Published in final edited form as:

J Nurs Meas. 2018 December ; 26(3): E127–E141. doi:10.1891/1061-3749.26.3.E127.

Development and Psychometric Testing of the Provider Co-Management Index: Measuring Nurse Practitioner–Physician Co-Management

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Abstract

Background and Purpose: Provider co-management has emerged in practice to alleviate demands of larger, more complex patient panels, yet no tools exist to measure nurse practitioner (NP)–physician co-management. The purpose of this study is to develop a tool that measures NP–physician co-management.

Methods: Items were generated based on three theoretical dimensions of co-management. Face and content validity were established with six experts. Pilot testing was conducted with a convenience sample of 40 NPs and physicians. We computed mean, standard deviation, skewness, interitem and corrected item-total correlations, and Cronbach’s alpha.

Results: Psychometric analysis yielded high subscale reliability; effective communication ($\alpha = .811$); mutual respect and trust ($\alpha = .746$); and shared philosophy of care ($\alpha = .779$).

Conclusions: PCMI demonstrates strong internal reliability consistency. Future research to examine construct validity is recommended.

Keywords

primary care; nurse practitioners; care delivery; tool development

As the U.S. population ages and more patients are living with complex comorbidities, primary care providers (PCPS) struggle with completing all recommended care management tasks (Mitka, 2007). Further, the demand for primary care services will soon exceed the capacity of physicians available to deliver primary care (Bodenheimer & Pham, 2010;

Institute of Medicine. 2010). Consequently, the number of patients managed by a single PCP is increasing and placing strain on organizations to ensure that all necessary care services are delivered to patients (Altschuler, Margolius, Bodenheimer, & Grumbach, 2012; Colwill, Cultice, & Kruse, 2008). One study demonstrates that such burden negatively affects the quality of care and patient outcomes and found an association between provider strain and negative patient and quality outcomes (Koponen et al., 2013). Therefore, researchers and policy makers are calling for the investigation of new care delivery models to meet the growing demand for care and the need to improve patient care outcomes even with suboptimal PCP workforce resources (Huang & Finegold, 2013; Yarnall, Pollak, Østbye, Krause, & Michener, 2003). One proposed solution by organizations such as the National Academy of Medicine and the American College of Physicians, is the expanded use of nurse practitioners (NPs) in primary care delivery (American College of Physicians, 2009; Institute of Medicine, 2010).

The NP workforce in the United States currently consists of approximately 250,000 NPs and 85% of NPs are trained and prepared to work within primary care (American Academy of Nurse Practitioners [AANP], 2012). Further, the NP workforce is expected to grow by 130% by the year 2025 (Auerbach, 2012). Currently, NPs can practice independent of physician oversight in 22 states plus the District of Columbia (AANP, 2016). Studies have shown that NPs provide high quality and cost-effective care, and both physicians and NPs are optimistic about the NP workforce alleviating some of the PCP deficit (Buerhaus, DesRoches, Dittus, & Donelan, 2015; DesRoches, Buerhaus, Dittus, & Donelan, 2015; Lenz, Mundinger, Kane, Hopkins, & Lin, 2004; Martin-Misener et al., 2015). However, the demands for care continue to outweigh the time available for a single PCP to complete all recommended care management tasks. One study estimates that it would take an individual PCP approximately 21 hours per day to complete all recommended care guidelines (Yarnall et al., 2009). This poses a threat to the primary care system to ensure that all patients are receiving optimal care.

Provider co-management, which involves more than one provider responsible for completing the care management of the same patient, has emerged in practice to overcome the increased demands of care delivery. Researchers have studied co-management by two physicians, a physician and a pharmacist, and a physician and physician assistant and concluded that co-management is an effective model for care delivery as it improves quality of care and patient outcomes (Hinami, Feinglass, Ferranti, & Williams, 2011; Rappaport et al., 2013; Weber, Ernst, Sezate, Zheng, & Carter, 2010). However, the evidence for effective NP–physician co-management remains lacking, in part due to the absence of a tool that measures NP–physician co-management. In order to determine the impact that NP–physician co-management has on patient care and outcomes, more empirical studies with a valid and reliable tool need to be performed.

The purpose of this study is to develop and psychometrically pilot test a new tool that measures NP–physician co-management. This tool can help researchers, policymakers, and primary care organizations to measure and investigate NP–physician co-management.

BACKGROUND AND CONCEPTUAL FRAMEWORK

Currently, no conceptual framework exists to define NP–physician co-management. In addition, no tools are available to measure NP–physician co-management. Therefore, three studies were conducted to conceptualize NP–physician co-management and inform the tool development. These three studies were guided by the underpinnings of Donabedian’s quality of care model (1988), which is a conceptual model that implies that the structure of an organization and the processes during care delivery, both influence the outcomes or consequences of the care. We applied Donabedian’s model to investigate the structure, process and outcomes of NP–physician co-management in our initial studies and used the collective findings to inform item generation and subsequent tool development (see Figure 1). Each of these studies are summarized in the following.

First, using Walker and Avant (2005), we extracted evidence of NP–physician co-management antecedents, attributes, and consequences (Norful, de Jacq, Carlino, & Poghosyan, 2018). Specifically, we aligned Donabedian’s model with our conceptual analysis to extract information about the organizational *structures* that serve as antecedents, co-management *processes* within the identified dimensions, and consequences or *outcomes* of co-management. We determined that NP–physician co-management conceptually consists of three dimensions: effective communication; mutual respect and trust; and shared philosophy of care. Effective communication involves the timely communication between providers that includes information shared about the patient care plan in a manner that is understandable to both providers. Mutual respect and trust encompasses reciprocal levels of trust and respect of each other’s decisions about patient care, and the strengths and limitations of each provider’s training and education. Finally, shared philosophy of care involves a clinical alignment between providers that includes mutual goals for patient care, a similar work effort, ability to resolve conflict between philosophies of care, and agreement on rationale for testing and treatment.

We next performed a qualitative study with PCPs (NPs and physicians) to further investigate NP–physician co-management (Norful, Ye, Van der Biezen, & Poghosyan, 2018). We created an interview guide with open ended questions about the structure, process, and outcomes of NP–physician co-management to obtain qualitative data on the perspectives of PCPs about the NP–physician co-management care delivery. The study findings demonstrated that NPs and physicians were willing to co-manage patient care and perceived that NP–physician co-management would alleviate provider burnout and promote high quality of care. Finally, we conducted a systematic review of the existing evidence to compare NP–physician co-management with a single physician delivering patient care (Norful, Swords, Marichal Cho, & Poghosyan, 2017). NP–physician co-management showed promise in achieving adherence to recommended care guidelines and improved patient clinical outcomes. There were, however, limited description of the structure and processes of how co-management care occurs. In addition, only six studies that investigated the outcomes of NP–physician co-management were identified. This lack of evidence about how co-management is delivered suggested that NP–physician co-management literature remains premature and thereby supported our efforts to develop a new tool for future research and for application within clinical practice.

METHODS

Procedures for Tool Development

A tool development design was used to generate items and to pilot test the new tool and revise it as needed (Fowler Jr, 2013). The Checklist for Reporting Results of Internet E-Surveys (CHERRIES) framework was used to report the findings of this study (Eysenbach, 2004). This study was approved by the Columbia University Medical Center Institutional Review Board. To protect the confidentiality of participants throughout the study, no identifying demographics were collected. Written consent was obtained during the face and content validity phase. The pilot testing phase was exempted from obtaining written consent from the participants based on minimal risk and the use of anonymous electronic survey techniques (U.S. Department of Health and Human Services, 2009).

Item Generation

A pool of 30 items was developed from the existing literature, including the primary researcher's systematic review, concept analysis, and qualitative study (Norful et al., 2017; Norful et al., 2018; Norful et al., 2018). Two researchers performed a content analysis of the data produced from the above studies and 30 items were constructed using guidelines for item development including technical and grammatical principles to produce clear and concise items that utilize language familiar to PCPs (Hinkin, 1998). Items were generated to fit three subscales that were aligned with the three conceptual dimensions of NP-physician co-management identified in our prior conceptual and qualitative study: (1) effective communication (ECS) (10 items); (2) mutual respect and trust (MRTS) (10 items); and (3) shared philosophy of care (SPCS) (10 items). A Likert-type scale was chosen as the response type. The 4-point response scale included ratings, *strong agree* to *strongly disagree*, without a neutral midpoint (Johns, 2010). The tool measures to what degree the participant rates the presence of each item in their own practice. Instructions were presented at the beginning of the survey that stated:

Think about your practice when co-managing patient care with one other PCP. This may be within a single patient visit or over an extended period of time in which you both share responsibility for the same patient's care. (Circle your Response)

Two researchers (one NP and one health service researcher with expertise in tool development) reviewed the items, instructions, and respective subscales for relevance and clarity. Nine items were removed due to lack of clarity. Twenty-one items were subjected for further testing. The tool was named the Provider Co-Management Index (PCMI).

Face Validity

Six experts were purposively recruited for individual interviews to assess face validity. The purpose of these in-person interviews was to assess face validity through subjective expert judgment on the PCMI's appearance, ease of use, clarity, and readability (Drost, 2011; Hardesty & Bearden, 2004). Participants were eligible if (1) they currently practice as a NP or physician in primary care; (2) they have over five years of practice experience that includes NP-physician co-management; and (3) they have experience in the investigation and conceptualization of NP-physician co-management as both PCPs and researchers.

Participants were asked to openly share their thoughts on the PCMI's appearance, clarity, and relevance to co-management. The interviews lasted from 25 to 40 minutes. Notes were taken during the interviews.

Demographic characteristics of the six primary care experts, three physicians and three NPs, are presented in Table 1. Sixty-six percent of the experts practiced in a physician-owned practice. One-third of the experts had over 10 years of practice experience. Two researchers reviewed the individual expert comments about each PCMI's face validity and revised or removed items based on expert recommendations. One item, "My co-managing provider and I communicate changes in patient health status" was removed. Four items were revised. The item "Review each other's patient care documentation" was changed to "Review each other's patient documentation of care plan." The item, "Have knowledge of each other's training and education" was revised to "Have knowledge of each other's training background." The item "Treat each other as equal" was changed to "Treat each other as equal colleagues." Finally, the item "Share the same patient goals" was revised to "Share the same goals for patient care." Twenty items were left for further evaluation.

Content Validity

Next, content validity testing of the remaining twenty items was performed to determine PCMI's credibility, representativeness, and relevance to the content being measured (Drost, 2011; Haynes, Richard, & Kubany, 1995). The revised tool and items were returned to the group of experts who were then asked to review PCMI, its instructions, items, subscales, and response categories. The recommended number of experts to conduct content validity is between 4 and 9 (Lynn, 1986). The experts were asked to rate each of the items on a 4-point Likert scale that ranges from *highly relevant* (4) to *highly irrelevant* (1). Experts received a \$20 gift card incentive for participating. A content validity index was hand calculated for both individual items (I-CVI) and each subscale (S-CVI). CVI was calculated by dividing the total number of experts that rated the item as a 3 or 4 by the total number of experts ($N=6$). Items with an I-CVI and S-CVI greater than .8 were eligible for inclusion and further psychometric evaluation (Lynn, 1986).

Content validity results can be found in Table 2. Experts rated 12 items as *highly relevant* (4) or *relevant* (3), and the calculated I-CVI was 1.00. The remaining eight items were further evaluated. Seven items achieved an I-CVI .833 and were retained. One item, "My co-managing provider and I treat each other as equal colleagues" received poor ratings (I-CVI = .5) and was subsequently removed. None of the experts identified additional content to be added. The S-CVI for each subscale was calculated and demonstrated high content validity: effective communication (S-CVI = .952); mutual respect and trust (S-CVI = .944); and shared philosophy of care (S-CVI = .899). Nineteen items were left for pilot testing.

Pilot Testing

The purpose of pilot testing was to conduct item and reliability analysis of PCMI. Nineteen items within three subscales were pilot tested (Table 3).

Sample and Data Collection

A convenience sample of primary care NPs and physicians were recruited from primary care practices. Efforts were made to contact practice managers via email with a brief prenotification of the study to aid in recruitment and increase response rates (Frohlich, 2002). An e-mail invitation was sent to potential participants (NPs and physicians) explaining the study, the survey's approximate length, its voluntary nature, and contact information for the researchers. The invitation also encouraged participants to forward the email to other NPs and physicians working in primary care (snowball technique) (Sadler, Lee, Lim, & Fullerton, 2010). After 3 weeks, a reminder e-mail was sent encouraging participation and requesting help with recruitment (McPeake, Bateson, & O'Neill, 2014).

Qualtrics Research Suite (Qualtrics, 2015), which is a web-based survey software, was utilized for survey distribution and data collection. Electronic web-based surveys as the initial form of data collection have been found to increase response rates compared to mail surveys (Millar & Dillman, 2011). We uploaded PCMI instructions, the tool's items, and response categories. The items on the tool were uploaded in no particular order and not presented within designated subscales. Five to six items were presented on each subsequent screen. Qualtrics generated a web-based survey link for participants to access and complete the survey. This was an open survey and no password was required for access. Participants were able to use the back button to review or change their responses throughout the survey. Cookies were used to assign a unique user identifier to each participant computer, and thus prevented users from completing the survey twice. The suggested minimum recommendation for initial scale development is 30 participants (Johanson & Brooks, 2009). When the desired number of surveys were received, the electronic link was made inactive and data were extracted. A lottery was conducted and 15 randomly selected participants received a \$20 gift card.

Data Analysis

All data were exported from Qualtrics to SPSS v23 for analysis. Data were cleaned and checked for coding accuracy to ensure that items were scored in the same direction (1 = *strongly agree*, to 4 = *strongly disagree*) prior to analysis. Internet Protocol (IP) addresses of respondents were checked for duplicate entries. Three surveys were terminated early and the responses on all items were missing. Thus, these surveys were removed from the data analysis. Participant and practice characteristics, such as mean age, gender, practice type, and practice settings, were calculated. Due to the sample size, which was adequate for pilot testing, the data was analyzed collectively, and not by provider type. Descriptive statistics for each tool item, such as range, mean, and standard deviation, were calculated. Items with good variation across participants were retained. We assessed item skewness by visual inspection of each item's histogram and by dividing the skewness statistic by its standard error to determine if the result was greater than ± 1.96 thereby suggesting the data were not normally distributed (Rose, Spinks, & Canhoto, 2014). Next, interitem correlations and the coefficient of reliability (Cronbach's coefficient alpha) for each subscale were calculated. Corrected item-total correlations were calculated to determine how well each item correlated to the whole subscale. Items with a range from .30 to .70 demonstrated sufficient correlation

(Bernstein, 1994). Cronbach's alpha if deleted was also calculated for each item and evaluated closely for potential removal of items (Gliem & Gliem, 2003).

RESULTS

The final sample consisted of 40 PCPs (21 physicians and 19 NPs). Majority of respondents were female (70%), practiced in an urban geographic location (70%), and had over five years of practice experience (67.5%). The most frequently reported practice types were private physician practices (32.5%) and hospital-affiliated practices (30.0%). Participant demographics are presented in Table 1.

Results of item analysis and reliability testing are presented in Table 2. The first subscale, Effective Communication, had seven items and a Cronbach's alpha of .811. The mean item response scores and standard deviations ranged from 1.76 (.830) to 2.35 (.919). Two items, demonstrated a slight right skew: "My co-managing provider and I communicate patient needs in a timely manner" (standard error 2.0) and "My co-managing provider and I have patient documentation that is available to one another" (standard error 2.2) thus suggesting that the departure from normality was not too extreme. Corrected item-total correlations ranged from .288 to .782. The Cronbach's alpha if deleted was .835 for the item, "My co-managing provider and I communicate needs in a timely manner." Removal of this item would only slightly improve the internal consistency reliability of this subscale and was retained for further psychometric testing because of its strong theoretical origins. The item, "My co-managing provider and I communicate changes in patient health status" had a marginally higher correlation compared to other items ($r = .782$) but its Cronbach's alpha if deleted (.747) would not improve reliability if removed. Therefore, all six items were retained for this subscale.

The second subscale, Mutual Respect and Trust, had six items and achieved a Cronbach's alpha of .746. Item mean (standard deviation) ranged from 1.73 (.693) to 2.19 (.701). Regarding skewness, all items in this subscale were well within the ± 1.96 limits suggesting normality. Corrected item-total correlations ranged from .389 to .674. No items were highly correlated with each other. Cronbach's alpha if deleted ranged from .664 to .740, and we determined that removal of any items would not increase reliability. All six items in the subscale were retained.

The third subscale, Shared Philosophy of Care, had seven items and achieved a Cronbach's alpha of .779. Item means (standard deviation) ranged from 1.78 (.672) to 2.41 (.865). Three of the items demonstrated a right skew: "My co-managing provider and I share the same values for patient care" (standard error 2.22); "My co-managing provider and I agree on rationale for diagnostics tests (e.g., labs and CT scan)" (standard error 2.95); "My co-managing provider and I share the same goals for patient care" (standard error 2.07). Corrected item-total correlations ranged from .363 to .531. Cronbach's alpha if deleted ranged from .728 to .787. The removal of the item, "My co-managing provider and I have a mutually agreed upon protocol to resolve disagreement" would increase the subscale reliability from .779 to .787. However, this item was retained for future psychometric testing to determine if it should be removed or included in another subscale. All seven items were

retained in this subscale. At the conclusion of pilot testing, the three subscale PCMI consisted of 19 items: (1) Effective Communication (6 items): (2) Mutual Respect and Trust (6 items): and (3) Shared Philosophy of Care (7 items).

DISCUSSION

We developed a new health services research tool, PCMI, to measure NP–physician co-management in primary care. We conducted its psychometric testing through expert assessment of face and content validity and pilot testing to obtain evidence of reliability. Item and subscale generation was based on the conceptual dimensions and empirical evidence about NP–physician co-management: Effective communication; mutual respect and trust; and shared philosophy of care. Face and content validity were supported by the input of six primary care experts and resulted in the removal of two items for irrelevance and the revision of four items for clarity. The final PCMI, consisted of 19 items, and was determined to have good item variation and interitem correlation in addition to strong internal reliability consistency. A right skewness in five items was attributed to the small sample size. Normality statistics will be re-evaluated with a larger sample in a future planned study. Two items could be candidates for removal due to a reduced internal consistency reliability. However, the theoretical foundations surrounding these two items. “My co-managing provider and I communicate patient needs in a timely manner” and “My co-managing provider and I have a mutually agreed upon protocol to resolve conflict” had emerged extensively and frequently in our prior conceptual and qualitative studies and item removal would only slightly increase their respective subscale’s reliability coefficient. Therefore, we decided to retain these items for future testing in a larger sample. Following face and content validity, and pilot testing, PCMI is now ready for further psychometric testing through exploratory and confirmatory factor analyses to provide evidence about the tool’s construct validity.

There are limitations to this study. The face validity, content validity, and pilot testing were achieved by purposive convenience samples. Although the sample sizes were adequate for pilot testing, the responses of PCPs outside our study may differ. Also, construct validity was not established in this pilot study. Further reliability testing using a split-half method with a larger sample size will be performed during a planned future study. It is recommended that in order to employ a split-half method, a sample size of at least 400 participants is required to assess precise and more extensive reliability testing (Charter, 1999). Future research should include field testing in a large sample of PCPs to assess PCMI’s construct validity, dimensionality, and conduct further reliability testing (Bernstein, 1994). Exploratory factor analysis will help to determine if the PCMI subscales emerge as separate factors to assess its dimensionality. Confirmatory factor analysis will provide evidence about the construct validity of the tool (Fowler Jr, 2013).

Relevance to Nursing Practice, Education, and Research

PCMI can be used in future research to conduct comparative effectiveness studies that compare NP–physician co-management to other care delivery models. In addition, a larger sample size will give researchers the ability to compare responses by PCP type. The tool can

also be used to investigate the relationship between NP–physician co-management and patient or organizational outcomes. Practice implications of the PCMI include the ability of organizations to evaluate existing NP–physician co-management care delivery and its subsequent impact on patient outcomes. It can alert PCPs and practice managers to suboptimal NP–physician co-management so that interventions and training can be implemented to improve the quality of patient care delivery.

CONCLUSION

We developed and pilot tested the rust tool that measures NP–physician co-management in primary care. Having a psychometrically sound tool will allow researchers to evaluate NP–physician co-management during care delivery and help to determine its impact on patient and practice outcomes. Further psychometric testing, including an evaluation of PCMI's construct validity, is recommended.

Acknowledgments.

Dr. Norful was funded by the National Institute of Nursing Research (T32 NR014205) and the National Institute of Health (TL1 TR001875). Dr. Ye was funded by the National Heart, Lung, and Blood Institute (K23 H1121144). Dr. Poghosyan was funded by the Robert Wood Johnson Foundation.

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Figure 1.

Applied Donabedian quality of care model to inform tool development.

TABLE 1.**Participant Demographics During Psychometric Evaluation**

Characteristics	Face/Content Validity Testing (N = 6) n (%)	Pilot Reliability Testing (N = 40) n (%)
Gender		
Female	4 (66.6)	27 (67.5)
Age		
<30	–	–
30–39	3 (50.0)	19 (47.5)
40–49	1 (16.7)	9 (22.5)
50–59	2 (33.3)	8 (20.0)
>60	–	4 (10)
Job title		
MD/DO	3 (50.0)	21 (52.5)
NP	3 (50.0)	19 (47.5)
Race		
White	6 (100)	23 (57.5)
Asian or Pacific Islander	–	4 (10.0)
Black or African American	–	6 (15.0)
Hispanic	–	5 (12.5)
Years of practice experience		
<1 year	–	3 (7.5)
1–4 years	–	10 (25.0)
5–10 years	4 (66.6)	9 (22.5)
11–14 years	1 (16.7)	6 (15.0)
>15 years	1 (16.7)	12 (30.0)
Highest educational degree		
Master's degree	2 (33.3)	11 (27.5)
Postmaster's certificate	1 (16.7)	1 (2.5)
Medical degree (MD/DO)	3 (50.0)	21 (52.5)
Doctoral degree (PhD, DNP, PhD/MD)	–	7 (17.5)
Practice type		
Private physician practice	3 (50.0)	13 (32.5)
Nurse-managed clinic	–	1 (2.5)
Hospital-affiliated practice	2 (33.3)	12 (30.0)
University-affiliated clinic	–	4 (10.0)
Community health center	1 (16.7)	10 (25.0)
Practice setting		
Urban	2 (33.3)	28 (70.0)
Suburban	4 (66.6)	12 (30.0)

TABLE 2.

Face and Content Validity Testing (PCMI Instructions: Think about your practice when co-managing patient care with one other primary care provider. This may be within a single patient visit or over an extended period of time in which you both share responsibility for the same patient's care. [Circle your Response])

Subscales With Respective Items	Face Validity	Content Validity Index
Effective communication	Yes	.952
My co-managing provider and I:		
Discuss patient care plans	Yes	1.00
Review each other's patient care documentation	Yes, with item revision	1.00
Communicate patient needs in a timely manner	Yes	1.00
Communicate changes in patient health status	No (Removed)	
Have patient documentation that is available to one another	Yes	1.00
Share a mutual medical language necessary to communicate	Yes	1.00
Notify each other about information that was relayed to patient/family	Yes	.833
Mutual Respect and Trust	Yes	.944
My co-managing provider and I:		
Have knowledge of each other's training and education	Yes, with item revision	.833
Respect each other's decisions about patient care	Yes	1.00
Trust each other's decisions about patient care	Yes	1.00
Recognize each other's contributions to patient care	Yes	1.00
Treat each other as equal colleagues	Yes, with item revision	.5 (Removed)
Have knowledge of each other's scope of practice	Yes	1.00
Identify each other's strengths and limitations to deliver patient care	Yes	1.00
Shared Philosophy of Care	Yes	.899
My co-managing provider and I:		
Share the same values for patient care	Yes	.833
Practice with the Same work ethic (e.g., time and effort)	Yes	.833
Agree on rationale for diagnostics tests (e.g., labs and CT scan)	Yes	
Agree on rationale for treatments (e.g., medications)	Yes	1
Have a mutually agreed upon protocol to resolve conflict	Yes	.833
Share the same patient goals	Yes, with item revision	.833
Share the same philosophy about how care should be delivered	Yes	.833

TABLE 3.**PCMI Psychometric Evaluation During Pilot Testing**

Subscales with Respective Items	Mean (<i>SD</i>)	Skewness (<i>SE</i>)	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Effective Communication (Cronbach's alpha .811)				
My co-managing provider and I:				
Discuss patient care plans	1.92 (.640)	.040 (.374)	.710	.767
Review each other's patient documentation of care plan	2.22 (.672)	-.283 (.388)	.454	.785
Communicate patient needs in a timely manner	2.24 (.830)	.768 (.374)	.263	.835
Have patient documentation that is available to one another	1.76 (.830)	.885 (.374)	.545	.766
Share a mutual medical language necessary to communicate	1.59 (.599)	.400 (.374)	.498	.812
Notify each other about information that was relayed to patient/family	2.35 (.919)	.579 (.388)	.632	.779
Mutual Respect and Trust (Cronbach's alpha .746)				
My co-managing provider and I:				
Have knowledge of each other's training background	2.03 (.866)	.480 (.374)	.616	.668
Respect each other's decisions about patient care	1.73 (.693)	.339 (.374)	.417	.727
Trust each other's decisions about patient care	1.92 (.759)	.083 (.374)	.458	.716
Recognize each other's contributions to patient care	2.19 (.908)	.613 (.374)	.399	.740
Have knowledge of each other's scope of practice	1.89 (.658)	.113 (.388)	.674	.664
Identify each other's strengths and limitations to deliver patient care	2.19 (.701)	.232 (.388)	.389	.733
Shared Philosophy of Care (Cronbach's alpha .779)				
My co-managing provide, and I:				
Share the same values for patient care	1.78 (.672)	.863 (.388)	.531	.745
Practice with the same work ethic (e.g. time and effort)	1.95 (.911)	.737 (.374)	.658	.715
Agree on rationale for diagnostics tests (e.g., labs and CT scan)	2.08 (.547)	1.144 (.388)	.437	.764
Agree on rationale for treatments (e.g., medications)	1.92 (.493)	-.108 (.374)	.611	.741
Have a mutually agreed upon protocol to resolve conflict	2.41 (.865)	.382 (.374)	.363	.787
Share the same goal, for patient care	1.84 (.646)	.776 (.374)	.629	.728
Share the same philosophy about how care should be delivered	1.89 (.737)	.534 (.374)	.417	.768