Georgia State University ScholarWorks @ Georgia State University

Public Health Capstone Projects

School of Public Health

8-11-2015

Patient Centered Medical Home (PCMH) Patient Education Brochure Research Proposal

Michael Jarvis

Follow this and additional works at: https://scholarworks.gsu.edu/iph capstone

Recommended Citation

Jarvis, Michael, "Patient Centered Medical Home (PCMH) Patient Education Brochure Research Proposal.", Georgia State University, 2015.

https://scholarworks.gsu.edu/iph_capstone/13

This Capstone Project is brought to you for free and open access by the School of Public Health at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Public Health Capstone Projects by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

Patient Centered Medical Home (PCMH) Patient Education Brochure Research Proposal

Ву

MICHAEL W. JARVIS

July 22nd, 2015

ABSTRACT

INTRODUCTION: Clinics within the Grady Health System (GHS) have been recently recognized as Patient Centered Medical Homes (PCMH) by the National Committee for Quality Assurance (NCQA). This creates a new standard of care for GHS, its clinics, and the surrounding neighborhood; but, the standard of care and features of the PCMH may not be fully understood or appreciated by GHS patients. Like many other municipal hospitals, the patient population of GHS tends to be lower in literacy and numeracy skills, on average, than the national population. Thus, communicating important PCMH standards and features to the GHS patient population can be challenging.

OBJECTIVE: The objective of this project is to design a patient education brochure tailored to the needs and values of Grady PCMH patients to help them understand and navigate the Grady PCMH. This research proposal aims to provide information on PCMH standard and features in an easily understood brochure to individuals, for distribution to the local communities and patients that GHS serves. The proposed research will evaluate at what level of literacy and numeracy patients might better comprehend the new PCMH standards and what format of communication materials will assist patients in better navigating the health system, health education, and ultimately improving their health. It is important for this patient education brochure to be sensitive to the needs and values of the populations that Grady serves to better inform and motivate their patients of the benefits of the PCMH.

APPROACH: The proposed research will collect quantitative and qualitative data from a convenience sample of approximately 100 GHS adult patients who present for care at GHS and who consent to participate in a face-to-face interview. Patients will view a proposed brochure and be asked questions about its format, acceptability, and ease of understanding. Validated measures of health-related literacy and numeracy will be collected. Analyses will focus on overall acceptance and understanding of the proposed PCMH brochure and the associations of literacy and numeracy with acceptance and understanding.

IMPLICATIONS FOR POLICY AND PRACTICE: It is important for a patient brochure describing the benefits of a PCMH to be understood by the patients who are the intended beneficiaries of a PCMH. Improved awareness of PCMH standards and features will presumably help to ultimately improve patient navigation of the PCMH and ultimately their health behaviors and outcomes.

Patient Centered Medical Home (PCMH) Patient Education Brochure Research Proposal

by

MICHAEL W. JARVIS

B.A., GEORGIA COLLEGE & STATE UNIVERSITY

A Capstone Submitted to the Graduate Faculty of Georgia State University in Partial Fulfillment of the

Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA

30303

APPROVAL PAGE

Patient Centered Medical Home	(PCMH)	Patient Education	Brochure Researc	h Proposa
-------------------------------	--------	-------------------	-------------------------	-----------

by

MICHAEL W. JARVIS

Approved:

Douglas W. Roblin, PhD

Committee Chair

Linda G. Toomer, DNP, MSN, RN, CNML

Committee Member

July 29th, 2015

Date

Author's Statement Page

In presenting this capstone as a partial fulfillment of the requirements for an advanced degree from Georgia State University, I agree that the Library of the University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote from, to copy from, or to publish this capstone may be granted by the author or, in his/her absence, by the professor under whose direction it was written, or in his/her absence, by the Associate Dean, School of Public Health. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this capstone which involves potential financial gain will not be allowed without written permission of the author.

Michael W. Jarvis

TABLE OF CONTENTS

INTRODUCTION6	
Background6	
REVIEW OF THE LITERATURE7	
Patient Centered Medical Home Model History7	
Evidence Regarding Patient Centered Medical Home Effectiveness9	
Addressing Health Literacy within a PCMH Model12	
Addressing Health Literacy in the Grady PCMH Populations14	4
RESEARCH PLAN15	5
LIMITATIONS2	1
REFERENCES2	2
THE ENCIPOLOSISTANCE OF THE STATE OF THE STA	
APPENDIX24	Λī
APPENDIX2	+

List of Proposed Study Materials

- I. Proposed Grady Health System Patient Centered Medical Home Brochure
- II. Mixed-Methods Testing Procedures
- III. Interview Questions & Script
- IV. Log of subjects sampled, including refusals

Background:

The Ambulatory Care Services of Grady Health System (Grady) consists of five neighborhood clinics and twelve hospital based clinics located around the Metro Atlanta area. Grady Memorial Hospital is the largest hospital in the state of Georgia and serves as the public hospital for the city of Atlanta. It is the fifth-largest public hospital in the United States, as well as one of the busiest Level I trauma centers in the country (LeValley & Page, 2010). Historically and presently, Grady Memorial Hospital serves all of the Metro Atlanta counties and, as a public hospital, has attracted a large proportion of low-income patients. These patients typically have chronic healthcare needs more medically complex and costly to treat than patients that present to other Metro Atlanta hospitals.

The resulting challenges of treating their diverse patient populations has lead Grady
Health System to pursue recognition as Patient Centered Medical Homes (PCMH) for their
entire network of neighborhood and hospital based clinics through the National Committee for
Quality Assurance (NCQA). According to the NCQA, the PCMH recognition is a way of
organizing primary care that emphasizes care coordination and communication to transform
primary care into "what patients want it to be." Medical homes can lead to higher quality and
lower costs, and can improve patients' and providers' experience of care. NCQA PatientCentered Medical Home recognition is the most widely-used way to acknowledge the
transformation of primary care practices into medical homes (National Committee for Quality
Assurance). Grady Health System began submitting bids for recognition in individual clinics
during the fourth quarter of 2014 and turned in the final clinic application in March 2015.

Currently, several Grady Health System clinics have received their approvals as Level 3 PCMHs, the highest ranking possible, with the remaining still pending recognition.

Two of the goals of a PCMH are to provide higher quality of care and improved patient experience. An approach that could be utilized to help achieve these goals would be improved patient education about the services available and strategies to optimize their use by patients at Grady clinics. Patient education is vital to facilitating persistent behavior change and preparing a person with the necessary skills for successful chronic disease management (Jarvis, Skinner, Carey, & Davies, 2010). Since Grady Health System serves a large proportion of low-income patients whose healthcare needs tend to be more medically complex, patient educational materials should be appropriate for unique values and needs of the populations treated at Grady.

Literature Review:

i. Patient Centered Medical Home Model History

The Patient Centered Medical Home initiative was proposed by Geisinger Health System to deliver value by improving care harmonization and improving health status for each patient. Components were recommended to create a functional "Personal Health Navigator" for consumers, which included 24/7 primary and specialty care access, a nurse care coordinator in each practice, predictive analytics to identify risk trends, electronic care management support, an individual dedicated for responding to patient inquiries, and a focus on preemptive, evidence-based treatments. Other features include home-based monitoring, interactive voice-response surveillance, and support for end-of-life care decisions. All of these harmonized care

practices were aimed to help lower hospitalizations, improve health, and enhance management of chronic conditions (Paulus, Davis, & Steele, 2008).

As with most new healthcare system proposals, there were skeptics about the viability of a PCMH initiative. Questions regarding the scalability and cost-saving potentials were raised during the early stages of implementation (Sidorov, 2008). Some critics argued that the designation of a PCMH needed to be more defined and both sides presented differing objectives. Some called for a pledge to formal shared patient-physician decision making. Others saw the PCMH as better able to identify specific clinical areas that deserve greater attention, i.e. unexpressed depression or alcohol dependence. Still others highlighted the need for improved cultural competence and attention to varying levels of health literacy. It was concluded that emphases would need to vary by location and patient population served in order to best address the healthcare needs of the patients that present to the individual PCMHs for treatment (Berenson, et al., 2008). Others remained doubtful of the NCQA measurements, claiming that the PCMH is not simply the sum of its component parts but instead a united whole. It was argued that the heart of the PCMH is the personal physician and a team of medical professionals providing first-contact, continuous, and comprehensive care. However, it was noted that infrastructure components are vital to ensuring that care is coordinated, integrated, safe, of high quality, and accessible (Rittenhouse, Casalino, Gillies, Shortell, & Lau, 2008).

The National Committee for Quality Assurance (NCQA) has implemented a voluntary PCMH recognition program. PCMH advocates have adopted the NCQA program and use it in pilot projects across the country. Medical practices pursuing recognition complete a Web-

based survey and submit documentation for authentication of their responses. Practices are scored on a 100-point scale and are eligible for three levels of recognition, with level three being the highest in quality measures. (Rittenhouse, Casalino, Gillies, Shortell, & Lau, 2008).

ii. Evidence Regarding Patient Centered Medical Home Effectiveness

Seattle-based Group Health Cooperative's experience in developing its PCMH model showed several positive aspects obtained from a PCMH. They were able to achieve PCMH transformation across a diverse set of primary care clinics with a clear change strategy and sufficient resources. PCMH implementation was accompanied by significant changes in health care use across the system, notably reduced emergency department use. One year after PCMH operations began, Group Health patients experienced 13.7% fewer emergency department visits compared what would be expected during that timeframe without the PCMH implementation (p < 0.001). However, it was noted that no lasting effect on hospitalization rates with the PCMH operational model was observed. Although decreasing ED was seen as an early indicator of success in this system wide PCMH implementation, additional evaluations of the effect on patient experience, quality of care, and the total costs of care were recommended. (Reid, et al., 2013). Further study by Reid, et al. continued to show positive impacts on Group Health Cooperative's PCMH model in financial viability and patient experience. Group Health PCMH Prototype Clinics showed patient experience improved by 63% compared to control clinics 24 months of PCMH implementation (p < 0.05). Quality composite measures, which tracked twenty-two quality indicators regarding healthcare effectiveness, improved by 30% compared to control clinics after 24 months of PCMH implementation (p < 0.05). Their results through two years of observation showed

improvements in patient experiences and quality of care, while also noting reduced clinician burnout. Additionally, compared to other Group Health clinics, patients in the PCMHs experienced 29 percent fewer emergency department visits and overall inpatient admissions were lowered by 6% (p < 0.007) over 21 months. It was estimated a total savings of \$10.30 per patient per month twenty-one months into the pilot. Finally, the researchers noted that every dollar Group Health spent to implement the patient-centered medical home, it received \$1.50 in return, further supporting the financial viability of a PCMH (Reid, et al., 2010).

Positive outcomes have been observed in large healthcare systems treating the general populace and in specialty systems treating more specific populations. Results were found by Nelson, et al. in 2010 regarding post-PCMH implementations within the Veterans Health Administration (VHA). The PCMHs within the VHA were associated with improved patient satisfaction, reduced staff burnout, improved quality of care, and more efficient use of health care services. Patient satisfaction scores were reported to be higher at the PCMHs within the VHA (9.33) compared to controls (7.53; P < .001). Staff burnout rates decreased in PCMHs within in the VHA (2.29) parallel to controls (2.80; P = .02). Hospitalization rates (4.42 vs 3.68; P < .001) and lower emergency department use (188 vs 245 visits per 1000 patients; P < .001) for veterans 65 years or older dropped in PCMHs with the VHA contrasted to controls as well. It was noted that the results may apply only to large integrated health systems, which included an established electronic health record system and a quality improvement system that together provided feedback on key performance measures to clinics and providers (Nelson, et al., 2014). Similarly, seniors in the Group Health Cooperative's PCMH clinics reported higher ratings than controls on 3 of 7 patient experience scales. Senior patients in the PCMH clinics had better

quality outcomes over time utilized more e-mail, phone, and specialist visits. Fewer emergency services and inpatient admissions for ambulatory care sensitive conditions were also observed. Fiscally, the PCMH and control clinics did not differ significantly in overall costs at years 1 and 2 during the study. These findings implied that a PCMH redesign can be associated with improvements in patient experience and quality without increasing overall cost (Fishman, et al., 2011).

Research conducted by Friedberg et. al. (2014) measured the association of participation in NCQA PCMH recognition with changes in health care quality, utilization, and costs. Program participation was associated with greater performance improvement for nephropathy screening in diabetes by the third year, compared to controls (82.7% vs 71.7%; P < .001). However, it was noted that the other ten investigated quality measures did not show statistically significant improvements. Additional results showed no associations in lowered rates in hospital, emergency department, ambulatory care services utilization, or total costs over 3 years. The overall findings of the study advised that medical home interventions may need further refinement (Friedberg, Schneider, Rosenthal, Volpp, & Werner, 2014). Liss et. al. (2013) compared quality, utilization, and cost outcomes for patients with preexisting diabetes, hypertension, and/or coronary heart disease at a PCMH pilot site with the outcomes for patients with the same conditions at 19 control locations over 2 years. Compared with controls, patients with coronary heart disease at the PCMH pilot site had improved clinical outcomes (2.20 mg/dl. lower cholesterol; P <.001). PCMH patients changed their care utilization, with an 86% increase in secure electronic messaging usage (P <.001), 10% more telephone calls (P = .003), and 6% fewer in-person primary care visits (P < .001). 21% fewer

ambulatory care sensitive hospitalizations (P <.001) and 7% fewer total inpatient admissions (P=.002) were observed in the PCMH patients compared to controls. During implementation, 17% lower inpatient costs (P <.001) and 7% lower total healthcare costs (P<.001) were observed among patients at the PCMH pilot clinic compared to controls (Liss, et al., 2013). Further study by Liss et. al. (2014) looked at changes in outpatient use among patients with hypertension during and after PCMH practice transformation. Results suggested that the PCMH redesign enabled primary care teams to deliver more hypertension care, and meet the needs of low morbidity patients within the scope of the primary care practice. Compared to baseline, 7% fewer visits during implementation (P<0.001) and 4% fewer visits in the first postimplementation year (P=0.02) were observed. PCMH cardiology patients were 12% less likely to have visits during implementation and 13% less likely during the first post-implementation year (P< 0.001). Patients with low morbidity presented for 27% fewer specialty visits during each of 3 years following baseline (P<0.001). Medium morbidity patients had 9% fewer specialty visits during implementation (P<0.001) and 5% fewer specialty visits during the first postimplementation year (P=0.007). High morbidity patients had 3% (P=0.05) and 5% (P=0.009) higher specialty use during the first and second post-implementation years (Liss, Grembowski, Ross, & Fishman, 2014).

iii. Addressing Health Literacy Within a PCMH Model

There have been a range of studies to understand the healthcare needs of researchers to address populations with low health literacy and numeracy, with the goal of improving patient outcomes. Paasche-Orlow & Wolf (2010) presented seven different areas of health literacy research to help address areas gaps in current research, including improving patient

education, simplification of utilization and access to the healthcare system, and reducing unnecessary communication difficulties between patients and providers (Paasche-Orlow & Wolf, 2010). Addressing health literacy along these suggested themes is important because low literacy and numeracy is associated with worse health, excessive costs, and poor patient outcomes. Howard et. al. (2006) examined the extent to which low health literacy affected health status among low health literacy populations. They found that health literacy contributed to differences in health status levels and receipt of vaccinations rates. Those who had obtained a high school degree were shown to be positively and significantly associated with physical (p=.013) and mental health scores (p=.004). African-American were shown to be less likely to report good health status (P=.012) and receipt of influenza (P<.001) and pneumococcal vaccines (P<.001) compared to Caucasian-Americans (Howard, Senteii, & Gazmararian, 2006). Evidence of health literacy impacts on health outcomes and cost can also be observed in the healthcare system. Additional research by Howard et. al. (2005) showed that people with low health literacy use an inefficient mix of health services and experience higher medical costs. Their results showed that emergency room costs (plus \$108; P<0.0001), total costs (plus \$1551; P=0.08) and inpatient costs (plus \$1543; P=0.06) were higher among those with low health literacy compared to those with adequate health literacy (Howard, Gazmararian, & Parker, 2005).

Effectively addressing health literacy among patient populations treated within a PCMH may be important for improving patient experience and quality of care. According to Edmonds, et al. (2014, p. 835):

"Communicating test results to patients not only can improve patient safety by preventing missed test results, but it also can help to activate patients and engage them

in the care and management of their health condition. Whether using a mailed letter, secure Internet emailing, or electronic patient portals embedded into electronic health records, there have been few empirical studies evaluating how best to communicate complex medical results to patients. Communicating test results are made more complex by the varying levels of health literacy and numeracy of patients that must be incorporated into any communication materials".

Participants in this study of tailored letters for communicating DXA results favored the letter that was concise and contained the specific steps that patients could take to improve their condition (Edmonds, et al., 2014).

iv. Addressing Health Literacy in the Grady PCMH Populations

An aspect for providing excellent patient experience within clinics includes educating patients on the services offered to them and how they could benefit from available treatments. Since PCMH recognition is still very new to Grady Health System, instructing patients on the new services offered in PCMH clinics can help to improve positive patient experience with care. Research regarding communicating information to patients about healthcare related topics can take several approaches. Various studies have compared communication strategies to discover for effective ways to convey health information to populations with poor health literacy and numeracy. Edmonds et. al. (2014) found that providing patients with a visual depiction of their personal risk of a disease and/or disease consequence may help with patient comprehension. However, it was noted that special consideration should be taken when describing health information to patients, as many adults have low numeracy skills. It was determined that the best way to provide patients with an effective and satisfactory feedback system was to take a sample of patients in the target population. (Edmonds, et al., 2014). Considerations for the needs and values of the populations served at Grady clinics will need to be deliberated between the Grady Patient Education Team, researchers, and patients involved in order to best determine the most appropriate patient education approach.

Research Plan:

i. Brochure Design

The objective of this project is to design a patient education brochure tailored to the needs and values of Grady PCMH patients to help them understand and navigate the Grady PCMH. It is important for this patient education brochure to be sensitive to the needs and values of the populations that Grady serves to better inform their patients of the benefits of the PCMH. Considering that large municipal hospitals tend to serve populations with presumed lower health literacy, numeracy, and socio-economic status, there are a number of benefits to be gained by those populations if the level of literacy and numeracy of the brochure contents are appropriate to the levels of literacy and numeracy of the PCMH patients.

A positive patient experience is a key aspect for high quality of care within a PCMH program. The newly recognized Grady Health System clinics can improve its patients' medical care experience by tailoring communication materials that can be understood at an appropriate level of literacy and numeracy. To effectively tailor communication materials, the Grady Health System will need to ascertain current patient understanding and expectations of the PCMH at Grady – what the patients treated at Grady would like to see from their healthcare providers and what it means for them.

Currently, patients who present to Grady for treatment are given what is referred to as a "Discharge Folder". This folder contains information pertinent to their recent visits to any Grady clinics, relevant health information related to their medical conditions, after visit

summaries detailing their medicines and appropriate health maintenance recommendations, and several other pieces of patient education materials applicable to each patient. It is proposed that a new piece of patient education be added to the Discharge Folders related to the new recognition as PCMHs and what this means for the patients in the form of an informational brochure.

The draft brochure which will be viewed for comment by study participants (Appendix V) will be structured as a tri-fold with information including, but not limited to, clinic locations, medical services available, what patients can expect of the PCMHs, what PCMHs expect of the patients, PCMH description, goals, and standards. All language within the brochure should be presented at an 8th grade reading level to help ensure most information is understood by most PCMH patients. Design and final edition of a PCMH brochure would be approved through the Grady Patient Education Team. The brochure would be placed in the front of the patients' Discharge Folders in order to allow for easy recognition and access to its information.

ii. Analysis Plan

A mixed-methods approach will be used in order to gather pertinent data related to the patient education about PCMHs. The study will be conducted three to four weeks after the PCMH brochures have been added to the Discharge Folders in order to allow for a large proportion of patients to come in contact with the new educational materials. Data collection will be conducted over a three to six month period.

a. Participant Sample

Convenience samples of patients will be recruited at several Grady clinics. A target daily estimate of 25-50 eligible patients per clinic is anticipated. Eligible patients must acknowledge

receipt of the proposed PCMH brochure, be able to speak and comprehend English, and consent to participate (below). The estimated participation rate is 25%, meaning approximately 6-12 completed interviews per clinic per day. Our target sample is 100 completed interviews.

Thus, for 2 clinics at 6-12 completed interviews per day, we estimate that the target sample might be achieved in approximately 5-10 days.

b. Participant Interviews

All interviews will take place during normal operating hours for the various clinics. At least one clinic will be surveyed daily during the study time period, with additional clinics included on a given day based on available time, money, staff, and other resources. Additional operational details on conducting the interviews are provided in Appendix VII.

c. Interview Instrument

The interview instrument will consist of open-ended questions and closed ended items, including Likert scale items. The open-ended items are intended to obtain insight into perspectives on the PCMH brochure that cannot be easily captured through quantitative items. Closed-ended items will consist of yes/no and scale ratings related acceptability, usefulness, and ease of understanding the PCMH brochure. Additional items will assess health-related literacy and numeracy as well as standard sociodemographic characteristics of participants. A draft survey instrument is included in Appendix VIII.

Health-related literacy will be assessed using the "single item literacy screener" (SILS). The SILS consists of a 5-item Likert scale question. The scale can be dichotomized into "high" and "low" literacy. Scores greater than 2 are considered positive, indicating some difficulty with reading printed health related material, and will be dichotomized into "low literacy"

Scores less than or equal to 2 will be dichotomized into "high literacy". The cutoff off above 2 is chosen in order to capture all who indicate they typically need help with written material (Morris, MacLean, Chew, & Littenberg, 2006).

Health-related numeracy will be assessed using the "Subjective Numeracy Scale". The SNS asks participants to assess their ability in performing various mathematical tasks and their preference for the presentation of statistical information. (Fagerlin, et al., 2007). The SNS consists of 2 subscales, each consisting of 4 items. The 2 subscales are: Cognitive Abilities and Numeric Information Preference. Numeracy will be computed for each subscale as the mean of the scores for each component item (with reverse coding as needed). Draft health-related numeracy assessment and single item literacy screening assessment are included in Appendix VI.

d. Data Management

The database for the proposed research will be developed and built by the partnered research entity with supervision provided by the Grady Research Oversight Committee. All findings will be coded according to standards recommended by the partnered entity's researchers. Data collected during the survey will be entered into an Excel spreadsheet by research assistants. It is recommended that at least two research assistants be utilized and work independently to enter the data and thus improve accuracy of data entry. All data recorded into the research database will be password protected, stored on Grady Health System's secure network, and only accessible to authorized researchers. Any and all study-related written materials will be kept in a secured cabinet within the Research Oversight Committee's offices at Grady Memorial Hospital.

e. Data Analysis

The data will be analyzed using a sequential mixed-methods approach, giving priority to the quantitative data analysis to help apply the qualitative data analysis. All quantitative analyses will be conducted using SAS version 9.2 (SAS Institute, Cary, NC).

For each quantitative item, data will be assessed for ranges, means and standard deviations, frequencies, and missing-ness — as appropriate to the specific measure. A focus of the analysis will be on the associations of literacy and numeracy with responses to items related to acceptability, usefulness, and understanding of the proposed brochure.

Understanding these associations will help determine if lower literacy or numeracy GHS PCMH patients have lower acceptability, perceive less usefulness, or have greater difficulty understanding the proposed brochure. These findings along with assessment of qualitative findings might help refine the brochure format and content.

For assessing the association of health literacy with acceptability, usefulness, and understanding of the brochure, a chi-square test statistic will be computed. If possible, based on item distributions, the literacy and brochure-related items will be reduced to a dichotomy for tests of association. For example, and if a brochure-related item such as No. 17, "I can understand all of the language in the brochure", is able be dichotomized into high and low, then, for instance, a significant association of low literacy levels with No. 17 could indicate that individuals with low literacy levels are more likely to indicate they do not understand all the language in the brochure and additional edits may be necessary.

For assessing the association of health numeracy with acceptability, usefulness, and understanding of the brochure, either a t-test or a Tukey's test will be computed. A t-test will

contrast average numeracy of 2 levels of a brochure-related item; a Tukey's test will contrast average numeracy across 3 or more levels of a brochure-related item. For example, if a brochure-related item such as No. 16, "The brochure is hard to read", can be reduced to a dichotomy, then a significant difference in numeric information preference and item No. 16 could indicate that individuals with a preference for tables/figures are more likely to indicate they find the brochure difficult to read and additional edits may be necessary.

Qualitative data will be assessed from the responses of the survey instrument's open ended questions. Two members of the research team will independently review written responses to the open item questions, develop brief themes, and then note the frequency with which those themes occur. After independently developing these themes, the two research team members will meet and consolidate a list of themes that they identified in common. These commonly identified themes will be used to supplement the quantitative data findings. iii. Human Subjects

The proposed research will be submitted to the Grady Health System Research

Oversight Committee for approval and assessment. Additional IRB approval will be required

and it will be the partnered research body's responsibility to submit the additional information

to their respective IRB. The proposed study will require written informed consent of the

recruited participants. The consent form will include explanation of the study, details

regarding participant compensation, clarification about data accessibility collected by the study,

and a statement regarding voluntary participation and the option to drop out of the study at

any time.

A risk that could be encountered while conducting this study could be that the participants feel psychological discomfort and may be uncomfortable answering some of the questions, may not understand the questions presented to them, may not feel comfortable answering the study questions completely honestly, etc. To minimize these risks and disclosure of information, study interviews will be conducted in a private room next to the clinic waiting area, preferably adjacent to the nursing discharge stations to allow for convenience to both Grady PCMH patients and staff. Benefits that will be encountered include, but are not limited to, participants providing information that can help to improve the usability and the readability of the brochure that will be distributed widely to patients that present for care at the Grady PCMH. A draft consent form is available in Appendix VI.

Limitations:

The research study proposed here will be focused exclusively on the Grady Health

System and the patients that they serve. However, there are several aspects of the research

approach are generalizable to other healthcare systems. Study procedures might need to be

adjusted to other healthcare systems in order to best obtain pertinent samples. This study

focuses on the dissemination of information through an easily distributable pamphlet. Any

other methods of information distribution, i.e. online newsletters, billboards, etc. would

require different approaches to gather and analyze the sampled data. Finally, the PCMH

recognition is relatively new to Grady Health System. The patients served by Grady may require

some time to figure out what exactly the new recognition means to them and what they would

want from their healthcare system. This could lead to Grady needing additional samplings to

determine what adjustments to their healthcare operations are necessary to best serve their patients' needs and expectations for care.

It is recommended that a small sample pre-test be conducted before the proposed research begins in earnest. Utilizing a convenience sample of 5 to 6 Grady PCMH volunteers to participate in this pre-test during a one to two hour group session on site at Grady Memorial Hospital. The aim would be to attempt to discover any glaring omissions or considerations that will need to be addressed before launching the full study.

Works Cited

- Berenson, R. A., Hammons, T., Gans, D. N., Zuckerman, S., Merrell, K., Underwood, W. S., & Williams, a. A. (2008). A House Is Not A Home: Keeping Patients At The Center Of Practice Redesign. *Health Affairs*, 1219–1230.
- Edmonds, S. W., Cram, P., Lu, X., Roblin, D. W., Wright, N. C., Saag, K. G., . . . Investigators, a. o. (2014). Improving Bone Mineral Density Reporting to Patients with an Illustration of Personal Fracture Risk. *BMC Medical Informatics and Decision Making*.
- Edmonds, S. W., Solimeo, S. L., Lu, X., Roblin, D. W., Saag, K. G., & Cram, P. (2014). Developing a Bone Mineral Density Test Result Letter to Send to Patients: A Mixed-Methods Study. *Patient Preference and Adherence*, 827–841.
- Fagerlin, A. P., Zikmund-Fisher, B. J., Ubel, P. A., Jankovic, A. M., Derry, H. A., & Smith, D. M. (2007). Measuring Numeracy without a Math Test: Development of the Subjective Numeracy Scale. *Medical Decision Making*, 672-680.
- Fishman, P. A., Eric A. Johnson, M., Kathryn Coleman, M., Eric B. Larson, M. M., Clarissa Hsu, P., Ross, T. R., . . . and Robert J. Reid, M. P. (2011). Impact on Seniors of the Patient-Centered Medical Home: Evidence From a Pilot Study. *The Gerontologist*, 703–711.
- Friedberg, M. W., Schneider, E. C., Rosenthal, M. B., Volpp, K. G., & Werner, R. M. (2014). Association Between Participation in a Multipayer Medical Home Intervention and Changes in Quality, Utilization, and Costs of Care. *The Journal of the American Medical Association*, 815-825.
- Howard, D. H., Senteii, T. P., & Gazmararian, J. A. (2006). Impact of Health Literacy on Socioeconomic and Racial Differences in Health in an Elderly Population. *Journal Of General Internal Medicine*, 857-861.

- Howard, D., Gazmararian, J., & Parker, R. (2005). The Impact of Low Health Literacy on the Medical Costs of Medicare Managed Care Enrollees. *The American Journal Of Medicine*, 371-377.
- Jarvis, J., Skinner, T. C., Carey, M. E., & Davies, M. J. (2010). How Can Structured Self-Management Patient Education Improve Outcomes in People with Type 2 Diabetes? *Diabetes, Obesity and Metabolism*, 12–19.
- LeValley, C., & Page, L. (2010, August 31). 20 Largest Public Hospitals in the United States. Retrieved from Beckers Hospital Review: http://www.beckershospitalreview.com/lists-and-statistics/20-largest-public-hospitals-in-the-united-states.html
- Liss, D., Fishman, P., Rutter, C., Grembowski, D., & Ross, T. (2014). Specialty Use Among Patients With Treated Hypertension n a Patient-Centered Medical Home. *Journal Of General Internal Medicine*, 732-740.
- Liss, D., Fishman, P., Rutter, C., Grembowski, D., Ross, T., Johnson, E., & Reid, R. (2013). Outcomes

 Among Chronically III Adults in a Medical Home Prototype. *American Journal of Managed Care*,
 e348–e358.
- Morris, N. S., MacLean, C. D., Chew, L. D., & Littenberg, B. (2006). The Single Item Literacy Screener: Evaluation of a Brief Instrument to Identify Limited Reading Ability. *BMC Family Practice*.
- National Committee for Quality Assurance. (n.d.). Patient-Centered Medical Home Recognition.

 Retrieved from

 http://www.ncqa.org/Programs/Recognition/Practices/PatientCenteredMedicalHomePCMH.asp
 x
- Nelson, K. M., Christian Helfrich, M. P., Haili Sun, P., Paul L. Hebert, P., Chuan-Fen Liu, M. P., Emily Dolan, P., . . . Randall, I. (2014). Implementation of the Patient-Centered Medical Home in the Veterans Health Administration Associations With Patient Satisfaction, Quality of Care, Staff Burnout, and Hospital and Emergency Department Use. *JAMA Internal Medicine*, 1350-1358.
- Paasche-Orlow, M., & Wolf, M. S. (2010). Promoting Health Literacy Research to Reduce Health Disparities. *Journal of Health Communication*, 34-41.
- Paulus, R. A., Davis, K., & Steele, a. G. (2008). Continuous Innovation In Health Care: Implications Of The Geisinger Experience. *Health Affairs*, 1235-1245.
- Reid, R. J., Coleman, K., Johnson, E. A., Fishman, P. A., Hsu, C., Soman, M. P., . . . Larson, a. E. (2010). The Group Health Medical Home At Year Two: Cost Savings, Higher Patient Satisfaction, And Less Burnout For Providers. *Health Affairs*, 835-843.
- Reid, R. J., Johnson, E. A., Hsu, C., Ehrlich, K., Coleman, K., Trescott, C., . . . Fishman, P. A. (2013).

 Spreading a Medical Home Redesign: Effects on Emergency Department Use and Hospital Admissions. *Annals of Family Medicine*, S19-S25.

- Rittenhouse, D. R., Casalino, L. P., Gillies, R. R., Shortell, S. M., & Lau, a. B. (2008). Measuring The Medical Home Infrastructure In Large Medical Groups. *Health Affairs*, 1246–1258.
- Sidorov, J. E. (2008). The Patient-Centered Medical Home For Chronic Illness: Is It Ready For Prime Time? Health Affairs, 1231–1234.

Appendix:

- V. Proposed Grady Health System Patient Centered Medical Home Brochure
- VI. Draft Informed Consent Form
- VII. Mixed-Methods Testing Procedures
- VIII. Interview Questions & Script
 - IX. Log of subjects sampled, including refusals

PCMH Standards	1. Access & Communication	2. Patient Teaching & Registry Functions	3. Care Management	4. Patient Self-Management & Support	5. Electronic Prescribing	6. Test Tracking	7. Referral Tracking	8. Performance Reporting & Improvement	9. Advanced Electronic Communication	
Grady PCMH Services	Women/Infants/Children	Geriatrics	Pediatrics	Ear, Nose, Throat (ENT)	Orthopedics	Dermatology	Pain	Eye	Asthma/Allergy	Diabetes
All PCMH Grady Clinic Locations	1. Asa G. Yancey	2. East Point	3. Kirkwood	4. North Fulton	5. North DeKalb	6. Lindbergh	7. Grady Memorial Hospital Clinics -	Purple/Orange/Yellow/Green Pods		

Medical Sub-Specialty

Primary Care

PCMH Description

All Grady Hospital and Neighborhood Clinics are Level 3 PCMH's, accredited by the NCQA

PCMH Goals

- Improve quality of care by obtaining maximized results through evidence based medicine
 - Lower unnecessary/redundant costs spent on fragmented healthcare each year
- Better access to care
- Increased satisfaction with care
- Improved overall health

감 Grady

Primary Care Centers & Neighborhood Health Centers

WE ARE PATIENT CENTERED MEDICAL HOMES (PCMH)

РНОТО

GRADY HEALTH SYSTEM - RESEARCH OVERSIGHT COMMITTEE

(PARTNERING RESEARCH INSTIUTION NAME HERE)

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

FORMAL TITLE: Patient Centered Medical Home Patient Education Brochure Research Study

Researchers at Grady Health System are doing a research study, and you are being invited to be a part of it. To decide whether or not you want to be part of this study, you should understand the risks and benefits in order to make a decision. You have the right to know what the purpose of the study is, how many participants are selected, what procedures will be used, the potential risks and benefits and what is expected of you as a study participant. This process is called "informed consent." This consent form gives information about the research study, which one of the researchers will discuss with you.

If this consent form contains words or phrases that you do not know, please ask the study staff to explain them.

Once you understand the study, you will be asked to sign and date this consent form if you choose to participate, and you will be given a signed and dated copy.

This study is being paid for by (Funding Institution Name Here). About 100 people from Grady Health System will participate in this study. Research sites at Grady Health System clinics are participating in this study.

Why are we doing this?

We are inviting you to participate in this research study because you have presented to a Grady Patient Centered Medical Home for treatment. The purpose of this research is to determine in what way patients might better understand the new PCMH standards and what format of communication materials will assist patients in better navigating the health system, using patient education materials, and ultimately improving their health.

What will you have to do?

If you agree to participate in this study, we will ask you some questions about your experiences with the Grady PCMH and the corresponding patient education materials. We will also ask for personal questions like your race, insurance, and education as well as contact information. The visit will take place today and will take about 40 minutes to complete.

How will my privacy be protected?

The researchers will keep the study information confidential. We will keep your name, phone number, and address in a secured location, separate from the study information. Only authorized research staff will have access to the information we collect. This information will be kept in a locked filing cabinet in the Grady Health System Research Oversight Committee. In all study records, you will be identified by a study number and not by your name. Your name will only be known to the researchers. Your name will not be used in any reports or publications. To determine research results, your responses may be shared

with other researchers who are collaborating on this study. We will only share data that is labeled with a study identification number and without your name.

Will I have any costs?

You will not have any additional costs for being in this research study.

Will I benefit from participating?

We don't know if you will benefit from being in this study. In the future, we hope that other people might benefit from this study because we will be able to help patients improve their experience with the Grady Health System PCMH.

Are There Any Risks?

You may experience one or more of the risks indicated below from being in this study. In addition to these, there may be other unknown risks, or risks that we did not anticipate, associated with being in this study.

Possible risks are considered mild and rare.

- Embarrassment about questions that we ask.
- · Release of personal information.

Voluntary Participation

You do not have to take part in this study. Your participation is voluntary. You may choose not to enter the study and you may stop taking part in the study at any time, without any loss of the healthcare benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your medical care or your relationship with Grady Health System.

If you have questions or concerns about the study, please call the project coordinator, (Project Manager Name Here)

Questions, comments or complaints about the study may be presented to... Grady Health System Research Oversight Committee 80 Jesse Hill Jr. Drive SE P.O. Box 26290 Office# 3H005 Atlanta, GA 30303

I have read the above and am satisfied with my understanding of the study, its possible benefits, risks and alternatives. My questions about the study have been answered. I hereby voluntarily consent to participate in the research study as described. I have been given copies of this consent form and of the "Research Participant's Bill of Rights."

Signature of Participant Date						
Name of Participant, printed						

Step 1 - Mixed-Methods Study

Enrollment Criteria

- 1) Those age 18 years or older and
 - English-speaking and
- 3) Able to consent to study

Goals/Objectives

- 1. Determine the impact of PCMH brochure on awareness of PCMH recognition and its standards.
- 2. Determine at what level the local communities are familiar with the aspects are asked of the community's patients to allow for best care practices
- 3. Get feedback on what services patients would like to see in their PCMHs.

Evaluation questions

- 1. Are Grady Health System patients aware of the Patient Centered Medical Home recognition?
- 2. What PCMH services/locations/goals are patients aware of?
- 3. Does the PCMH recognition affect patient's healthcare seeking behavior? How so?
- 4. Is the PCMH brochure effective at disseminating relevant information about services provided at Grady Health System?

Study Design

"Intercept interviews"

This study will use a convenience sample of patients identified at varying locations at each study site. Sampled clinics will be asked to assist in recruiting patients to interview with investigators during their clinic check-ins. Researchers will use Grady Health System waiting rooms and/or available clinic rooms to gather and question interviewees.

Sample

Approximately 25-50 subjects from 2-4 sites will be interviewed. The goal is to interview approximately 100 subjects until a pattern of similar responses is seen.

We will exclude:

- Non-English speakers
- Prisoners

- People with mental disabilities
- Individuals younger than age 18

Study Procedures

Materials

- Copies of Exempt Information Sheet (or whatever is approved by your IRB)
- Copies of interview packets
- Pens
- Participant Log
- Clipboard
- Tape recorder

Step 1 - Find Subjects

Approach the first person to enter the area and sit down AND appears to be 18 years of age or older. Collaborate with clinic staff to assist with additional recruiting during check-in and check-out processes. Do not approach patients that will <u>obviously</u> be excluded (such as prisoners, children, etc.). Identify yourself by name/handshake.

It is important to get opinions from people of varying races, gender and age ranges.

Ask the person if they are willing to participate in a 20 -30 minute interview to get their opinions on PCMH brochures.

Ask if they are 18 years of age or older. If the possible subject is not, excuse yourself.

If the person declines to be interviewed, ask if you can collect their age, race and sex. If they say "no," write "missing". Write that information in the log included in the appendix.

Step 2 - Get Consent from Participant

Read participant Exempt Information Sheet (or other consent document mandated by your IRB).

If participant does not decline audio recording, start recording. Give the participant a number so you know which patient you recorded. To create the participant # use

- 4 digit date (DDMM)
- Sex (M or F)
- # of subject you had for that day (2 digits)
- Your initials

For example: 0130F03SE

At no point should you ask subjects for their name, DOB, SS# or any other personal identifiers.

All participants should be written in the log.

Step 3 - Start Interview

See Appendix for Interview Script

Instructions for note taking

If at any point during the interview, you feel the participant may be unable to read due to illiteracy or visual impairment, kindly inform them that that was all of the questions you have for them and thank them for their participation. Write at the top of the questionnaire your thoughts and include with all the other questionnaires.

Make sure to write down as much of the subject's responses as possible in their own words. Do not skip things you think are irrelevant and do not summarize their responses.

Later, use the audio recording to fill in anything you may have missed.

It is encouraged for you to write down any perceptions you had about the subject. For example, did the subject seem to have trouble reading a certain sentence? Did that subject seem to skip over a graph and he may not have understood it?

Step 4 - Data Collection and Storage

As stated previously, feel free to fill in any gaps in your note taking with the audio recordings. Make sure you have the same questionnaire linked to same recording.

All recordings and questionnaires are required to be in a locked cabinet when not in use. Once entered into a computer database, make sure it is password protected and not on a laptop.

Step 5 - Data Analysis

Data analysis is recommended to be conducted by Georgia State University's School of Public Health, using SAS or SPSS software for the qualitative data and SPH faculty for qualitative data analysis.

Participating sites will need to mail all questionnaires through a secure and traceable method.

Interview Script

Comments:

-			
Participant #	Site		
To educate patients on thi	s new recognition, there hrs. We would like your he	tion as a Patient Centered Medical Home has been an informational brochure place elp in trying to figure out if this approach ients.	ced
He	alth-Related Numer	racy Assessment	
Cognitive Abilities			
1. How good are you at wo 5 = Extremely Good 4 = Somewhat Good 3 = Neutral 2 = Somewhat No 1 = Not at all Good Comments:	od od t Good	noose only one)	
2. How good are you at wo 5 = Extremely Good 4 = Somewhat Good 3 = Neutral 2 = Somewhat No 1 = Not at all Good Comments:	od od t Good	(Choose only one)	
3. How good are you at ca 5 = Extremely Good 4 = Somewhat Good 3 = Neutral 2 = Somewhat Nood 1 = Not at all Good	od od t Good	ose only one)	

- 4. How good are you at figuring out how much a shirt will cost if it is 25% off? (Choose only one)
 - 5 = Extremely Good
 - 4 = Somewhat Good
 - 3 = Neutral
 - 2 = Somewhat Not Good
 - 1 = Not at all Good

Comments:

Numeric Information Preference

- 5. When reading the newspaper, how helpful do you find tables and graphs that are parts of a story? (Choose only one)
 - 5 = Extremely Helpful
 - 4 = Somewhat Helpful
 - 3 = Neutral
 - 2 = Somewhat Not Helpful
 - 1 = Not at all Helpful

Comments:

- 6. When people tell you the chance of something happening, do you prefer that they use words ("it rarely happens") or numbers ("there's a 1% chance")? (Choose only one)
 - 5 = Always Prefer Numbers
 - 4 = Somewhat Prefer Numbers
 - 3 = Neutral
 - 2 = Somewhat Prefer Words
 - 1 = Always Prefer Words

Comments:

- 7. When you hear a weather forecast, do you prefer predictions using percentages (e.g., "there will be a 20% chance of rain today") or predictions using only words (e.g., "there is a small chance of rain today") (Choose only one)
 - 5 = Always Prefer Words
 - 4 = Somewhat Prefer Words
 - 3 = Neutral
 - 2 = Somewhat Prefer Percentages
 - 1 = Always Prefer Percentages

Comments:

8. How often do you find numerical information to be useful? (Choose only one) 5 = Always 4 = Often 3 = Sometimes 2 = Rarely 1 = Never Comments:
Single Item Literacy Screening Assessment
 How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy? (Choose only one) = Always = Often = Sometimes = Rarely = Never Comments:
Grady Health System PCMH Brochure Questions
1. Have you seen the Grady Health System PCMH Brochure?
2. Have you heard of the Patient Centered Medical Home recognition before?
3. Which of the services provided by Grady PCMHs were you aware of?
4. Which of the Grady PCMH locations were you aware of?
5. Which of the Grady PCMH standards were you aware of?

6. W	/hich of the	Grady PCMH g	oals were you awa	re of?	
7. D clini		PCMH recogn	ition make you mo	re likely to seek m	edical care through the
		ny words, sent arts and why?		he brochure that v	were hard to understand?
		ny parts of the parts and why		ught were well wr	itten or easy to understand
<u>No</u>	<u>w I will as</u>	sk you som	e questions ab	out the whole	brochure.
	If you were tell him/her		friend or family me	ember about this b	rochure, what would you
11.		k it does a goo ur answer.	od job of talking abo	out Grady's new Po	CMH recognition? Please
12.		ing the brochunse and given		rady maintained tl	his level of care? (Choose
	Yes	No	Never gave	it thought	
	- ·				
	Explain:				

Yes	No	Neutral
Explain:		
14. After readi f yes, what?	ing this handout	, would you do anything different when seeking your healthcare
		tions, I will read a statement. Please tell me how isagree with each statement and tell me why.
15. The title to	ells me what the	brochure is about. (Choose only one)
5 = Str	ongly agree	
4 = Ag		
	utral	
2 = Dis	-	
1 = Str Comm	ongly Disagree ents:	
16. The broch	ure is hard to rea	ad.
	ongly agree	
4 = Ag		
3 = Ne	eutral	
2 = Dis	sagree	
	ongly Disagree	
Comm	nents:	
COHIII		Language to the characteristic
	rstand all of the	language in the brochure.
17. I can unde	erstand all of the rongly agree	language in the prochure.
17. I can unde 5 = Str 4 = Ag	rongly agree ree	e language in the prochure.
17. I can unde 5 = Str 4 = Ag 3 = Ne	rongly agree gree eutral	language in the brochure.
17. I can unde 5 = Str 4 = Ag 3 = Ne 2 = Dis	rongly agree gree eutral sagree	e language in the brochure.
17. I can unde 5 = Str 4 = Ag 3 = Ne 2 = Dis 1 = Str	rongly agree gree eutral sagree rongly Disagree	language in the brochure.
17. I can unde 5 = Str 4 = Ag 3 = Ne 2 = Dis	rongly agree gree eutral sagree rongly Disagree	language in the brochure.
17. I can unde 5 = Str 4 = Ag 3 = Ne 2 = Dis 1 = Str Comm	rongly agree gree eutral sagree rongly Disagree	

	= Agree			
	= Neutral			
	= Disagree			
	= Strongly Dis	_	I	A1
C	omments: Cir	cle one (if applicable):	Too much	Not enough
19. My q	uestions about	PCMH are answered.		
5	= Strongly agr	ee		
4	= Agree			
3	= Neutral			
2	= Disagree			
1	= Strongly Dis	agree		
C	= Not applical	ole/No questions about	osteoporosis	
C	omments:			
20. The b	rochure clearl	y explains where to find	l more informa	tion.
5	= Strongly agr	ee		
4	= Agree			
3	= Neutral			
2	= Disagree			
	= Strongly Dis	agree		
	Comments:			
brochu more g 22. Wou doct	re. Let me uestions. Id you pick up	know when you a	re finished a	re could use for the and I will ask you some the the waiting room of your
•	ou think the bromments:	ochure best for people	like you?	
24. Wha	t pictures do yo	ou like? Why?		
25 Aret	here anv pictu	res you don't like? Wh	v?	

26. How do you feel about the colors used?
27. Do you think the print/style of letters is easy to read? <u>Circle one</u> Yes No If not, is it (<u>circle one</u>) Too small Not the right style Both Comments:
Comments.
28. How well do the covers explain what the brochure is about? Please explain Excellent Very good Good Fair Poor Comment:
30. Does any part of either brochure seem distracting (or too busy)? If yes, what?
31. Is there anything else you want to tell me about the look of the brochure that might help us make it better? Great! Thank you very much for all that information, it is very helpful. To finish up
today, I have some basic demographic questions for you.
1. In general, would you say that your health is
Excellent
Very good
Good
Fair
Poor
2. I am: Male
Female
3. What year were you born?
4. What is the highest grade or year of school you completed?

Some high school or less
High school graduate
Some college or technical school or associate's degree
Bachelors degree
Graduate or professional degree (for example, MS, MA, MFA, MSW, PhD, JD, MD)
5. What is your current employment status? (please check all that apply)
Employed Full Time for paid work
Employed Part Time for paid work
Homemaker/ unpaid work
Not working and not in school or a training program
Retired
Volunteer
In school or a training program
6. Which one or more of the following would you say is your race/ethnicity (please check all that apply)?
White
Hispanic or Latino
Black or African American
Asian or Pacific Islander
American Indian/Alaska Native
Other
Prefer not to answer
That is the end of our interview. Thank you so much for taking your time to
share your opinions and ideas with us.

Participant Log

Site				

Participant #	Date	Age	Race	Sex	Refused	Complaints	Other comments
				44.00 A 14.0	TERRITOR TERRITORIA		
			2000 (05) 2008 (27) 2008 (27)				
				ngapan ng ama, aman aman ama a a a a a a a a a a a a a	. 34 % 3. 44 34 %		
	. 1944 (1949) - 19						
				erregi varigi della glima della dell		. Versio	1 44 1 4 4 4 1 1 1
			ÁRAR				