
Chi-Square, p-value = 0.60					
Purchasing Medications Causes Financial Hardship		(n = 97)	(n = 63)	(n = 50)	(n = 210)
	% Yes	14%	35%	30%	24%
Chi-Square, p-value =0.007					
Use of Medication Therapy Management services		(n = 97)	(n = 63)	(n = 50)	(n = 210)
	% Yes	0%	2%	0%	1%
Chi-Square, p-value = 0.31					
Type of Pharmacy Typically Used		(n = 97)	(n = 63)	(n = 50)	(n = 210)
	Independent	12%	11%	14%	12%
	Supermarket	8%	21%	12%	13%
	Mass Merchandiser	11%	14%	10%	12%
	Chain	29%	32%	34%	31%
	Clinic	7%	10%	2%	7%
	Mail Order	28%	13%	26%	23%
	Other	4%	0%	2%	2%
Chi-Square, p-value = 0.25					

Healthcare Consumer Type	(n = 98)	(n = 63)	(n = 51)	(n = 212)
Healthy Half	19%	16%	2%	14%
Doctor Led	37%	32%	39%	36%
Self-Managers	34%	35%	51%	38%
Solution Seekers	10%	17%	8%	12%
Chi-Square, p-value = 0.04				
Medication Beliefs (SAVE/BURDEN) segments	(n = 72)	(n = 44)	(n = 38)	(n = 154)
HI SAVE / HI BURDEN	21%	32%	44%	30%
HI SAVE / LO BURDEN	42%	20%	11%	28%
LO SAVE / HI BURDEN	19%	23%	24%	21%
LO SAVE / LO BURDEN	18%	25%	21%	21%
Chi-Square, p-value = 0.02				
Medication Beliefs (USE/HARM) segments	(n = 93)	(n = 62)	(n = 48)	(n = 203)
LO USE / LO HARM	41%	24%	25%	32%
LO USE / HI HARM	27%	21%	40%	28%
HI USE / LO HARM	20%	34%	15%	23%
HI USE / HI HARM	12%	21%	21%	17%
Chi-Square, p-value = 0.02				
Patient Activation segments	(n = 83)	(n = 56)	(n = 45)	(n = 184)
ALL MEDIUM	57%	70%	60%	61%
ALL HIGH	29%	23%	18%	24%
ALL LOW	14%	7%	22%	14%
Chi-Square, p-value = 0.17				
Information Seeking (Behavioral Aspects) segments	(n = 98)	(n = 63)	(n = 51)	(n = 212)
ALL MEDIUM	44%	54%	45%	47%
ALL LOW	43%	17%	43%	35%
ALL HIGH	13%	29%	12%	17%
Chi-Square, p-value = 0.004				
Information Seeking (Evaluative Aspects) segments	(n = 90)	(n = 62)	(n = 49)	(n = 201)
HI SAT/LO LOAD	61%	53%	33%	52%
MED SAT/MED LOAD	30%	26%	43%	32%
LO SAT/HI LOAD	9%	21%	24%	16%
Chi-Square, p-value = 0.009				
Nature of Interactions – Physician and Pharmacist	(n = 98)	(n = 63)	(n = 51)	(n = 212)
MD shared / RPH information	100%			46%
MD shared / RPH advice, negotiation, relationship		100%		30%
MD informed, paternalistic / RPH information			100%	24%
Nature of Interactions – Shared Decision-Making	(n = 96)	(n = 63)	(n = 50)	(n = 209)
ALL HIGH	43%	54%	56%	49%
ALL MEDIUM	46%	38%	38%	42%
ALL LOW	11%	8%	6%	9%
Chi-Square, p-value = 0.47				

The findings showed that the NATURE OF INTERACTIONS – PHYSICIAN AND PHARMACIST segments differed in terms of (1) Purchasing Medications Causes Financial Hardship, (2) Healthcare Consumer Type, (3) Medication Beliefs (SAVE/BURDEN), (4) Medication Beliefs (USE/HARM), (5) Information Seeking (Behavioral Aspects), and (6) Information Seeking (Evaluative Aspects).

The **MD Shared / RPH Information** segment was more likely to: (1) have low financial hardship from purchasing medications, (2) varied in terms of healthcare consumer type, (3) have HI SAVE / LO BURDEN medication beliefs, (4) have LO USE / LO HARM medication beliefs, (5) be relatively low information seekers, and (6) experience high satisfaction and low overload with information about medications.

The **MD Shared / RPH Advice, Negotiation, Relationship** segment was more likely to: (1) have the highest financial hardship from purchasing medications, (2) varied in terms of healthcare consumer type, (3) varied in terms of SAVE / BURDEN medication beliefs, (4) have HI USE / LO HARM medication beliefs, (5) be the highest information seekers, and (6) experience moderate satisfaction and moderate overload with information about medications.

The **MD Informed, Paternalistic / RPH Information** segment was more likely to: (1) have the moderately high financial hardship from purchasing medications, (2) be the Self-Manager healthcare consumer type, (3) have HI SAVE / HI BURDEN medication beliefs, (4) have LO USE / HIGH HARM medication beliefs, (5) be relatively low information seekers, and (6) relatively low satisfaction and high overload with information about medications.

Characteristics of the respondents for the NATURE OF INTERACTIONS – SHARED DECISION-MAKING CLUSTERS are summarized in the table below.

Variable	ALL HIGH	ALL MEDIUM	ALL LOW	OVERALL
Generational Cohort	(n = 101)	(n = 86)	(n = 19)	(n = 206)
GI and Silent (born 1945 or earlier)	16%	23%	21%	19%
Baby Boomer I (born 1946-1955)	26%	21%	37%	25%
Baby Boomer II (born 1956-1964)	22%	29%	26%	25%
Gen X, Buster (born 1965-1983)	28%	24%	16%	25%
Gen Y, Millennial (born 1984-2002)	9%	2%	0%	5%
Chi-Square, p-value = 0.27				
Gender	(n = 103)	(n = 86)	(n = 19)	(n = 208)
Male	28%	52%	53%	40%
Female	72%	48%	47%	60%
Chi-Square, p-value = 0.002				
Race	(n = 103)	(n = 86)	(n = 19)	(n = 208)
American Indian	2%	0%	0%	1%
Asian	3%	5%	5%	4%
Black	8%	2%	0%	5%
Hispanic	8%	5%	0%	6%
White	80%	88%	95%	85%
Chi-Square, p-value = 0.34				
Marital Status	(n = 103)	(n = 85)	(n = 19)	(n = 207)
Single	16%	6%	16%	12%
Separated/Divorced	21%	11%	16%	16%
Married	53%	74%	58%	62%
Widowed	10%	9%	11%	10%
Chi-Square, p-value = 0.10				
Household Income in 2012	(n = 101)	(n = 85)	(n = 18)	(n = 204)
\$20,000 or less	14%	5%	0%	9%
\$21,000 to \$40,000	21%	21%	17%	21%
\$41,000 to \$60,000	25%	22%	11%	23%
\$61,000 to \$100,000	24%	25%	39%	25%
More than \$100,000	17%	27%	33%	23%
Chi-Square, p-value = 0.15				
Census Division	(n = 102)	(n = 86)	(n = 19)	(n = 207)
New England	5%	5%	0%	4%
Middle Atlantic	10%	5%	11%	8%
East North Central	19%	14%	37%	18%
West North Central	15%	16%	5%	14%
South Atlantic	11%	24%	11%	16%
East South Central	3%	9%	11%	6%
West South Central	11%	7%	11%	9%
Mountain	9%	11%	0%	9%
Pacific	19%	9%	16%	14%
Chi-Square, p-value = 0.10				

Census Region	(n = 102)	(n = 86)	(n = 19)	(n = 207)
Northeast	15%	11%	9%	12%
Midwest	33%	42%	30%	33%
South	25%	32%	41%	32%
West	28%	16%	20%	23%
Chi-Square, p-value = 0.29				
Daily Prescription Drug Use	(n = 103)	(n = 86)	(n = 19)	(n = 208)
None	24%	35%	32%	29%
One	23%	13%	0%	17%
Two	17%	13%	11%	14%
Three	15%	11%	16%	13%
Four	9%	13%	26%	12%
Five or more	13%	16%	16%	14%
Chi-Square, p-value = 0.15				
Daily Use of Self-Care/Complementary Therapies	(n = 103)	(n = 86)	(n = 19)	(n = 208)
None	46%	49%	53%	48%
One	20%	22%	21%	21%
Two	19%	13%	21%	17%
Three or more	15%	16%	5%	14%
Chi-Square, p-value = 0.81				
Purchasing Medications Causes Financial Hardship	(n = 103)	(n = 86)	(n = 19)	(n = 208)
% Yes	28%	23%	5%	24%
Chi-Square, p-value = 0.10				
Use of Medication Therapy Management services	(n = 103)	(n = 86)	(n = 19)	(n = 208)
% Yes	1%	0%	0%	1%
Chi-Square, p-value = 0.60				
Type of Pharmacy Typically Used	(n = 103)	(n = 86)	(n = 19)	(n = 208)
Independent	13%	15%	0%	12%
Supermarket	17%	10%	0%	13%
Mass Merchandiser	12%	14%	5%	12%
Chain	29%	31%	37%	31%
Clinic	7%	5%	16%	7%
Mail Order	18%	24%	42%	23%
Other	5%	0%	0%	2%
Chi-Square, p-value = 0.07				
Healthcare Consumer Type	(n = 103)	(n = 87)	(n = 19)	(n = 209)
Healthy Half	16%	9%	21%	13%
Doctor Led	31%	38%	58%	36%
Self-Managers	41%	39%	21%	38%
Solution Seekers	13%	14%	0%	12%
Chi-Square, p-value = 0.13				
Medication Beliefs (SAVE/BURDEN) segments	(n = 73)	(n = 66)	(n = 14)	(n = 153)
HI SAVE / HI BURDEN	26%	36%	21%	30%
HI SAVE / LO BURDEN	29%	21%	50%	28%

LO SAVE / HI BURDEN	23%	23%	7%	22%
LO SAVE / LO BURDEN	22%	20%	21%	21%
Chi-Square, p-value = 0.34				
Medication Beliefs (USE/HARM) segments	(n = 98)	(n = 84)	(n = 19)	(n = 201)
LO USE / LO HARM	35%	27%	42%	32%
LO USE / HI HARM	25%	30%	32%	27%
HI USE / LO HARM	20%	31%	5%	23%
HI USE / HI HARM	20%	12%	21%	17%
Chi-Square, p-value = 0.16				
Patient Activation segments	(n = 89)	(n = 75)	(n = 18)	(n = 182)
ALL MEDIUM	55%	64%	83%	62%
ALL HIGH	35%	16%	11%	25%
ALL LOW	10%	20%	6%	14%
Chi-Square, p-value = 0.01				
Information Seeking (Behavioral Aspects) segments	(n = 103)	(n = 87)	(n = 19)	(n = 209)
ALL MEDIUM	43%	54%	42%	47%
ALL LOW	38%	29%	47%	35%
ALL HIGH	19%	17%	11%	18%
Chi-Square, p-value = 0.38				
Information Seeking (Evaluative Aspects) segments	(n = 98)	(n = 83)	(n = 18)	(n = 199)
HI SAT/LO LOAD	53%	49%	61%	52%
MED SAT/MED LOAD	30%	33%	33%	31%
LO SAT/HI LOAD	17%	18%	6%	17%
Chi-Square, p-value = 0.73				
Nature of Interactions – Physician and Pharmacist	(n = 103)	(n = 87)	(n = 19)	(n = 209)
MD shared / RPH information	40%	51%	58%	46%
MD shared / RPH advice, negotiation, relationship	33%	28%	26%	30%
MD informed, paternalistic / RPH information	27%	22%	16%	24%
Chi-Square, p-value = 0.47				
Nature of Interactions – Shared Decision-Making	(n = 103)	(n = 87)	(n = 19)	(n = 209)
ALL HIGH	100%			49%
ALL MEDIUM		100%		42%
ALL LOW			100%	9%

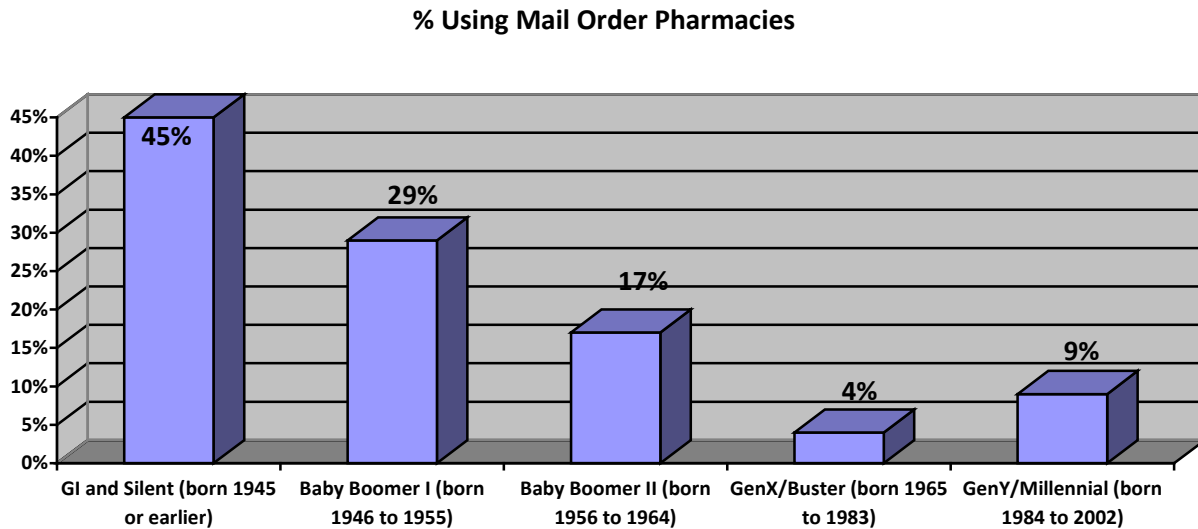
The findings showed that the NATURE OF INTERACTIONS – SHARED DECISION-MAKING segments differed in terms of (1) Gender and (2) Patient Activation.

The **ALL HIGH** segment was more likely to: (1) be female and (2) be ALL HIGH for Patient Activation when compared with both the **ALL MEDIUM** AND **ALL LOW** Shared Decision-Making Segments.

SECTION 9
ASSOCIATIONS BETWEEN SELECTED DEMOGRAPHIC VARIABLES

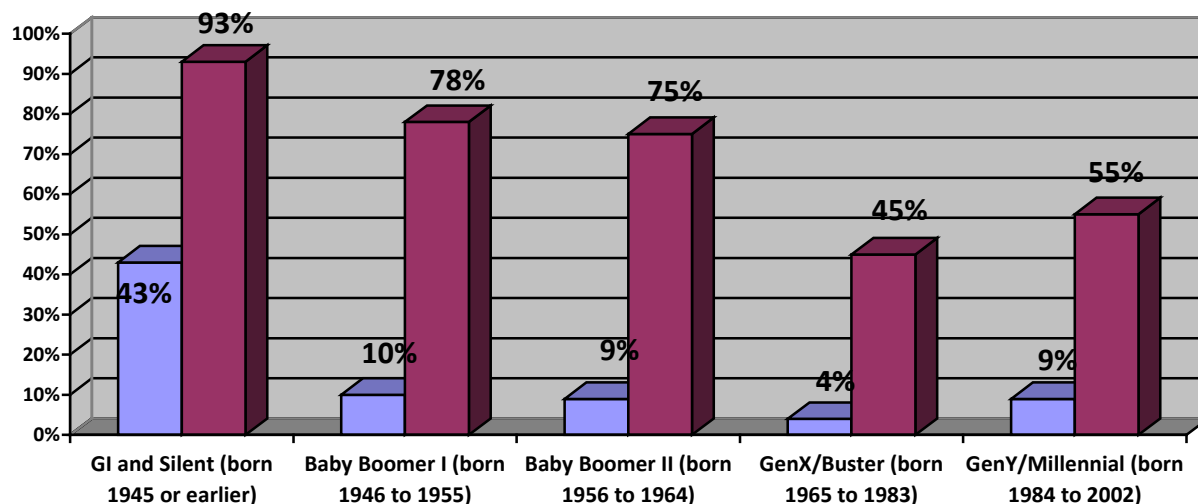
In order to help interpret the findings, associations between selected demographic variables are presented in this section of the report.

First, there was an association between Generational Cohorts and the use of Mail Order Pharmacies. The figure below shows that respondents who were part of the GI and Silent Generations (born 1945 or earlier) were most likely to use mail order pharmacies (45%), followed by the Baby Boomer I cohort (born 1946 to 1955), and then the Baby Boomer II cohort (born 1956 to 1964).



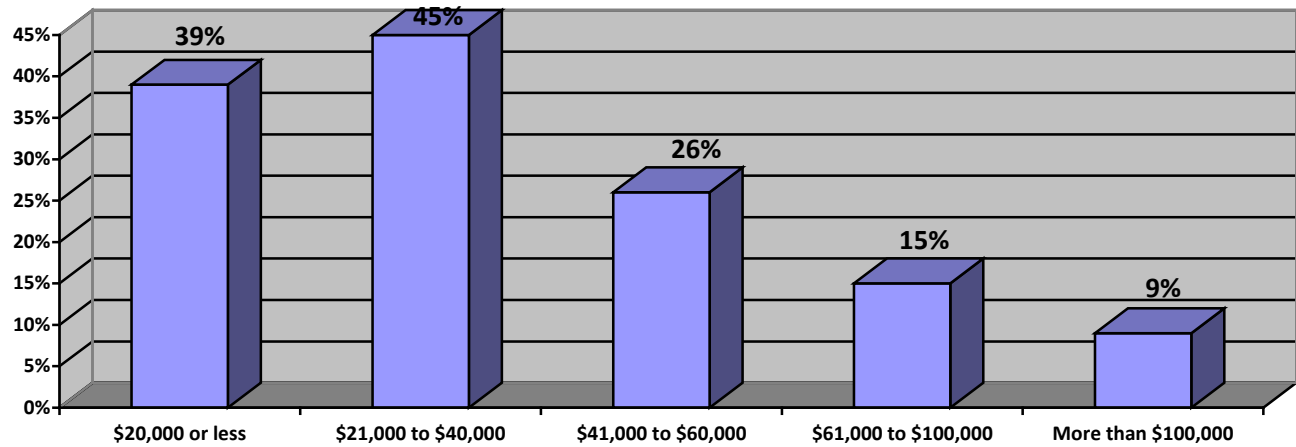
Next, there was an association between Generational Cohorts and the use of Prescription Medications on a Daily Basis. The figure below shows that respondents who were part of the GI and Silent Generations (born 1945 or earlier) were most likely to use five or more per day (43%), followed by the Baby Boomer I cohort (10%), and then the Baby Boomer II cohort (9%). Also, the GI and Silent Generations were most likely to use at least one prescription medication on a daily basis (93%), followed by the Baby Boomer I cohort (78%) and the Baby Boomer II cohort (75%).

% Using Five or More Prescription Drugs Daily (left column) and % Using At Least One Daily (right column)



Finally, there was an association between Household Income and Financial Hardship from Purchasing Prescription Drugs. The figure below shows that 39% of respondents with household incomes \$20,000 or less reported financial hardship, 45% with household incomes from \$21,000 to \$40,000, 26% with household incomes from \$41,000 to \$60,000, 15% with household incomes from \$61,000 to \$100,000, and 9% with household incomes of more than \$100,000.

% Reporting Financial Hardship from Purchasing Prescription Drugs



SECTION 10
STUDY LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

Limitations

The results and our interpretation of them should be tempered with the limitations of the study. The results are based on respondents' self-reports, raising questions regarding the extent to which respondents gave socially desirable responses.

Our findings showed that we achieved a geographically diverse sample of individuals for this study in that all regions of the United States were represented in proportion to the U.S. population and in proportion to our sampling frame. Although we achieved good geographic coverage, the sample size was small. To overcome this limitation, we report aggregate data and geographic comparisons are limited to census division or census region.

Non-response bias is another limitation. It is possible that responders were more interested in the topic we studied or had stronger opinions about the questions we asked than those who chose not to respond. Our study was focused upon the medication experience and a primary reason for not participating in our study was given as "do not take any medications." Thus, individuals who did not use medications were the least likely to respond to our survey.

Finally, we did not collect information about potentially important variables such as social support, desire for personalized medicine, transportation, home care visits, cultural competency, language, or religious beliefs.

Conclusions

The overall goal for the **National Consumer Survey on the Medication Experience** was to collect initial data for describing respondents' medication experiences. The specific objectives for this study were to identify and describe consumer segments based on the following components of the medication experience:

1. Healthcare consumer type
2. Medication beliefs
3. Patient activation
4. Information seeking
5. Nature of interactions with health professionals for decision-making

Healthcare Consumer Type

The findings showed that the **HEALTH CARE CONSUMER TYPES** differed in terms of (1) Generational Cohort, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Type of Pharmacy Typically Used, (5) Medication Beliefs (SAVE/BURDEN), (6) Patient Activation, and (7) Nature of Interactions – Physician and Pharmacist.

As expected, the **HEALTHY HALF** segment was more likely to: (1) be the youngest, (2) be a non-user of prescription drugs on a daily basis, (3) experience no financial hardship from purchasing medications, (4) use no pharmacy at all, (5) view medications as neither a necessity nor a burden, (6) report high patient activation, and (7) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

In contrast, the **DOCTOR LED** segment was more likely to: (1) be the oldest, (2) be a high-user of prescription drugs, (3) experience financial hardship from purchasing medications, (4) use mail order pharmacies, (5) view medications as both a necessity and a burden, (6) report medium patient activation, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **SELF-MANAGER** segment was more likely to: (1) be of moderate age, (2) be a non-user or low-user of prescription drugs, (3) experience relatively low financial hardship from purchasing medications, (4) use chain pharmacies, (5) view medications as neither a necessity nor a burden, (6) report medium patient activation, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **SOLUTION SEEKER** segment was more likely to: (1) be of moderate age, (2) be a moderate-user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) use mail order pharmacies, (5) view medications as a necessity but not a burden, (6) report low patient activation, and (7) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

Medication Beliefs

The findings showed that the **SAVE-BURDEN** segments differed in terms of (1) Generational Cohort, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Health Care Consumer Type, (5) Medication Beliefs (USE/HARM), (6) Patient Activation, (7) Information Seeking (Evaluative Aspects), and (8) Nature of Interactions – Physician and Pharmacist.

The **HI SAVE / HI BURDEN** segment was more likely to: (1) be of older age, (2) be a high-user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) be a Doctor Led or Solution Seeker consumer type, (5) vary in terms of USE/HARM medication beliefs, (6) report low patient activation, (7) experience low satisfaction and high overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **HI SAVE / LO BURDEN** segment was more likely to: (1) be of older age, (2) be a moderate-user of prescription drugs, (3) experience the lowest financial hardship from purchasing medications, (4) vary in terms of health care consumer type, (5) have the lowest USE/HARM medication beliefs, (6) report medium patient activation, (7) experience high satisfaction and low overload with information about medications, and (8) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **LO SAVE / HI BURDEN** segment was more likely to: (1) be of moderate age, (2) be a low-to-moderate user of prescription drugs, (3) experience moderate financial hardship from purchasing medications, (4) vary in terms of health care consumer type, (5) have the highest USE/HARM medication beliefs, (6) report medium patient activation, (7) experience low satisfaction and high overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **LO SAVE / LO BURDEN** segment was more likely to: (1) be of younger age, (2) be a low user of prescription drugs, (3) experience low financial hardship from purchasing medications, (4) be a Healthy Half or Self-Manager consumer type, (5) vary in terms of USE/HARM medication beliefs, (6) report the highest patient activation, (7) experience moderate satisfaction and moderate overload with information about medications, and (8) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The findings showed that the **USE-HARM** segments differed in terms of (1) Census Region, (2) Daily Prescription Drug Use, (3) Financial Hardship from Purchasing Medications, (4) Type of Pharmacy Typically Used, (5) Medication Beliefs (SAVE/BURDEN), (6) Information Seeking (Evaluative Aspects), and (7) Nature of Interactions – Physician and Pharmacist.

The **LO USE / LO HARM** segment was more likely to: (1) reside in the Northeast census region, (2) be a high-user of prescription drugs, (3) experience the lowest financial hardship from purchasing medications, (4) use a mail order pharmacy, (5) have HI SAVE / LO BURDEN medication beliefs, (6) experience high satisfaction and low overload with information about medications, and (7) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **LO USE / HI HARM** segment was more likely to: (1) reside in the South census region, (2) be a moderate user of prescription drugs, (3) experience the highest financial hardship from purchasing medications, (4) use a mass merchandiser pharmacy, (5) vary in terms of SAVE / BURDEN medication beliefs, (6) experience medium satisfaction and medium overload with information about medications, and (7) prefer an informed/paternalistic relationship with their physician and to prefer to use their pharmacist as an information source.

The **HI USE / LO HARM** segment was more likely to: (1) reside in the Midwest census region, (2) be a low-user of prescription drugs, (3) experience relatively high financial hardship from purchasing medications, (4) use a supermarket or chain pharmacy, (5) vary in terms of SAVE / BURDEN medication beliefs, (6) experience relatively low satisfaction and high overload with information about medications, and (7) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

The **HI USE / HI HARM** segment was more likely to: (1) reside in the West census region, (2) be a low-user of prescription drugs, (3) experience moderate financial hardship from purchasing medications, (4) use a clinic pharmacy or no pharmacy at all, (5) have LO SAVE / HI BURDEN medication beliefs, (6) experience low satisfaction and high overload with information about medications, and (7) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

Patient Activation

The findings showed that the **PATIENT ACTIVATION** segments differed in terms of (1) Generational Cohort, (2) Gender, (3) Health Care Consumer Type, (4) Medication Beliefs (SAVE/BURDEN), (5) Information Seeking (Evaluative Aspects), and (6) Nature of Interactions – Shared Decision-making.

The **ALL MEDIUM** segment was more likely to: (1) be of moderate age, (2) be a balanced mix of males and females, (3) vary in terms of health care consumer type, (4) vary in terms of SAVE / BURDEN medication beliefs, (5) vary in terms of satisfaction and overload with information about medications, and (6) vary in their preferences for shared decision-making with healthcare providers.

The **ALL HIGH** segment was more likely to: (1) be of younger age, (2) be female, (3) be the Self Manager health care consumer type, (4) have LO SAVE / LO BURDEN medication beliefs, (5) experience high satisfaction and low overload with information about medications, and (6) be in the ALL HIGH segment for shared decision-making with healthcare providers.

The **ALL LOW** segment was more likely to: (1) be of older age, (2) be male, (3) be the Solution Seeker health care consumer type, (4) have HI SAVE / LO BURDEN medication beliefs, (5) experience low satisfaction and high overload with information about medications, and (6) be in the ALL MEDIUM segment for shared decision-making with healthcare providers.

Information Seeking

The findings showed that the **INFORMATION BEHAVIOR** segments differed in terms of (1) Generational Cohort, (2) Race, and (3) Nature of Interactions – Physician and Pharmacist.

The **ALL MEDIUM** segment was more likely to: (1) be of moderate age, (2) vary in terms of race, and (3) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **ALL LOW** segment was more likely to: (1) be of older age, (2) be White, and (3) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **ALL HIGH** segment was more likely to: (1) be of younger age, (2) be Black, and (3) prefer a shared relationship with their physician and want to interact with their pharmacists for advice, negotiation, or professional relationship.

The findings showed that the **INFORMATION EVALUATION** segments differed in terms of (1) Medication Beliefs (SAVE/BURDEN), (2) Medication Beliefs (USE/HARM), (3) Patient Activation, and (4) Nature of Interactions – Physician and Pharmacist.

The **HI SAT / LO LOAD** segment was more likely to: (1) have HI SAVE / LO BURDEN medication beliefs, (2) have LO USE / LO HARM medication beliefs, (3) be in the ALL HIGH patient activation segment, and (4) prefer a shared relationship with their physician and to prefer to use their pharmacist as an information source.

The **MED SAT / MED LOAD** segment was more likely to: (1) vary in terms of SAVE/BURDEN medication beliefs, (2) vary in terms of USE/HARM medication beliefs, (3) be in the ALL MEDIUM patient activation segment, and (4) vary in their preferences regarding the nature of interactions with their physician and pharmacist.

The **LO SAT / HI LOAD** segment was more likely to: (1) have HI SAVE / HI BURDEN medication beliefs, (2) have HI USE / HI HARM medication beliefs, (3) be in the ALL LOW patient activation segment, and (4) prefer an informed/paternalistic relationship with their physician and to prefer to use their pharmacist as an information source.

Nature of Interactions with Health Professionals for Decision-Making

The findings showed that the **NATURE OF INTERACTIONS – PHYSICIAN AND PHARMACIST** segments differed in terms of (1) Purchasing Medications Causes Financial Hardship, (2) Healthcare Consumer Type, (3) Medication Beliefs (SAVE/BURDEN), (4) Medication Beliefs (USE/HARM), (5) Information Seeking (Behavioral Aspects), and (6) Information Seeking (Evaluative Aspects).

The **MD Shared / RPH Information** segment was more likely to: (1) have low financial hardship from purchasing medications, (2) varied in terms of healthcare consumer type, (3) have HI SAVE / LO BURDEN medication beliefs, (4) have LO USE / LO HARM medication beliefs, (5) be relatively low information seekers, and (6) experience high satisfaction and low overload with information about medications.

The **MD Shared / RPH Advice, Negotiation, Relationship** segment was more likely to: (1) have the highest financial hardship from purchasing medications, (2) varied in terms of healthcare consumer type, (3) varied in terms of SAVE / BURDEN medication beliefs, (4) have HI USE / LO HARM medication beliefs, (5) be the highest information seekers, and (6) experience moderate satisfaction and moderate overload with information about medications.

The **MD Informed, Paternalistic / RPH Information** segment was more likely to: (1) have the moderately high financial hardship from purchasing medications, (2) be the Self-Manager healthcare consumer type, (3) have HI SAVE / HI BURDEN medication beliefs, (4) have LO USE / HIGH HARM medication beliefs, (5) be relatively low information seekers, and (6) relatively low satisfaction and high overload with information about medications.

The findings showed that the **NATURE OF INTERACTIONS – SHARED DECISION-MAKING** segments differed in terms of (1) Gender and (2) Patient Activation.

The **ALL HIGH** segment was more likely to: (1) be female and (2) be ALL HIGH for Patient Activation when compared with both the **ALL MEDIUM** AND **ALL LOW** Shared Decision-Making Segments.

The table below summarizes significant associations between study variables.

HEALTH CARE CONSUMER	SAVE/BURDEN	USE/HARM	PATIENT ACTIVATION	INFORMATION BEHAVIOR	INFORMATION EVALUATION	INTERACTIONS MD AND RPH	INTERACTIONS FOR DECISIONS
Generation	Generation		Generation	Generation			
		Census Region					
			Gender				Gender
				Race			
Daily Rx Use	Daily Rx Use	Daily Rx Use					
Financial Hard	Financial Hard	Financial Hard				Financial Hard	
	Consumer Type		Consumer Type			Consumer Type	
Pharmacy Type		Pharmacy Type					
Save / Burden		Save / Burden	Save / Burden		Save / Burden	Save / Burden	
	Use / Harm				Use / Harm	Use / Harm	
Pt Activation	Pt Activation				Pt Activation		Pt Activation
						Info Behavior	
	Info Evaluation	Info Evaluation	Info Evaluation			Info Evaluation	
InteractMDRPh	InteractMDRPh	InteractMDRPh		InteractMDRPh	InteractMDRPh		
			SharedDecision				

Generation = Generational Cohort

Census Region = Census Region

Gender = Gender

Race = Race

Daily Rx use = Daily Prescription Drug Use

Financial Hard = Financial Hardship from Purchasing Medications

Consumer Type = Health Care Consumer Type

Pharmacy Type = Type of Pharmacy Typically Used

Save /Burden = Medication Beliefs (SAVE/BURDEN)

Use / Harm = Medication Beliefs (USE/HARM)

Pt Activation = Patient Activation

Info Behavior = Information Seeking (Behavioral Aspects)

Info Evaluation = Information Seeking (Evaluative Aspects)

InteractMDRPh = Nature of Interactions – Physician and Pharmacist

SharedDecision = Nature of Interactions – Shared Decision-Making

Overall, unique segments were identified for each component of the mediation experience that we studied.

Furthermore, associations between segments were found. For example, Medication Beliefs (SAVE/BURDEN) was associated with five other components (Health Care Consumer Type, USE/HARM, Patient Activation, Information Evaluation, and Nature of Interactions – Physician and Pharmacist). Nature of Interactions – Physician and Pharmacist also was associated with five other components (refer to table above). Patient Activation and Information Evaluation each were associated with four other components of the medication experience. An important conclusion from these findings is that Medication Beliefs, Nature of Interactions with Physicians and Pharmacists, Patient Activation, and Information Evaluation are particularly important components of the overall Medication Experience.

In terms of demographic variables that exhibited numerous associations with components of the medication experience, Generational Cohort and Experiencing Financial Hardship from Purchasing Medications are especially salient. Generational Cohort was associated with Health Care Consumer Type, Medication Beliefs (SAVE/BURDEN), Patient Activation, and Information Behavior. Experiencing Financial Hardship was associated with Health Care Consumer Type, Medication Beliefs (SAVE/BURDEN), Medication Beliefs (USE/HARM), and Nature of Interactions – Physician and Pharmacist.

The medication experience is more than the prescribing, distribution, payment, and taking of prescription drugs. Our findings showed that health care consumer type, medication beliefs, patient activation, information seeking, and nature of interactions with health professionals for decision making are relevant and can be used for identifying unique segments of patients. Furthermore, unique aspects of generational cohorts and those individuals who experience financial hardship from purchasing prescription drugs also are important considerations.

The findings showed that the medication experience is more than a clinical experience ... it is a social and personal experience as well.

For example, **financial hardship** from purchasing prescription drugs was experienced by 24% of the respondents overall. For the 20% of respondents who had household incomes between \$21,000 and \$40,000 per year, 45% of this group experienced financial hardship from purchasing prescription drugs. Responders reporting financial hardship were more likely to be in the Doctor Led healthcare consumer group, view medicines as both a life savior and a burden/concern, prefer a shared decision-making relationship with their physician, and prefer to interact with their pharmacist for advice, negotiation, and professional relationship. It is interesting to note that financial hardship was not associated with generational cohort, number of prescription medications taken per day, gender, race, marital status, pharmacy used, or place of residence. We take these findings to suggest that financial hardship from purchasing prescription drugs is a relevant part of the medication experience and is associated with various social interactions and medication beliefs.

Previous research has shown that many prescribers of medications are not aware of patients' formularies or out-of-pocket costs for medications, do not feel responsible for managing these costs, and prefer a pharmacist's assistance in these matters [42]. A study conducted in Minnesota and North Dakota, showed that while physicians believed that it is important to prescribe drugs that would minimize patients' prescription copayments, they were often unaware of the preferred medications on the formulary, patients' copayment amounts, and the price of drugs prescribed [43]. Typically, patients also are unaware of the cost consequences regarding prescribing decisions during their clinical encounter [44-45] and rarely talk with their physicians about costs of prescription drugs [46]. Studies suggest that prescription medications that are deemed by patients to be too costly, when the costs become known after purchase, are discontinued or used at suboptimal doses compared to prescription medications that are deemed to be worth the cost [47-54]. In addition, those who report cost-related adherence problems also have poorer health [54].

Another example of the medication experience as a personal and social experience is the **evaluative assessment of information** individuals receive about medications in terms of their level of satisfaction with the information and the level of information overload they experience. Sixteen percent of the respondents reported low satisfaction with information about medications and high information overload. This group might be overlooked by healthcare providers since the typical patient (52% of our responders) report high satisfaction and low overload with the information they receive. The challenge is to identify and help the 16% who are struggling. This group (low satisfaction, high overload) is more likely to view their medications as a burden and concern, medications in general as having a high potential to cause harm, have low patient activation, desire a shared decision-making relationship with their physician, prefer to interact with their pharmacist for advice, negotiation, and professional relationship,

It is interesting to note that satisfaction/overload with information was not associated with generational cohort, number of prescription medications taken per day, gender, race, marital status, pharmacy used, financial hardship, or place of residence. We take these findings to suggest that financial hardship from purchasing prescription drugs is a relevant part of the medication experience and is associated with various social interactions and medication beliefs.

Previous research has shown that when it comes to prescription drugs, not everyone views them the same way. For some, a great deal of effort is invested into learning about and using the very best medicines for their unique situation. Others would rather not think about using medicines at all and, when they need one, will use it as directed with no questions asked. According to Kemper & Metter [55], having the right information, in the right amount, and at the right time is as important to getting better as a medication, a lab test, or even a surgical procedure. Information guides our

decisions and changes our behaviors. With good information patients can often heal themselves. Without it, they can do themselves harm, overlook effective cures, and undermine the best-laid clinical plans [55].

Information processing strategies vary depending on the context and situation [33, 56]. Decision makers are viewed as limited-capacity information processors with multiple goals for the decision process such as attaining decision accuracy while limiting cognitive effort. Such a view focuses on the trade-off between accuracy and effort to make a good decision [56]. Regarding information overload with prescription drug web site information, many people find that prescription drug information is too complex and too extensive to handle. Decision-making requires information processing. In addition to being truthful, balanced, and accurately communicated, information about prescription drugs should be comprehensible and useable. There are finite limits to the ability of human beings to assimilate and process information during any given unit of time, and that once these limits are surpassed, decision-making and behavior can become confused and dysfunctional. Such a response to finite limits of information processing has been referred to as information overload. Information overload is more likely to occur when information is externally paced by another entity. Also, information overload is context dependent (e.g. what other information is available, how involved the patient is with the topic, the level of expertise the patient has).

For instances when patients become overwhelmed or overloaded, it is helpful to step back and consider other options. These other options include [33, 56]:

- Changing information environments –It might be time to use another source.
- Increase processing capacity with external aids – There may be a need to consult other sources of information to define terms or learn more.
- Training – There may be a need to take time to enhance knowledge regarding some of the things discussed.
- Replacing the decision maker – if a person is being overloaded by information and finds the decision task too overwhelming, consultation with another person may be needed to help make the decision on that person's behalf.

A final example of the medication experience as a personal and social experience is the **nature of interactions with physicians and pharmacists** that are preferred by patients. Most respondents prefer to have a shared decision-making relationship with their physician (in contrast to informed or paternalistic) and most prefer to interact with their pharmacist for just information (in contrast to advice, negotiation, or professional relationship). Since most patients prefer this, physicians and pharmacists tend to act in these ways. However, 30% of the respondents prefer to have a shared-decision making relationship with their physician plus interact with their pharmacist for advice, negotiation, or professional relationship. This group is more likely to be the Solution Seeker type of healthcare consumer, be active information seekers but may experience low satisfaction and high overload with the information they have, and more likely to experience financial hardship from purchasing prescription drugs.

It is interesting to note that nature of interactions with physicians and pharmacists was not associated with generational cohort, number of prescription medications taken per day, gender, race, marital status, pharmacy used, or place of residence. We take these findings to suggest that the nature of interactions with physicians and pharmacists is a relevant part of the medication experience.

Research suggests that more and more patients prefer the shared treatment decision making style that is portrayed by two-way communication between the practitioner and patient in which both medical and personal information is shared [33, 37]. All relevant information is shared for decision making and the practitioner and patient make decisions collaboratively. An extension of shared decision making is called **concordance** [57] which is “an agreement reached after negotiation between a patient and health care professional that respects the beliefs and wishes of the patient in determining whether, when and how medicines are to be taken. Although reciprocal, this is an alliance in which the health care professionals recognize the primacy of the patient's decisions about taking the recommended medications.” In this style of decision making, the health care professional shares his or her expertise and the patient shares his or her

goals for the treatment. Together, they try to come to agreement about the best option to follow. This style requires time and effort, but for understanding patients' medication experiences would be worth it.

More and more health care providers are being trained to consider the decision making styles of their patients. If the styles between health provider and patient don't match, it might be a good idea to select another health care provider who can accommodate the patient's preferred style.

Recommendations

The findings can serve as an initial step for describing medication experiences and to identify segments of the U.S. populations based on these characteristics. Preliminary findings showed unique segments of the U.S. adult population for (1) healthcare consumer type, (2) medication beliefs, (3) patient activation, (4) information seeking, and (5) nature of interactions with health professionals for decision-making. Furthermore, unique aspects of generational cohorts and those individuals who experience financial hardship from purchasing prescription drugs also are important considerations.

The findings showed that the medication experience is more than a clinical experience ... it is a social and personal experience. Typically, the health care system views the medication experience in terms of clinical problem-solving (prescribing, monitoring, reconciling) and in terms of medication regimen adherence (following directions). Our findings revealed that the medication experience is rooted in medication beliefs, personal abilities and motivations, information processing, decision-making, relationships, finances, and the effects of life experiences.

Patients vary widely in their make-up, their preferences, and their needs. As Schommer and Glinert suggested [33], some patients don't want to receive any information from others about their medications while others desire to take an active role in making decisions about them. Some people want information about effects of medications and others want to know about safety. In addition, when people seek information about medicines, there is a high likelihood that they will involve a personal contact, either lay or professional, in their search. This all underlines the importance of social networks in the decisions we make about prescription drugs. Patients have different abilities, motivations, and needs when it comes to medication use. The challenge, then, is to meet the needs of each individual.

We propose that the findings provide insights for (a) establishing national priorities for patient-centered outcomes research, (b) accounting for treatment heterogeneity in comparative-effectiveness studies, and (c) incorporating individuals' medication experiences into improved quality and efficiency of health care. When considering national priorities, comparative-effectiveness studies, and improved quality and efficiency of health care, a one-size-fits-all approach (in which population-level priorities, comparisons, and outcomes are established) may not be the best approach. This approach leads to offending one part of the population by overly intrusive intervention and neglecting the other part of the population by not addressing their true needs. It is like trying to help a person who has one hand burning in a fire by placing his other hand in a bucket of ice-water in order to bring his two hands to a suitable temperature, on average. The average temperature might be fine, but one hand is burning while the other hand is becoming frozen.

This applies to the medication experiences of individuals. We propose that a useful approach would be the application of the concordance concept [57] which is "an agreement reached after negotiation between a patient and health care professional that respects the beliefs and wishes of the patient in determining whether, when and how medicines are to be taken. Although reciprocal, this is an alliance in which the health care professionals recognize the primacy of the patient's decisions about taking the recommended medications."

Quality would be determined by the level of concordance reached between individuals and the health care system and the extent to which an individual's beliefs and wishes are being met. Concordance is based on the notion that the work of a healthcare provider and patient in the consultation is a negotiation between equals and that therefore the aim is a

therapeutic alliance between them. This alliance may, in the end, include an agreement to differ. Its strength lies in a new assumption of respect for the patient's agenda and the creation of openness in the relationship, so that both doctor and patient together can proceed on the basis of reality and not of misunderstanding, distrust or concealment.

Concordance involves (1) building a partnership, (2) managing a shared consultation, and (3) sharing a decision.

Building a Partnership

- Listening: actively listening to the patient.
- Communicating: helping the patient to interpret information in a way that is meaningful.

Managing a Shared Consultation

- Context: with the patient, defining and agrees to the purpose of the consultation.
- Knowledge: having up-to-date knowledge of the area of practice and wider health services.

Sharing a Decision

- Understanding: recognizing that the patient is an individual.
- Exploring: discussing illness and treatment options, including no treatment
- Deciding: deciding with the patient the best management strategy.
- Monitoring: agreeing with the patient what happens next.

We recommend that future work is needed for (1) expanding the identification and description of segments based on components of the medication experience, (2) incorporating components of the medication experience in to patient care processes, and (3) building systems for identifying and matching patients and providers based upon preferences and capacities in the medication experience domain.

In addition, we propose that other methods such as using (1) longitudinal data, (2) cluster sampling, (3) patient diaries, (4) critical incident surveys, (5) panels, and (6) demonstration projects in which providers and patients are matched could provide further insights into the medication experience construct.

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APPENDIX A
DATA COLLECTION LETTERS AND FORMS

PRENOTIFICATION LETTER

September 2013

Dear Sir or Madam:

A few weeks from now you will receive in the mail a request to fill out a brief questionnaire for an important research project being funded by the University of Minnesota, College of Pharmacy, New Research Directions Grants Program. A small token of our appreciation for participating in the survey will be included with that mailing.

The purpose of the survey is to collect reliable information on people's experiences with using medications. Almost all of us will take a medication in our lifetime. For many of us, the use of medicines is the most consistently occurring health-care event in our lives; something we do every day. Our goal is to learn about how people view their experiences with medications so that we can continually improve health care services. We are conducting this survey in a high quality manner so that the findings from this survey will be considered reliable and valid.

You are a part of a relatively small and randomly selected sample of adults living in the United States. This sample was selected from an overall list compiled from publicly available records such as phone directories and other public records.

Before we send the survey to our sample members, we would like to make sure that our sample is as error-free as possible. At this point, we would greatly appreciate your help in letting us know if we have included you in our sample by mistake. If you believe that we should remove your name from our sample, please check the appropriate space on the enclosed form and mail it back to us in the postage paid envelope provided. You may also let us know by emailing Jon Schommer at schom010@umn.edu.

Please note that your responses to us will be confidential. Only aggregate responses will be reported through research articles and manuscripts. Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or with the funder of the project. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting these relationships.

Thank you for helping us with this study. We trust the results will be useful to health care providers and to others interested in improving medication use. If you have any questions or comments about the study, please contact Dr. Schommer at 612-626-9915 or at schom010@umn.edu. If you would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Jon C. Schommer, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

PRENOTIFICATION FEEDBACK FORM

Survey Tracking Number _____

2013 National Consumer Survey on their Medication Experiences

Within the next three weeks, we plan to send survey forms to a random sample of adults residing in the United States. You are part of a relatively small and randomly selected sample of adults living in the United States. This sample was selected from an overall list compiled from publicly available records such as phone directories and other public records.

Before we send the survey to our sample members, we would like to make sure that our sample is as error-free as possible. It is possible that some members of our sample are unable to participate in the survey at this time.

At this point, we would greatly appreciate your help in letting us know if we have included you in our sample by mistake. If you believe that we should remove your name from our sample, please check the appropriate space below and mail this form back to us in the postage paid envelope provided. You may also let us know by emailing Jon Schommer at schom010@umn.edu.

_____ *Please remove this name from your national random sample of adults residing in the United States. The person to whom this letter was sent is not able to participate in the survey.*

If you are willing to provide specific comments to help us document and understand the reason you checked above, please write them in the space below:

THANK YOU VERY MUCH FOR YOUR HELP!

COVER LETTER

October 2013

Dear Sir or Madam:

I am writing to ask for your help in a study about how people view their experiences with medications. Almost all of us will take a medication in our lifetime. For many of us, the use of medicines is the most consistently occurring health-care event in our lives; something we do every day. Results from the survey will be used to help understand how people view their medication experiences and also will be used for improving health care services.

Your name was selected at random from an overall list of adults residing in the United States. The list was compiled from publicly available records such as phone directories and other public records. Please take a few minutes to complete and return the enclosed form. Whether you are taking medicines now or not, your response is valuable in helping understand medication experiences of people living in the United States. The accuracy of our reports is dependent upon the level of participation we receive from our random sample. Therefore, your response is very important to us and will be greatly appreciated. A \$5 gift certificate is enclosed as a token of our appreciation for your help.

Your response is confidential. Only aggregate responses will be reported. By returning the survey form to us, you are providing your consent to participate in the project. An identification number is on each questionnaire to help us follow up on non-responses. Reports will be submitted to health care journals for publication. If you would like a copy of our report, you may request a copy from Jon Schommer at schom010@umn.edu; 612-626-9915.

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or with the funder of the project. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting these relationships.

Thank you for helping us collect this information. If you have any questions or comments about the study, please contact Dr. Schommer at 612-626-9915 or at schom010@umn.edu. If you would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Jon C. Schommer, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

SURVEY FORM

2013 NATIONAL CONSUMER SURVEY ON THEIR MEDICATION EXPERIENCES

INSTRUCTIONS: Please either check or fill in the appropriate blanks. Return your survey in the enclosed postage paid return envelope. If you would like a summary of the results, provide your name and address to Jon Schommer (schom010@umn.edu; 612-626-9915). **Even if you do not use any medications at this time, we still ask you to complete the survey.** Please answer the questions the best you can.

SECTION 1: YOUR PREFERRED WAY TO USE INFORMATION ABOUT MEDICATIONS

1. First, we would like you to think about how you use information about medicines. Please check the space next to the description that is most like you. If none of them describe you, please check "OTHER" and write in your own description.

_____ **HEALTHY HALF** – I have no obvious health problems and consider myself to be in excellent health. I have had little interest in information about medications and don't pay much attention to information about medications when I see it on TV, in print, or on the internet.

_____ **DOCTOR LED** – I have lifestyle-restricting conditions and I pay attention to information about medications on TV, in print, or on the internet. Even though I discuss this information with my physician, I defer to my physician's judgment and advice about what medications to use.

_____ **SELF-MANAGER** – I have above-average health and my only complaints tend to be occasional or seasonal. I can usually self-treat with medicines or other remedies that are available without a doctor's prescription. If I use a prescription medication, it is typically for just a short time. I usually don't pay much attention to information about medications when I see it on TV, in print, or on the internet.

_____ **SOLUTION SEEKER** – I suffer from conditions that restrict my lifestyle and I am receptive to health information from various sources. I actively seek new solutions to my health care wants and needs. I am in below-average health and sometimes take medicines to prevent symptoms rather than just treat symptoms of a disease. I seek out information about health and medicines. After doing my homework, I often discuss what I have learned with my physician and often ask to try a particular drug.

_____ **OTHER (please describe)** - _____

2. Next, we would like to learn about your preferred sources of information about medications. Please rate the extent to which you would use the following sources of information if you wanted to learn more about certain medications.

I would ...	Never Use	Rarely Use	Occasionally Use	Often Use	Always Use
a. Family Member	1	2	3	4	5
b. Friend	1	2	3	4	5
c. Acquaintance	1	2	3	4	5
d. Physician	1	2	3	4	5
e. Pharmacist	1	2	3	4	5
f. Other Health Professional	1	2	3	4	5
g. Written information received from a health care provider	1	2	3	4	5
h. Books	1	2	3	4	5
i. Government-Sponsored web site (such as PubMed Health).	1	2	3	4	5
j. Information Company web site (such as About.com or WebMD)	1	2	3	4	5
k. Health Organization web site (such as mayoclinic.com or walgreens.com)	1	2	3	4	5
l. Pharmaceutical Company web site (such as Lipitor.com or Nexium.com)	1	2	3	4	5
m. Web Search through Google, Bing, or other search engine.	1	2	3	4	5
n. Social Media Video Posting Service such as YouTube	1	2	3	4	5
o. Social Media Interactive Sharing Service such as PatientsLikeMe.com	1	2	3	4	5
p. Social Media Information Repository such as Wikipedia	1	2	3	4	5
q. Other _____	1	2	3	4	5

3. If a physician needs to prescribe a medication for you, how would you prefer to interact with the physician when making decisions relating to the selection of a medication? Please check the space next to the description that is most like you. If none of them describe you, please check "OTHER" and write in your own description.

_____ **PATERNALISTIC** – I prefer that a prescriber of a medication makes the treatment decision on his or her own and then tells me about that decision using one-way communication, limited to a discussion of medical topics, with a minimum amount of information shared between us.

_____ **INFORMED** – I prefer one-way communication from the prescriber to me that is only about medical topics. However, I want the prescriber to share all of the relevant medical information with me and then let me make the treatment decision on my own.

_____ **SHARED** – I prefer two-way communication with the prescriber in which both medical and personal information is shared. After all relevant information is shared for decision-making, the prescriber and I make decisions together.

_____ **OTHER (please describe)** - _____

4. If a pharmacist needs to dispense a medication for you, how would you prefer to interact with the pharmacist when making decisions relating to the use the medication? Please check the space next to the description that is most like you. If none of them describe you, please check "OTHER" and write in your own description.

_____ **NONE** – I prefer little or no interaction or involvement with the pharmacist. Getting the product is all I need.

_____ **INFORMATION** – I prefer receiving information (written and verbal) about the medication and standard instructions for how to use it.

_____ **ADVICE** – I prefer receiving advice from the pharmacist (consultation) to learn about his or her recommendations for how I should use the medication within my personal circumstances.

_____ **NEGOTIATION** – I prefer telling the pharmacist about my personal preferences and then having the pharmacist make necessary changes to make sure I can use the medications that I can afford and want to use.

_____ **RELATIONSHIP** – I prefer developing a professional relationship with my pharmacist so that we can go over all of my medication therapy related needs each time we meet.

_____ **OTHER (please describe)** - _____

SECTION 2: YOUR EXPERIENCES WITH AND OPINIONS ABOUT MEDICATIONS

In this section, we ask you about your experiences and your opinions about medications. Please circle the number or letter that most closely reflects how you feel about each of the statements. There is no right or wrong answer; we are interested in your personal views.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
My current health depends on my medicines.	1	2	3	4	5	X
The medicines I use are superior to other products currently available.	1	2	3	4	5	X
The medicines I currently use are products whose benefits outweigh the risks.	1	2	3	4	5	X
My life would be impossible without my medicines.	1	2	3	4	5	X
My medicines are a life savior.	1	2	3	4	5	X
Having to take medicines worries me.	1	2	3	4	5	X
I feel like my medicines are controlling me.	1	2	3	4	5	X
My medicines are a constant reminder of my illness.	1	2	3	4	5	X
My medicines are a burden.	1	2	3	4	5	X
I sometimes worry about the long term effects of my medicines.	1	2	3	4	5	X
Without my medicines I would be very sick.	1	2	3	4	5	X
My medicines are a mystery to me.	1	2	3	4	5	X
My health in the future will depend on my medicines.	1	2	3	4	5	X
My medicines disrupt my life.	1	2	3	4	5	X
I sometimes worry about becoming too dependent on my medicines.	1	2	3	4	5	X
My medicines protect me from becoming worse.	1	2	3	4	5	X
Doctors prescribe too many medicines.	1	2	3	4	5	X
People who take medicines should stop their treatment for a while every now and then.	1	2	3	4	5	X
Most medicines are addictive.	1	2	3	4	5	X
Medicines do more harm than good.	1	2	3	4	5	X
All medicines are poisons.	1	2	3	4	5	X

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
Doctors place too much trust on medicine.	1	2	3	4	5	X
If doctors had more time with patients, they would prescribe fewer medicines.	1	2	3	4	5	X
Doctors don't understand their patients well enough to make good choices about the best medicines to use.	1	2	3	4	5	X
Information I have about medicines is helpful.	1	2	3	4	5	X
Information I have about medicines is truthful.	1	2	3	4	5	X
Information I have about medicines is reliable.	1	2	3	4	5	X
Information I have about medicines is essential.	1	2	3	4	5	X
When learning about medications, I tend to feel confused.	1	2	3	4	5	X
When learning about medications, I tend to feel doubtful.	1	2	3	4	5	X
When learning about medications, I tend to feel frustrated.	1	2	3	4	5	X
When learning about medications, I tend to feel anxious.	1	2	3	4	5	X
When learning about medications, I tend to feel overwhelmed.	1	2	3	4	5	X

SECTION 3: YOUR OPINIONS ABOUT YOUR INVOLVEMENT IN MEDICATION USE

In this section, we ask you about the level of involvement you would like to have in medication use. Please circle the number or letter that most closely reflects how you feel about each of the statements. There is no right or wrong answer; we are interested in your personal views.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
When all is said and done, I am the person who is responsible for managing my health.	1	2	3	4	5	X
Taking an active role in my own health care is the most important factor in determining my health.	1	2	3	4	5	X
I am confident that I can take actions that will help prevent health problems in the future.	1	2	3	4	5	X
I know what each of my medications do.	1	2	3	4	5	X
I am confident that I can tell when I need to go get medical care and when I can handle the health problem myself.	1	2	3	4	5	X

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
I am confident I can tell my health care provider concerns I have even when he or she does not ask.	1	2	3	4	5	X
I am confident that I can follow through on medical treatments I need to do on my own.	1	2	3	4	5	X
I understand the causes of my health conditions.	1	2	3	4	5	X
I know the different medical treatment options available for my health conditions.	1	2	3	4	5	X
I have been able to make the lifestyle changes that are needed for my health.	1	2	3	4	5	X
I know how to prevent further problems with my health.	1	2	3	4	5	X
I am confident that I can figure out solutions when new problems arise with my health.	1	2	3	4	5	X
I am confident that I can maintain a healthy lifestyle even during times of stress.	1	2	3	4	5	X

SECTION 4: YOUR OPINIONS ABOUT HOW HEALTH PROFESSIONALS SHOULD ACT

In this section, we ask you about things that you would like health professionals to do when they meet with patients. Please circle the number that most closely reflects how often you think each of the statement is needed when health professionals and patients interact. There is no right or wrong answer; we are interested in your personal views.

Health Professionals should:	Never Needed	Rarely Needed	Occasionally Needed	Often Needed	Always Needed
Reassure patients that they have time for them.	1	2	3	4	5
Help patients feel at ease.	1	2	3	4	5
Give patients the opportunity to express their views.	1	2	3	4	5
Listen to patients' views and discuss concerns.	1	2	3	4	5
Encourage patients to ask questions.	1	2	3	4	5
Allow time for questions.	1	2	3	4	5
Treat patients as equal partners.	1	2	3	4	5
Respect diversity.	1	2	3	4	5
Express a willingness to be flexible.	1	2	3	4	5
Identify barriers to communication.	1	2	3	4	5

Health Professionals should:	Never Needed	Rarely Needed	Occasionally Needed	Often Needed	Always Needed
Share information in a way the patient understands.	1	2	3	4	5
Confirm patients' understanding.	1	2	3	4	5
Check own understanding of the patients' viewpoints.	1	2	3	4	5
Use aids to help patient understanding.	1	2	3	4	5
Recognize the importance of non-verbal communications.	1	2	3	4	5
Use open questions to receive feedback.	1	2	3	4	5
Maintain appropriate eye contact.	1	2	3	4	5
Display a non-judgmental attitude.	1	2	3	4	5
Review patient information before meeting.	1	2	3	4	5
Explain his or her role to the patient.	1	2	3	4	5
Clarify timing, boundaries, and expectations for the meeting.	1	2	3	4	5
Minimize interruptions during the meeting.	1	2	3	4	5
Keep focused on the agreed aims of the meeting.	1	2	3	4	5
Know his or her own limitations.	1	2	3	4	5
Maintain up-to-date knowledge.	1	2	3	4	5
Know when to seek further advice.	1	2	3	4	5
Refer to other professionals as needed.	1	2	3	4	5
Work in partnership with colleagues.	1	2	3	4	5
Share up-to-date information about support available to the patient.	1	2	3	4	5
Be aware of practical resources to help patients.	1	2	3	4	5
Seek to understand patients' current circumstances.	1	2	3	4	5
Be aware of patients' cultural, religious, and societal beliefs that may impact on treatment.	1	2	3	4	5
Agree to patients' goals.	1	2	3	4	5
Respect patients' expertise regarding their own condition.	1	2	3	4	5
Establish patients' readiness to make a decision.	1	2	3	4	5

Health Professionals should:	Never Needed	Rarely Needed	Occasionally Needed	Often Needed	Always Needed
Explore what patients understand about their condition.	1	2	3	4	5
Learn what patients have been doing to deal with their conditions.	1	2	3	4	5
Discuss with patients their expectations and concerns.	1	2	3	4	5
Explore what patients think about medicines in general.	1	2	3	4	5
Discuss what may have caused the condition.	1	2	3	4	5
Establish whether they and their patients have similar or different views about their conditions.	1	2	3	4	5
Offer patients information about their condition.	1	2	3	4	5
Discuss any misunderstandings about their conditions.	1	2	3	4	5
Encourage patients to express views about treatment / no treatment options.	1	2	3	4	5
Explain reasoning about why medicines may or may not be needed.	1	2	3	4	5
Provide full and accurate information about the benefits and risks of all treatment options.	1	2	3	4	5
Discuss likely outcomes.	1	2	3	4	5
Describe uncertainty and risk to patients.	1	2	3	4	5
Check that patients understand reasons behind decisions.	1	2	3	4	5
Negotiate with patients about treatment decisions.	1	2	3	4	5
Give patients time to consider information before making decisions.	1	2	3	4	5
Accept patients' decisions.	1	2	3	4	5
Explore patients' ability to undertake the agreed plan.	1	2	3	4	5
Check that patients know what they are taking and why.	1	2	3	4	5
Ensure that patients know what to do if problems arise.	1	2	3	4	5
Discuss when the treatment will be reviewed or stopped.	1	2	3	4	5
Express a willingness to review the decision.	1	2	3	4	5
Provide relevant contact details and encourage patients to use them.	1	2	3	4	5

SECTION 5: INFORMATION ABOUT YOURSELF

Finally, please answer questions about yourself to help us analyze the results. Check the space next to your response or write your answer in the space provided. If any questions are not applicable to you, please feel free to leave them blank.

1. In what year were you born? _____
2. What is your gender? _____ Male _____ Female
3. What is your Ethnic or Racial Background:
_____ American Indian _____ Hispanic/Latino
_____ Asian _____ White
_____ Black/African American _____ Other (specify): _____
4. How many prescription drugs do you use on a daily basis? _____ per day
5. How many self-care / complementary therapies do you use daily? _____ per day
6. Does purchasing medications cause you financial hardship? _____ Yes _____ No
7. What type of pharmacy do you typically use for obtaining medicines?
_____ Independently Owned (local) Pharmacy
_____ Supermarket Pharmacy (Grocery Store)
_____ Mass Merchandiser Pharmacy (Target, Wal-Mart)
_____ Chain Pharmacy (Walgreens, CVS)
_____ Clinic Pharmacy
_____ Mail Order or Internet Pharmacy
_____ Other (describe) _____
8. Have you ever used a service called "Medication Therapy Management" (MTM)? _____ Yes
_____ No
9. What is the Zip Code of your current primary residence? _____
10. What is your marital status?
_____ single (never married) _____ single (separated/ divorced) _____ married _____ widowed
11. What was your household income from all sources during 2012?
_____ \$20,000 or Less
_____ \$21,000 to \$40,000
_____ \$41,000 to \$60,000
_____ \$61,000 to \$100,000
_____ More than \$100,000

Please return your completed form in the postage paid envelope provided. 

THANK YOU VERY MUCH FOR YOUR HELP!

CLOSING WRAP UP LETTER

November 2013

Dear Sir or Madam:

Over the past few weeks, we have sent you several mailings regarding an important research study asking about your experiences with medications. The study is drawing to a close.

If you have not yet returned your completed survey, another survey form is enclosed for your convenience. Please take about 10 to 15 minutes to complete the enclosed questionnaire and then return it to us in the postage paid envelope we have provided.

We are following up with you because of our concern that people who have not responded may have different characteristics and experiences than those who have. Hearing from everyone in this study helps assure that the survey results are as accurate as possible.

Your responses will be kept confidential. The aggregate results will be reported in a national health journal. The findings will be valuable to health care providers and others interested in improving medication use and health care services. By returning the survey form to us, you are providing your consent to participate in the project.

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or with the funder of the project. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting these relationships.

Thank you very much for your time and help. Your cooperation is valued and greatly appreciated. If you have any questions or comments about the study, please contact Dr. Jon Schommer at 612-626-9915 or at schom010@umn.edu. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Jon C. Schommer, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

APPENDIX B

DATA CODE BOOK

2013 NATIONAL CONSUMER SURVEY ON THEIR MEDICATION EXPERIENCES

CODE BOOK

IDNUM

Identification Number 1 through 216

USEINFO

Preferred way to use information about medications

1 = HEALTHY HALF – typically have no obvious health problems and/or consider themselves to be in excellent health. Most don't pay much attention to information about medications on TV, in print, or on the internet since they don't use medications or would rather not use medications.

2 = DOCTOR LED – typically have lifestyle-restricting conditions and most pay attention to information about medications on TV, in print, or on the internet. They prefer to discuss this information with their physician and defer to their physician's judgment and advice about what medications to use.

3 = SELF-MANAGER – Most in this category aspire to have above-average health with many health complaints being only occasional or seasonal. They most usually self-treat with medicines or other remedies that are available without a doctor's prescription (or aspire to be able to do this). If they use a prescription medication, it is typically for just a short time. They usually don't pay much attention to information about medications when they see it on TV, in print, or on the internet.

4 = SOLUTION SEEKER - typically suffer from conditions that restrict their lifestyle and they are receptive to health information from various sources. They actively seek new solutions to their health care wants and needs. Most are below-average health (or strive to avoid being in this situation) and sometimes take medicines to prevent symptoms rather than just treat symptoms of a disease. They seek out information about health and medicines. After doing their homework, they often discuss what they have learned with their physician and often ask to try a particular drug.

TWOA through TWOP Rate the extent to which you would use the following sources of information if you wanted to learn more about certain medications.

I would ...	Never Use	Rarely Use	Occasionally Use	Often Use	Always Use
TWOA - Family Member	1	2	3	4	5
TWOB - Friend	1	2	3	4	5
TWOC - Acquaintance	1	2	3	4	5
TWOD - Physician	1	2	3	4	5

TWOE - Pharmacist	1	2	3	4	5
TWOF - Other Health Professional	1	2	3	4	5
TWOG - Written information received from a health care provider	1	2	3	4	5
TWOH - Books	1	2	3	4	5
TWOI - Government-Sponsored web site (such as PubMed Health).	1	2	3	4	5
TWOJ - Information Company web site (such as About.com or WebMD)	1	2	3	4	5
TWOK - Health Organization web site (such as mayoclinic.com or walgreens.com)	1	2	3	4	5
TWOL - Pharmaceutical Company web site (such as Lipitor.com or Nexium.com)	1	2	3	4	5
TWOM - Web Search through Google, Bing, or other search engine.	1	2	3	4	5
TWON - Social Media Video Posting Service such as YouTube	1	2	3	4	5
TWOO - Social Media Interactive Sharing Service such as PatientsLikeMe.com	1	2	3	4	5
TWOP - Social Media Information Repository such as Wikipedia	1	2	3	4	5

INTERACTMD If a physician needs to prescribe a medication for you, how would you prefer to interact with the physician when making decisions relating to the selection of a medication?

1 = PATERNALISTIC – I prefer that a prescriber of a medication makes the treatment decision on his or her own and then tells me about that decision using one-way communication, limited to a discussion of medical topics, with a minimum amount of information shared between us.

2 = INFORMED – I prefer one-way communication from the prescriber to me that is only about medical topics. However, I want the prescriber to share all of the relevant medical information with me and then let me make the treatment decision on my own.

3 = SHARED – I prefer two-way communication with the prescriber in which both medical and personal information is shared. After all relevant information is shared for decision-making, the prescriber and I make decisions together.

4 = NONE - I prefer little or no interaction or involvement with the physician. Getting the prescription is all I need.

INTERACTRPH If a pharmacist needs to dispense a medication for you, how would you prefer to interact with the pharmacist when making decisions relating to the use the medication?

1 = NONE – I prefer little or no interaction or involvement with the pharmacist. Getting the product is all I need.

2 = INFORMATION – I prefer receiving information (written and verbal) about the medication and standard instructions for how to use it.

3 = ADVICE – I prefer receiving advice from the pharmacist (consultation) to learn about his or her recommendations for how I should use the medication within my personal circumstances.

4 = NEGOTIATION – I prefer telling the pharmacist about my personal preferences and then having the pharmacist make necessary changes to make sure I can use the medications that I can afford and want to use.

5= RELATIONSHIP – I prefer developing a professional relationship with my pharmacist so that we can go over all of my medication therapy related needs each time we meet.

MEDLIFE1 through MEDLIFE16	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
MEDLIFE1 - My current health depends on my medicines.	1	2	3	4	5
MEDLIFE2 - The medicines I use are superior to other products currently available.	1	2	3	4	5
MEDLIFE3 - The medicines I currently use are products whose benefits outweigh the risks.	1	2	3	4	5
MEDLIFE4 - My life would be impossible without my medicines.	1	2	3	4	5
MEDLIFE5 - My medicines are a life savior.	1	2	3	4	5
MEDLIFE6 - Having to take medicines worries me.	1	2	3	4	5
MEDLIFE7 - I feel like my medicines are controlling me.	1	2	3	4	5
MEDLIFE8 - My medicines are a constant reminder of my illness.	1	2	3	4	5
MEDLIFE9 - My medicines are a burden.	1	2	3	4	5
MEDLIFE10 - I sometimes worry about the long term effects of my medicines.	1	2	3	4	5
MEDLIFE11 - Without my medicines I would be very sick.	1	2	3	4	5
MEDLIFE12 - My medicines are a mystery to me.	1	2	3	4	5
MEDLIFE13 - My health in the future will depend on my medicines.	1	2	3	4	5
MEDLIFE14 - My medicines disrupt my life.	1	2	3	4	5
MEDLIFE15 - I sometimes worry about becoming too dependent on my medicines.	1	2	3	4	5
MEDLIFE16 - My medicines protect me from becoming worse.	1	2	3	4	5
DOCMED1 through DOCMED8					
DOCMED1 - Doctors prescribe too many medicines.	1	2	3	4	5
DOCMED2 - People who take medicines should stop their	1	2	3	4	5

treatment for a while every now and then.					
DOCMED3 - Most medicines are addictive.	1	2	3	4	5
DOCMED4 - Medicines do more harm than good.	1	2	3	4	5
DOCMED5 – All medicines are poisons.	1	2	3	4	5
DOCMED6 - Doctors place too much trust on medicine.	1	2	3	4	5
DOCMED7 - If doctors had more time with patients, they would prescribe fewer medicines.	1	2	3	4	5
DOCMED8 - Doctors don't understand their patients well enough to make good choices about the best medicines to use.	1	2	3	4	5
INFO1 through INFO4					
INFO1 - Information I have about medicines is helpful.	1	2	3	4	5
INFO2 - Information I have about medicines is truthful.	1	2	3	4	5
INFO3 - Information I have about medicines is reliable.	1	2	3	4	5
INFO4 - Information I have about medicines is essential.	1	2	3	4	5
INFOLOAD1 through INFOLOAD5					
INFOLOAD1 - When learning about medications, I tend to feel confused.	1	2	3	4	5
INFOLOAD2 - When learning about medications, I tend to feel doubtful.	1	2	3	4	5
INFOLOAD3 - When learning about medications, I tend to feel frustrated.	1	2	3	4	5
INFOLOAD4 - When learning about medications, I tend to feel anxious.	1	2	3	4	5
INFOLOAD5 - When learning about medications, I tend to feel overwhelmed.	1	2	3	4	5

INV1 through INV13					
INV1 - When all is said and done, I am the person who is responsible for managing my health.	1	2	3	4	5
INV2 - Taking an active role in my own health care is the most important factor in determining my health.	1	2	3	4	5
INV3 - I am confident that I can take actions that will help prevent health problems in the future.	1	2	3	4	5
INV4 - I know what each of my medications do.	1	2	3	4	5

INV5 - I am confident that I can tell when I need to go get medical care and when I can handle the health problem myself.	1	2	3	4	5
INV6 - I am confident I can tell my health care provider concerns I have even when he or she does not ask.	1	2	3	4	5
INV7 - I am confident that I can follow through on medical treatments I need to do on my own.	1	2	3	4	5
INV8 - I understand the causes of my health conditions.	1	2	3	4	5
INV9 - I know the different medical treatment options available for my health conditions.	1	2	3	4	5
INV10 - I have been able to make the lifestyle changes that are needed for my health.	1	2	3	4	5
INV11 - I know how to prevent further problems with my health.	1	2	3	4	5
INV12 - I am confident that I can figure out solutions when new problems arise with my health.	1	2	3	4	5
INV13 - I am confident that I can maintain a healthy lifestyle even during times of stress.	1	2	3	4	5

CONC1 through CONC58

Health Professionals should:	Never Needed	Rarely Needed	Occasionally Needed	Often Needed	Always Needed
CONC1 - Reassure patients that they have time for them.	1	2	3	4	5
CONC2 - Help patients feel at ease.	1	2	3	4	5
CONC3 - Give patients the opportunity to express their views.	1	2	3	4	5
CONC4 - Listen to patients' views and discuss concerns.	1	2	3	4	5
CONC5 - Encourage patients to ask questions.	1	2	3	4	5
CONC6 - Allow time for questions.	1	2	3	4	5
CONC7 - Treat patients as equal partners.	1	2	3	4	5
CONC8 - Respect diversity.	1	2	3	4	5
CONC9 - Express a willingness to be flexible.	1	2	3	4	5
CONC10 - Identify barriers to communication.	1	2	3	4	5
CONC11 - Share information in a way the patient understands.	1	2	3	4	5
CONC12 - Confirm patients' understanding.	1	2	3	4	5
CONC13 - Check own understanding of the patients' viewpoints.	1	2	3	4	5

CONC14 - Use aids to help patient understanding.	1	2	3	4	5
CONC15 - Recognize the importance of non-verbal communications.	1	2	3	4	5
CONC16 - Use open questions to receive feedback.	1	2	3	4	5
CONC17 - Maintain appropriate eye contact.	1	2	3	4	5
CONC18 - Display a non-judgmental attitude.	1	2	3	4	5
CONC19 - Review patient information before meeting.	1	2	3	4	5
CONC20 - Explain his or her role to the patient.	1	2	3	4	5
CONC21 - Clarify timing, boundaries, and expectations for the meeting.	1	2	3	4	5
CONC22 - Minimize interruptions during the meeting.	1	2	3	4	5
CONC23 - Keep focused on the agreed aims of the meeting.	1	2	3	4	5
CONC24 - Know his or her own limitations.	1	2	3	4	5
CONC25 - Maintain up-to-date knowledge.	1	2	3	4	5
CONC26 - Know when to seek further advice.	1	2	3	4	5
CONC27 - Refer to other professionals as needed.	1	2	3	4	5
CONC28 - Work in partnership with colleagues.	1	2	3	4	5
CONC29 - Share up-to-date information about support available to the patient.	1	2	3	4	5
CONC30 - Be aware of practical resources to help patients.	1	2	3	4	5
CONC31 - Seek to understand patients' current circumstances.	1	2	3	4	5
CONC32 - Be aware of patients' cultural, religious, and societal beliefs that may impact on treatment.	1	2	3	4	5
CONC33 - Agree to patients' goals.	1	2	3	4	5
CONC34 - Respect patients' expertise regarding their own condition.	1	2	3	4	5
CONC35 - Establish patients' readiness to make a decision.	1	2	3	4	5
CONC36 - Explore what patients understand about their condition.	1	2	3	4	5
CONC37 - Learn what patients have been doing to deal with their conditions.	1	2	3	4	5

CONC38 - Discuss with patients their expectations and concerns.	1	2	3	4	5
CONC39 - Explore what patients think about medicines in general.	1	2	3	4	5
CONC40 - Discuss what may have caused the condition.	1	2	3	4	5
CONC41 - Establish whether they and their patients have similar or different views about their conditions.	1	2	3	4	5
CONC42 - Offer patients information about their condition.	1	2	3	4	5
CONC43 - Discuss any misunderstandings about their conditions.	1	2	3	4	5
CONC44 - Encourage patients to express views about treatment / no treatment options.	1	2	3	4	5
CONC45 - Explain reasoning about why medicines may or may not be needed.	1	2	3	4	5
CONC46 - Provide full and accurate information about the benefits and risks of all treatment options.	1	2	3	4	5
CONC47 - Discuss likely outcomes.	1	2	3	4	5
CONC48 - Describe uncertainty and risk to patients.	1	2	3	4	5
CONC49 - Check that patients understand reasons behind decisions.	1	2	3	4	5
CONC50 - Negotiate with patients about treatment decisions.	1	2	3	4	5
CONC51 - Give patients time to consider information before making decisions.	1	2	3	4	5
CONC52 - Accept patients' decisions.	1	2	3	4	5
CONC53 - Explore patients' ability to undertake the agreed plan.	1	2	3	4	5
CONC54 - Check that patients know what they are taking and why.	1	2	3	4	5
CONC55 - Ensure that patients know what to do if problems arise.	1	2	3	4	5
CONC56 - Discuss when the treatment will be reviewed or stopped.	1	2	3	4	5
CONC57 - Express a willingness to review the decision.	1	2	3	4	5
CONC58 - Provide relevant contact details and encourage patients to use them.	1	2	3	4	5

YEAR **In what year were you born?**

GENDER 1 = Male 2 = Female

RACE 1 = American Indian

2 = Asian

3 = Black/African American

4 = Hispanic/Latino

5 = White

6 = Other

RXDAY How many prescription drugs do you use on a daily basis?

OTCDAY How many self-care / complementary therapies do you use daily?

FINHARD Does purchasing medications cause you financial hardship?

1 = Yes 2 = No

PHARM What type of pharmacy do you typically use for obtaining medicines?

1 = Independently Owned (local) Pharmacy

2 = Supermarket Pharmacy (Grocery Store)

3 = Mass Merchandiser Pharmacy (Target, Wal-Mart)

4 = Chain Pharmacy (Walgreens, CVS)

5 = Clinic Pharmacy

6 = Mail Order or Internet Pharmacy

7 = Other

MTM Have you ever used a service called “Medication Therapy Management” (MTM)?

1 = Yes

2 = No

ZIP What is the Zip Code of your current primary residence?

CENSUSDIV Census Division

1 = New England

2 = Middle Atlantic

3 = East North Central

4 = West North Central

5 = South Atlantic

- 6 = East South Central
- 7 = West South Central
- 8 = Mountain
- 9 = Pacific

CENSREGION Census Region

- 1 = Northeast
- 2 = Midwest
- 3 = South
- 4 = West

MARITAL What is your marital status?

- 1 = single (never married)
- 2 = single (separated/ divorced)
- 3 = married
- 4 = widowed

INCOME What was your household income from all sources during 2012?

- 1 = \$20,000 or less
- 2 = \$21,000 to \$40,000
- 3 = \$41,000 to \$60,000
- 4 = \$61,000 to \$100,000
- 5 = More than \$100,000

COMPUTED VARIABLES:

HOMOPHILY = TWOA + TWOB + TWOC

Homophilous social network as a source of information (potential range of scores: 3 to 15, midpoint = 9)

TWOA - Family Member

TWOB - Friend

TWOC - Acquaintance

PROFESSIONAL = TWOD + TWOE + TWOF + TWOG

Professional as a source of information (potential range of scores: 4 to 20, midpoint = 12)

TWOD - Physician

TWOE - Pharmacist

TWOF - Other Health Professional

TWOG - Written information received from a health care provider

WEBSITE = TWOI + TWOJ + TWOK + TWOL + TWOM

Website as a source of information (potential range of scores: 5 to 25, midpoint = 15)

TWOI - Government-Sponsored web site (such as PubMed Health).

TWOJ - Information Company web site (such as About.com or WebMD)

TWOK - Health Organization web site (such as mayoclinic.com or walgreens.com)

TWOL - Pharmaceutical Company web site (such as Lipitor.com or Nexium.com)

TWOM - Web Search through Google, Bing, or other search engine.

SOCIAL MEDIA = TWON + TWOO + TWOP

Social Media as a source of information (potential range of scores: 3 to 15, midpoint = 9)

TWON - Social Media Video Posting Service such as YouTube

TWOO - Social Media Interactive Sharing Service such as PatientsLikeMe.com

TWOP - Social Media Information Repository such as Wikipedia

LIFESAVE = MEDLIFE1 + MEDLIFE4 + MEDLIFE5 + MEDLIFE11 + MEDLIFE13 + MEDLIFE16

Medicines are a life savior and a necessity. (potential range of scores: 6 to 30, midpoint = 18)

MEDLIFE1 - My current health depends on my medicines.

MEDLIFE4 - My life would be impossible without my medicines.

MEDLIFE5 - My medicines are a life savior.

MEDLIFE11 - Without my medicines I would be very sick.

MEDLIFE13 - My health in the future will depend on my medicines.

MEDLIFE16 - My medicines protect me from becoming worse.

LIFEBURDEN = MEDLIFE6 + MEDLIFE7 + MEDLIFE9 + MEDLIFE10 + MEDLIFE14 + MEDLIFE15

Medicines are a life burden and a concern. (potential range of scores: 6 to 30, midpoint = 18)

MEDLIFE6 - Having to take medicines worries me.

MEDLIFE7 - I feel like my medicines are controlling me.

MEDLIFE9 - My medicines are a burden.

MEDLIFE10 - I sometimes worry about the long term effects of my medicines.

MEDLIFE14 - My medicines disrupt my life.

MEDLIFE15 - I sometimes worry about becoming too dependent on my medicines.

OVERUSE = DOCMED1 + DOCMED6 + DOCMED7 + DOCMED8

Doctors overprescribe medications. (potential range of scores: 4 to 20, midpoint = 12)

DOCMED1 - Doctors prescribe too many medicines.

DOCMED6 - Doctors place too much trust on medicine.

DOCMED7 - If doctors had more time with patients, they would prescribe fewer medicines.

DOCMED8 - Doctors don't understand their patients well enough to make good choices about the best medicines to use.

HARM = DOCMED2 + DOCMED3 + DOCMED4 + DOCMED5

Medications do more harm than good. (potential range of scores: 4 to 20, midpoint = 12)

DOCMED2 - People who take medicines should stop their treatment for a while every now and then.

DOCMED3 - Most medicines are addictive.

DOCMED4 - Medicines do more harm than good.

DOCMED5 - All medicines are poisons.

INFOSAT = INFO1 + INFO2 + INFO3 + INFO4

Satisfaction with information about medications. (potential range of scores: 4 to 20, midpoint = 12)

INFO1 - Information I have about medicines is helpful.

INFO2 - Information I have about medicines is truthful.

INFO3 - Information I have about medicines is reliable.

INFO4 - Information I have about medicines is essential.

INFOLOAD = INFOLOAD1 + INFOLOAD2 + INFOLOAD3 + INFOLOAD4 + INFOLOAD5

Information overload when learning about medications. (potential range of scores: 5 to 25, midpoint = 15)

INFOLOAD1 - When learning about medications, I tend to feel confused.

INFOLOAD2 - When learning about medications, I tend to feel doubtful.

INFOLOAD3 - When learning about medications, I tend to feel frustrated.

INFOLOAD4 - When learning about medications, I tend to feel anxious.

INFOLOAD5 - When learning about medications, I tend to feel overwhelmed.

PTACTIV = INV1 + INV2 + INV3 + INV4 + INV5 + INV6 + INV7 + INV8 + INV9 + INV10 + INV11 + INV12 + INV13

Patient Activation Measure – confidence and ability to manage one's health (potential range of scores: 13 to 65, midpoint = 39)

INV1 - When all is said and done, I am the person who is responsible for managing my health.

INV2 - Taking an active role in my own health care is the most important factor in determining my health.

INV3 - I am confident that I can take actions that will help prevent health problems in the future.

INV4 - I know what each of my medications do.

INV5 - I am confident that I can tell when I need to go get medical care and when I can handle the health problem myself.

INV6 - I am confident I can tell my health care provider concerns I have even when he or she does not ask.

INV7 - I am confident that I can follow through on medical treatments I need to do on my own.

INV8 - I understand the causes of my health conditions.

INV9 - I know the different medical treatment options available for my health conditions.

INV10 - I have been able to make the lifestyle changes that are needed for my health.

INV11 - I know how to prevent further problems with my health.

INV12 - I am confident that I can figure out solutions when new problems arise with my health.

INV13 - I am confident that I can maintain a healthy lifestyle even during times of stress.

LISTEN = CONC1 + CONC2 + CONC3 + CONC4 + CONC5 + CONC6 + CONC7

Health Professionals should actively listen to the patient (potential range of scores: 7 to 35, midpoint = 21)

CONC1 - Reassure patients that they have time for them.

CONC2 - Help patients feel at ease.

CONC3 - Give patients the opportunity to express their views.

CONC4 - Listen to patients' views and discuss concerns.

CONC5 - Encourage patients to ask questions.

CONC6 - Allow time for questions.

CONC7 - Treat patients as equal partners.

TAILCOMM = CONC8 + CONC10 + CONC14 + CONC17 + CONC20 + CONC21 + CONC32

Health Professionals should tailor info in a way that is meaningful to the patient (potential range of scores: 7 to 35, midpoint = 21)

CONC8 - Respect diversity.

CONC10 - Identify barriers to communication.

CONC14 - Use aids to help patient understanding.

CONC17 - Maintain appropriate eye contact.

CONC20 - Explain his or her role to the patient.

CONC21 - Clarify timing, boundaries, and expectations for the meeting.

CONC32 - Be aware of patients' cultural, religious, and societal beliefs that may impact on treatment.

COMPETENCE = CONC12 + CONC19 + CONC24 + CONC25 + CONC26 + CONC27 + CONC28 + CONC29 + CONC30

Health Professionals should have competent self- and other-awareness (potential range of scores: 9 to 45, midpoint = 27).

CONC12 - Confirm patients' understanding.

CONC19 - Review patient information before meeting.

CONC24 - Know his or her own limitations.

CONC25 - Maintain up-to-date knowledge.

CONC26 - Know when to seek further advice.

CONC27 - Refer to other professionals as needed.

CONC28 - Work in partnership with colleagues.

CONC29 - Share up-to-date information about support available to the patient.

CONC30 - Be aware of practical resources to help patients.

SDECMaking = CONC33 + CONC36 + CONC37 + CONC38 + CONC40 + CONC43 + CONC44 + CONC45 + CONC49 + CONC50 + CONC51 + CONC52 + CONC53 + CONC54 + CONC57 + CONC58

Health Professionals should engage in Shared Decision Making with patients. (potential range: 16 to 80, midpoint = 48).

CONC33 - Agree to patients' goals.

CONC36 - Explore what patients understand about their condition.

CONC37 - Learn what patients have been doing to deal with their conditions.

CONC38 - Discuss with patients their expectations and concerns.

CONC40 - Discuss what may have caused the condition.

CONC43 - Discuss any misunderstandings about their conditions.

CONC44 - Encourage patients to express views about treatment / no treatment options.

- CONC45** - Explain reasoning about why medicines may or may not be needed.
- CONC49** - Check that patients understand reasons behind decisions.
- CONC50** - Negotiate with patients about treatment decisions.
- CONC51** - Give patients time to consider information before making decisions.
- CONC52** - Accept patients' decisions.
- CONC53** - Explore patients' ability to undertake the agreed plan.
- CONC54** - Check that patients know what they are taking and why.
- CONC57** - Express a willingness to review the decision.
- CONC58** - Provide relevant contact details and encourage patients to use them.

INFOSOURCECLUSTER = Cluster Membership based upon Cluster Analysis using HOMOPHILY, PROFESSIONAL, WEBSITE, and SOCIAL MEDIA variables.

- 1 = ALL LOW
- 2 = ALL MEDIUM
- 3 = ALL HIGH

RELATIONCLUSTER = Cluster Membership based upon Cluster Analysis using INERACTMD and INTERACTRPH variables.

- 1 = MD Shared + RPH Information
- 2 = MD Shared + RPH Advice/Negotiation/Relationship
- 3 = MD Informed/Paternalistic + RPH Information

SAVBURCLUSTER = Cluster Membership based upon Cluster Analysis using LIFESAVE and LIFE BURDEN variables.

- 1 = LO SAVE / HI BURDEN
- 2 = HI SAVE / HI BURDEN
- 3 = HI SAVE / LO BURDEN
- 4 = LO SAVE / LO BURDEN

USEHARMCLUSTER = Cluster Membership based upon Cluster Analysis using OVERUSE and HARM variables.

- 1 = HI OVERUSE / LO HARM
- 2 = LO OVERUSE / HI HARM
- 3 = HI OVERUSE / HI HARM
- 4 = LO OVERUSE / LO HARM

INFOCLUSTER = Cluster Membership based upon Cluster Analysis using INFOSAT and INFOLOAD variables.

- 1 = HI INFOSAT / LO INFOLOAD
- 2 = MED INFOSAT / MED INFOLOAD
- 3 = LO INFOSAT / HI INFOLOAD

PTACTQUARTILES = QUARTILES based upon 13-item PTACTIV measure with:

1 = 30 – 47

2 = 48 – 51

3 = 52 – 55

4 = 56 – 65

CONCCLUSTER = Cluster Membership based upon Cluster Analysis using LISTEN, TAILCOMM, COMPETENCE, and SDECMaking variables.

1 = ALL HIGH

2 = ALL LOW

3 = ALL MED

RESP = INV1 + INV2 + INV3

Patient Activation for taking responsibility (potential range of scores: 3 to 15, midpoint = 9)

INV1 - When all is said and done, I am the person who is responsible for managing my health.

INV2 - Taking an active role in my own health care is the most important factor in determining my health.

INV3 - I am confident that I can take actions that will help prevent health problems in the future.

BEH = INV6 + INV7 + INV10 + INV13

Patient Activation for behaviors (potential range of scores: 4 to 20, midpoint = 12)

INV6 - I am confident I can tell my health care provider concerns I have even when he or she does not ask.

INV7 - I am confident that I can follow through on medical treatments I need to do on my own.

INV10 - I have been able to make the lifestyle changes that are needed for my health.

INV13 - I am confident that I can maintain a healthy lifestyle even during times of stress.

KNOW = INV8 + INV9 + INV11 + INV12

Patient Activation for knowledge (potential range of scores: 4 to 20, midpoint = 12)

INV8 - I understand the causes of my health conditions.

INV9 - I know the different medical treatment options available for my health conditions.

INV11 - I know how to prevent further problems with my health.

INV12 - I am confident that I can figure out solutions when new problems arise with my health.

PTACTCLUSTER = Cluster Membership based upon Cluster Analysis using RESP, BEH, and KNOW variables.

1 = ALL MED

2 = ALL HIGH

3 = ALL LOW

APPENDIX C

RESPONDENTS' WRITTEN COMMENTS

2013 National Consumer Survey on the Medication Experience

Principal Investigator: Jon C. Schommer, PhD

Respondent Comments

004 I am under regular physicians care. I take several prescription drugs. As a consequence, I can eat and do anything I want. I am healthier than most people 20 years younger than I. (66 year old male)

004 I have a good friend who is a research pharmacist. I use TriCare.

008 I have lifestyle restricting condition and pay attention to medications prescribed by my doctor.

010 I have no obvious health problems and consider myself to be in above-average health. I am a nurse so I do pay attention to medications for more reasons than my personal use.

013 I have multiple myeloma and take meds for that.

014 I like to use a shared approach with my physician, but it can be tough to talk to someone during business hours because I work. Usually it is voice mail to voice mail. E-mail would be a nice option.

017 My meds are presently mostly sent thru mail order company.

020 Long time medicine user. Not lifestyle restricted. Take what my doctor recommends. No interest in medication advertising.

040 I am a diabetic with limited health issues which do not restrict life style. I'm doctor driven for medications.

041 I refuse to take prescription medications.

045 I am in above average health. I do, however, take a daily sleep aid. When I am prescribed medications, I always read the information with the meds.

046 Colon cancer.

047 I have above average health but do take medication on a regular basis for blood pressure and high cholesterol. I work with my physician to make choices about my health care.

050 I am in pretty good health but take a lot of meds to maintain blood pressure, cholesterol, triglycerides, etc. connected with heart problems. I am concerned about effects of meds and dry mouth side effects. I do discuss some meds with Dr. and cardiologist. They say will probably never get off some of those I take.

051 I am a health self-manager. I have above average health. I use prescription medications to treat age-related conditions. I have little interest in information from TV, print, or internet, although I specifically use the internet to learn more about certain health conditions and medications available to treat them.

053 I pay attention and read labels and listen to the Dr. at my yearly physical unless there is a problem I think should be addressed by physician. I walk regularly and try to maintain a healthy lifestyle. I do not take prescriptions ordinarily. The only one is levothyroxine 88 mcg for about 15 years approx.

053 I do not use the internet at the present time. I work with my physician.

055 I am healthy and can usually self treat with over the counter medications, but I am always interested when I see it on TV or in print and internet.

072 I am in above average health with some medical issues. I use doctor-led advice and meds. I pay no attention to TV, internet or paper ads.

073 I am in good health due to medications prescribed by my physician. I use my physician's judgement because my medications work.

075 Sciatica – I'm 6 foot 8 inches and did too many long distance runs.

081 I have diabetes II and neuropathy in my feet plus blood pressure and cholesterol. So I feel it is imperative that the Dr. and I work together for my grateful lifestyle. I am very active, with my garden, church and community even though I walk with a cane. Positive outlook. Do not take what I hear, see, or view on TV or Internet to heart – only my Dr.

081 I use my pharmacist for flu shots and shingles shots.

082 I am in average health – Take prescription medication for high blood pressure that my doctor suggested.

083 I am a combination of a doctor-led and a solution-seeker.

083 I use my pharmacist for information because I have many allergies and have to monitor meds prescribed.

086 I do pay attention to TV / Internet. Was taking Celebrex before they took it off the market. In good health currently on no prescription medicine.

088 I'm a combination of the healthy-half and the self-manager with the exception of the fact that I DO research supplements and pay attention to news regarding medications, despite the fact that I take no prescription medications.

094 I have lifetime conditions that I take medications for every day. My lifestyle is not restricted because of this.

097 I am a combination of doctor-led, self-manager, and solution-seeker. I am in above average health but when I do need medical help, I seek it from a health professional.

101 I fit best into self-manager. However, I like to be informed (via commercials or ads) about various meds.

108 I just paid \$600 for Lantus. Becoming insurance poor!

109 I'll use any source of information that will solve my problem.

119 Self-manager describes me pretty good up to the part of "not paying much attention..." One cannot manage their health without information. Not well anyway!

125 I don't have any health condition that requires me to take medication, but I do pay attention when I see information on TV in print or on the internet because I think this information may be useful to me one day.

126 I have mild medical conditions requiring medication. I listen to my physician about medications, and also refer to internet or friends/family for other remedies.

136 I trust my Dr.

164 I follow my Doctors orders.

169 I suffer from a condition that restricts my lifestyle and try to avoid over-medication. I see my internist once a year and my ophthalmologist twice a year. I'm open to helpful supplements rather than pharmaceuticals. I have cut the doses on 3 meds that I take then discussed the matter with my doctor and he considered the change acceptable.

177 Issues are blood pressure and cholesterol. I pay attention to those types of ads.

178 Do not prefer watching ads on TV about medication !

180 Very healthy, use migraine medication as prescribed.

180 I use my pharmacist for information along with any side effects not typical of medication.

182 I take nothing !!! I am Vegan and get everything my body needs in what I eat. I am 72 and in very, very good health. I don't even get a headache or a cold.

182 I don't have a computer.

182 I don't see a physician. I prefer to handle illness with proper eating.

184 I have no obvious health problems. I am over weight and I do pay attention to information about medications when I see it on TV, in print, or the internet.

192 I go for my check-up every 3 month for my health.

193 I hate taking Rx and any medications. I am currently taking 4 Rx and am working on making the psychological changes for me to follow through and make the changes to my diet that my cardiologist recommends – going Vegan. I have used the info about medications to keep me non-compliant in usage in the past and reluctant in the present.

193 Mostly I get information from my pharmacist, but sometimes advice.

202 Drugs for colitis, GIRD, hypoactive thyroid, monitor early stage prostate cancer, monitor for re-occurrence of follicular lymphoma.

208 I have average health and do take two prescriptions from a doctor. I only see doctor when I need a refill for these meds or if something arises that I can't treat on my own. I have no interest in information from TV, print, radio, internet medication ads. I don't care! I'm a combo of healthy-half, doctor-led, and self-manager.

210 don't Ever Send me anymore of this Junk I am Mot dope Head

214 My first approach is healing through prayer. Medications are overly marketed leading one to distrust the information.

