Clinician Participation in a Rural Practice-based Research Network: A Q-Method Approach

By
Blue Blake

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CERTIFICATE OF APPROVAL

This is to certify that the Master's thesis of

Blue Blake

has been approved

Chair – Dr. Judith Logan

Member – Dr. LJ Fagnan

Member – Dr. Cynthia Morris

Member – Dr. Julie Reynolds

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ABSTRACT:

BACKGROUND: In the Oregon Rural Physician Research Network (ORPRN) some clinicians display more active behavior than others, participating in governing, in resource and information sharing, and in research projects. By understanding subjective factors associated with research network participation, better plans can be made to match requirements and requests to clinician preferences.

OBJECTIVE: This object of this study was to develop an understanding of the subjective factors that motivate or predict participation in ORPRN.

METHOD: Q-Methodology is a technique with both quantitative and qualitative aspects. It is used to explore participation behaviors, specifically to reveal the subjective factors effecting participation in the network. WebQ software, downloaded from http://www.lrz-muenchen.de/~schmolck/qmethod/webq/, was utilized to administer the Q-Sorts. PQ Method 2.11 software, downloaded from http://www.lrz-muenchen.de/~schmolck/qmethod/downpqx.htm, was used for analysis.

PARTICIPANTS: Preliminary data collection for development of the Q-sort concourse took place at a round table discussion at the November, 2005, ORPRN convocation in Bend Oregon. The Q sample was then applied to a sample of twenty ORPRN members selected for their willingness to participate.

RESULTS: Sorts on twenty clinicians were best represented by a four factor solution. Factor one includes clinicians who desire resources to pursue their own research interests. Factor two members believe that ORPRN creates new knowledge and wish to contribute to that effort. Factor three is made up clinicians who desire tangible rewards: CME, tools, software, and hardware. Factor four clinicians appear motivated by the relevance

of ORPRN research for their practices as well as the interdisciplinary nature of the network.

CONCLUSION: Q-Methodology was utilized to identify four factors related to clinician participation in ORPRN. Following a confirmatory Q-method study these results can be utilized as the basis for studies investigating the association between factor membership and participation.

INTRODUCTION:

The Oregon Rural Practice-based Research Network (ORPRN), like many Practice Based Research Networks (PBRNs) faces challenges in recruiting and retaining practices to participate in the network. Even beyond just recruiting clinicians and practices to the network lies an implicit goal of recruiting clinicians who participate actively in research. Even in the early years of ORPRN, it was clear that some clinicians displayed more active behavior in the network than others.

Why is it important for PBRNs to understand what the motivators to active participation are and who is motivated? The types of studies done in PBRNs include intervention studies, system/practice redesign projects, cross-sectional studies involving surveys and studies only requiring access to existing datasets. The clinician's willingness to participate in these studies will likely depend on various motivating characteristics. For example, intervention studies require clinicians who are willing to devote personal time, energy, and significant resources; whereas, survey studies, on the other hand, take less personal commitment but may not be viewed as having value or being worth the effort required by the network clinician. Networks wanting to take advantage of the wide array of research opportunities will need to include a range of clinicians in terms of their tolerance for additional work, disruption of usual patterns of care and a willingness to communicate electronically or by phone.

Q-Methodology is a technique for identifying distinct categories of subjective perspective surrounding a chosen topic. In this study, we will describe the use of Q-Methodology to

determine categories of ORPRN clinicians discriminated based on factors influencing participation.

BACKGROUND:

Practice Based Research Networks:

PBRNs are comprised of individual practices that are primarily concerned with patient care. These practices may be private, public or university-based. The clinicians are organized into a network for the purpose of sharing data and research specific to primary care. The network practices are sometimes additionally associated with an academic institution. These networks are sustained not for a single study, but to pool resources and information over time (1). The vast majority of PBRNs represent the primary care discipline, the front door of the health care system.

PBRNs are considered to be of value because research findings extracted from academic medical center studies have limited generalizability to primary care based practices. (2) Research conducted in hospital and specialty settings generally focuses on a specific disease in a highly selected population of patients. Results from these studies are often not relevant to the unselected patient population presenting with varied or multiple conditions that constitute a primary care physician's practice (3). Additionally, study results are more likely to address the questions and concerns of primary care clinicians when primary care clinicians are involved in study design and investigation, yielding results that can be readily incorporated into practice (4, 5).

The first PBRNs in the United States, the Family Medicine Information System (FMIS) and Cooperative Information Project, were developed in the 1970s (1). These early PBRNs were successful in obtaining funding for studies investigating the content and

patterns of primary care practice. The success of these networks in the late 1970s drove the formation of other local, regional, and national PBRNs.

The Oregon Rural Practice-based Research Network (ORPRN) is the result of an interest by Oregon Health & Science University, rural communities and clinicians in developing a rural PBRN. Initial funding for development of the network infrastructure came from an Oregon voter initiative in May of 2002 to fund the "Oregon Opportunity" intended to make Oregon a leader in biomedical research. ORPRN includes 129 primary care clinicians working in 32 practices located in 28 rural Oregon communities providing care for 170,000 patients. The network is multidisciplinary, composed of 65% physicians and 35% Physician Assistants and Nurse Practitioners. The typical practice is a privately owned family medicine office staffed with 3 clinicians. The stated mission of ORPRN is "to improve the health of rural populations in Oregon through conducting and promoting health research in partnerships with the communities and practitioners we serve." (6)

Clinician Member Recruitment in PBRNs:

Recruitment and retention of participants in PBRNs has been and will continue to be an area of research interest. A number of studies have been completed with the intention of identifying factors related to physician participation. These studies have generally measured participation based on the number of patients that a clinician is able to recruit to research studies. Given this measure, it has been observed that the factors contributing to clinician participation in a study are (in decreasing order): an interest in the research topic, a sense of professional obligation, and financial incentive. Study results also

suggest that younger physicians, especially those practicing family medicine, have a greater tendency to be active participants in practice-based research (7, 8, 9).

In a study of dyspepsia by Quartero, a survey was utilized to probe at the personal and practice characteristics of the family practioners participating in the study, as well as their motivation to participate in the study itself. Participation was measured in terms of the number of patients recruited. 128 family practioners replied to the survey and participated in the study and collectively they recruited 793 patients to the study. Survey results returned showed that 63% were motivated by involvement of an academic research group in the study, 59% by an interest in the research topic, 39% by a sense of professional obligation, and 15% by financial incentives. Those practitioners that were primarily motivated by the involvement of an academic research group were statistically more successful at recruiting patients to the study than practitioners motivated by financial incentives, professional obligation, and interest in study topic. (7)

Shelton et al performed an observational study with the goal of identifying and examining factors associated with successful physician recruitment and retention in primary care research. Observations were made of recruitment methods of primary care physicians for a randomized control trial study referred to as the "Partners for Prevention Project." The study investigated cancer screening and counseling activities. From an initial sample of 470 practices with 1,041 physicians, the recruitment rate was 70%. The results encourage recruitment of younger physicians practicing in rural areas, as they were most successful at enrolling patients into the study. Additionally, physicians with

training in family practice rather than internal medicine were more successful at enrolling patients. (8)

Croughan-Minihane conducted a survey of the research interests of primary care physicians in two different PBRNs. A total of 205 responses were received, 120 from UCSF Collaborative Research Network and 85 from the Stanford Ambulatory Research Network. Croughan-Minihane was able to conclude that identification of physician research interest was useful for focusing recruitment efforts and in providing estimates of participation levels for study planning. However, they also noted that interest in a study area did not imply willingness to participate in a particular study. Other influencing factors noted include, the specific hypothesis, the methods employed, and the resources required to participate. It was also noted that the two PBRNs examined in this study were quite similar and size and demographics of participating practices, and that the results may not be generalizable (9).

Q-Methodology:

> "Stephenson was interested in providing (was) a way to reveal the subjectivity involved in any situation – e.g., in aesthetic judgment, poetic interpretation, perceptions of organizational role, political attitudes, appraisals of health care, experiences of bereavement, perspectives on life and the cosmos, et cetera ad infinitum. It is life as lived from the standpoint of the person living it that is typically passed over by quantitative procedures, and it is subjectivity in this sense that Q-methodology is designed to examine and that frequently engages the attention of the qualitative researcher interested in more than just life measured by the pound." (10)

Q-methodology evolved from a 1935 letter to the editor of Nature by William Stephenson, a professor of Psychology at University College in London. His letter suggested the "inversion" of a common factor analysis technique. It had been the standard to evaluate a set of *n* individuals utilizing a set of *m* tests. Intercorrelations were factorized in a conventional R methodology manner. Stephenson suggested the inversion of this familiar methodology; taking a set of *n* "tests" and having a set of *m* individuals score those "tests". Stephenson then stated that the intercorrelations could be subjected to standard factor analysis.

In the Q-methodology born from this letter the "tests" scored by the individuals consist of any material that the test subjects can relate to: pictures, music, or statements of opinion. Subjectivity is introduced into the method in that the subjects are evaluating rather than being evaluated. Application of factor analysis methods allows for the quantitative isolation of factors. Stephenson envisioned the value of his method in the realm of "experimental aesthetics and in educational psychology" as well as pure psychology (11).

Q-methodology allows the researcher to isolate categories of view points held by the subjects. These categories are called factors and represent similar Q-sorts; that is, Q-sorts that represent common attitudes or subjective opinions regarding the research question (12).

The first step in Q-methodology is to define the "concourse", the total range of communication around a topic. The concourse usually takes the form of brief personal

statements, such as, "I need help keeping up with the latest clinical guidelines." The concourse is typically developed from interviews, though any source, such as talk shows, newspaper articles, or books that provide a commentary can be of use (13).

After the concourse is determined, a Q-sample is selected as a subset of the concourse in order to limit the number of statements (typical numbers range from 20-50). The winnowing of the concourse to the Q-sample is based on eliminating redundancies while allowing for representation of the greatest spectrum of the concourse.

Classically, each statement in the Q-sample is then written on an index card. Study participants are then asked to arrange the index cards on a Q-diagram, which is an approximately bell-shaped grid for sorting based on agreement with the statements. Figure 1. is an example for a 55-statement Q-diagram:

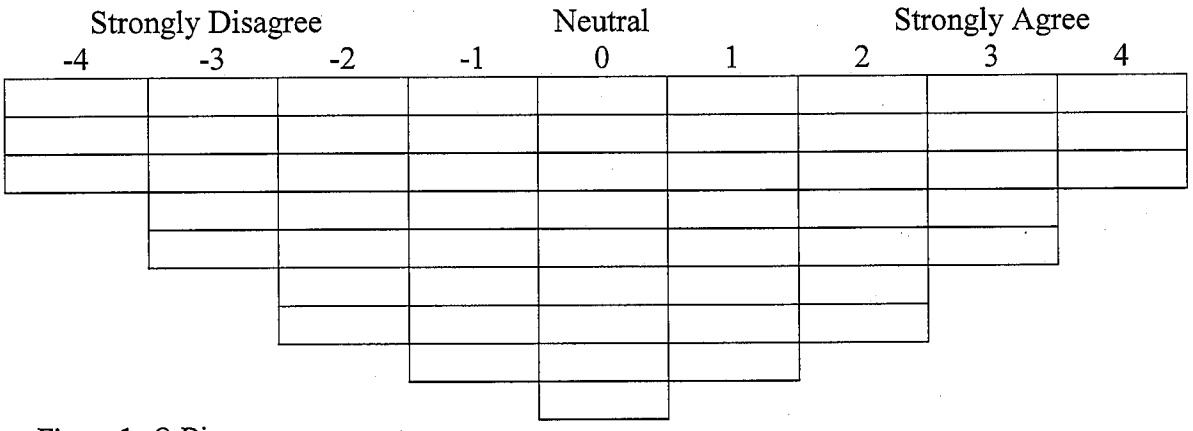

Figure 1. Q-Diagram

A typical method for sorting is to ask the users to divide the statements into three groups: "I disagree with the statement", "I am neutral about the statement", and "I agree with the statement." Then the users are asked to place cards in the outermost columns (-4 and 4 in this instance) from the disagree and agree stacks, respectively. Iteratively, they continue to place cards in the next unfilled outermost columns (-3 and 3, for example) using the cards from the disagree and agree stacks prior to using cards in the neutral stack (13). Software has been developed to facilitate Q-sorting in an "index card free" electronic manner. The number of open boxes under each rank limits the number of cards that can be placed in that column. Allowing only a limited number of cards in each column forces the participant to develop a sort with a roughly normal distribution.

Principal components factor analysis is then performed on the results of the Q-sorts of study participants. The intent is to identify factors or "viewpoints" by seeking groups of statements which often appear in similar positions in the sorts. Individual subjects usually relate strongly to a single factor. The hope is to discover several discrete factors (13).

Once the factors are determined in this manner, the Q-sort can be repeated in a population to characterize individuals. Limitations of Q-method include the difficulty of generalizing findings outside of the population in which the Q-sorts are developed (13).

Q-methodology applied in clinical settings:

Q-methodology has been applied in a number of clinical studies. Investigations have probed at the needs of clinicians in a variety of settings, types of information sources

perceived as useful, barriers to the utilization of research information in clinical settings, and opinions regarding the use of information technology. In some of these studies, Q-methodology was utilized initially to provide a framework for follow up studies utilizing more traditional qualitative methods (14, 15, 16, 17).

In a study by Chinnis et al, Q-methodology was utilized to assess the needs of nurses and other medical staff at a level one, tertiary care emergency department in the United States (14). In the face of a national nursing shortage, it was deemed important to consider the satisfaction levels of nurses. In this study forty one employees completed the Q-sort.

The study revealed five unique factors or viewpoints regarding the needs of employees. One factor expressed *Strong Physician Needs*. They felt that it was important for physicians to take on more tasks, including explaining diagnoses to patients and supporting hospital policy. Also, employees representing this factor wanted resident physicians to act professionally. *Strong Emergency Department Communication Needs* were expressed by another factor. A third factor expressed *Strong Nursing, Clinical Associate, Reward, and Self-Communication Needs*. They felt a need for more respectful communication from clinical associates and nurses to patients. Additionally, they wanted charge nurses to be both more effective in managing workflow and have a higher ongoing awareness of situations in the Emergency Department. A fourth factor expressed *Teamwork Needs*. In short, they felt the need to be a part of a team. The final factor identified was *Strong Conflict Resolution Needs*.

The authors note that the benefit of using Q-methodology in this study was its ability to illuminate the needs of employees by factor analysis. It is also noted that this method is especially useful for administrators, given that there is generally not one solution to improving employee satisfaction.

Thompson performed a study in 2001 to examine information sources that nurses found useful for minimizing the uncertainty associated with clinical decisions (15). The study utilized "cross-case analysis involving qualitative interviews, observation, documentary audit and Q-methodological modeling of shared subjectivities amongst nurses" in three large hospitals in the north of England. This study provides a great example of the utilization of an initial Q-methodology study to define a framework for further qualitative study of a research topic.

The portion of the study that relied on Q-methodology used Q-sorts by 122 nurses. The Q-sample was selected to allow nurses to model their perceptions of the usefulness of various information sources when faced with clinical decision making. The Q-results where used to develop structure and form to material, while the interviews and observational data "add depth to the reporting".

Analysis of the Q-sorts revealed four distinct perspectives: 1. *direction, guidance or prescription*, 2. *usefulness as experiential knowledge*, 3. *centrally supported experience-based messages for practice*, and 4. *a blending of research technologies and experience*. Nurses most strongly associated with the first perspective felt that the clinical guidelines

and protocols were very useful in decision making. It was felt further that these guidelines help break down barriers between physicians and nurses. They were most confident with guidelines developed or initialed by physicians. Additionally, nurses identifying with this perspective felt that seeking the expertise of specialists was useful when their own personal knowledge fell short of the need.

The second perspective, *usefulness as experiential knowledge*, expresses that clinical experience, whether the nurse's own or the experience of other nurses, physicians, or even patients was the most useful information source in clinical decision making. The authors state that "Experience provided the ultimate fallback mechanism for most nurses, and ultimately was the currency that had most value in the clinical arena."

The third perspective, *centrally supported experience-based messages for practice*, was similar to the other perspectives in that it speaks of clinical experience and human resources. This perspective was made distinct from the others by the weight that nurses aligned with this perspective gave to systems that had been put in place to support practice development, specifically the development of skills. The final perspective, described as *a blending of research technologies and experience,* represented nurses who found research-based sources, especially systematic summaries of research studies, to be of use in decision making.

While Q-methodology was able to distinguish four unique perspectives on the usefulness of various information sources in clinical decision making, a common underlying theme

was also identified. Research knowledge was valued, but textual and electronic resources were not considered useful by nurses in the context of their everyday work. Nurses felt that trusted individuals were the most useful information sources when faced with making clinical decisions.

The same investigators published a follow-up study examining the barriers perceived by nurses that keep them from using research based information when making clinical decisions (16). Similar to the previous study, this one utilized Q-methodology to identify unique perspectives, and probed these perspectives with further analysis using anonymized qualitative interviews, observation, and audit of documents.

The authors were again able to determine four unique perspectives. One group of nurses felt that interpreting and utilizing research products was too complex. The nurses expressed that research information was too "'academic' and was overly statistical". A second group expressed confidence in research information, but perceived that organizational support for using it was lacking. Group three identified that research information products lack clinical credibility and do not offer the level of clinical direction they desired; a perspective quite similar to the one that motives PBRNs. The final group of nurses perceived that they lacked the necessary skills or motivation to utilize research-based information.

Valenta and Wigger used Q-methodology to probe the opinions of primary care physicians and medical students (17). The authors were specifically interested in

exploring the range of perspectives around accepting or resisting the incorporation of information technology into the workplace. Fifty-five study participants (twenty-five medical students and thirty-four physicians) were recruited from the University of Illinois at Chicago Medical Center. The Q-sample consisted of 30 opinion statements.

Analysis of the Q-sorts revealed six unique perspectives, described as: (1) Full-Range Adopters, (2) Skills-Concerned Adopters, (3) Technology-Critical Adopters, (4) Independently-Minded and Concerned, (5) Inexperienced and Worried, and (6) Business-Minded Adaptive. The authors suggest that implementers of clinical information technology systems might consider early identification of Full-Ranged Adopters. Full-Ranged Adopters that are well respected by peers could be recruited as "champions" and work to motivate groups such as the Technology-Critical Adopters. The authors suggest that "an organization's system implementers could employ Q-methodology to individualize and customize their approach to understanding the personality complexities of physicians in their organization and their willingness to adapt and utilize information technologies within the workplace."

The above studies demonstrate clearly that Q-methodology is an appropriate tool to apply to the question of subjective perspectives in general. Beyond this they demonstrate successful use of Q-methodology in clinical settings.

METHODS AND MATERIALS:

A Q-methodology concourse was developed from two sources: ideas generated at a roundtable discussion with current ORPRN members at the November 5, 2005 convocation in Sun River, Oregon, and direct individual suggestions from two ORPRN staff members.

The five clinicians participating in the roundtable discussion were presented with the question, "What influences your participation (or lack of it) in ORPRN?" Each participant was presented with a notepad to record factors as they occurred to them. Notes on dialogue at the table were also compiled. A transcription of these notes is included as appendix I. Additional items were solicited from two current ORPRN members via electronic mail dialog. Statements presented constitute appendix II.

The Q-sample was selected as a subset of the total concourse. Attention was given to reducing the items to a manageable number while still representing the full range of the concourse. To this end, statements were first sorted based on similarity; twelve unique statement categories or domains were identified. Representative statements were selected or composed from each category to become the Q-sample. The final Q-sample of 37 statements is displayed in Table 1.

Domain	Q-statement
1. Patient Care	• I want to improve the quality of care to my patients. • The main focus of my clinical practice is patient care, not research.
2. Clinician Education/Support	• I can receive CME. • I can gain access to useful tools/software/hardware. • I get useful feedback on how other rural clinicians deal with the same issues I have. • Learning about new research findings is a high priority for me.
3. Impact of ORPRN Research	• ORPRN research has an important impact on primary care. • ORPRN supports research that will bring direct benefits to my practice (a measure of relevance). • -ORPRN gets research results back to my clinic as soon as they are available. • I can readily incorporate the findings from ORPRN studies into my practice. • I'm not sure what I can expect from ORPRN.
4. Voice in ORPRN	• My own interests and ideas can be incorporated into a research project. • I am able to have input in a project at various stages. • I have a sense of ownership (in the outcomes of ORPRN research).
5. Pool of Clinical Knowledge	• I want to contribute to the pool of clinical knowledge. • ORPRN creates new knowledge regarding rural primary care.
6. Personal Experience in Research	• My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN. • I am curious about how primary care research is conducted.
7. Personal Practice Impact	• Involvement in ORPRN enhances the prestige of my practice. • Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care. • Working with ORPRN improves my clinical practice. • ORPRN helps me do the QI that I have to do

	anyway. • My patients enjoy participating in studies.
8. Enables Research	• I am interested in developing my own research ideas with ORPRN assistance. • ORPRN makes research in a rural clinic possible.
9. Social Factors	• ORPRN staff makes involvement fun. • I feel isolated and want the community of other rural clinicians. • I like that ORPRN work is interdisciplinary; including MDs, RNs, and PAs. • I was personally contacted and recruited.
10. Resource Availability	• I have sufficient time to participate. • I don't have the staff resources to support research. • ORPRN research does not interfere with the efficiency of my practice.
11. Staff Politics	• My staff is motivated to participate in research. • My clinical colleagues encourage my participation in ORPRN. • Participation would be a burden to my staff.
12. Leadership	• Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon. • ORPRN connects me to nationally recognized leaders and organizations.

Table 1. The Q-Sample developed from the concourse resulting from the query "What influences your participation (or lack of it) in ORPRN?"

Participants were recruited by convenience from the current ORPRN membership. All, potential subjects were contacted by both electronic mail and FAX. Those consenting to the study were sent instructions by electronic mail along with WebQ, a JavaScript application which facilitates Q-sorting. The electronic mail recruitment letter as well as the FAX recruitment letter and the WebQ Instructions are included in appendices III, IV, and V respectively. WebQ was downloaded from http://www.lrz-muenchen.de/~schmolck/qmethod/webq/.

The electronic mail and FAX recruitment letters were sent to all ninety-five ORPRN members. The recruitment program was intentionally redundant. Six members responded to the e-mail and all six eventually completed the sort. The FAX resulted in sixteen respondents, six of whom completed the sort. Five additional sorts were collected in person at the Oregon Academy of Family Physicians Annual Scientific Assembly. Personalized electronic mail was later sent to thirty ORPRN members who had already received both the mass e-mail and FAX recruitment letters. Four clinicians responded to the personalized letters and, of those, 3 completed sorts. Total participation was 20 sorts or 21% of ORPRN clinicians. The collected Q-sorts are included in appendix VI.

Figure 2 shows an unsorted Q-sample as it appears to the user in WebQ. The tool computerizes the traditional index card-sorting implementation of Q-methodology. When the subject first opens the application, they see all items in the Q-sample, randomly ordered in the "neutral category" with the "0" radio button selected. The user is then able to "sort the cards into different piles" by selecting the appropriate radio button for each statement. The number of boxes next to each rank designates the number of statements that may be assigned that rank. Blue lights indicate that more statements must be assigned that score, while red indicates that too many statements have been assigned a particular score. The "Update" button may be used repeatedly to update the "lights". When the participant is satisfied with their sort, and they have all green lights, as in Figure 3, they select the "Send" radio button, and WebQ electronically mails the response back to the researchers.

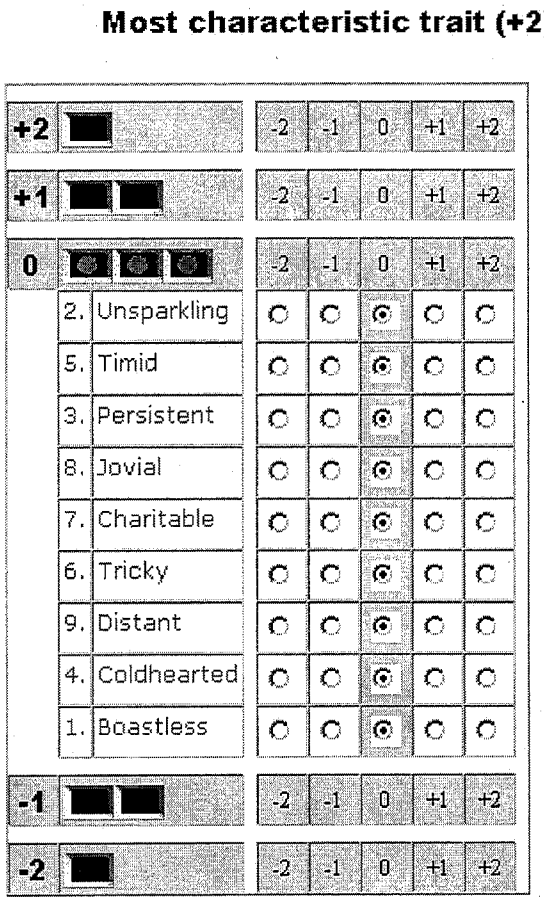

Figure 2. An example of unsorted Q-Statements using WebQ

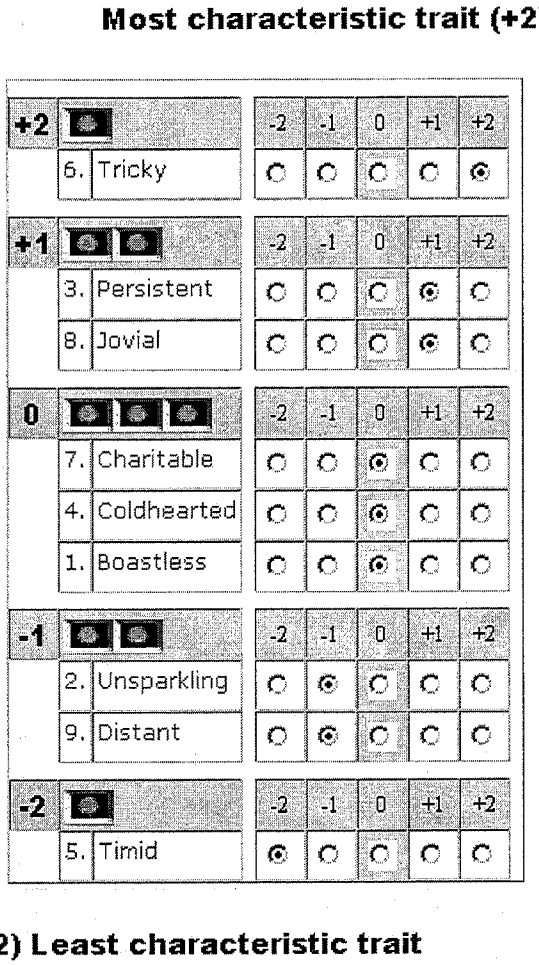

Figure 3. The same sort, completed

PQMethod was developed by John Atkinson at Kent State University in 1992. It was downloaded from http://www.lrz-muenchen.de/~schmolck/qmethod/downpqx.htm Version 2.11 was utilized to analyze the sorts. Initial factor analysis was performed using the Principal Components Method (PCM). Centroid Analysis was an option instead of PCM and in the past was the more commonly used method. However, the differences between the two methods are generally negligible and PCM has the advantage that it returns Eigenvalues for each factor. Eigenvalues greater than one are considered

significant. The returned Eigenvalues are useful when determining the maximum number of factors to be considered.

Figure 4 shows the eigenvalues associated with each of the twenty sorts. The first six variables return eigenvalues greater than 1.0, which means that they explain more variance than would be expected of a single variable. It is important to remember that, in Q-method, the participants and specifically the Q-Sorts that represent their views are the variables.

PCM on these sorts shows that the maximum number of factors that should be considered for rotation is six. It is reasonable, however, to consider fewer. It is possible that fewer will allow for a clear distinction between factors, while at the same time simplifying the model (18). The more factors that are considered, the more fragmented the data is likely to be. At the same time, if too few factors are considered, distinctions between

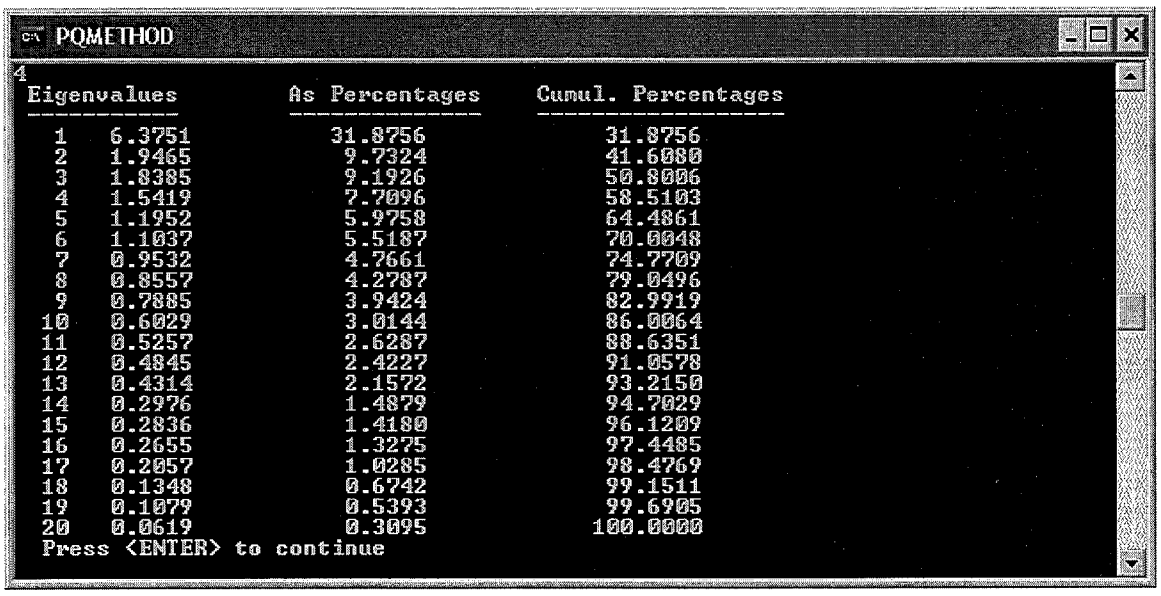

Figure 4. An example of results of use of PQMethod. The Eignevalues suggest that a maximum of 6 factors be considered

significantly unique subgroups may be lost. In the above example, it would be reasonable to consider 3-factor, 4-factor, 5-factor, and 6-factor models/scenarios.

PQMethod utilizes varimax rotation as part of PCA so that the sum of the variances of the loadings is maximum. This is performed once for each scenario. Rotated factor loadings for a 20-sort, four-factor model are presented in Table 2 for illustration.

Defining sorts for each factor are flagged in the PCMethod output with an X next to the loading value. A loading of 0.5 or higher is considered strong, although loadings as low

	Factors			
QSORT #	1	2	3	4
1	0.2867	0.0742	0.3396	0.7146X
2	0.1853	0.4704X	0.2452	0.0242
3	0.7832X	-0.0569	0.1701	0.1975
4	0.6119X	0.1405	0.5553	0.1849
5	0.1406	0.7218X	0.0700	0.2245
6	-0.0463	-0.1867	0.5836X	0.3992
7	0.6464X	0.2454	0.1688	0.2770
8	0.2930	0.2857	0.4266X	0.0896
9	0.0502	0.3111	0.6990X	0.0521
10	0.0433	0.2952	0.3282	0.5247X
11	-0.0813	0.7597X	0.2599	0.0070
12	0.0654	0.4555	0.7464X	0.0643
13	0.0604	0.2295	0.4942	0.4925
14	0.4020	0.2879	0.5175	0.3126
15	-0.2637	0.3139	0.2167	0.4195
16	0.1064	-0.1126	-0.1706	0.8275X
17	0.3380	0.2532	0.0977	0.4988X
18	0.7731X	0.2241	-0.0090	-0.1044
19	0.3638	0.7095X	-0.1400	0.1044
20	0.3997	-0.2660	0.6445X	0.0163
% expl.Var.	14	14	17	13

Table 2. Factor Loadings for the 4-factor model in this study

as 0.4 are generally considered acceptable. Some sorts do not load cleanly onto one factor; for example, sort 13 has a loading of .4942 on factor three and .4925 on factor four. While either of these loadings might be high enough to contribute to the characterization of one or both of these factors, this sort is not clearly more representative of one over the other and therefore will not contribute to the characterization of either. The sorts that are flagged for each factor were utilized to characterize that factor.

The 3-factor, 4-factor, 5-factor and 6-factor models were each considered in an effort to find the best model. Specifically, the amount of variance explained by the model, the inclusiveness (the total number of sorts flagged each factor), between-factor correlation and standard error of factors scores are all considered in choosing the best scenario. A high value of the variance explained is desired because we want the model to describe the greatest degree of variance observed in the data. Because we want a model that represents the majority of the population, a high degree of inclusiveness is also desirable. Between-factor correlation should be small because the factors should be as distinct from each other as possible. Standard errors should also be small.

Following model selection is the task of factor characterization. Characterization relies on a combination of Q-sort values, normalized factor scores and consensus and contention statements. The *Q-sort values* are the ranks that members of each factor gave to items in the Q-sample. Of particular interest are items that were ranked on the upper (+4) and lower (-4) ends of the spectrum. These items provide information about the priorities of members of each factor. *Normalized scores* compare the Q-sort values

across factors and are reported as standard deviations from the mean for each item in the Q-sample. Consideration of normalized scores allows for the determination of distinguishing statements which point out differences between factors.

To illustrate the use of Q-sort values and normalized scores, consider that factor number one gave the Q-sort item "I want to improve the quality of care to my patients" a rank of +4. This provides important information regarding the priorities and motivations of factor one members. However, if the same item was given ranks of +3 or +4 by all other factors then the rank doesn't contribute to the unique characterization of the first factor. It does still, however, tell us a bit about the motivations of factor one. Consider the distinguishing statement, "My own interests and ideas can be incorporated into a research project". If a factor gives it a normalized score of 1.7 as compared to scores of -0.38, -0.36, and -0.96 provided by other factors, then this item would provide insight into what makes the first factor different from the other factors.

It is also useful to notice *consensus* and *contention* statements. Consensus statements are those that received the same, or very similar, Q-sort values across factors. They are items for which all participants held similar opinions. While these statements can help characterize the sample population, they are not useful for defining or characterizing differences between factors. In contrast, contention statements can be extremely useful. These are statements that received wide-ranging scores between factors. Contention statements are helpful when it comes to distinguishing between factors.

When making fine distinctions between two factors, it is helpful to consider the differences in normalized scores item by item for the entire Q-sample. Statements with large normalized score differences, both positive and negative, can help clarify differences between factors. This analysis allows for each factor to be characterized in brief a description of the perspective that it represents.

RESULTS:

Of the 20 sorts obtained in this study, 6 returned eigenvalues greater than 1.0 when PCM was applied, which led to the consideration of 3-factor, 4-factor, 5-factor, and 6-factor solutions. The explanations of variance varied from 51%, 59%, 64%, and 70% for the 3-factor, 4-factor, 5-factor and 6-factor models respectively. Inclusiveness for the three factors solution was 16/20, 17/20 for the four, 12/20 for the five, and 18/20 for the six. The correlations between factors were low (< 0.4) for the four and five factor models and high (> 0.4) for the three and six factor models. Standard errors varied with 0.243, 0.243, 0.447, and 0.447 for the three, four, five and six factor solutions. The four factor solution was selected because of the low standard errors, low between-factor correlation, high inclusiveness, and acceptable explanation of variance. Full data runs, including rotated factor loadings for each of the four models appear in appendix VII.

The data resolved well into a four factor solution. Each of the four factors was defined by at least four variables, with factor three being defined by five. Three variables were found to not load significantly with any of the four factors, but were instead blends of some combination of the defined factors. A descending array of differences between all two factor combinations is provided as part of the data run for the four factor model in appendix VIII. Factor summary sheets are included as appendix item IX. Factor highlights are presented in Table 3.

Factor	Name	More Motivating Concepts	Less Motivating Concepts
1	Research Driven	• Individual ideas incorporated in research projects • ORPRN enables rural research • Sense of isolation	• CME • Level of staff resources • Previous PBRN experience • Applicability of ORPRN findings to practice
2	Knowledge Driven	• ORPRN impact on primary care an generation of clinical knowledge • Personal contribution to knowledge pool • Previous PBRN experience	• Personal time and staff resources • Access to useful tools/software/hardware • Personally recruited to the network • Clinical focus is patient care, not research
3	Adopters	• Access to tools/software • ORPRN research is relevant and readily incorporated into practice • CME	• Interdisciplinary nature of ORPRN • Impact of participation on practice efficiency • Staffing limitations
4	Social/Care Driven	• Interdisciplinary nature of ORPRN • Curiosity about ORPRN • ORPRN research is relevant to practice • Personally recruited	• Practice prestige enhancement • Personal input on a project • Being a leader in primary care • Being on the "cutting-edge" • Previous PBRN experience

Table 3. Factor highlights

Factor One: Research Driven

Factor one is made up of clinicians whose motivation to participate is highly related to their interest in having their own ideas incorporated into research projects. Members of this factor believe that ORPRN makes research in rural clinics possible. They are more likely to be motivated to participate in the network by a sense of isolation than members

of other factors. They have staffs that are more supportive of participation than other factors. Members of this group score the impact of ORPRN research on their practices significantly lower than members of other factors. Their participation is not motivated by previous PBRN experience, CME or encouragement from colleagues.

Factor Two: Knowledge Driven

Members of factor two are distinct from those of other factors in that they are most highly motivated to participate in the network out of a desire to contribute to the pool of clinical knowledge and by the belief that ORPRN creates new knowledge that has an important impact on rural primary care. Members of this factor are strongly motivated by the sense of ownership they have in the outcomes of ORPRN research. This group's participation is more likely to be motivated by previous experience with a PBRN than that of other factors. They are less motivated by the promise of useful tools, software, and hardware than members of other groups. Members of this group find that the primary focus of their clinical practice, patient care, inhibits their network participation.

Factor Three: Adopters

The participation of members of factor three is more strongly motivated by CME and the promise of access to useful tools, software, and hardware than members of other factors. They are also more strongly motivated by the belief that ORPRN supports research that will bring direct benefits to their practice. They feel that the findings from ORPRN studies can be readily incorporated into their practices. Members of factor three are mostly likely to be inhibited in their participation in the network by the feeling that

participation in the network is a burden on their staff and that conducting ORPRN research interferes with their practice efficiency. They are also less motivated than others by the interdisciplinary nature of ORPRN.

Factor Four: Social/Care Driven

The interdisciplinary nature of the network is more of a motivator for factor four members than others. They are highly motivated to participate by an interest in improving the quality of care that they provide to their patients. They feel that the primary focus of their clinical practice, patient care, coincides with their network participation. They feel that time constraints and impact on practice efficiency are less of an obstacle to participation than members of other factors. This factor stands out in that its member's participation is much less motivated by the idea of practice prestige enhancement. These members are also less motivated by a need to feel on the "cutting-edge" of changes in health care than members of other factors. They are not motivated by an interest in being a leader in changing the delivery of primary care in rural Oregon.

DISCUSSION:

The four factors identified and characterized in this study identify distinct perspectives representing those ORPRN clinicians who participated in the study. Despite this success, the study has a number of limitations. The results may not be generalizable to the overall ORPRN population. Additionally, it was noticed that some statements from the Q-sample are negatively and/or ambiguously worded. Interpretation of scores assigned to these statements is difficult.

Ambiguous statements, those that are difficult to interpret, are a limitation of the study. As an example, the usefulness of statement 17, "My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN" is limited by the ambiguity of the statement. It is difficult the draw information from either a high or a low rank assigned to this statement. A person with bad past network experience might provide a low score to reflect that this bad experience makes them disinclined to work with another network. That same person might score this statement highly because they are hopeful for a better experience. A person with no previous experience might score this statement low to reflect that their lack of experience has inhibited their participation. The ambiguity of this statement makes it less helpful in the analysis.

Similar interpretation difficulties regarding negatively worded statements limit their overall usefulness for analysis. Statement 31, "ORPRN research does not interfere with the efficiency of my practice" is an example of a negatively worded statement. A low score might reflect that the participant is less inclined to participate because research will

negatively impact practice efficiency. However a low score could also be interpreted to mean that practice efficiency is does not impact motivation to participate. It is these sorts of ambiguities that are often apparent only after the fact that motivate the focused interviews that often follow Q-method studies.

Primary care providers often work under extreme time constraints. Given that they were the targeted participant pool for this study, it was expected that recruitment would be a challenge. However recruitment for this project was even more difficult than anticipated. Response rates to both mass and direct electronic mail as well as FAX were relatively low at less than 16% for mass electronic mail, less than 6% for mass FAX and only 7.5 % for targeted direct electronic mail. Some communication may not have been received by the targeted clinician because contact information was out of date or inaccurate, however the impact of bad contact information has not been evaluated. Additionally, the low response rate to direct personalized electronic mail entreaties for participation from the ORPRN director has not been explained.

The follow-through rate of responding clinicians was highest with those participants recruited via electronic mail, both mass and direct, and those recruited in person at conference. Follow-through by FAX respondents was substantially lower than the other groups. One primary difference between recruitment groups was access to the data collection tool prior to agreeing to participate. Only the FAX responders were asked to agree to the study prior to having access to the tool. It is hypothesized that FAX responders who initially agreed to participate in the study found WebQ to be an obstacle

to participation and therefore did not follow-through. In contrast, members of other recruitment groups had a sense of "what they were getting into" prior to agreeing to participate; as a result their follow-through rates were higher.

In many ways WebQ was an ideal tool for data collection for this study. The ability to distribute it by electronic mail allowed for the ready and rapid distribution to participants. Once launched, the tool facilitated the sorting process. It was user friendly and fairly intuitive for participants. The update button made the iterative process of refining distinctions between outlying statements easier for participants. WebQ's auto reporting via electronic mail feature returned results in a format that was accepted by the analysis software used in this study. The ready integration of the reporting and analysis software facilitated this project. WebQ's reporting function did fail once, when it was not able to launch the user's electronic mail program to return results. That participant was able to return their sort manually.

Unfortunately, the use of WebQ was not completely without challenges. Difficulties were specific to distribution and launching of the tool. The tool itself is made up of a minimum of seven files (more if you want to enable the "help" button). These files were originally electronically mailed to participants in a zip file, as this was deemed more convenient for users than attaching the individual files. The expectation was that participants would extract the files to a folder on the desktop and then launch the tool. Despite various attempts to communicate the process of extracting individual files from a zip file, difficulties were common and many participants communicated frustration. The

problem was compounded by the manner in which some Windows operating systems deal with zip files. Participants were able to double click on the zip file icon and Windows would open a screen displaying the contents of the zip file. Participants often believed that the files had been extracted and were ready to use, unfortunately they were not. In order to circumnavigate the extraction issue, all seven files were sent off individually to participants who were having problems with the extraction process. They were instructed to drag and drop each file to their desktop and launch the tool from there. In three instances, the tool delivered in this way failed to launch. In these three cases, the JavaScript file (one of the seven WebQ files) was blocked by the participant's electronic mail service. The participants did not initially notice that a file had been "dropped". In most cases, once the complete tool had been delivered to the user and extracted (if sent as a zip) the tool worked flawlessly. In a few cases it was necessary to alter browser default settings to enable JavaScript, or 'ActiveX' for Microsoft Internet Explorer users. In some cases, security settings had to be manually bypassed to allow for the viewing of "active content", however automated prompts from the browser made this process obvious.

Despite the challenges experienced in this study, it would still be reasonable to rely on WebQ for the collection of Q-Sorts for future studies. However it would not be advisable to simply electronically mail the tool to participants again. As evidenced by the follow-through of participants recruited at The Oregon Academy of Family Physicians Annual Scientific Assembly, WebQ works best when administered in person. It is helpful to have the participant sit down at a computer screen with the tool launched and ready to go. It also appears to be helpful to have a researcher on hand to answer any initial questions.

While phone appointments were offered regularly to participants to help them get set up and answer any questions, participants rarely choose to utilize the aid. Researchers intending to work with Q-methodology would be wise to plan on meeting with participants face-to-face to collect sorts with WebQ.

A limitation of Q-methodology is always the generalizability of the findings. Statistical power is typically not at issue with exploratory Q-methodology, as there is no hypothesis to accept or reject. However, it is hoped that the characterizations developed in this study will offer some practical advantage to OPRNR recruitment efforts. For that to be possible, the model developed through this work must hold true for the overall OPRRN population. We do not know that the study participants represent this population. Because of this, we cannot be certain that our factors are stable. It is possible that including more ORPRN clinicians in the study would result in different factor characterizations. It is also possible that non-respondents represent unique factors that are part of the ORPRN pool. These factors would not have been detected by this study. The conclusions that can be drawn from the results of this work are limited by this fact.

20 sorts were collected from a possible total of 95 ORPRN members. Of those 20 sorts, only seventeen were included in the final model. If those seventeen sorts were randomly collected from the 95 members I would still have doubts that the developed model would be representative. However, it is reasonable to assume that there was a selection bias based on the fact that we relied on members to volunteer for the study. It would be reasonable to expect that ORPRN members that would step forward to participate in a

study might represent different factors than those that would choose not to participate in a study. I think it highly likely that if sorts were collected for all 95 members considered for this study that the model would include more than the four factors discovered here. In addition, it would be reasonable to expect that the meaning of the current four factors would shift as more sorts were included in the analysis.

Limitations of the methodology in general, and this study in specific are significant. However, this work has increased our knowledge of some of the motivators to participation in ORPRN. This study is an example of exploratory Q-methodology (19). A next step is to follow up with a confirmatory Q-methodology study to confirm the factors discovered in this work. This follow up study requires the collection of further sorts from the ORPRN membership. This confirmatory study will test the hypothesis that the underlying four factor structure discovered in this work reflects the subjective landscape of ORPRN opinion. If the results of this study cannot be confirmed, the additional sorts collected as part of the confirmatory study will be incorporated with the initial twenty from this study and the total reconsidered.

If the results are confirmed, the next step will be to explore the connection between factors and participation. A metric for measuring participation must be empirically determined. This metric might consider items such as the number of meetings attended, participation in the steering committee, number of patients recruited to studies, or the number of studies proposed. The participation of current members could then be

measured, their factors associations identified and a correspondence between them measured.

We are hopeful that such a study will identify correspondences between factor association and participation that can be exploited to the benefit of the network as a whole, as well as individual members. Such information could allow ORPRN leadership to target recruitment in areas in which participation is weak. It would also allow ORPRN leadership to target recruitment for specific projects of individual network members who would be most likely to benefit or who enjoy contributing. Although it is possible that this study will fail to identify significant or exploitable correspondences between factor and participation, it is not unreasonable to expect that in the future completion of this Q-sort would be the first ORPRN activity that a new network member engages in and that the results will benefit both ORPRN and the clinicians.

Each factor identified in this work represents members with specific interests that can benefit ORPRN. Identification of each ORPRN member's factor association would allow staff to target appropriate resources that exist in the network. Members of the *Research Driven* factor are able to contribute to the PBRN strongly in the area of study development. Identification of members representative of this factor would allow ORPRN staff to solicit input and expertise related to research. The *Knowledge Driven* factor is made up of members motivated by ORPRN's impact on primary care and making personal contributions to the knowledge pool. Members of this factor would be ideal recruits for the steering committee, based on their desire to keep ORPRN's work

focused on work that impacts primary care. Their motivation to contribute to the pool of clinical knowledge might also make them more likely to participate in studies. While the primary purpose of ORPRN is research, an interest in providing services and access to technology has been considered. It would be logical to target *Adopters* for testing new tools.

CONCLUSIONS:

We have used Q-methodology to identify four factors, i.e. four "personalities" of clinicians as it relates to participation in ORPRN. These four factors are *Research Driven*, *Knowledge Driven*, *Adopters*, and *Social/Care Driven.* This study is significant in that it sketches out those subjective factors that play a role in PBRN participation. The results of this initial study will provide a framework for future studies that will develop tools for predicting participation and that can be utilized for targeted recruitment of clinicians. Brown states that "Only subjective opinions are at issue in Q, and although they are typically un-provable, they can nevertheless be shown to have structure and form, and it is the task of Q-technique to make this form manifest for purposes of observation and study" (20). It is Q-methodology's ability to give structure and form to the landscape of subjective opinions that makes it a useful tool for this study.

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APPENDIX I:

Concourse Collection Convocation

1.
Positives:
Improved practice (patient care quality)
Contribute to knowledge
Improve quality of research related to clinical practice
Practice prestige enhancement
Previous practice exposure to PRN
Personal contact/being recruited
Interest/curiosity

Negatives:
Time pressure

2.
I participate if:

I believe the study will generate findings that will actually benefit someone (other than the researchers).
I have the time and energy to do so.
I have had or will have some input into the process (concept, design, analysis, publication).
The researchers respect my needs (time and income in particular).
If my practice will benefit by having more resources or money or recognition.
If I get CME (continuing medical education credit)

Importance
Relevance to primary care
Uniqueness to primary care
Feasibility
Interest to me

3.
The people involved in OPRN: LJ, Jim, David – the staff are friendly and energizing.
ORPRN makes research possible.
I like the inter/multi disciplinary concept.
One negative is time.

NOTES 1.
Liked the people who work for ORPRN
Staff made it fun
Lack of time
Want to spend time with children

If study is going to result in benefit to someone other than researchers
Time between study and effect short
The title of the study should tell why they want to do it – clear that it is useful in lifetime
Goal to solve a problem
Improving quality of patient care
Curiosity (personal intellectual)
Idealism – contributing to general knowledge
Enriches practice
Enhances practice prestige
On frontier of medicine
Practice enhancement
Get help from ORPRN to do research
Doesn't interfere with practice efficiency
Once involved, keep doing it
Practice support – PDAs, tech support
Piggyback practice enhancement
Makes research in a rural clinic possible
Can get *n* big enough to get significance
Can't work without support
The patients like to participate
Non-intrusive to doctor-patient visit
Patients interested in outcomes.

NOTES 2.
Staff feel burdened
Write it in staff job descriptions
Extra work in each visit adds to visit time
Low impact on staff
Staff is barebones—takes too much staff time
Trying to protect staff
Staff decides not to participate, forgets, too busy, needs a cheerleader
Staff overwhelmed, doesn't see benefit.
Staff like to be involved, like to hear results
Need a champion among staff
Must do QI (quality improvement) anyway so might as well be part of ORPRN
CME credit or board certification credit would motivate me
PERCs (ORPRN's practice enhancement and research coordinators) help with little chores of study
PERCs take staff to lunch
Every clinician has their own personal projects
My interests can be put into a research project
I don't have the interest
Want to make a living and go home
Enhance what I do in my practice
Can generate ideas from ground up
It's one more thing to think about

Time is money
The demand is so high
High volume, not about money
Hard to work extra staff
Extra staff may be church, schools, ext. (what little extra time there is often is spent on church, school, ext)

NOTES 3.
Included PA, NP's as well as MDs
Learn from other people
Community grown around ORPRN
Not so isolated
Get help from other people re: how to do things in my practice
Gives structure to getting help
Getting new ideas for my staff
Get useful feedback
Get tools/software/hardware
Chances to be involved (input) in stages of study design
Sense of ownership
Study suggest take a long time to get results (the process is slow)
Need rapid turn around time
Best watch out for premature conclusions

APPENDIX II:

Concourse Collection Electronic Mail

I participate in ORPRN because I want to improve the quality of care to my patients.
I participate in ORPRN because I want to help create new knowledge regarding rural primary care.
I participate in ORPRN because I am able to network with other physicians who are in similar settings, including barriers and challenges.
Participating in ORPRN is fun and stimulating.
I do not have enough time to participate in ORPRN.
ORPRN is not interested in the issues that are important to me.
I feel connected to ORPRN
Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon.
ORPRN connects me to nationally recognized leaders and organizations.
I want to improve the efficiency of my practice.
Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care.
I'm not sure what I can expect from ORPRN.

The main focus of my clinical practice is giving excellent patient care, not doing research.
I want to be involved in ORPRN's primary care research projects.
I am interested in developing my own research ideas with ORPRN assistance.
There are time constraints on my ability to participate in research.
Participating in research projects can help my office staff upgrade their skills.
My nursing staff is resistant to participating in research projects.
The other clinicians in my practice do not want to be involved in ORPRN.
Learning more about new research findings is a high priority for me.
I would like to be able to find faster answers to clinical questions that arise in practice.
I would like to find out if my patients are satisfied with the clinical care I give them.
Participating in ORPRN research will improve the quality of my clinical care.
My office staff is not interested in doing research projects.
Our clinic is physically too small to have research projects going on during clinic hours.
Getting involved in ORPRN research would improve relationships with my colleagues.
At least some of my clinical colleagues want to be involved in ORPRN.
My clinical colleagues have encouraged me to get involved with ORPRN.
I haven't participated in ORPRN because the research projects so far haven't interested me.
I'd be more interested in ORPRN if I could get study results quickly.
ORPRN's research projects aren't relevant to me and my practice.
Participating in research takes too much time.
I can't afford the staff time for research projects.
I'm only interested in participating in research that would bring direct benefits to my practice.
An organization like ORPRN is too small to produce research findings with real merit.

I have personal differences with some of the ORPRN staff.
I don't know the other clinicians participating in ORPRN.
I wish our PERC would come to the clinic more often.
I would like to see ORPRN do more QI projects.
ORPRN should focus on clinical research and not do QI.

APPENDIX III:

Electronic Mail recruitment letter

Subject: ORPRN study – Call for Participation

Dear ORPRN member,

I'm a Masters student in the Medical Informatics program at OHSU, looking for participants for a research project which will be my Masters thesis. Cindy Morris and L.J. Fagnan are serving on my committee and are invested in this project. We are asking you, as an ORPRN clinician member, to be a study participant.

The title of this study is "Clinician Participation in a Rural Practice-based Research Network: a Q-Methodology Approach" (OHSU IRB #00001926, approved 3/30/2006). The study is a Q-method based exploration of the subjective factors that encourage or discourage participation in ORPRN. I'm interested in identifying factors that influence ORPRN members' engagement in patient recruitment to studies, study development, resource and information sharing, and ORPRN governance. The information resulting from this study will provide a framework for further investigations designed to develop tools for targeted recruitment and retention of clinicians to the network.

If you choose to be a study participant, you will be asked to rank your agreement or disagreement with a series of 37 statements. To do this, you use the software program, WebQ, which I have sent as an attachment to this email. I have also attached instructions on how to use the program. You will be asked to assign high values to statements that strongly represent your perspective and low values to those that misrepresent your perspective. This study requires you to use this program only once and will take approximately 45 minutes of your time to complete. The results are then submitted to us through the program by email.

Participation in this study is entirely voluntary. If you do join this study, and later change your mind, you may quit at any time. If you refuse to participate, there will be no penalty or loss of any benefits to which you are otherwise entitled. Your last name and email address will be collected in the study but only used so that we may recontact potential participants. To protect your privacy, only the investigators will be able to access your information, personal identification will be removed before analysis of the data collected, and only aggregate but no individual results will be reported in the study results. Although we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality. You will not benefit directly from being in this study. However, by serving as a subject, you may help us learn how to benefit the research network, and, indirectly, clinicians and patients in the future. You will not be paid for participation in this study. It will cost you the value of your time to participate.

If you have any questions regarding this study now or in the future, you may contact me or Dr. Judith R. Logan, who is the principle investigator, at (503) 494-5902 or

loganju@ohsu.edu. If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

If you choose to participate in this study, please read the attachment document "SortInstructions.doc". I am also available to help you individually. Just send an email to set up a good time to talk by phone.

If you choose to proceed, thank you. Your participation is greatly appreciated.

Jonathan (Blue) Blake
Department of Medical Informatics and Clinical Epidemiology
OHSU
blakeb@ohsu.edu

Thesis committee members:
Judith R. Logan, M.D., advisor
L.J. Fagnan, M.D.
Cynthia Morris, Ph.D.
Julie Reynolds, Ph.D.

APPENDIX IV:

FAX Recruitment Letter

Dear ORPRN member,

I'm a Masters student in the Medical Informatics program at OHSU, looking for participants for a research project which will be my Masters thesis. Cindy Morris and L.J. Fagnan are serving on my committee and are invested in this project. We are asking you, as an ORPRN clinician member, to be a study participant.

The title of this study is **"Clinician Participation in a Rural Practice-based Research Network: a Q-Methodology Approach"** (OHSU IRB #00001926, approved 3/30/2006). The study is a Q-method based exploration of the subjective factors that encourage or discourage participation in ORPRN. I'm interested in identifying factors that influence ORPRN members' engagement in patient recruitment to studies, study development, resource and information sharing, and ORPRN governance. The information resulting from this study will provide a framework for further investigations designed to develop tools for targeted recruitment and retention of clinicians to the network.

If you choose to be a study participant, you will be asked to rank your agreement or disagreement with a series of 37 statements. To do this, you use the software program, WebQ. You will be asked to assign high values to statements that strongly represent your perspective and low values to those that misrepresent your perspective. This study requires you to use this program only once and will take approximately 45 minutes of your time to complete. The results are then submitted to us through the program by email.

Participation in this study is entirely voluntary. If you do join this study, and later change your mind, you may quit at any time. If you refuse to participate, there will be no penalty or loss of any benefits to which you are otherwise entitled. Your last name and email address will be collected in the study but only used so that we may recontact potential participants. To protect your privacy, only the investigators will be able to access your information -- personal identification will be removed before analysis of the data. Only y aggregate, but no individual results will be reported in the study results. Although we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality. You will not benefit directly from being in this study. However, by serving as a subject, you may help us learn how to benefit the research network, and, indirectly, clinicians and patients in the future. You will not be paid for participation in this study. It will cost you the value of your time to participate.

If you have any questions regarding this study now or in the future, you may contact me or Dr. Judith R. Logan, who is the principle investigator, at (503) 494-5902 or loganju@ohsu.edu. If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

If you choose to participate in this study, please contact me by email (blakeb@ohsu.edu) or phone (503 283-2919) or return this fax to ORPRN at (503 494-1513). I will arrange to have you receive study materials and provide assistance.

If you choose to proceed, thank you. Your participation is greatly appreciated.

Jonathan (Blue) Blake
Department of Medical Informatics and Clinical Epidemiology
OHSU
blakeb@ohsu.edu

Thesis committee members:
Judith R. Logan, M.D., advisor
L.J. Fagnan, M.D.
Cynthia Morris, Ph.D.
Julie Reynolds, Ph.D.

IF YOU WISH TO RESPOND BY FAX, PLEASE SEND THIS PAGE TO 503-494-1513.

- ☐ YES, I am interested in participating in this study. Please email me the materials.
- ☐ YES, I am interested in participating in this study. Please call me to answer questions or provide assistance.
- ☐ NO, I am not able to participate in this study. Please do not contact me further.

Your name: _____

Your number (if you want us to call you): _____

Other information requested / questions / comments: _____

_____

APPENDIX V:

WebQ Instructions

1. Attached to this email is a file named "webq.zip". Save the attachment to your computer, then double click on it to open it in a program such as WinZip. Create a folder ("WebQ") to hold the contents of this compressed file. Extract all of the files from webq.zip into your folder.

2. Inside the WebQ folder, find and open the file named "ORPRNwq.htm". It should open in your internet browser. Depending on your security settings, you may be asked to approve some "blocked content" before it will open.

3. You will now be faced with a screen listing each of the 37 statements along with radio buttons for sorting. A good sorting strategy is to start by arranging statements into three "piles" each with roughly the same number of statements. Assign +1 to statements that you feel are strong motivators for ORPRN involvement. Assign 0 to statements toward which you feel ambivalent and finally -1 to statements that are lesser motivators or even that "de-motivate" you. When you are finished click on the "update" button.

4. Now it is necessary to become more specific. You may only assign a limited number of statements to each score (indicated by the number of boxes). The color of the boxes indicates "saturation" of that score. You can utilize the update button as often as necessary to track your progress.

5. When you have all green lights, and are satisfied with your sort, select the "send" radio button. Note that you will not be able to send your results until you have the appropriate number of statements assigned to each score.

6. You will now be prompted to enter an 8 character code. Please enter your last name (or the first 8 characters of your last name) and select "OK".

7. Your default mail program will launch along with an addressed mail containing the results of your sorts. If you have any comments you may include them in this mail before sending.

If you have any difficulties or questions, please contact Blue Blake at blakeb@ohsu.edu. You may additionally make use of the "help" radio button that WebQ provides in the sorting window.

APPENDIX VI:

Returned Q-Sorts

```
0 20 37 initial
 -4  4  0  0  2  2  4  6  9  6  4  2  2  0  0  0  0  0  0  0  0  0
xxxxxxxxx   4 4-1 1 2-3 2 2-2 0-1-2 0 0 1 2-4-2-4 1 1-2 0-3 1 0 0 1 3-1-1-1-1 0 0 3 0
xxxxxxxxx   2 0 2-1 0 1 3 2-1-2-2 1 3 4 0 1-4 2 1 1 1 0-1 0 0 0-2 4-4-1-3-2-3-1-1 0 0
xxxxxxxxx   4 4-2-2 3 1 0 0-1-1-3 2 2 1 0 0-4-3-1 1 0 0 0 1 2 0 3 1 2-1-2-1 1-4 0-1-2
xxxxxxxxx   4 3 0 1 0 0 0 3-1-2-2 1 1 2 1-1-2 2-1 2 0 1-1 0 2 0-2-1 4-3-3-4-1-4 0 1 0
xxxxxxxxx   2-2-2-4 2 0 3 1-1 0 0-1-1 1 4 4 0-1 0 2 1-4 0 2-1 1-2 0 1-3-3-2 0 0-1 3 1
xxxxxxxxx   4 3 0 0 3-2-2 0-4 2 1-2-1 0-1 0 1 1 2 4 1-1 0-4 0 2 2-2 1-1 1-3-3-1-1 0 0
xxxxxxxxx   4 3-4 3 1 2-1-2 2-2-1 0 2 1 0 1-3-1 0 1 1-2-1 0 4 0-1 0 0-4-3-2 0 0-1 2 1
xxxxxxxxx   4-3-4 2 1 2 1 3 1 2 0 0 0-3-1 0-2 0-1 1 4 0 0 0 2 1-2-2 1-1 0-2-1-4-1 3-1
xxxxxxxxx   2-2 4 3 0-2 1 1 0 0-3 0-1 0 1 1-2 0 0 2 2 4 1-1 1 2-1-1 3-3-4-2-1-1-4 0 0
xxxxxxxxx   4 3 0 0-2-1 2 1-2 1 0-1-2 0 0 4-2 2 0 2 1 1 1-1 2-1-4-1 0-3-1 3-4 0-3 1 0
xxxxxxxxx   2-4 0 1-1 1 4 2-3-1-4-2 0 1 4 2 3-2 2-1 0 0-1 0 3 1 0 0 0-3-2-1-2 0-1 1 1
xxxxxxxxx   4-2 2 4 1-1 3 3 0 2-2 0 0 1 1 1 0 1 1 2 0-1-1-2-1 0-1 0 0-3-2-4-1-4-3 2 0
xxxxxxxxx   4 2 3 0 2-2 1 2-1 2-1-2-1-4 3 0-1-2 1 1 1-1 1 1 4 0 0-1 0-3-3 0-4 0-2 0 0
xxxxxxxxx   4 2-1 1 0-3 0 1-1 1-1-1 2 2 1 4-2 0 1 3 1 0-4 0 2 0-3 0 3-1-2-4-2-2 0 0-1
xxxxxxxxx   4-2 1 0 1 1 1 0 0 2 0 0 0-1-2 3-4-4 2-1 2-3-2-3-1 1 0 1 0 0-1-1-2 4-1 3 2
xxxxxxxxx   4 4 0 0 1 1 0 1-1-1 2-2-4-2 2 1-1 2-4-3 0-1-1-2 2 0-2 3 3 1 0 1-1 0 0-3 0
xxxxxxxxx   4 1 2 4 2 1 0-1 0 0 0 1 0-1 2 1-1 2-2-3-1-4 0 1 0 0 1 3 3-4-3-1-2-1-2 0-2
xxxxxxxxx   0 2-4 1 0-1 0-2-1-2-1 4 0-1 2 1-2 0 2 2 0 0-1 4 3 0 0 1 1-1-4 1 1-3-2 3-3
xxxxxxxxx   4-4-4-2 1 1 1 0 0 0-1 1 2 2 4 3 2 2-3 0 1-2 0 1 3 0-1-1 0-1-2 0-1-1-2 0-3
xxxxxxxxx   1 4 2 2 3 0-1 4 0 1-3-1 0-1-2 0-2-1 1 1 0-2 0 1 2 3-1-4 0-2 0-1 2-4 0 1-3
```

APPENDIX VII:
Factor Models

Six Factors

Factor Matrix with an X Indicating a Defining Sort

	Loadings					
QSORT	1	2	3	4	5	6
1 xxxxxxxx	0.2969	0.0322	0.3845	0.5421X	0.4522	0.1480
2 xxxxxxxx	-0.4435	0.0254	0.3477	-0.0101	0.3097	0.6272X
3 xxxxxxxx	0.1561	-0.0286	0.8254X	0.1390	0.0431	0.0238
4 xxxxxxxx	0.2258	0.0236	0.6069X	0.2525	-0.1133	0.5612
5 xxxxxxxx	0.0153	0.7150X	0.1630	0.0915	0.3394	0.1482
6 xxxxxxxx	0.6076X	-0.1572	0.0143	0.2446	0.2987	0.2041
7 xxxxxxxx	0.0978	0.2275	0.7184X	0.1494	0.2513	0.0911
8 xxxxxxxx	0.5635X	0.4610	0.2607	-0.0346	0.1133	0.1317
9 xxxxxxxx	0.2336	0.1066	0.0401	0.1295	-0.0584	0.7916X
10 xxxxxxxx	0.1215	0.1834	0.0469	0.5307X	0.1610	0.4009
11 xxxxxxxx	-0.0313	0.6418X	-0.1177	0.0319	0.0680	0.5053
12 xxxxxxxx	0.3003	0.2589	0.1056	0.0244	0.1623	0.7657X
13 xxxxxxxx	0.4200	0.2355	0.0285	0.4739	0.1140	0.3831
14 xxxxxxxx	0.2096	0.1399	0.4798	0.2246	0.2542	0.4808
15 xxxxxxxx	0.0800	0.1467	-0.0322	0.0509	0.8966X	0.0825
16 xxxxxxxx	-0.0044	-0.0492	0.0435	0.9129X	-0.0085	-0.1349
17 xxxxxxxx	-0.0254	0.2002	0.2985	0.5775X	-0.0227	0.2375
18 xxxxxxxx	-0.0021	0.3126	0.7026X	-0.0277	-0.2676	0.0376
19 xxxxxxxx	-0.0792	0.8181X	0.2521	0.1567	-0.0958	0.0514
20 xxxxxxxx	0.6927X	-0.1431	0.3830	-0.0312	-0.0903	0.2293
% expl.Var.	10	11	15	11	8	15

Correlations Between Factor Scores

	1	2	3	4	5	6
1	1.0000	0.1329	0.4517	0.1752	0.1680	0.4266
2	0.1329	1.0000	0.3274	0.1498	0.1545	0.3760
3	0.4517	0.3274	1.0000	0.2454	0.0471	0.3425
4	0.1752	0.1498	0.2454	1.0000	0.1146	0.1111
5	0.1680	0.1545	0.0471	0.1146	1.0000	0.2612
6	0.4266	0.3760	0.3425	0.1111	0.2612	1.0000

Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

No.	Statement	No.	1 RNK	1 SCORE	2 RNK	2 SCORE	3 RNK	3 SCORE	4 RNK	4 SCORE	5 RNK	5 SCORE	6 RNK	6 SCORE
5	I get useful feedback ...	5	3	1.67	1	0.52	2	0.90	1	0.55	1	0.50	0	0.23
2	The main focus of my c ...	2	2	1.24	-4	-2.06	4	2.00	4	2.11	-2	-1.00	-2	-0.97
28	I like that ORPRN work ...	28	-4	-1.93*	0	-0.30	0	0.29	3	1.44	1	0.50	0	0.25

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

Factors

No.	Statement	No.	1 RNK	1 SCORE	2 RNK	2 SCORE	3 RNK	3 SCORE	4 RNK	4 SCORE	5 RNK	5 SCORE	6 RNK	6 SCORE
15	I want to contribute t ...	15	-2	-0.96	4	2.41*	1	0.36	2	1.01	-2	-1.00	1	0.48
17	My previous experience ...	17	-1	-0.73	2	0.98*	-4	-1.90	-1	-0.82	-4	-2.00	-2	-1.02
4	I can gain access to u ...	4	1	0.93	-2	-1.16	0	0.16	1	0.32	0	0.00	3	1.55
2	The main focus of my c ...	2	2	1.24	-4	-2.06	4	2.00	4	2.11	-2	-1.00	-2	-0.97

Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

Factors

No.	Statement	No.	1 RNK	1 SCORE	2 RNK	2 SCORE	3 RNK	3 SCORE	4 RNK	4 SCORE	5 RNK	5 SCORE	6 RNK	6 SCORE
12	My own interests and i ...	12	-1	-0.71	0	-0.14	3	1.14	-2	-0.93	0	0.00	0	0.13

Distinguishing Statements for Factor 4

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

Factors

No.	Statement	No.	1 RNK	1 SCORE	2 RNK	2 SCORE	3 RNK	3 SCORE	4 RNK	4 SCORE	5 RNK	5 SCORE	6 RNK	6 SCORE
36	Involvement with ORPRN ...	36	1	0.83	2	0.66	1	0.54	-3	-1.01*	3	1.50	1	0.45
13	I am able to have inpu ...	13	0	-0.21	1	0.42	2	0.89	-4	-1.76*	0	0.00	0	0.12
19	Involvement in ORPRN e ...	19	1	0.53	-1	-0.63	0	-0.08	-4	-2.01*	2	1.00	0	0.35

Distinguishing Statements for Factor 5

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

Factors

No.	Statement	No.	1 RNK	1 SCORE	2 RNK	2 SCORE	3 RNK	3 SCORE	4 RNK	4 SCORE	5 RNK	5 SCORE	6 RNK	6 SCORE
34	My clinical colleagues ...	34	-4	-2.08	0	-0.30	-4	-1.79	0	-0.07	4	2.00*	-2	-1.29
18	I am curious about how ...	18	0	-0.08	0	0.16	-1	-0.71	2	0.95	-4	-2.00	1	0.48

Distinguishing Statements for Factor 6

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

			Factors											
			1		2		3		4		5		6	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
3	I can receive CME. ...	3	0	-0.14	-4	-1.53	-3	-1.63	0	0.07	1	0.50	4	1.74
22	ORPRN helps me do the ...	22	-2	-0.79	-3	-1.29	-1	-0.20	-1	-0.73	-3	-1.50	2	0.81*
35	Participation would be ...	35	0	-0.39	-2	-0.90	-1	-0.42	0	-0.30	-1	-0.50	-4	-1.84

Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

			Factors											
			1		2		3		4		5		6	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
1*	I want to improve the ...	1	4	1.84	3	1.80	4	1.96	4	2.36	4	2.00	4	1.67
9*	ORPRN gets research re ...	9	-1	-0.66	-1	-0.57	0	-0.19	-1	-0.64	0	0.00	-1	-0.13
21	Working with ORPRN imp ...	21	1	0.92	1	0.47	0	0.14	0	0.05	2	1.00	1	0.64
23*	My patients enjoy part ...	23	0	0.00	0	-0.13	-1	-0.37	-1	-0.36	-2	-1.00	-1	-0.09

Five Factors

Factor Matrix with an X Indicating a Defining Sort

	Loadings				
QSORT	1	2	3	4	5
1 xxxxxxxx	0.2207	-0.0047	0.3967	0.5425	0.5015
2 xxxxxxxx	0.3372	0.4151	0.1738	0.0246	0.0472
3 xxxxxxxx	0.0454	-0.0216	0.8248X	0.1644	0.0507
4 xxxxxxxx	0.5860	0.0677	0.6052	0.2623	-0.1026
5 xxxxxxxx	0.1249	0.6820X	0.1739	0.0837	0.3753
6 xxxxxxxx	0.4209	-0.3404	0.1150	0.2186	0.4594
7 xxxxxxxx	0.0774	0.2508	0.7072X	0.1690	0.2483
8 xxxxxxxx	0.3448	0.1957	0.4011	-0.0611	0.3314
9 xxxxxxxx	0.8202X	0.1442	0.0507	0.1147	-0.0362
10 xxxxxxxx	0.4162	0.2001	0.0378	0.5213X	0.1792
11 xxxxxxxx	0.4581	0.6647X	-0.1191	0.0147	0.0787
12 xxxxxxxx	0.8059X	0.2673	0.1314	0.0071	0.2050
13 xxxxxxxx	0.5306	0.0981	0.1001	0.4480	0.2511
14 xxxxxxxx	0.4877	0.1860	0.4716	0.2298	0.2563
15 xxxxxxxx	0.0479	0.1958	-0.0583	0.0464	0.8637X
16 xxxxxxxx	-0.1022	-0.0730	0.0241	0.9141X	0.0125
17 xxxxxxxx	0.2094	0.2486	0.2656	0.5845X	-0.0365
18 xxxxxxxx	0.0236	0.3046	0.7091X	-0.0073	-0.2522
19 xxxxxxxx	0.0295	0.7547X	0.2715	0.1531	-0.0412
20 xxxxxxxx	0.4828	-0.3707	0.5184	-0.0482	0.1078
% expl.Var.	17	12	16	11	9

Correlations Between Factor Scores

	1	2	3	4	5
1	1.0000	0.3762	0.2104	0.0737	0.2320
2	0.3762	1.0000	0.2941	0.1165	0.1791
3	0.2104	0.2941	1.0000	0.1624	0.0677
4	0.0737	0.1165	0.1624	1.0000	0.0728
5	0.2320	0.1791	0.0677	0.0728	1.0000

Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

			Factors							
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
4	I can gain access to u ...	4	4	1.93*	-2	-1.07	0	0.06	1	0.28	0	0.00
3	I can receive CME. ...	3	4	1.68	-3	-1.38	-4	-1.85	0	0.14	1	0.50
22	ORPRN helps me do the ...	22	2	0.89*	-2	-1.24	-1	-0.32	-1	-0.67	-3	-1.50
6	Learning about new res ...	6	-2	-0.84	1	0.43	1	0.45	1	0.46	1	0.50
32	ORPRN research does no ...	32	-3	-1.64	-1	-0.54	-1	-0.45	1	0.54	-1	-0.50
35	Participation would be ...	35	-4	-1.95	-2	-0.86	-1	-0.48	0	-0.31	-1	-0.50

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

			Factors							
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
15	I want to contribute t ...	15	1	0.55	4	2.44*	0	0.32	2	1.02	-2	-1.00
17	My previous experience ...	17	-1	-0.58	2	1.02*	-4	-1.95	-1	-0.63	-4	-2.00
4	I can gain access to u ...	4	4	1.93	-2	-1.07	0	0.06	1	0.28	0	0.00
2	The main focus of my c ...	2	-2	-1.11	-4	-2.07	4	1.95	4	2.01	-2	-1.00

Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

			Factors							
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
12	My own interests and i ...	12	0	0.00	0	-0.28	3	1.22	-2	-0.87	0	0.00
33	My staff is motivated ...	33	-1	-0.55	-1	-0.60	1	0.45	-1	-0.81	-2	-1.00

Distinguishing Statements for Factor 4

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

			Factors							
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
18	I am curious about how ...	18	0	0.26	0	-0.02	-2	-1.03	2	1.14	-4	-2.00
32	ORPRN research does no ...	32	-3	-1.64	-1	-0.54	-1	-0.45	1	0.54	-1	-0.50
36	Involvement with ORPRN ...	36	1	0.53	2	0.73	1	0.51	-3	-1.27*	3	1.50
13	I am able to have inpu ...	13	-1	-0.29	0	0.32	2	0.89	-4	-1.88*	0	0.00
19	Involvement in ORPRN e ...	19	0	0.26	-1	-0.42	0	0.03	-4	-1.91*	2	1.00

Distinguishing Statements for Factor 5

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors									
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
34	My clinical colleagues ...	34	-2	-1.35	0	-0.25	-3	-1.64	0	-0.07	4	2.00*
15	I want to contribute t ...	15	1	0.55	4	2.44	0	0.32	2	1.02	-2	-1.00

Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

		Factors									
			1		2		3		4		5	
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
1*	I want to improve the ...	1	3	1.64	3	1.73	4	1.79	4	2.27	4	2.00
5*	I get useful feedback ...	5	0	0.26	1	0.45	2	1.03	1	0.47	1	0.50
9*	ORPRN gets research re ...	9	0	0.00	-1	-0.70	0	-0.13	-1	-0.55	0	0.00
21*	Working with ORPRN imp ...	21	1	0.58	1	0.44	0	0.16	0	-0.01	2	1.00
23*	My patients enjoy part ...	23	0	0.02	0	-0.17	-1	-0.32	-1	-0.38	-2	-1.00
26*	ORPRN staff makes invo ...	26	1	0.58	1	0.36	0	0.00	0	-0.06	1	0.50

Four Factors

Factor Matrix with an X Indicating a Defining Sort

		Loadings			
QSORT		1	2	3	4
1	xxxxxxxx	0.2867	0.0742	0.3396	0.7146X
2	xxxxxxxx	0.1853	0.4704X	0.2452	0.0242
3	xxxxxxxx	0.7832X	-0.0569	0.1701	0.1975
4	xxxxxxxx	0.6119X	0.1405	0.5553	0.1849
5	xxxxxxxx	0.1406	0.7218X	0.0700	0.2245
6	xxxxxxxx	-0.0463	-0.1867	0.5836X	0.3992
7	xxxxxxxx	0.6464X	0.2454	0.1688	0.2770
8	xxxxxxxx	0.2930	0.2857	0.4266X	0.0896
9	xxxxxxxx	0.0502	0.3111	0.6990X	0.0521
10	xxxxxxxx	0.0433	0.2952	0.3282	0.5247X
11	xxxxxxxx	-0.0813	0.7597X	0.2599	0.0070
12	xxxxxxxx	0.0654	0.4555	0.7464X	0.0643
13	xxxxxxxx	0.0604	0.2295	0.4942	0.4925
14	xxxxxxxx	0.4020	0.2879	0.5175	0.3126
15	xxxxxxxx	-0.2637	0.3139	0.2167	0.4195
16	xxxxxxxx	0.1064	-0.1126	-0.1706	0.8275X
17	xxxxxxxx	0.3380	0.2532	0.0977	0.4988X
18	xxxxxxxx	0.7731X	0.2241	-0.0090	-0.1044
19	xxxxxxxx	0.3638	0.7095X	-0.1400	0.1044
20	xxxxxxxx	0.3997	-0.2660	0.6445X	0.0163
% expl.Var.		14	14	17	13

Correlations Between Factor Scores

	1	2	3	4
1	1.0000	0.3287	0.3984	0.3264
2	0.3287	1.0000	0.3682	0.2053
3	0.3984	0.3682	1.0000	0.2925
4	0.3264	0.2053	0.2925	1.0000

Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors						
						1		
2		3		4				
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE
25	ORPRN makes research in a rural clinic possible.	25	3	1.70	2	1.00	0	0.36
12	My own interests and ideas can be incorporated into a	12	3	1.33*	-1	-0.38	0	-0.36
27	I feel isolated and want the community of other rural	27	1	0.32	-1	-0.69	-1	-0.43
33	My staff is motivated to participate in research.	33	0	0.31	-1	-0.84	-1	-0.50
8	ORPRN supports research that will bring direct benefi	8	-1	-0.33*	2	0.77	3	1.54
10	I can readily incorporate the findings from ORPRN stu	10	-2	-1.05	-1	-0.37	2	0.91
3	I can receive CME.	3	-3	-1.69	-2	-0.92	2	1.12

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors						
						1		
2		3		4				
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK	SCORE
15	I want to contribute to the pool of clinical knowledg	15	1	0.51	4	2.31*	0	-0.07
7	ORPRN research has an important impact on primary car	7	0	-0.12	4	1.83*	1	0.51
16	ORPRN creates new knowledge regarding rural primary c	16	0	0.22	3	1.77	1	0.38
14	I have a sense of ownership (in the outcomes of ORPRN	14	1	0.33	2	1.05	0	-0.12
17	My previous experience, or inexperience, in a PBRN mo	17	-3	-1.81	1	0.71*	-1	-0.63
20	Involvement helps me feel as if I'm on the "cutting-e	20	2	0.94	0	0.22	3	1.40
29	I was personally contacted and recruited.	29	2	1.04	0	-0.11	1	0.69
3	I can receive CME.	3	-3	-1.69	-2	-0.92	2	1.12
4	I can gain access to useful tools/software/hardware.	4	0	0.23	-2	-0.94*	4	1.76
2	The main focus of my clinical practice is patient car	2	4	1.91	-4	-1.95*	0	-0.08

Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

Factors

										1	
2		3		4							
No.	Statement					No.	RNK	SCORE	RNK		
SCORE	RNK	SCORE	RNK	SCORE							
4	I can gain access to useful tools/software/hardware.					4	0	0.23	-2	-	
0.94	4	1.76*	1	0.48							
8	ORPRN supports research that will bring direct benefi					8	-1	-0.33	2		
0.77	3	1.54	2	0.66							
3	I can receive CME.					3	-3	-1.69	-2	-	
0.92	2	1.12*	0	-0.02							
10	I can readily incorporate the findings from ORPRN stu					10	-2	-1.05	-1	-	
0.37	2	0.91*	0	-0.22							
2	The main focus of my clinical practice is patient car					2	4	1.91	-4	-	
1.95	0	-0.08*	4	2.24							
13	I am able to have input in a project at various stage					13	2	0.76	1		
0.39	0	-0.28	-4	-1.40							
28	I like that ORPRN work is interdisciplinary; includin					28	0	0.31	0		
0.12	-2	-1.07*	3	1.24							
35	Participation would be a burden to my staff.					35	-1	-0.52	-1	-	
0.83	-3	-1.49	-1	-0.41							
32	ORPRN research does not interfere with the efficiency					32	-1	-0.65	-1	-	
0.74	-4	-1.78*	1	0.31							

Distinguishing Statements for Factor 4

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

										Factors	
										1	
2		3		4							
No.	Statement					No.	RNK	SCORE	RNK		
SCORE	RNK	SCORE	RNK	SCORE							
28	I like that ORPRN work is interdisciplinary; includin					28	0	0.31	0		
0.12	-2	-1.07	3	1.24*							
16	ORPRN creates new knowledge regarding rural primary c					16	0	0.22	3		
1.77	1	0.38	2	1.07							
11	I'm not sure what I can expect from ORPRN.					11	-2	-1.16	-3	-	
1.20	-2	-1.23	1	0.44*							
32	ORPRN research does not interfere with the efficiency					32	-1	-0.65	-1	-	
0.74	-4	-1.78	1	0.31*							
3	I can receive CME.					3	-3	-1.69	-2	-	
0.92	2	1.12	0	-0.02*							
36	Involvement with ORPRN provides me an opportunity to b					36	1	0.73	2		
0.77	1	0.75	0	-0.32*							
30	I have sufficient time to participate.					30	-2	-1.19	-3	-	
1.46	-3	-1.59	-1	-0.43							
20	Involvement helps me feel as if I'm on the "cutting-e					20	2	0.94	0		
0.22	3	1.40	-1	-0.81*							
13	I am able to have input in a project at various stage					13	2	0.76	1		
0.39	0	-0.28	-4	-1.40*							
19	Involvement in ORPRN enhances the prestige of my prac					19	0	0.09	0	-	
0.01	1	0.50	-4	-2.07*							

Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

2		3		4			1		
No.	Statement				No.	RNK	SCORE	RNK	
SCORE		RNK	SCORE	RNK	SCORE				
5	I get useful feedback on how other rural clinicians d				5	1	0.75	0	
0.32		2	1.02	1	0.63				
9*	ORPRN gets research results back to my clinic as soon				9	-1	-0.28	-2	
-0.92		-1	-0.38	-1	-0.82				
21*	Working with ORPRN improves my clinical practice.				21	0	0.12	1	
0.43		1	0.71	0	0.18				
23*	My patients enjoy participating in studies.				23	-1	-0.42	0	
-0.29		0	-0.04	0	-0.22				
37	ORPRN connects me to nationally recognized leaders and				37	-2	-0.91	0	
-0.12		-1	-0.48	0	-0.16				

Three Factors

Factor Matrix with an X Indicating a Defining Sort

		Loadings		
QSORT		1	2	3
1	xxxxxxxx	0.6951X	0.1816	0.3364
2	xxxxxxxx	0.0624	0.5134X	0.2111
3	xxxxxxxx	0.2094	-0.0286	0.7992X
4	xxxxxxxx	0.4255	0.2732	0.6609X
5	xxxxxxxx	0.0347	0.7153X	0.1630
6	xxxxxxxx	0.7164X	-0.0009	0.0097
7	xxxxxxxx	0.2074	0.2690	0.6697X
8	xxxxxxxx	0.2629	0.3849	0.3322
9	xxxxxxxx	0.4297	0.4922X	0.1106
10	xxxxxxxx	0.5214X	0.3922	0.0899
11	xxxxxxxx	0.0148	0.8041X	-0.0498
12	xxxxxxxx	0.4366	0.6437X	0.1319
13	xxxxxxxx	0.6226X	0.3733	0.1179
14	xxxxxxxx	0.4730	0.4166	0.4550
15	xxxxxxxx	0.3906	0.3865	-0.2278
16	xxxxxxxx	0.4898X	-0.1281	0.1180
17	xxxxxxxx	0.3376	0.2763	0.3641
18	xxxxxxxx	-0.1856	0.1804	0.7693X
19	xxxxxxxx	-0.2035	0.6326X	0.3649
20	xxxxxxxx	0.4712X	-0.0907	0.4452
% expl.Var.		17	18	16

Correlations Between Factor Scores

	1	2	3
1	1.0000	0.3585	0.4227
2	0.3585	1.0000	0.3447
3	0.4227	0.3447	1.0000

Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors					
			1				
2	3						
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK
SCORE							
1	I want to improve the quality of care to my patients.	1	4	2.68*	3	1.81	4
1.80							
10	I can readily incorporate the findings from ORPRN stu	10	1	0.71*	-1	0.14	-2
-1.05							
11	I'm not sure what I can expect from ORPRN.	11	0	-0.18*	-3	1.51	-2
-1.18							
31	I don't have the staff resources to support research.	31	-1	-0.46*	-3	1.72	-4
-1.87							
28	I like that ORPRN work is interdisciplinary; includin	28	-1	-0.48	0	0.10	0
0.29							
14	I have a sense of ownership (in the outcomes of ORPRN	14	-1	-0.75*	2	0.94	1
0.38							
13	I am able to have input in a project at various stage	13	-2	-0.81*	0	0.20	2
0.78							
17	My previous experience, or inexperience, in a PBRN mo	17	-2	-1.03	1	0.47	-3
-1.82							
6	Learning about new research findings is a high priori	6	-2	-1.14*	0	0.16	0
0.27							
12	My own interests and ideas can be incorporated into a	12	-3	-1.29*	-1	0.41	3
1.28							
24	I am interested in developing my own research ideas w	24	-3	-1.29*	0	0.11	2
0.95							
9	ORPRN gets research results back to my clinic as soon	9	-4	-1.46	-2	0.86	-1
-0.28							
33	My staff is motivated to participate in research.	33	-4	-1.52	-2	0.91	0
0.29							

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors					
			1				
2	3						
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK
SCORE							
15	I want to contribute to the pool of clinical knowledg	15	1	0.38	4	2.01*	1
0.48							
7	ORPRN research has an important impact on primary car	7	0	0.20	4	1.98*	0
-0.12							
16	ORPRN creates new knowledge regarding rural primary c	16	2	0.78	3	1.54*	0
0.19							
17	My previous experience, or inexperience, in a PBRN mo	17	-2	-1.03	1	0.47*	-3
-1.82							
24	I am interested in developing my own research ideas w	24	-3	-1.29	0	0.11*	2
0.95							
29	I was personally contacted and recruited.	29	2	0.93	0	0.06*	2
1.07							

10	I can readily incorporate the findings from ORPRN stu	10	1	0.71	-1	-0.14*	-2 -1.05
12	My own interests and ideas can be incorporated into a	12	-3	-1.29	-1	-0.41*	3 1.28
33	My staff is motivated to participate in research.	33	-4	-1.52	-2	-0.91	0 0.29
2	The main focus of my clinical practice is patient car	2	4	2.38	-4	-1.90*	4 1.93

Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors					
		1			2		3
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK SCORE
12	My own interests and ideas can be incorporated into a	12	-3	-1.29	-1	-0.41	3 1.28*
24	I am interested in developing my own research ideas w	24	-3	-1.29	0	-0.11	2 0.95*
33	My staff is motivated to participate in research.	33	-4	-1.52	-2	-0.91	0 0.29*
8	ORPRN supports research that will bring direct benefi	8	2	1.06	2	1.09	-1 -0.26*
37	ORPRN connects me to nationally recognized leaders and	37	0	-0.23	0	-0.06	-2 -0.87
10	I can readily incorporate the findings from ORPRN stu	10	1	0.71	-1	-0.14	-2 -1.05*
3	I can receive CME.	3	1	0.37	0	-0.09	-3 -1.64*
17	My previous experience, or inexperience, in a PBRN mo	17	-2	-1.03	1	0.47	-3 -1.82
34	My clinical colleagues encourage my participation in O	34	-1	-0.49	-1	-0.65	-4 -1.87*

Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

		1			2		3
No.	Statement	No.	RNK	SCORE	RNK	SCORE	RNK SCORE
4*	I can gain access to useful tools/software/hardware.	4	0	0.32	0	0.00	0 0.22
18*	I am curious about how primary care research is condu	18	0	-0.14	0	-0.14	-1 -0.54
20	Involvement helps me feel as if I'm on the "cutting-e	20	2	1.05	1	0.47	2 0.93
21*	Working with ORPRN improves my clinical practice.	21	1	0.57	1	0.43	0 0.12

22	ORPRN helps me do the QI that I have to do anyway.	22	-1	-0.79	-1	-0.62	0	-0.12
23*	My patients enjoy participating in studies.	23	0	0.14	-1	-0.33	-1	-0.42
26*	ORPRN staff makes involvement fun.	26	1	0.51	1	0.48	0	0.00
28	I like that ORPRN work is interdisciplinary; includin	28	-1	-0.48	0	0.10	0	0.29
30	I have sufficient time to participate.	30	-2	-1.07	-4	-1.75	-2	-1.22
35	Participation would be a burden to my staff.	35	-1	-0.71	-2	-1.20	-1	-0.49
36*	Involvement with ORPRN provides me an opportunity to b	36	1	0.43	2	0.85	1	0.69

APPENDIX VIII:
Four Factor Model

Factor Matrix with an X Indicating a Defining Sort

		Loadings			
QSORT		1	2	3	4
1	xxxxxxxx	0.2867	0.0742	0.3396	0.7146X
2	xxxxxxxx	0.1853	0.4704X	0.2452	0.0242
3	xxxxxxxx	0.7832X	-0.0569	0.1701	0.1975
4	xxxxxxxx	0.6119X	0.1405	0.5553	0.1849
5	xxxxxxxx	0.1406	0.7218X	0.0700	0.2245
6	xxxxxxxx	-0.0463	-0.1867	0.5836X	0.3992
7	xxxxxxxx	0.6464X	0.2454	0.1688	0.2770
8	xxxxxxxx	0.2930	0.2857	0.4266X	0.0896
9	xxxxxxxx	0.0502	0.3111	0.6990X	0.0521
10	xxxxxxxx	0.0433	0.2952	0.3282	0.5247X
11	xxxxxxxx	-0.0813	0.7597X	0.2599	0.0070
12	xxxxxxxx	0.0654	0.4555	0.7464X	0.0643
13	xxxxxxxx	0.0604	0.2295	0.4942	0.4925
14	xxxxxxxx	0.4020	0.2879	0.5175	0.3126
15	xxxxxxxx	-0.2637	0.3139	0.2167	0.4195
16	xxxxxxxx	0.1064	-0.1126	-0.1706	0.8275X
17	xxxxxxxx	0.3380	0.2532	0.0977	0.4988X
18	xxxxxxxx	0.7731X	0.2241	-0.0090	-0.1044
19	xxxxxxxx	0.3638	0.7095X	-0.1400	0.1044
20	xxxxxxxx	0.3997	-0.2660	0.6445X	0.0163
% expl.Var.		14	14	17	13

Correlations Between Factor Scores

	1	2	3	4
1	1.0000	0.3287	0.3984	0.3264
2	0.3287	1.0000	0.3682	0.2053
3	0.3984	0.3682	1.0000	0.2925
4	0.3264	0.2053	0.2925	1.0000

Normalized Factor Scores -- For Factor 1

No.	Statement	No.	Z-SCORES
2	The main focus of my clinical practice is patient car	2	1.908
1	I want to improve the quality of care to my patients.	1	1.724
25	ORPRN makes research in a rural clinic possible.	25	1.698
12	My own interests and ideas can be incorporated into a	12	1.332
29	I was personally contacted and recruited.	29	1.036
24	I am interested in developing my own research ideas w	24	1.017
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.936
13	I am able to have input in a project at various stage	13	0.759
5	I get useful feedback on how other rural clinicians d	5	0.753
36	Involvement with ORPRN provides me an opportunity to b	36	0.727
15	I want to contribute to the pool of clinical knowledg	15	0.505
14	I have a sense of ownership (in the outcomes of ORPRN	14	0.332
27	I feel isolated and want the community of other rural	27	0.315
28	I like that ORPRN work is interdisciplinary; includin	28	0.311
33	My staff is motivated to participate in research.	33	0.311
6	Learning about new research findings is a high priori	6	0.244

4	I can gain access to useful tools/software/hardware.	4	0.228
16	ORPRN creates new knowledge regarding rural primary c	16	0.215
21	Working with ORPRN improves my clinical practice.	21	0.116
19	Involvement in ORPRN enhances the prestige of my prac	19	0.088
26	ORPRN staff makes involvement fun.	26	0.000
7	ORPRN research has an important impact on primary car	7	-0.116
22	ORPRN helps me do the QI that I have to do anyway.	22	-0.130
9	ORPRN gets research results back to my clinic as soon	9	-0.283
8	ORPRN supports research that will bring direct benefi	8	-0.328
23	My patients enjoy participating in studies.	23	-0.420
35	Participation would be a burden to my staff.	35	-0.519
18	I am curious about how primary care research is condu	18	-0.548
32	ORPRN research does not interfere with the efficiency	32	-0.653
37	ORPRN connects me to nationally recognized leaders and	37	-0.912
10	I can readily incorporate the findings from ORPRN stu	10	-1.052
11	I'm not sure what I can expect from ORPRN.	11	-1.159
30	I have sufficient time to participate.	30	-1.186
3	I can receive CME.	3	-1.695
17	My previous experience, or inexperience, in a PBRN mo	17	-1.805
34	My clinical colleagues encourage my participation in O	34	-1.862
31	I don't have the staff resources to support research.	31	-1.886

Normalized Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
15	I want to contribute to the pool of clinical knowledg	15	2.315
7	ORPRN research has an important impact on primary car	7	1.828
16	ORPRN creates new knowledge regarding rural primary c	16	1.775
1	I want to improve the quality of care to my patients.	1	1.655
14	I have a sense of ownership (in the outcomes of ORPRN	14	1.049
25	ORPRN makes research in a rural clinic possible.	25	0.999
36	Involvement with ORPRN provides me an opportunity to b	36	0.773
8	ORPRN supports research that will bring direct benefi	8	0.771
17	My previous experience, or inexperience, in a PBRN mo	17	0.713
24	I am interested in developing my own research ideas w	24	0.543
6	Learning about new research findings is a high priori	6	0.468
21	Working with ORPRN improves my clinical practice.	21	0.433
26	ORPRN staff makes involvement fun.	26	0.404
13	I am able to have input in a project at various stage	13	0.387
5	I get useful feedback on how other rural clinicians d	5	0.324
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.223
28	I like that ORPRN work is interdisciplinary; includin	28	0.121
19	Involvement in ORPRN enhances the prestige of my prac	19	-0.011
29	I was personally contacted and recruited.	29	-0.111
37	ORPRN connects me to nationally recognized leaders and	37	-0.120
18	I am curious about how primary care research is condu	18	-0.127
34	My clinical colleagues encourage my participation in O	34	-0.249
23	My patients enjoy participating in studies.	23	-0.294
10	I can readily incorporate the findings from ORPRN stu	10	-0.367
12	My own interests and ideas can be incorporated into a	12	-0.375
27	I feel isolated and want the community of other rural	27	-0.691
32	ORPRN research does not interfere with the efficiency	32	-0.736
35	Participation would be a burden to my staff.	35	-0.827
33	My staff is motivated to participate in research.	33	-0.836
9	ORPRN gets research results back to my clinic as soon	9	-0.917
3	I can receive CME.	3	-0.920
4	I can gain access to useful tools/software/hardware.	4	-0.941
22	ORPRN helps me do the QI that I have to do anyway.	22	-1.087
11	I'm not sure what I can expect from ORPRN.	11	-1.201
30	I have sufficient time to participate.	30	-1.461
31	I don't have the staff resources to support research.	31	-1.563
2	The main focus of my clinical practice is patient car	2	-1.946

Normalized Factor Scores -- For Factor 3

No.	Statement	No.	Z-SCORES
1	I want to improve the quality of care to my patients.	1	2.019

4	I can gain access to useful tools/software/hardware.	4	1.756
8	ORPRN supports research that will bring direct benefi	8	1.545
20	Involvement helps me feel as if I'm on the "cutting-e	20	1.404
3	I can receive CME.	3	1.116
26	ORPRN staff makes involvement fun.	26	1.038
5	I get useful feedback on how other rural clinicians d	5	1.018
10	I can readily incorporate the findings from ORPRN stu	10	0.908
36	Involvement with ORPRN provides me an opportunity to b	36	0.752
21	Working with ORPRN improves my clinical practice.	21	0.711
29	I was personally contacted and recruited.	29	0.686
7	ORPRN research has an important impact on primary car	7	0.507
19	Involvement in ORPRN enhances the prestige of my prac	19	0.503
16	ORPRN creates new knowledge regarding rural primary c	16	0.380
25	ORPRN makes research in a rural clinic possible.	25	0.365
18	I am curious about how primary care research is condu	18	0.183
22	ORPRN helps me do the QI that I have to do anyway.	22	0.086
23	My patients enjoy participating in studies.	23	-0.040
15	I want to contribute to the pool of clinical knowledg	15	-0.070
2	The main focus of my clinical practice is patient car	2	-0.075
14	I have a sense of ownership (in the outcomes of ORPRN	14	-0.122
13	I am able to have input in a project at various stage	13	-0.281
12	My own interests and ideas can be incorporated into a	12	-0.358
9	ORPRN gets research results back to my clinic as soon	9	-0.376
27	I feel isolated and want the community of other rural	27	-0.427
37	ORPRN connects me to nationally recognized leaders and	37	-0.477
33	My staff is motivated to participate in research.	33	-0.501
17	My previous experience, or inexperience, in a PBRN mo	17	-0.635
6	Learning about new research findings is a high priori	6	-0.641
24	I am interested in developing my own research ideas w	24	-0.894
31	I don't have the staff resources to support research.	31	-0.991
28	I like that ORPRN work is interdisciplinary; includin	28	-1.070
11	I'm not sure what I can expect from ORPRN.	11	-1.233
35	Participation would be a burden to my staff.	35	-1.487
30	I have sufficient time to participate.	30	-1.591
32	ORPRN research does not interfere with the efficiency	32	-1.779
34	My clinical colleagues encourage my participation in O	34	-1.930

Normalized Factor Scores -- For Factor 4

No.	Statement	No.	Z-SCORES
1	I want to improve the quality of care to my patients.	1	2.562
2	The main focus of my clinical practice is patient car	2	2.244
29	I was personally contacted and recruited.	29	1.667
28	I like that ORPRN work is interdisciplinary; includin	28	1.241
16	ORPRN creates new knowledge regarding rural primary c	16	1.066
25	ORPRN makes research in a rural clinic possible.	25	0.955
15	I want to contribute to the pool of clinical knowledg	15	0.941
8	ORPRN supports research that will bring direct benefi	8	0.656
5	I get useful feedback on how other rural clinicians d	5	0.635
18	I am curious about how primary care research is condu	18	0.597
7	ORPRN research has an important impact on primary car	7	0.511
4	I can gain access to useful tools/software/hardware.	4	0.482
11	I'm not sure what I can expect from ORPRN.	11	0.443
32	ORPRN research does not interfere with the efficiency	32	0.313
21	Working with ORPRN improves my clinical practice.	21	0.178
3	I can receive CME.	3	-0.015
34	My clinical colleagues encourage my participation in O	34	-0.078
26	ORPRN staff makes involvement fun.	26	-0.085
37	ORPRN connects me to nationally recognized leaders and	37	-0.155
6	Learning about new research findings is a high priori	6	-0.213
23	My patients enjoy participating in studies.	23	-0.222
10	I can readily incorporate the findings from ORPRN stu	10	-0.222
36	Involvement with ORPRN provides me an opportunity to b	36	-0.324
35	Participation would be a burden to my staff.	35	-0.410
30	I have sufficient time to participate.	30	-0.429
31	I don't have the staff resources to support research.	31	-0.489
14	I have a sense of ownership (in the outcomes of ORPRN	14	-0.692

20	Involvement helps me feel as if I'm on the "cutting-e	20	-0.814
9	ORPRN gets research results back to my clinic as soon	9	-0.818
22	ORPRN helps me do the QI that I have to do anyway.	22	-0.875
27	I feel isolated and want the community of other rural	27	-0.876
12	My own interests and ideas can be incorporated into a	12	-0.963
33	My staff is motivated to participate in research.	33	-0.972
24	I am interested in developing my own research ideas w	24	-1.134
17	My previous experience, or inexperience, in a PBRN mo	17	-1.238
13	I am able to have input in a project at various stage	13	-1.398
19	Involvement in ORPRN enhances the prestige of my prac	19	-2.068

Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Type 1	Type 2	Difference
2	The main focus of my clinical practice is patient car	2	1.908	-1.946	3.854
12	My own interests and ideas can be incorporated into a	12	1.332	-0.375	1.707
4	I can gain access to useful tools/software/hardware.	4	0.228	-0.941	1.169
33	My staff is motivated to participate in research.	33	0.311	-0.836	1.147
29	I was personally contacted and recruited.	29	1.036	-0.111	1.147
27	I feel isolated and want the community of other rural	27	0.315	-0.691	1.006
22	ORPRN helps me do the QI that I have to do anyway.	22	-0.130	-1.087	0.956
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.936	0.223	0.713
25	ORPRN makes research in a rural clinic possible.	25	1.698	0.999	0.700
9	ORPRN gets research results back to my clinic as soon	9	-0.283	-0.917	0.634
24	I am interested in developing my own research ideas w	24	1.017	0.543	0.474
5	I get useful feedback on how other rural clinicians d	5	0.753	0.324	0.429
13	I am able to have input in a project at various stage	13	0.759	0.387	0.373
35	Participation would be a burden to my staff.	35	-0.519	-0.827	0.308
30	I have sufficient time to participate.	30	-1.186	-1.461	0.275
28	I like that ORPRN work is interdisciplinary; includin	28	0.311	0.121	0.190
19	Involvement in ORPRN enhances the prestige of my prac	19	0.088	-0.011	0.099
32	ORPRN research does not interfere with the efficiency	32	-0.653	-0.736	0.083
1	I want to improve the quality of care to my patients.	1	1.724	1.655	0.069
11	I'm not sure what I can expect from ORPRN.	11	-1.159	-1.201	0.042
36	Involvement with ORPRN provides me an opportunity to b	36	0.727	0.773	-0.046
23	My patients enjoy participating in studies.	23	-0.420	-0.294	-0.126
6	Learning about new research findings is a high priori	6	0.244	0.468	-0.225
21	Working with ORPRN improves my clinical practice.	21	0.116	0.433	-0.317
31	I don't have the staff resources to support research.	31	-1.886	-1.563	-0.322
26	ORPRN staff makes involvement fun.	26	0.000	0.404	-0.404

18	I am curious about how primary care research is condu	18	-0.548	-0.127
-0.421				
10	I can readily incorporate the findings from ORPRN stu	10	-1.052	-0.367
-0.685				
14	I have a sense of ownership (in the outcomes of ORPRN	14	0.332	1.049
-0.717				
3	I can receive CME.	3	-1.695	-0.920
-0.775				
37	ORPRN connects me to nationally recognized leaders and	37	-0.912	-0.120
-0.792				
8	ORPRN supports research that will bring direct benefi	8	-0.328	0.771
-1.099				
16	ORPRN creates new knowledge regarding rural primary c	16	0.215	1.775
-1.559				
34	My clinical colleagues encourage my participation in O	34	-1.862	-0.249
-1.614				
15	I want to contribute to the pool of clinical knowledg	15	0.505	2.315
-1.810				
7	ORPRN research has an important impact on primary car	7	-0.116	1.828
-1.944				
17	My previous experience, or inexperience, in a PBRN mo	17	-1.805	0.713
-2.518				

Descending Array of Differences Between Factors 1 and 3

No.	Statement	No.	Type 1	Type 3	Difference
2	The main focus of my clinical practice is patient car	2	1.908	-0.075	1.983
24	I am interested in developing my own research ideas w	24	1.017	-0.894	1.912
12	My own interests and ideas can be incorporated into a	12	1.332	-0.358	1.690
28	I like that ORPRN work is interdisciplinary; includin	28	0.311	-1.070	1.381
25	ORPRN makes research in a rural clinic possible.	25	1.698	0.365	1.333
32	ORPRN research does not interfere with the efficiency	32	-0.653	-1.779	1.126
13	I am able to have input in a project at various stage	13	0.759	-0.281	1.040
35	Participation would be a burden to my staff.	35	-0.519	-1.487	0.968
6	Learning about new research findings is a high priori	6	0.244	-0.641	0.885
33	My staff is motivated to participate in research.	33	0.311	-0.501	0.813
27	I feel isolated and want the community of other rural	27	0.315	-0.427	0.742
15	I want to contribute to the pool of clinical knowledg	15	0.505	-0.070	0.575
14	I have a sense of ownership (in the outcomes of ORPRN	14	0.332	-0.122	0.454
30	I have sufficient time to participate.	30	-1.186	-1.591	0.405
29	I was personally contacted and recruited.	29	1.036	0.686	0.349
9	ORPRN gets research results back to my clinic as soon	9	-0.283	-0.376	0.093
11	I'm not sure what I can expect from ORPRN.	11	-1.159	-1.233	0.074
34	My clinical colleagues encourage my participation in O	34	-1.862	-1.930	0.067
36	Involvement with ORPRN provides me an opportunity to b	36	0.727	0.752	-0.026
16	ORPRN creates new knowledge regarding rural primary c	16	0.215	0.380	-0.165

22	ORPRN helps me do the QI that I have to do anyway.	22	-0.130	0.086
-0.216				
5	I get useful feedback on how other rural clinicians d	5	0.753	1.018
-0.265				
1	I want to improve the quality of care to my patients.	1	1.724	2.019
-0.295				
23	My patients enjoy participating in studies.	23	-0.420	-0.040
-0.380				
19	Involvement in ORPRN enhances the prestige of my prac	19	0.088	0.503
-0.415				
37	ORPRN connects me to nationally recognized leaders and	37	-0.912	-0.477
-0.435				
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.936	1.404
-0.468				
21	Working with ORPRN improves my clinical practice.	21	0.116	0.711
-0.595				
7	ORPRN research has an important impact on primary car	7	-0.116	0.507
-0.624				
18	I am curious about how primary care research is condu	18	-0.548	0.183
-0.731				
31	I don't have the staff resources to support research.	31	-1.886	-0.991
-0.895				
26	ORPRN staff makes involvement fun.	26	0.000	1.038
-1.038				
17	My previous experience, or inexperience, in a PBRN mo	17	-1.805	-0.635
-1.170				
4	I can gain access to useful tools/software/hardware.	4	0.228	1.756
-1.527				
8	ORPRN supports research that will bring direct benefi	8	-0.328	1.545
-1.873				
10	I can readily incorporate the findings from ORPRN stu	10	-1.052	0.908
-1.960				
3	I can receive CME.	3	-1.695	1.116
-2.811				

Descending Array of Differences Between Factors 1 and 4

No.	Statement	No.	Type 1	Type 4
Difference				
12	My own interests and ideas can be incorporated into a	12	1.332	-0.963
2.295				
13	I am able to have input in a project at various stage	13	0.759	-1.398
2.158				
19	Involvement in ORPRN enhances the prestige of my prac	19	0.088	-2.068
2.155				
24	I am interested in developing my own research ideas w	24	1.017	-1.134
2.151				
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.936	-0.814
1.750				
33	My staff is motivated to participate in research.	33	0.311	-0.972
1.283				
27	I feel isolated and want the community of other rural	27	0.315	-0.876
1.191				
36	Involvement with ORPRN provides me an opportunity to b	36	0.727	-0.324
1.051				
14	I have a sense of ownership (in the outcomes of ORPRN	14	0.332	-0.692
1.024				
22	ORPRN helps me do the QI that I have to do anyway.	22	-0.130	-0.875
0.745				
25	ORPRN makes research in a rural clinic possible.	25	1.698	0.955
0.744				
9	ORPRN gets research results back to my clinic as soon	9	-0.283	-0.818
0.535				
6	Learning about new research findings is a high priori	6	0.244	-0.213
0.456				
5	I get useful feedback on how other rural clinicians d	5	0.753	0.635
0.118				

26	ORPRN staff makes involvement fun.	26	0.000	-0.085
0.085				
21	Working with ORPRN improves my clinical practice.	21	0.116	0.178
-0.062				
35	Participation would be a burden to my staff.	35	-0.519	-0.410
-0.109				
23	My patients enjoy participating in studies.	23	-0.420	-0.222
-0.198				
4	I can gain access to useful tools/software/hardware.	4	0.228	0.482
-0.253				
2	The main focus of my clinical practice is patient car	2	1.908	2.244
-0.336				
15	I want to contribute to the pool of clinical knowledg	15	0.505	0.941
-0.436				
17	My previous experience, or inexperience, in a PBRN mo	17	-1.805	-1.238
-0.567				
7	ORPRN research has an important impact on primary car	7	-0.116	0.511
-0.628				
29	I was personally contacted and recruited.	29	1.036	1.667
-0.632				
37	ORPRN connects me to nationally recognized leaders and	37	-0.912	-0.155
-0.757				
30	I have sufficient time to participate.	30	-1.186	-0.429
-0.757				
10	I can readily incorporate the findings from ORPRN stu	10	-1.052	-0.222
-0.830				
1	I want to improve the quality of care to my patients.	1	1.724	2.562
-0.838				
16	ORPRN creates new knowledge regarding rural primary c	16	0.215	1.066
-0.850				
28	I like that ORPRN work is interdisciplinary; includin	28	0.311	1.241
-0.930				
32	ORPRN research does not interfere with the efficiency	32	-0.653	0.313
-0.966				
8	ORPRN supports research that will bring direct benefi	8	-0.328	0.656
-0.984				
18	I am curious about how primary care research is condu	18	-0.548	0.597
-1.145				
31	I don't have the staff resources to support research.	31	-1.886	-0.489
-1.397				
11	I'm not sure what I can expect from ORPRN.	11	-1.159	0.443
-1.603				
3	I can receive CME.	3	-1.695	-0.015
-1.679				
34	My clinical colleagues encourage my participation in O	34	-1.862	-0.078
-1.785				

Descending Array of Differences Between Factors 2 and 3

No.	Statement	No.	Type 2	Type 3
Difference				
15	I want to contribute to the pool of clinical knowledg	15	2.315	-0.070
2.384				
34	My clinical colleagues encourage my participation in O	34	-0.249	-1.930
1.681				
24	I am interested in developing my own research ideas w	24	0.543	-0.894
1.437				
16	ORPRN creates new knowledge regarding rural primary c	16	1.775	0.380
1.394				
17	My previous experience, or inexperience, in a PBRN mo	17	0.713	-0.635
1.348				
7	ORPRN research has an important impact on primary car	7	1.828	0.507
1.321				
28	I like that ORPRN work is interdisciplinary; includin	28	0.121	-1.070
1.191				
14	I have a sense of ownership (in the outcomes of ORPRN	14	1.049	-0.122
1.171				

6	Learning about new research findings is a high priori	6	0.468	-0.641
1.110				
32	ORPRN research does not interfere with the efficiency	32	-0.736	-1.779
1.043				
13	I am able to have input in a project at various stage	13	0.387	-0.281
0.667				
35	Participation would be a burden to my staff.	35	-0.827	-1.487
0.659				
25	ORPRN makes research in a rural clinic possible.	25	0.999	0.365
0.634				
37	ORPRN connects me to nationally recognized leaders and	37	-0.120	-0.477
0.357				
30	I have sufficient time to participate.	30	-1.461	-1.591
0.130				
11	I'm not sure what I can expect from ORPRN.	11	-1.201	-1.233
0.031				
36	Involvement with ORPRN provides me an opportunity to b	36	0.773	0.752
0.020				
12	My own interests and ideas can be incorporated into a	12	-0.375	-0.358
-0.017				
23	My patients enjoy participating in studies.	23	-0.294	-0.040
-0.254				
27	I feel isolated and want the community of other rural	27	-0.691	-0.427
-0.264				
21	Working with ORPRN improves my clinical practice.	21	0.433	0.711
-0.278				
18	I am curious about how primary care research is condu	18	-0.127	0.183
-0.310				
33	My staff is motivated to participate in research.	33	-0.836	-0.501
-0.334				
1	I want to improve the quality of care to my patients.	1	1.655	2.019
-0.365				
19	Involvement in ORPRN enhances the prestige of my prac	19	-0.011	0.503
-0.514				
9	ORPRN gets research results back to my clinic as soon	9	-0.917	-0.376
-0.541				
31	I don't have the staff resources to support research.	31	-1.563	-0.991
-0.572				
26	ORPRN staff makes involvement fun.	26	0.404	1.038
-0.634				
5	I get useful feedback on how other rural clinicians d	5	0.324	1.018
-0.694				
8	ORPRN supports research that will bring direct benefi	8	0.771	1.545
-0.773				
29	I was personally contacted and recruited.	29	-0.111	0.686
-0.797				
22	ORPRN helps me do the QI that I have to do anyway.	22	-1.087	0.086
-1.173				
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.223	1.404
-1.181				
10	I can readily incorporate the findings from ORPRN stu	10	-0.367	0.908
-1.275				
2	The main focus of my clinical practice is patient car	2	-1.946	-0.075
-1.871				
3	I can receive CME.	3	-0.920	1.116
-2.036				
4	I can gain access to useful tools/software/hardware.	4	-0.941	1.756
-2.696				

Descending Array of Differences Between Factors 2 and 4

No.	Statement	No.	Type 2	Type 4
Difference				
19	Involvement in ORPRN enhances the prestige of my prac	19	-0.011	-2.068
2.057				
17	My previous experience, or inexperience, in a PBRN mo	17	0.713	-1.238
1.951				

13	I am able to have input in a project at various stage	13	0.387	-1.398
1.785				
14	I have a sense of ownership (in the outcomes of ORPRN	14	1.049	-0.692
1.741				
24	I am interested in developing my own research ideas w	24	0.543	-1.134
1.677				
15	I want to contribute to the pool of clinical knowledg	15	2.315	0.941
1.374				
7	ORPRN research has an important impact on primary car	7	1.828	0.511
1.317				
36	Involvement with ORPRN provides me an opportunity to b	36	0.773	-0.324
1.097				
20	Involvement helps me feel as if I'm on the "cutting-e	20	0.223	-0.814
1.037				
16	ORPRN creates new knowledge regarding rural primary c	16	1.775	1.066
0.709				
6	Learning about new research findings is a high priori	6	0.468	-0.213
0.681				
12	My own interests and ideas can be incorporated into a	12	-0.375	-0.963
0.588				
26	ORPRN staff makes involvement fun.	26	0.404	-0.085
0.489				
21	Working with ORPRN improves my clinical practice.	21	0.433	0.178
0.255				
27	I feel isolated and want the community of other rural	27	-0.691	-0.876
0.184				
33	My staff is motivated to participate in research.	33	-0.836	-0.972
0.137				
8	ORPRN supports research that will bring direct benefi	8	0.771	0.656
0.116				
25	ORPRN makes research in a rural clinic possible.	25	0.999	0.955
0.044				
37	ORPRN connects me to nationally recognized leaders and	37	-0.120	-0.155
0.035				
23	My patients enjoy participating in studies.	23	-0.294	-0.222
-0.071				
9	ORPRN gets research results back to my clinic as soon	9	-0.917	-0.818
-0.099				
10	I can readily incorporate the findings from ORPRN stu	10	-0.367	-0.222
-0.145				
34	My clinical colleagues encourage my participation in O	34	-0.249	-0.078
-0.171				
22	ORPRN helps me do the QI that I have to do anyway.	22	-1.087	-0.875
-0.212				
5	I get useful feedback on how other rural clinicians d	5	0.324	0.635
-0.311				
35	Participation would be a burden to my staff.	35	-0.827	-0.410
-0.418				
18	I am curious about how primary care research is condu	18	-0.127	0.597
-0.724				
3	I can receive CME.	3	-0.920	-0.015
-0.904				
1	I want to improve the quality of care to my patients.	1	1.655	2.562
-0.907				
30	I have sufficient time to participate.	30	-1.461	-0.429
-1.032				
32	ORPRN research does not interfere with the efficiency	32	-0.736	0.313
-1.049				
31	I don't have the staff resources to support research.	31	-1.563	-0.489
-1.075				
28	I like that ORPRN work is interdisciplinary; includin	28	0.121	1.241
-1.120				
4	I can gain access to useful tools/software/hardware.	4	-0.941	0.482
-1.422				
11	I'm not sure what I can expect from ORPRN.	11	-1.201	0.443
-1.645				
29	I was personally contacted and recruited.	29	-0.111	1.667
-1.778				
2	The main focus of my clinical practice is patient car	2	-1.946	2.244
-4.190				

Descending Array of Differences Between Factors 3 and 4

No.	Statement	No.	Type 3	Type 4	Difference
19	Involvement in ORPRN enhances the prestige of my prac	19	0.503	-2.068	2.570
20	Involvement helps me feel as if I'm on the "cutting-e	20	1.404	-0.814	2.218
4	I can gain access to useful tools/software/hardware.	4	1.756	0.482	1.274
3	I can receive CME.	3	1.116	-0.015	1.132
10	I can readily incorporate the findings from ORPRN stu	10	0.908	-0.222	1.130
26	ORPRN staff makes involvement fun.	26	1.038	-0.085	1.123
13	I am able to have input in a project at various stage	13	-0.281	-1.398	1.117
36	Involvement with ORPRN provides me an opportunity to b	36	0.752	-0.324	1.076
22	ORPRN helps me do the QI that I have to do anyway.	22	0.086	-0.875	0.961
8	ORPRN supports research that will bring direct benefi	8	1.545	0.656	0.889
12	My own interests and ideas can be incorporated into a	12	-0.358	-0.963	0.605
17	My previous experience, or inexperience, in a PBRN mo	17	-0.635	-1.238	0.603
14	I have a sense of ownership (in the outcomes of ORPRN	14	-0.122	-0.692	0.570
21	Working with ORPRN improves my clinical practice.	21	0.711	0.178	0.533
33	My staff is motivated to participate in research.	33	-0.501	-0.972	0.471
27	I feel isolated and want the community of other rural	27	-0.427	-0.876	0.448
9	ORPRN gets research results back to my clinic as soon	9	-0.376	-0.818	0.442
5	I get useful feedback on how other rural clinicians d	5	1.018	0.635	0.383
24	I am interested in developing my own research ideas w	24	-0.894	-1.134	0.240
23	My patients enjoy participating in studies.	23	-0.040	-0.222	0.183
7	ORPRN research has an important impact on primary car	7	0.507	0.511	-0.004
37	ORPRN connects me to nationally recognized leaders and	37	-0.477	-0.155	-0.322
18	I am curious about how primary care research is condu	18	0.183	0.597	-0.414
6	Learning about new research findings is a high priori	6	-0.641	-0.213	-0.429
31	I don't have the staff resources to support research.	31	-0.991	-0.489	-0.502
1	I want to improve the quality of care to my patients.	1	2.019	2.562	-0.543
25	ORPRN makes research in a rural clinic possible.	25	0.365	0.955	-0.590
16	ORPRN creates new knowledge regarding rural primary c	16	0.380	1.066	-0.685
29	I was personally contacted and recruited.	29	0.686	1.667	-0.981
15	I want to contribute to the pool of clinical knowledg	15	-0.070	0.941	-1.010
35	Participation would be a burden to my staff.	35	-1.487	-0.410	-1.077
30	I have sufficient time to participate.	30	-1.591	-0.429	-1.162

11	I'm not sure what I can expect from ORPRN.	11	-1.233	0.443
-1.676				
34	My clinical colleagues encourage my participation in O	34	-1.930	-0.078
-1.852				
32	ORPRN research does not interfere with the efficiency	32	-1.779	0.313
-2.092				
28	I like that ORPRN work is interdisciplinary; includin	28	-1.070	1.241
-2.311				
2	The main focus of my clinical practice is patient car	2	-0.075	2.244
-2.319				

Factor Q-Sort Values for Each Statement

			Factor Arrays		
No.	Statement	No.	1	2	3
4					
1	I want to improve the quality of care to my patients.	1	4	3	4
4					
2	The main focus of my clinical practice is patient car	2	4	-4	0
4					
3	I can receive CME.	3	-3	-2	2
0					
4	I can gain access to useful tools/software/hardware.	4	0	-2	4
1					
5	I get useful feedback on how other rural clinicians d	5	1	0	2
1					
6	Learning about new research findings is a high priori	6	0	1	-1
0					
7	ORPRN research has an important impact on primary car	7	0	4	1
1					
8	ORPRN supports research that will bring direct benefi	8	-1	2	3
2					
9	ORPRN gets research results back to my clinic as soon	9	-1	-2	-1
-1					
10	I can readily incorporate the findings from ORPRN stu	10	-2	-1	2
0					
11	I'm not sure what I can expect from ORPRN.	11	-2	-3	-2
1					
12	My own interests and ideas can be incorporated into a	12	3	-1	0
-2					
13	I am able to have input in a project at various stage	13	2	1	0
-4					
14	I have a sense of ownership (in the outcomes of ORPRN	14	1	2	0
-1					
15	I want to contribute to the pool of clinical knowledg	15	1	4	0
2					
16	ORPRN creates new knowledge regarding rural primary c	16	0	3	1
2					
17	My previous experience, or inexperience, in a PBRN mo	17	-3	1	-1
-3					
18	I am curious about how primary care research is condu	18	-1	0	0
1					
19	Involvement in ORPRN enhances the prestige of my prac	19	0	0	1
-4					
20	Involvement helps me feel as if I'm on the "cutting-e	20	2	0	3
-1					
21	Working with ORPRN improves my clinical practice.	21	0	1	1
0					
22	ORPRN helps me do the QI that I have to do anyway.	22	0	-2	0
-2					
23	My patients enjoy participating in studies.	23	-1	0	0
0					
24	I am interested in developing my own research ideas w	24	2	1	-2
-3					
25	ORPRN makes research in a rural clinic possible.	25	3	2	0
2					
26	ORPRN staff makes involvement fun.	26	0	1	2
0					

27	I feel isolated and want the community of other rural	27	1	-1	-1
-2					
28	I like that ORPRN work is interdisciplinary; includin	28	0	0	-2
3					
29	I was personally contacted and recruited.	29	2	0	1
3					
30	I have sufficient time to participate.	30	-2	-3	-3
-1					
31	I don't have the staff resources to support research.	31	-4	-4	-2
-1					
32	ORPRN research does not interfere with the efficiency	32	-1	-1	-4
1					
33	My staff is motivated to participate in research.	33	0	-1	-1
-2					
34	My clinical colleagues encourage my participation in O	34	-4	0	-4
0					
35	Participation would be a burden to my staff.	35	-1	-1	-3
-1					
36	Involvement with ORPRN provides me an opportunity to b	36	1	2	1
0					
37	ORPRN connects me to nationally recognized leaders and	37	-2	0	-1
0					

Variance = 3.892 St. Dev. = 1.973

Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

			Factor Arrays		
No.	Statement	No.	1	2	3
4					
23	My patients enjoy participating in studies.	23	-1	0	0
0					
21	Working with ORPRN improves my clinical practice.	21	0	1	1
0					
5	I get useful feedback on how other rural clinicians d	5	1	0	2
1					
9	ORPRN gets research results back to my clinic as soon	9	-1	-2	-1
-1					
37	ORPRN connects me to nationally recognized leaders and	37	-2	0	-1
0					
1	I want to improve the quality of care to my patients.	1	4	3	4
4					
35	Participation would be a burden to my staff.	35	-1	-1	-3
-1					
18	I am curious about how primary care research is condu	18	-1	0	0
1					
6	Learning about new research findings is a high priori	6	0	1	-1
0					
26	ORPRN staff makes involvement fun.	26	0	1	2
0					
30	I have sufficient time to participate.	30	-2	-3	-3
-1					
27	I feel isolated and want the community of other rural	27	1	-1	-1
-2					
36	Involvement with ORPRN provides me an opportunity to b	36	1	2	1
0					
25	ORPRN makes research in a rural clinic possible.	25	3	2	0
2					
22	ORPRN helps me do the QI that I have to do anyway.	22	0	-2	0
-2					
33	My staff is motivated to participate in research.	33	0	-1	-1
-2					
31	I don't have the staff resources to support research.	31	-4	-4	-2
-1					
16	ORPRN creates new knowledge regarding rural primary c	16	0	3	1
2					

14	I have a sense of ownership (in the outcomes of ORPRN	14	1	2	0
-1					
29	I was personally contacted and recruited.	29	2	0	1
3					
8	ORPRN supports research that will bring direct benefi	8	-1	2	3
2					
10	I can readily incorporate the findings from ORPRN stu	10	-2	-1	2
0					
7	ORPRN research has an important impact on primary car	7	0	4	1
1					
11	I'm not sure what I can expect from ORPRN.	11	-2	-3	-2
1					
32	ORPRN research does not interfere with the efficiency	32	-1	-1	-4
1					
13	I am able to have input in a project at various stage	13	2	1	0
-4					
28	I like that ORPRN work is interdisciplinary; includin	28	0	0	-2
3					
20	Involvement helps me feel as if I'm on the "cutting-e	20	2	0	3
-1					
12	My own interests and ideas can be incorporated into a	12	3	-1	0
-2					
34	My clinical colleagues encourage my participation in O	34	-4	0	-4
0					
15	I want to contribute to the pool of clinical knowledg	15	1	4	0
2					
24	I am interested in developing my own research ideas w	24	2	1	-2
-3					
17	My previous experience, or inexperience, in a PBRN mo	17	-3	1	-1
-3					
4	I can gain access to useful tools/software/hardware.	4	0	-2	4
1					
19	Involvement in ORPRN enhances the prestige of my prac	19	0	0	1
-4					
3	I can receive CME.	3	-3	-2	2
0					
2	The main focus of my clinical practice is patient car	2	4	-4	0
4					

Factor Characteristics

	Factors			
	1	2	3	4
No. of Defining Variables	4	4	5	4
Average Rel. Coef.	0.800	0.800	0.800	0.800
Composite Reliability	0.941	0.941	0.952	0.941
S.E. of Factor Scores	0.243	0.243	0.218	0.243

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2	3	4
1	0.343	0.343	0.326	0.343
2	0.343	0.343	0.326	0.343
3	0.326	0.326	0.309	0.326
4	0.343	0.343	0.326	0.343

Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
No.	Statement	RNK	SCORE	RNK	SCORE
25	ORPRN makes research in a rural clinic possible.	3	1.70	2	1.00
12	My own interests and ideas can be incorporated into a	3	1.33*	-1	-0.38
27	I feel isolated and want the community of other rural	1	0.32	-1	-0.69
33	My staff is motivated to participate in research.	0	0.31	-1	-0.84
8	ORPRN supports research that will bring direct benefi	-1	-0.33*	2	0.77
10	I can readily incorporate the findings from ORPRN stu	-2	-1.05	-1	-0.37
3	I can receive CME.	-3	-1.69	-2	-0.92

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
No.	Statement	RNK	SCORE	RNK	SCORE
15	I want to contribute to the pool of clinical knowledg	1	0.51	4	2.31*
7	ORPRN research has an important impact on primary car	0	-0.12	4	1.83*
16	ORPRN creates new knowledge regarding rural primary c	0	0.22	3	1.77
14	I have a sense of ownership (in the outcomes of ORPRN	1	0.33	2	1.05
17	My previous experience, or inexperience, in a PBRN mo	-3	-1.81	1	0.71*
20	Involvement helps me feel as if I'm on the "cutting-e	2	0.94	0	0.22
29	I was personally contacted and recruited.	2	1.04	0	-0.11
3	I can receive CME.	-3	-1.69	-2	-0.92
4	I can gain access to useful tools/software/hardware.	0	0.23	-2	-0.94*
2	The main focus of my clinical practice is patient car	4	1.91	-4	-1.95*

Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01).

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
3 4 No.	Statement	No.	RNK	SCORE	RNK SCORE
4	I can gain access to useful tools/software/hardware.	4	0	0.23	-2 -0.94 4 1.76* 1 0.48
8	ORPRN supports research that will bring direct benefi	8	-1	-0.33	2 0.77 3 1.54 2 0.66
3	I can receive CME.	3	-3	-1.69	-2 -0.92 2 1.12* 0 -0.02
10	I can readily incorporate the findings from ORPRN stu	10	-2	-1.05	-1 -0.37 2 0.91* 0 -0.22
2	The main focus of my clinical practice is patient car	2	4	1.91	-4 -1.95 0 -0.08* 4 2.24
13	I am able to have input in a project at various stage	13	2	0.76	1 0.39 0 -0.28 -4 -1.40
28	I like that ORPRN work is interdisciplinary; includin	28	0	0.31	0 0.12 -2 -1.07* 3 1.24
35	Participation would be a burden to my staff.	35	-1	-0.52	-1 -0.83 -3 -1.49 -1 -0.41
32	ORPRN research does not interfere with the efficiency	32	-1	-0.65	-1 -0.74 -4 -1.78* 1 0.31

Distinguishing Statements for Factor 4

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
3 4 No.	Statement	No.	RNK	SCORE	RNK SCORE
28	I like that ORPRN work is interdisciplinary; includin	28	0	0.31	0 0.12 -2 -1.07 3 1.24*
16	ORPRN creates new knowledge regarding rural primary c	16	0	0.22	3 1.77 1 0.38 2 1.07
11	I'm not sure what I can expect from ORPRN.	11	-2	-1.16	-3 -1.20 -2 -1.23 1 0.44*
32	ORPRN research does not interfere with the efficiency	32	-1	-0.65	-1 -0.74 -4 -1.78 1 0.31*
3	I can receive CME.	3	-3	-1.69	-2 -0.92 2 1.12 0 -0.02*
36	Involvement with ORPRN provides me an opportunity to b	36	1	0.73	2 0.77 1 0.75 0 -0.32*
30	I have sufficient time to participate.	30	-2	-1.19	-3 -1.46 -3 -1.59 -1 -0.43
20	Involvement helps me feel as if I'm on the "cutting-e	20	2	0.94	0 0.22 3 1.40 -1 -0.81*
13	I am able to have input in a project at various stage	13	2	0.76	1 0.39 0 -0.28 -4 -1.40*
19	Involvement in ORPRN enhances the prestige of my prac	19	0	0.09	0 -0.01 1 0.50 -4 -2.07*

Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

		Factors			
		1		2	
No.	Statement	No.	RNK	SCORE	RNK	SCORE
5	I get useful feedback on how other rural clinicians d	5	1	0.75	0	0.32
2	1.02	1	0.63			
9*	ORPRN gets research results back to my clinic as soon	9	-1	-0.28	-2	-0.92
-1	-0.38	-1	-0.82			
21*	Working with ORPRN improves my clinical practice.	21	0	0.12	1	0.43
1	0.71	0	0.18			
23*	My patients enjoy participating in studies.	23	-1	-0.42	0	-0.29
0	-0.04	0	-0.22			
37	ORPRN connects me to nationally recognized leaders and	37	-2	-0.91	0	-0.12
-1	-0.48	0	-0.16			

APPENDIX IX:
Summary of Factor 1 (n = 4)

NUM	Statement	Score	Note
1	I want to improve the quality of care to my patients.	4	
2	The main focus of my clinical practice is patient care, not research.	4	
12	My own interests and ideas can be incorporated into a research project.	3	High
25	ORPRN makes research in a rural clinic possible.	3	High
13	I am able to have input in a project at various stages.	2	
20	Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care.	2	
24	I am interested in developing my own research ideas with ORPRN assistance.	2	
29	I was personally contacted and recruited.	2	
5	I get useful feedback on how other rural clinicians deal with the same issues I have.	1	
14	I have a sense of ownership (in the outcomes of ORPRN research).	1	
15	I want to contribute to the pool of clinical knowledge.	1	
27	I feel isolated and want the community of other rural clinicians.	1	High
36	Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon.	1	
4	I can gain access to useful tools/software/hardware.	0	
6	Learning about new research findings is a high priority for me.	0	
7	ORPRN research has an important impact on primary care.	0	
16	ORPRN creates new knowledge regarding rural primary care.	0	
19	Involvement in ORPRN enhances the prestige of my practice.	0	
21	Working with ORPRN improves my clinical practice.	0	
22	ORPRN helps me do the QI that I have to do anyway.	0	
26	ORPRN staff makes involvement fun.	0	
28	I like that ORPRN work is interdisciplinary; including MDs, RNs, and PAs.	0	
33	My staff is motivated to participate in research.	0	High
8	ORPRN supports research that will bring direct benefits to my practice (a measure of relevance).	-1	Low
9	ORPRN gets research results back to my clinic as soon as they are available.	-1	
18	I am curious about how primary care research is conducted.	-1	
23	My patients enjoy participating in studies.	-1	
32	ORPRN research does not interfere with the efficiency of my practice.	-1	
35	Participation would be a burden to my staff.	-1	
10	I can readily incorporate the findings from ORPRN studies into my practice.	-2	Low
11	I'm not sure what I can expect from ORPRN.	-2	
30	I have sufficient time to participate.	-2	
37	ORPRN connects me to nationally recognized leaders and organizations.	-2	
3	I can receive CME.	-3	Low
17	My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN.	-3	
31	I don't have the staff resources to support research.	-4	
34	My clinical colleagues encourage my participation in ORPRN.	-4	

Summary of Factor 2 (n = 4)

Num	Statement	Rank	Note
7	ORPRN research has an important impact on primary care.	4	high
15	I want to contribute to the pool of clinical knowledge.	4	high
1	I want to improve the quality of care to my patients.	3	
16	ORPRN creates new knowledge regarding rural primary care.	3	high
8	ORPRN supports research that will bring direct benefits to my practice (a measure of relevance).	2	
14	I have a sense of ownership (in the outcomes of ORPRN research).	2	high
25	ORPRN makes research in a rural clinic possible.	2	
36	Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon.	2	
6	Learning about new research findings is a high priority for me.	1	
13	I am able to have input in a project at various stages.	1	
17	My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN.	1	high
21	Working with ORPRN improves my clinical practice.	1	
24	I am interested in developing my own research ideas with ORPRN assistance.	1	
26	ORPRN staff makes involvement fun.	1	
5	I get useful feedback on how other rural clinicians deal with the same issues I have.	0	
18	I am curious about how primary care research is conducted.	0	
19	Involvement in ORPRN enhances the prestige of my practice.	0	
20	Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care.	0	
23	My patients enjoy participating in studies.	0	
28	I like that ORPRN work is interdisciplinary; including MDs, RNs, and PAs.	0	
29	I was personally contacted and recruited.	0	low
34	My clinical colleagues encourage my participation in ORPRN.	0	
37	ORPRN connects me to nationally recognized leaders and organizations.	0	
10	I can readily incorporate the findings from ORPRN studies into my practice.	-1	
12	My own interests and ideas can be incorporated into a research project.	-1	
27	I feel isolated and want the community of other rural clinicians.	-1	
32	ORPRN research does not interfere with the efficiency of my practice.	-1	
33	My staff is motivated to participate in research.	-1	
35	Participation would be a burden to my staff.	-1	
3	I can receive CME.	-2	
4	I can gain access to useful tools/software/hardware.	-2	low
9	ORPRN gets research results back to my clinic as soon as they are available.	-2	
22	ORPRN helps me do the QI that I have to do anyway.	-2	
11	I'm not sure what I can expect from ORPRN.	-3	
30	I have sufficient time to participate.	-3	
2	The main focus of my clinical practice is patient care, not research.	-4	low
31	I don't have the staff resources to support research.	-4	

Summary of Factor 3 (n = 5)

Num	Statement	Rank	Note
1	I want to improve the quality of care to my patients.	4	
4	I can gain access to useful tools/software/hardware.	4	high
8	ORPRN supports research that will bring direct benefits to my practice (a measure of relevance).	3	high
20	Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care.	3	
3	I can receive CME.	2	high
5	I get useful feedback on how other rural clinicians deal with the same issues I have.	2	
10	I can readily incorporate the findings from ORPRN studies into my practice.	2	high
26	ORPRN staff makes involvement fun.	2	
7	ORPRN research has an important impact on primary care.	1	
16	ORPRN creates new knowledge regarding rural primary care.	1	
19	Involvement in ORPRN enhances the prestige of my practice.	1	
21	Working with ORPRN improves my clinical practice.	1	
29	I was personally contacted and recruited.	1	
36	Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon.	1	
2	The main focus of my clinical practice is patient care, not research.	0	
12	My own interests and ideas can be incorporated into a research project.	0	
13	I am able to have input in a project at various stages.	0	
14	I have a sense of ownership (in the outcomes of ORPRN research).	0	
15	I want to contribute to the pool of clinical knowledge.	0	
18	I am curious about how primary care research is conducted.	0	
22	ORPRN helps me do the QI that I have to do anyway.	0	
23	My patients enjoy participating in studies.	0	
25	ORPRN makes research in a rural clinic possible.	0	
6	Learning about new research findings is a high priority for me.	-1	
9	ORPRN gets research results back to my clinic as soon as they are available.	-1	
17	My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN.	-1	
27	I feel isolated and want the community of other rural clinicians.	-1	
33	My staff is motivated to participate in research.	-1	
37	ORPRN connects me to nationally recognized leaders and organizations.	-1	
11	I'm not sure what I can expect from ORPRN.	-2	
24	I am interested in developing my own research ideas with ORPRN assistance.	-2	
28	I like that ORPRN work is interdisciplinary; including MDs, RNs, and PAs.	-2	low
31	I don't have the staff resources to support research.	-2	
30	I have sufficient time to participate.	-3	
35	Participation would be a burden to my staff.	-3	low
32	ORPRN research does not interfere with the efficiency of my practice.	-4	low
34	My clinical colleagues encourage my participation in ORPRN.	-4	

Summary of Factor 4 (n = 4)

Num	Statement	Rank	Note
1	I want to improve the quality of care to my patients.	4	
2	The main focus of my clinical practice is patient care, not research.	4	
28	I like that ORPRN work is interdisciplinary; including MDs, RNs, and PAs.	3	high
29	I was personally contacted and recruited.	3	
8	ORPRN supports research that will bring direct benefits to my practice (a measure of relevance).	2	
15	I want to contribute to the pool of clinical knowledge.	2	
16	ORPRN creates new knowledge regarding rural primary care.	2	
25	ORPRN makes research in a rural clinic possible.	2	
4	I can gain access to useful tools/software/hardware.	1	
5	I get useful feedback on how other rural clinicians deal with the same issues I have.	1	
7	ORPRN research has an important impact on primary care.	1	
11	I'm not sure what I can expect from ORPRN.	1	high
18	I am curious about how primary care research is conducted.	1	
32	ORPRN research does not interfere with the efficiency of my practice.	1	high
3	I can receive CME.	0	
6	Learning about new research findings is a high priority for me.	0	
10	I can readily incorporate the findings from ORPRN studies into my practice.	0	
21	Working with ORPRN improves my clinical practice.	0	
23	My patients enjoy participating in studies.	0	
26	ORPRN staff makes involvement fun.	0	
34	My clinical colleagues encourage my participation in ORPRN.	0	
36	Involvement with ORPRN provides me an opportunity to be a leader in changing the way primary care is delivered in rural Oregon.	0	low
37	ORPRN connects me to nationally recognized leaders and organizations.	0	
9	ORPRN gets research results back to my clinic as soon as they are available.	-1	
14	I have a sense of ownership (in the outcomes of ORPRN research).	-1	
20	Involvement helps me feel as if I'm on the "cutting-edge" of changes in health care.	-1	low
30	I have sufficient time to participate.	-1	high
31	I don't have the staff resources to support research.	-1	
35	Participation would be a burden to my staff.	-1	
12	My own interests and ideas can be incorporated into a research project.	-2	
22	ORPRN helps me do the QI that I have to do anyway.	-2	
27	I feel isolated and want the community of other rural clinicians.	-2	
33	My staff is motivated to participate in research.	-2	
17	My previous experience, or inexperience, in a PBRN motivates my participation in ORPRN.	-3	
24	I am interested in developing my own research ideas with ORPRN assistance.	-3	
13	I am able to have input in a project at various stages.	-4	low
19	Involvement in ORPRN enhances the prestige of my practice.	-4	low