Primary Care Provider Approaches and Perceptions to Preventive Health Delivery: A Qualitative Study

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Abstract

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Background:

How best to deliver preventive health in primary care continues to be debated. Office visits may be divided into two categories: separate, stand-alone preventive health appointments or visits for medical conditions such as diabetes or hypertension. There has been conflicting evidence regarding the efficacy of preventive health visits, and, yet, the alternative practice of "catching up" on preventive health during other visits has also not been shown to be effective. While many studies have addressed perceived barriers to preventive health, less is known regarding how primary care providers have adapted to the current medical environment to address preventive health for their patients. The objective of this qualitative study was to seek decision-making insights on the provider level to gain understanding of the values that shape how providers deliver preventive health in the primary care setting.

Methods:

Subjects were recruited from primary care clinics at an academic medical system. 2 interviewers conducted semi-structured, one-on-one interviews. Questions focused on several domains: use of preventive health guidelines, preventive health delivery in preventive health visits versus acute care or chronic disease visits, methods of tracking and documentation, and opinions regarding team-based care. Interviews lasted approximately 20 minutes, were recorded and then transcribed. A thematic analysis was conducted using open coding and then axial coding and, in keeping with Grounded Theory, no pre-specified hypotheses were established. Reliability and validity was assured by independent coding of transcript content.

Results:

21 subjects from 4 different primary care clinics were interviewed. The following major themes have emerged:

1. Longitudinal care is perceived as integral to preventive health: Nearly all providers preferred deferring certain core preventive health services to a patient's own primary care provider, citing the patient-provider relationship as essential in preventive health discussions.

2. Conflict and doubt accompany non-preventive visits: Providers expressed the desire to accomplish some preventive health during these visits, but often felt that they were either not able to accomplish this goal due to time constraints or focused only on brief interventions such as immunizations.

3. Time and patient risk factors provide the framework around which preventive health is delivered, regardless of type of visit: Rather than using a single checklist, providers tailored selection of preventive health services to the patient's medical and social conditions as a whole, as well as other concerns addressed during a clinic visit. Those providers who routinely conducted separate preventive health visits deferred services that require more discussion and shared decision-making to those visits.

4. Adaptation arises: The provider's level of confidence in the electronic medical record (EMR) tended to lead to either adaptation or discomfort. Many providers expressed discomfort with the EMR's adequacy of tracking preventive health and consequently adopted other systems, including having their own separate tracking system in the patient's problem list. Reasons most cited included lack of completeness and inability to express rationale for decision-making in the EMR.

5. Comfort level with team-based preventive health delivery is connected with the degree of shared decision-making required: Nearly all providers expressed that other members of the health care team should increase involvement in preventive health, but there were varying responses based on whether a preventive service was perceived as controversial, or requiring discussion.

Conclusion:

In this qualitative study, the themes that surfaced suggest that primary care providers are resilient in finding ways to deliver preventive health to their patients, despite a system in which they often feel uncomfortable with their efficacy. They use a number of factors in deciding what preventive health to address and when for a given clinic visit, built upon a platform that values time, the patient's medical conditions and expectations, and a strong value that a patient's primary care provider should be involved in complex preventive care decisions. They frequently adapt to an EMR that they lack complete confidence in or find not fully adequate. Together these findings have implications for the primary care practice of the future: flexibility, utilizing multiple methods of delivery, having provider input into EMR design, and supporting the primary care provider's role as leader of a patient's preventive health, even with team-based care, should be critical foundations.

Limitations of this study include the inherent nature of its qualitative approach and the academic medical center setting, impacting generalizability. However, it is likely that certain dilemmas are common to the practice of primary care, and the insight into provider behavior found by these

qualitative interviews, with answers unable to be gleaned from quantitative data, may provide stimulus for further research.

Primary Care Provider Approaches and Perceptions to Preventive Health Delivery: A Qualitative Study

Introduction:

Preventive health is a core part of healthcare for the population. The Healthy People 2010 and Healthy People 2020 reports appeal a major effort to increase the rate of preventive services for people. By understanding the benefits of many preventive health services, major organizations like the U.S. Preventive Services Task Force and Agency for Healthcare Research and Quality (AHRQ) work together to improve the delivery of primary care services by endorsing evidence-based guidelines about clinical preventive services (AHRQ, 2016). In addition, the Affordable Care Act (ACA) supports preventive health care by covering certain preventive services with no deductible and copayment under health plans (CDC, 2016). Likewise, major organizations like CDC and Institute of Medicine knowing the importance of preventive care, advocate preventive health care for the population.

Preventive health services help to detect diseases early and have been associated with reduction in premature deaths. Previously common and debilitating conditions such as measles, poliomyelitis have declined in incidence following the introduction of effective clinical preventive services. Some of the most striking examples are successful vaccination programs: Infectious diseases such as poliomyelitis, which was once a common disease, have become a rare condition in the United States because of childhood immunization (Wilkins, 1996). Some conditions, while not eliminated in such dramatic fashion, have nevertheless witnessed significant reductions—these include cardiovascular diseases and certain cancers. For example, CDC has reported that around 12 to 13 point reduction in average systolic blood pressure over 3-

5 years could reduce risk of heart disease by around one-fifth and risk of stroke by around one third (CDC, 2015). Concordant with this, age-adjusted mortality from stroke has reduced to half since 1972, because of earlier detection and treatment of hypertension (Garraway WM, 1987) (Casper M, 1992). As another example, the number of deaths from invasive cervical cancer has decreased following the introduction of screening programs using Pap testing to detect cervical dysplasia (Miller, 1986).

Despite these deservedly heralded successes, questions and challenges remain. According to the same CDC report, each year, nearly nine hundred thousand deaths are premature in the United States and among those deaths, around one-third of deaths are preventable (CDC, 2015). Preventive service delivery rates were low in many populations studied. A study result showed, only less than 5% of population aged 50 and older had relevant cancer screening tests (Ruffin, M.T, 2000). In addition, primary care, which is still the agent of preventive health delivery, is at a crossroads—new payment and delivery models, including the Patient-Centered Medical Home (PCMH), Accountable Care Organizations (ACOs), and Value-Based Purchasing, coalesce to drive change and experimentation. This study seeks to explore the role of the primary care provider in delivering preventive health to patients at the clinic level.

Significance of the Problem:

Preventive health initiatives may be accomplished in many settings. Employer-based programs might promote healthy workers by creating weight loss incentives, or providing vaccinations at work. Advocacy groups may promote stand-alone health fairs or mass mailings to the public. Public health organizations may organize health fairs (a screening fair, for example). Legislation can promote behavior change, as demonstrated with state cigarette taxes

and banning of smoking in public places. A research study revealed that increases in tobacco taxes act as an effective tobacco control strategy and that the positive health impact is greater when the government uses some of the revenues from tax increases to support tobacco control programs and health education (Chaloupka F.J, 2012).

The presence of alternate preventive health arenas such as these does not diminish where most preventive health continues to take place: the clinician's office. Patients still identify their primary care office as their main site of care. Additionally, certain services generally require a clinical setting—for example, a pelvic examination and Papanicalou (Pap) smear for cervical cancer screening. Other services may be facilitated by taking place in an office visit, such as placing a referral to a gastroenterologist to schedule a colonoscopy for colorectal cancer screening.

Unfortunately, actual rates of delivery of preventive health care services in the clinical setting remain low (Ruffin, M.T, 2000). The most common barriers identified are shortage of time, patient refusal to discuss about certain services, poor patient compliance, and lack of physician training in providing certain preventive services (Burack, 1989) (Kottke TE, 1993) (Yarnall, 2003). Yet, how best to deliver preventive health measures in primary care continues to be debated. For example, there is a lack of consensus with regard to the relative merits of one type of office visit versus the other. Office visits may generally be divided into two categories: separate, stand-alone preventive health appointments (also called "wellness visits") or visits for medical conditions such as diabetes or hypertension. Preventive health may be delivered during either type of visit. As it takes considerable time to perform recommended preventive health services, a separate, stand-alone visit is an attractive option for primary care providers to ensure adequate preventive health discussion with patients. Yet, there is conflicting evidence and

differences of opinion regarding the efficacy of preventive health visits (Wong, 2014) (Yarnall, 2003) (Krogsboll, 2014) (Boulware, 2007). Unfortunately, the alternative practice of "catching up" on preventive health during other, non-preventive visits is not effective (Flocke, 2000) (Cosgrove, 2012). In addition, there is a range of issues concerning use of preventive services in some programs. For example, use of preventive services by Medicare fee-for-service (FFS) beneficiaries does not meet the requirement of Task Force or ACIP recommendations. A study report showed that during the period of 2005 through 2009 only about 27 percent of Medicare beneficiaries aged 65 and above received a pneumococcal vaccination. Among Medicare beneficiaries, the use of breast, colorectal, and prostate cancer screening tests and osteoporosis screenings are generally low when compared with the recommendations for certain age groups (Cosgrove, 2012).

As the primary care model progresses, system redesign results in new innovative care models such as The Patient Centered Medical Home (PCMH). A Patient-Centered Medical Home is a team-based model of care in which a team is physician-led team who provides continuous and coordinated care all through a patient's lifetime to improve a patient's health (PCMH, 2016). The result of new models of care is different from what physicians are used to in practice. The above factors, therefore, comprise the environment in which a primary care provider works in modern day practice. Providers recognize the importance of prevention, and the pressure to perform preventive health within primary care. However, their approach is tempered by the knowledge of the inadequacy of current performance and lack of consensus as to the optimal methods of delivering preventive care. Yet primary care providers cannot wait until there is agreement on what the most effective means to accomplish preventive health is. While many studies have addressed perceived barriers to preventive health, we know less about

how primary care providers have adapted to the current medical environment to conduct preventive health delivery. In any office visit, the primary care provider and patient must make countless decisions related to preventive care—do they address preventive health that day? If so, which preventive health recommendations do they decide to follow and by what guidelines, and how do they prioritize one over another within the constraints of a clinic visit? What are the factors that play into such decision-making? This study seeks insight into these decisions through qualitative methods.

Research Topics and Questions:

1. Guidelines: What guidelines do primary care providers follow when choosing preventive health services, and why?

There is a multitude of recommendations from various organizations. When deciding on a preventive health service, we know little about which guidelines a PCP follows.

2. Type of office visit: How do primary care providers (PCP) approach preventive health delivery during wellness visits relative to other illness visits in internal medicine clinics?

A preliminary chart review of patients at the Roosevelt General Internal Medicine Center, an academic internal medicine clinic, found that documentation of preventive health is more frequent during dedicated preventive health visits when compared to problem-focused visits (unpublished data). As described above, there is controversy regarding the efficacy of preventive health visits. Therefore, it is important to know how the providers approach preventive health delivery during each type of visit.

3. Prioritization: How do PCPs choose a particular preventive health delivery type among all other available preventive types? What are the PCP's perceptions regarding their selection of particular type of delivery?

One study showed that, on an average 25 services were due at the time of visit for each patient in a family practice, according to recommendations of the US Preventive Services Task Force (Medder J.D, 1992). According to the USPSTF guide to clinical preventive services in 2014, there are 41 grade A and grade B recommended preventive services (USPSTF, 2014). In addition to the USPSTF guidelines, some national agencies have created their own guidelines, which results in increasing the number of screening tests. One study demonstrated that it is not practical for physicians to provide all of the services recommended by the USPSTF to their patients at any one visit (Yarnall, 2003). Therefore prioritization and choices must be made—the question is how are these choices made, and why?

4. Documentation. Given the numerous screening methods, from different organization and at varying intervals, modified by different risk factors, how do primary care providers keep track of a patient's preventive health?

In the chart review mentioned above, providers used wide variety of methods to document preventive health (unpublished data). There are no other studies to show how the providers make decision about documenting the patient's preventive health.

5. Team-based care. What is the PCP's opinion of other team members participating in a patient's preventive health?

The development of new primary care models result in different type of setting which physicians are not used to. What is the comfort level of PCPs with team-based preventive health delivery?

METHODS:

Underlying Rationale. Epistemology: Given the open-ended nature of our lines of inquiry, we determined a qualitative approach was the optimal approach to characterize decision-making at the provider level. We have studied about the level of preventive service delivery from surveys of physician's self-report, medical chart review, billing data, or patient surveys. Even though these sources are useful, they have many limitations. Physicians incline to over-estimate the rate of delivery of services to their patients (M Weisberg, 1985) (DE Montaño, 1995). In the case of the medical record, providers document more accurately, the some services and procedures (such as screening procedures) that are more important or billed compared to services (such as health habit counseling) that they do not bill (SJ McPhee, 1986), (KC Stange, 1998). Physicians tend to document accurately certain services that affect reimbursement. Further, data collection methods would not be sufficient to understand perceptions and factors that influence the physician's decision making while delivering service to patients. Survey methods commonly used to study preventive service delivery have major limitations with regard to understanding the nuanced approach and decision-making that occurs with regard to delivery of preventive services.

In this qualitative study, we took an epistemological approach through the inductive lens of Grounded Theory. As there are competing models currently being advocated for the improvement of primary care, the insight of frontline primary care providers is critical, in order to further our understanding of the current delivery system, as perceived by them, and in order to inform future care models. In view of the exploratory hypothesizing-generating nature of our qualitative approach, we employed an inductive approach and conducted thematic analyses of

responses gathered from having administered semi-structured, one-on-one, and face-to-face interviews, using scenarios, with a purposive sample of primary care physicians (Corbin, 2015). Our purpose was to generate hypotheses to build a deeper understanding of what might be the facilitators of, and barriers to, preventive care to patients using a rigorous analysis of perspectives from primary care physicians. This was an interpretive process. We sought to uncover insights, perceptions, knowledge, opinions, beliefs, and/or definitions of disease prevention directly from a population of primary care physicians. Unlike positivism, our procedure stemmed from a recognized perspective that "human behavior is not always determined by processes that can be counted and/or measured, but is shaped by the meanings human beings apply to activities in their day-to-day existence" (Corbin, 2015).

Study Population: We enrolled subjects who were physicians or ARNPs with an active practice in a University of Washington-affiliated primary care clinic with a panel of patients for whom they were assigned as the responsible primary care provider. Eligible subjects were between the ages of 21-90 years with any amount of clinical full-time equivalent (FTE).

Recruitment: Upon receiving study approval from the Institutional Review Board, we approached primary care clinic directors of the study and its purpose. We then introduced the study at administrative meetings of primary care providers at those clinics. With the clinic director's permission, we followed up with emails to clinic PCPs to identify those willing to learn more or be in the study. We sent no more than three follow-up email invitations to PCPs. Potential PCP participants, once contacted and introduced to the study in full, were asked if they would like to participate or opt out of the study. From this method of purposive sampling (Glaser & Strauss; Morse, 1991), we recruited 21 primary care providers.

Instrumentation: Each of the face-to-face interviews with the 21 subjects lasted approximately 20 minutes. One of the two investigators (HM or CW) conducted each interview. The location of each interview took place in the subject's office or an other suitable location, at a time and date of the subject's choosing with due consideration for privacy. The Interview Guide (see Appendix) consisted of three basic scenarios:

> Scenario #1: "You are seeing a 60 year-old woman for a preventive health visit. She also has diabetes, hypertension, and depression. When you address preventive health with your patients, what guidelines do you typically follow, and why?" (To answer research question No.1)

In posing this hypothetical scenario, we were interested in uncovering the extent or degree PCPs might have to rank or order the kind of care they provide the patient, given the realities of social, psychological and medical diseases the patients presented.

> Scenario #2: "You are seeing a 55 year-old patient for an evaluation of shoulder pain. In a non-preventive visit such as this, would you typically check whether any of the patient's preventive health is up to date?" (To answer research question No.2)

In this second scenario, we were interested in uncovering the extent or degree PCPs took the opportunity to retrospectively consult or validate preventive care possibly already given the patient when presented with an immediate and acute health problem.

> Scenario #3: "You are seeing a patient for follow-up of diabetes and hypertension, rather than an acute visit. How does this situation affect whether to address preventive health or not?" (To answer research question No.2)

In this scenario, we were interested how, when and/or why the PCPs acted or reacted to the particular plight, circumstance or situation of the patient.

We had three inter-related scenarios, which allowed for additional follow-up queries and probes in order to obtain clarifications. The scenarios underwent construct validation by a rigorous discussion and revision of each by the physician members of the research team (HM and CW). The point was to authenticate as much as possible the degree the three scenarios represented real-world situations of primary care physicians. We also asked some clarifying or probing questions: "Do you offer any preventive health services to your patients during non-preventive health visits?" and "What if the patient is not your primary care patient—does this affect whether you would be more likely to check a patient's preventive health during a non-preventive health visit?". We also collected minimal de-identified background information from each PCP interviewed, such as gender, age, clinical FTE, and number of years in practice.

Data Collection & Analysis:

All interviews were audio-recorded and transcribed Verbatim for thematic analysis. Three members of the research (HM, CW and CS) team independently read and re-read each transcript in order to achieve as broad an understanding of the content as possible. A thematic analysis was conducted using open coding and then axial coding and, in keeping with Grounded Theory, no pre-specified hypotheses were established. As the concepts arose, the three researchers, in the margins of each transcript, independently coded them. Among the various key concepts uncovered in the transcripts were: "time," "conflict," "concern," "prioritization," "defer," "evidence-based," "impacts," "benefits," "prevention visit," Non-prevention visit," "time consuming," " easy to address," "patient expectations," "type of visit," "doubt", "patient/provider relationship," " type of insurance," "use of medical assistants," "Electronic

Medical Records," "cost," "co-pay," "adequacy/inadequacy," and "patient receptivity." We coded these concepts independently. All three coders coded each transcript by hand.

Validation and Saturation: The importance of ensuring inter-rater reliability in analysis was ensured having the two physician members of the research team (HM & CV) independently code each transcript and a third non-physician on the team member (CS) also code the same transcripts by hand and as a process of triangulation. We resolved any disagreement by discussion until either the achievement of consensus or the discarding of code.

RESULTS:

Demographics: We interviewed 21 providers. Subjects all practiced at a UW-affiliated clinic, which included academic teaching clinics, a women's healthcare clinic, a university general internal medicine clinic, and teaching clinics at a county hospital. The average age of participants was 48. Seventy-one percent of subjects were women and the average clinical FTE was half-time (Table 1).

Table 1. Characteristics of subjects

Number of subjects	**21**
Age (mean, years)	**48**
Women (%)	**71**
Years in practice (mean)	**17**
Clinical FTE (mean)	**0.51**

Major Emergent Themes:

Table 2. Major Themes.

Research Topics	Themes
Type of visit	• **Longitudinal care perceived as integral to preventive care**- nearly all providers reported deferring certain core preventive services to a patient's own primary care provider. • **Conflict and doubt accompany non-preventive visits**-Providers expressed a desire to accomplish some preventive health during visits, but also felt discomfort at not being able to do so because of time constraints or that they were only able to focus on brief interventions.
Prioritization	• **Time and patient risk factors determined the framework around preventive care delivery regardless to the type of visit-** Providers tailor a visit according to the patients' medical and social conditions as a whole, as well as other concerns during the clinic visit.
Documentation	• **Adaptation with EMR-** Primary care providers' level of confidence in the EMR tended to lead to either adaptation or discomfort, or both.
Team based care	• **Providers desired team-based preventive health delivery, but they wish to maintain their role when shared decision-making is required-**Responses varied based on the type of services or level of interpretation needed.

Longitudinal care perceived as integral to preventive care: We found nearly all providers reported deferring certain core preventive services to a patient's own primary care provider unless it involved immunizations, as reflected in these typical responses from primary care providers:

"If it's a patient I see regularly, and if they're coming in for their preventive visit I'll do a preventive health visit because it's hard to fit those in at other times. If it's someone who's coming in and I don't see them very regularly and they have other problems that are not controlled, then I will encourage them to talk about those problems and reschedule their preventative health visit".

"And for complicated preventive health … if the patient is not my primary care patient, then I usually don't do [it]. I ask them to come back and talk with their doctor rather than I do it. Particularly for cancer screening, you need to evaluate the patient and assess whether he needs cancer screening or not."

"It's a waste of my time to check, if a patient is not my primary patient"

These responses suggest how PCPs evaluated each clinic visit and provided care in the manner of prioritizing or triage based on the particular or unique circumstances of the individual patient. Facilitation is manifested in having encountered the patient face-to-face. Barriers are realized in that the immediate circumstances of the patient may have to take priority, consequently hindering or giving less priority to preventive care. In addition, providers think the provider-patient relationship is a facilitator in preventive health delivery.

Conflict and doubt accompany non-preventive visits: We found providers expressed a desire to accomplish some preventive health during visits, but also felt discomfort at not being able to do so because of time constraints or that they were only able to focus on brief interventions. The following responses represent this theme:

"If the patient has (an) acute problem basically I deal with that first and if I have enough time I will address preventive health during that visit"

"The test that are pretty easy to get, I don't have to spend much time on, I will say "hi, we're going to check this, this, and this and I put those orders in."

Again, major facilitators are manifested in the PCPs having a face-to-face meeting with the patient where the delivery of some preventive care is always possible. However, barriers emerge in the various needs of each individual patient, which can include their insurance plans and time availability.

Time and patient risk factors determined the framework around preventive care delivery regardless to the type of visit: Rather than using a single checklist, providers tailored a selection of preventive health services to the patients' medical and social conditions as a whole, as well as other concerns during the clinic visit. Providers who routinely conducted separate preventive visits valued the time these visits afforded to focus on prevention.

"If it takes a long time to address (a) patients' illness, I am not going to check preventive health".

"My view is that professional societies, when putting together guidelines that… you know, guidelines based upon varying strength of evidence and varying biases and I don't think there is one perfect source of information. And personally my strong view is that my job is to apply guidelines individually, you know, based upon patient factors and to advise them responsibility about what I think makes sense for them".

The guidelines used by PCPs do indeed facilitate preventive care as they were designed to do. However, at the same time, the guidelines can become barriers if they are adhered to strictly without considering the social, psychological and economic needs of each individual patient.

Adaptation with EMR: The primary care provider level of confidence in the electronic medical record (EMR) tended to lead to either adaptation or discomfort, or both. Many expressed discomfort with the EMR's inadequacy of tracking preventive health and consequently adopted other systems, including their own separate tracking system in the patients' problem list. Reasons most stated included lack of completeness and an inability to express a rationale for decision-making in the EMR. The following responses are indicative of this key theme:

"I did not try to adapt. That said, you know, had my early experiences using EPIC [an electronic health record software for hospitals and clinics] been positive I think I still would have been convincible. But of course, the information is not accurate early on because all the patients' prior data is not there. So it will say they are due for a colonoscopy when they are not".

"Yeah. I do have my own template. Because I don't trust EPIC health maintenance tab [section in the EPIC medical record that houses preventive health tracking… and accessed by a button on the screen and it list several items including when the patient is next due]. Not just that I do not trust that, I don't find it flexible enough for my patient's situation always. So I like to tailor things depending on my patient's situation".

"The electronic medical record is only as good as you are at the time that you put in those details".

Providers desired team-based preventive health delivery, but they wish to maintain their role when shared decision-making is required:

Nearly all providers expressed that other members of the health care team should increase involvement in preventive health, but there were varying responses based on whether a preventive service was perceived as controversial or requiring discussion.

"For mammogram and colonoscopy, things are too nuanced for someone not specifically trained in it, so I would say someone being specifically trained is good."

"I think for cancer screening it would be appropriate if it is addressed by a physician. For vaccines, it is okay if they [the medical assistants] are letting you know if it is pending."

We found that providers were comfortable with a medical assistant (MA)-level training staff member addressing some preventive services. The level of interpretation needed and the complexity of protocol influence the decision. For example, many providers responded that MA-level training staff could address immunizations but for cancer screening, they showed some discomfort.

DISCUSSION:

Uncovering facilitators and barriers have a long history in health care, particularly as applied to patient behaviors in the Health Belief Model (Klanz & Colleagues, 2008). However, Bodenheimer and Colleagues (2004) uncovered facilitators and barriers in their study of care

management processes, which were reported by physician organizations. Brunette and Colleagues (2008) interviewed state mental health authority directors or their designees and found facilitators and barriers in their evaluation of integrated mental health services.

We identified major categories of facilitators and barriers and within each, several important themes. In this present study, we uncovered facilitators, which we could interpret as enhancing, strengthening and/or improving delivery of preventive care. At the same time, we could see many of these facilitators as barriers or hindrances to the effective delivery of preventive care. Facilitators and barriers often overlapped between and within the three scenarios.

Time after Time: Our study confirms findings from previous studies about the lack of time as a major barrier to the delivery of preventive health services (Burack, 1989) (Kottke TE, 1993) (Yarnall, 2003).

We found that expressions of concern about time constraint that were accompanied by adaptations, which we defined as delivering the same care, which in-turn becomes a facilitators to meet the needs of patients.

Barriers become Facilitators / Facilitators become Barriers:

As pointed out above, constraints of time, immediate needs of the patients, insurance reimbursement, and some shortcomings in the technological use of medical records emerged as impediments but also as stimuli to the effective delivery of preventative care. PCPs in our study expressed feelings of exasperation, vexation and often conflict in their desire to deliver primary care. At the same time however, these barriers created or forced open opportunities for

prioritization and triage of care. Most PCPs interviewed consistently reported use of the United States Preventive Task Force (USPSTF) guidelines. They diligently checked off boxes in the Electronic Health Record software for hospitals and clinics (EPIC). Several complained about how the Electronic Medical Records (EMR) had errors and to compliment or supplement, they used their own notes. They verified their delivery of preventive and non-preventive care with guidelines from the American Diabetes Association (ADA), the American Society for Colposcopy and Cervical Cancer (ASCCP), and the Screening, Brief Intervention and Referral Treatment (S-BIRT) among others. We found PCP adaptability to be framed, or as being determined by the realities of the patients' needs, which encompassed aspects of insurance reimbursement, severity of illness, and doctor/patient responsibility.

Insurance Reimbursement: The issue of insurance reimbursement, whether public or private, proved most vexing for PCPs. For instance, Medicare did not always cover preventive care health visits. Up until that time, patients on Medicare with no supplemental insurance could not see their physician for a preventive visit. The patient had to have a problem such as a chronic condition like hypertension or an acute problem such as a cold. Medicaid is complicated as well especially in terms of the health literacy of the patient population, as reflected in this quote:

"We have the conversation concretely about the fact that the preventative health visit is free on their health plan and chronic health condition management visit is not. So I try to set that expectation at the very beginning".

Severity of Illness: PCPs constantly wrestled with what was considered non-preventative vis-à-vis preventative care on a scale that reflected the medical situation of the patients. Regardless of the visit type, patients' overall health plays a vital role in decision making about preventive health delivery.

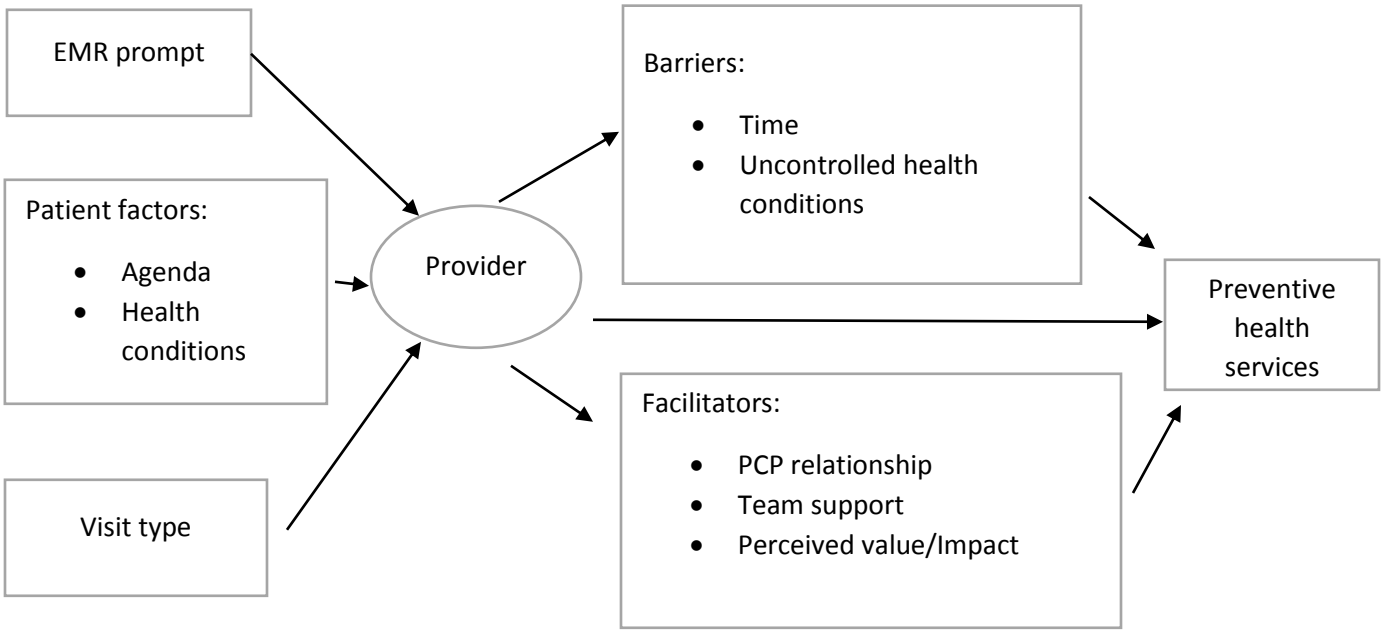
Doctor/Patient Relationship: We found sacred, the doctor/patient relationship which is so central to the practice of health care.

Although the majority of providers expressed interest in providing preventive care to all patients, several providers showed unwillingness to provide preventive health for other providers' patients. This was expressed in several forms such as difficulty to follow up on results, concerns regarding their knowledge of other providers' patients and time needed to discuss.

All PCPs readily acknowledged the shortage of time in the clinics. Most pointed to the effectiveness of MAs for pre-screening to increase the flow of the patient population. However, the PCPs in our study also pointed to patient questions, which they felt would inevitably arise resulting from these pre-screenings, and screenings related to diseases such as breast cancer, colon cancer, prostate cancer, HIV and Hepatitis C, which demanded their time and their expertise.

As showed in the figure 1, a provider's decision is influenced by patient factors, EMR prompts and the type of visit. The majority of providers expressed time constraints, EMR inflexibility and complex health conditions as barriers to provide preventive care to their patients. Good patient provider relationship and support from their team members act as facilitators to provide preventive health. In addition to those factors, impact of the particular preventive service to the patient also influences provider's decision.

Figure 1. Conceptual Framework.



PCPs are main stakeholders in addressing clinical preventive health services. This study adds to the existing literature by describing PCPs' perceptions and practices in a detailed qualitative manner the challenges providers face when addressing preventive health services. Even though team-based models are becoming popular in the provision of preventive services, PCP-patient relationship still plays the vital role in providing effective preventive service delivery. This study supports the primary care provider's role as leader of a patient's preventive health where they construct the screening plan even with team-based care. This study also shows the importance of PCPs input in designing future care models, designing electronic medical record in order to deliver effective preventive services.

This study has several limitations. Although interviews are an effective way of identifying and exploring perceptions, our results could be biased and may not represent all

doctors' perceptions and attitudes. We conducted interviews in the University of Washington's affiliated clinics, which is an academic setting; therefore, we cannot generalize the study to all settings. For instance, perceptions and approaches of a primary care provider in rural community clinic settings may be different from those in our academic environments. The use of a semi-structured interview guide and scenarios has some weaknesses. We attempted a validation, yet salient topics may have been inadvertently omitted. Interviewer flexibility in arrangement of the questions and wording of the questions could have resulted in variation of the responses, thereby weakening the comparability of answers. We did not set out to assess clinical outcomes—therefore we cannot be certain that what subjects reported that they did is an accurate reflection of their actual practice.

In this qualitative study, the themes that emerged suggest that primary care providers are resilient in finding ways to deliver preventive health to their patients, despite a system in which they often feel uncomfortable with their efficacy. They use a number of factors in deciding what preventive health services to address and when during a given clinic visit, built upon a platform that values time, the patient's medical conditions and expectations, and a strong value that a patient's primary care provider should be involved in complex preventive care decisions. They frequently adapt to an EMR that they lack complete confidence in or find not fully adequate. Together these findings have implications for the primary care practice of the future: flexibility, utilizing multiple methods of delivery, having provider input into EMR design, and supporting the primary care provider's role as leader of a patient's preventive health, even with team-based care, should be critical foundations.

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Appendix

SURVEY

PRIMARY CARE PROVIDER APPROACHES AND PERCEPTIONS TO PREVENTIVE HEALTH DELIVERY

SUBJECT ID # _____ DATE: _____

INTRODUCTION:

Thank you for participating in this study. This is a brief overview of why we are doing this study:

Preventive health remains a core function of primary care. How best to deliver it remains controversial. There have been many studies that have demonstrated barriers to preventive health delivery. But not much is known about how primary care providers perceive their delivery in actual practice.

We reviewed primary care charts and found that there is a great variety in how providers document their preventive health. Sometimes it is addressed during non-preventive visits, sometimes templates are used, sometimes the electronic record.

That led us to ask a question that cannot be answered by reviewing data—and that is, why? Why do providers such as yourself deliver preventive health in the way that you do? We believe this study is an important opportunity for primary care providers' voices to be heard.

We will ask you some basic demographic questions, then record this interview for qualitative responses.

As you answer the questions, consider that preventive health can be grouped into categories such as:

Immunizations

Cancer screening

Metabolic screening (such as diabetes, cholesterol, bone density)

Psychosocial (such as depression screening, smoking, and alcohol)

Elderly (such as fall risk)

Contraception

Infection screening (such as HIV, STDs, and hepatitis C)

Counseling (advice)

Do you have any questions before we begin?

A. DEMOGRAPHIC INFORMATION (NOT AUDIO RECORDED)

A1 Are you a resident or a staff/faculty member?

[ ] FACULTY/STAFF

Faculty: Number of years in practice? (years since residency doing clinical care):

_____ YEARS

[ ] RESIDENT

Resident: What year are you in training?

R 1 / 2 / 3 / 4 (CIRCLE)

A2 What is your age?

_____ YEARS

[ ] PREFER NOT TO ANSWER

A3 What is your gender?

[ ] MALE

[ ] FEMALE

A4 What is your clinical FTE?

½ day per week = 0.1, or 10% FTE

_____% (5-100%)

[ ] UNSURE

A5 Of the patients that you see, what percentage

_____ %

would you estimate are Medicare or Medicaid? [ ] Don't Know

A6 How would you describe the setting in which you most often practice?

[ ] PRIVATE PRACTICE

[ ] COMMUNITY-BASED, PUBLIC

[ ] ACADEMIC MEDICAL CTR

[ ] OTHER:

_____

QUALITATIVE SEMI-STRUCTURED INTERVIEW.

"We will now being audio recording. You may ask to stop at anytime."

B. TOPIC: PREVENTIVE HEALTH PERFORMED DURING PREVENTIVE HEALTH OFFICE VISITS
NOW I AM GOING TO ASK YOU SOME QUESTIONS ABOUT PREVENTIVE HEALTH PERFORMED DURING DEDICATED, PREVENTIVE HEALTH OFFICE VISITS.
I WOULD LIKE YOU TO CONSIDER THE FOLLOWING SCENARIO: YOU ARE SEEING A 60-YEAR-OLD WOMAN FOR A PREVENTIVE HEALTH VISIT. SHE ALSO HAS DIABETES, HYPERTENSION, AND DEPRESSION.

B1 Guidelines

When you address preventive health with your patients, what guidelines do you typically

Answer (open ended):

_____

—

EXAMPLES

follow, and why?

[ ] MIX AND MATCH DIFFERENT GUIDELINES (ASK WHY)

[ ] USPSTF

[ ] OTHER ORGANIZATIONS

[ ] DON'T AGREE WITH ALL GUIDELINES

[ ] SOME GUIDELINES OUTDATED, OR PARTIALLY OUTDATED

B2 Prioritizing

There are many different preventive services recommended by various organizations.

How do you prioritize what preventive health to cover during a preventive health visit?

[ ] SOME SERVICES I COVER EVERY TIME.

[ ] FOCUS MORE ON CANCER AND METABOLIC SCREENING

[ ] SOME MEASURES HAVE A GREATER IMPACT: _____

[ ] OTHER: SPECIFY _____

Explain why you prioritize some over others:

_____

B3	During preventive visits, do you typically address a patient's other conditions, if they have other health conditions?	[ ] YES [ ] NO Explain why or why not.

C. TOPIC: PREVENTIVE HEALTH PERFORMED DURING NON-PREVENTIVE HEALTH OFFICE VISITS

Preventive health can be performed during dedicated visits such as preventive health visits or wellness visits. It can also be performed during other visits—for example during an acute visit for a cold, or a follow up of a chronic condition such as diabetes. The next questions are about preventive health performed during non-preventive health office visits.

Consider this scenario: You are seeing a 55 year old patient for evaluation of 1 month of shoulder pain.

C1 In a non-preventive visit such as this would you typically check whether any of the patient's preventive health is up to date?

[ ] Yes→ **Go to C2**

[ ] No→ **Skip to C3**

C2.1 **If you do** offer preventive health services during non-preventive visits such as this:

[ ] Yes—why?

[ ] No—why not?

Do you check on preventive health every time?

Examples (if needed)

[ ] OPPORTUNISTIC E.G. DURING AN OTHERWISE SHORT VISIT AND THERE IS TIME LEFTOVER

[ ] SEASONAL E.G. FLU VACCINES DURING FLU SEASON

[ ] PROMPTED BY SOMEONE OR SOMETHING ELSE (EG ELECTRONIC MEDICAL RECORD OR AN ASSISTANT, OR READING THE LAST NOTE OR PROBLEM LIST)

[ ] ROUTINE: ALWAYS CHECK CERTAIN THINGS FOR EVERY PATIENT (IF SO, WHY DID YOU CHOOSE THESE?)

[ ] I DON'T DO PREVENTIVE VISITS SO I HAVE TO DO PREVENTIVE HEALTH DURING THESE

VISITS

[ ] OTHER. SPECIFY: _____

C2.2 Keeping in mind that there are many different types of preventive services, from cancer screening to immunizations, etc, are there services that your prioritize certain services over others during these non-preventive visits? (and if so, why?)

Examples (if needed)

[ ] IMMUNIZATIONS

[ ] CANCER SCREENING

[ ] METABOLIC SCREENING (E.G. LIPIDS, DIABETES)

[ ] PSYCHOSOCIAL: E.G. SMOKING, ALCOHOL, DEPRESSION

[ ] ELDERLY: E.G. FALL RISK, OSTEOPOROSIS

[ ] CONTRACEPTION

[ ] INFECTION SCREENING (E.G. HIV, HCV, SEXUALLY TRANSMITTED INFECTIONS)

[ ] OTHER, SPECIFY:

_____

Examples of prioritizing (if needed)

[ ] MOST OVERDUE (E.G. A PATIENT MANY YEARS DUE FOR COLORECTAL CANCER SCREENING)

[ ] EASIEST (E.G. A TDAP IMMUNIZATION)

[ ] OTHER: SPECIFY:

_____

[If the subject mentions some but not others, ask about the others—why not address these also?]

➔ **Go to C4**

C3 **If you do not** typically offer preventive health services during a non-preventive visit such as this, why not?

Examples (if needed)

[ ] NOT ENOUGH TIME

[ ] DON'T FEEL IT'S APPROPRIATE—

SHOULD BE DONE AT A SEPARATE VISIT

[ ] DOES NOT FIT THE PATIENT'S AGENDA

[ ] OTHER: SPECIFY:

_____

Go to C4

Whether you do or do not typically offer preventive services during non-preventive visits:

C4 Let's consider a different scenario. What if you are seeing a patient in follow up of diabetes and hypertension rather than an acute visit for shoulder pain. How would this affect whether you address preventive health?

[ ] more likely to address (why?)

[ ] less likely to address (why?)

[ ] no difference

C5 For either scenario, what if the patient is not your primary care

[ ] YES: Why? _____

patient—does this affect whether you would be more likely to check a patient's preventive health during a non-preventive health visit?	[ ] NO: Why? _____

D. Topic: Keeping track / documentation

Now I'm going to ask you about how you keep track and document preventive health in your patients.

D1 What systems do you use to keep track of your patient's preventive health?

[ ] ELECTRONIC MEDICAL RECORD (EMR)'S SYSTEM. (EXAMPLE—HEALTH MAINTENANCE SECTION OF EPIC)

[ ] DEVELOPED MY OWN TEMPLATE

[ ] COMBINATION OF METHODS.

[ ] NOT USING ANY SYSTEM

[ ] OTHER: SPECIFY: _____

D2 Explain why you are using these system(s), whether alone or in combination.

[ ] SOLELY USE THE EMR—IT CONTAINS ALL THAT IS NEEDED.

[ ] NOT USING THE EMR SYSTEM AT ALL.

[ ] USE A COMBINATION BECAUSE THE EMR TRACKING SYSTEM IS INCOMPLETE OR NOT

		ORGANIZED IN A WAY I WOULD LIKE. Explain.
D3	If you use a template of your own, how did you choose what went into that template?	(Open ended) _____
D4	There are many places that one can document preventive health for your primary care patients, including the patient's problem list, in your clinical note, in the instructions to the patient. Tell me about where you document preventive health, and why	[ ] PROBLEM LIST [ ] ASSESSMENT AND PLAN [ ] PATIENT INSTRUCTIONS [ ] OTHER

D5	What would be your ideal method to track and document your patient's preventive health?	(Open ended) _____
D6	How do you provide patients information on what preventive health services you recommend or performed?	Examples [ ] VERBAL ONLY. Explain why you do not provide the patients written recommendations. ➔ **GO TO SECTION E**. [ ] WRITTEN. [ ] BOTH
D7	If written, do you use a template?	[ ] YES [ ] NO

E. Team based medicine

There is a movement toward team-based care. The next questions are about your thoughts about other team members participating in preventive health.

E1 Are there preventive services you feel would be appropriately addressed by non-physician and non-ARNP staff?

[ ] YES – go to E2

[ ] NO – go to E3

E2 If so, which ones, and why?

[ ] MAMMOGRAMS

[ ] COLON CANCER SCREENING

[ ] CONTRACEPTION

[ ] SEXUALLY TRANSMITTED DISEASE SCREENING

[ ] LUNG CANCER SCREENING

[ ] SMOKING ASSESSMENT

[ ] SMOKING CESSATION COUNSELING

[ ] ALCOHOL ASSESSMENT

[ ] DEPRESSION SCREENING

[ ] VACCINATIONS

[ ] BONE DENSITY TESTING

[ ] OTHERS?

E3 Are there preventive health services that you would uncomfortable with an MA-level training staff member addressing with a patient?

[ ] YES – **go to E4**

[ ] NO – **go to Section F**

E4 If so, which ones, and why?

[ ] MAMMOGRAMS

[ ] COLON CANCER SCREENING

[ ] CONTRACEPTION

[ ] SEXUALLY TRANSMITTED DISEASE SCREENING

[ ] LUNG CANCER SCREENING

[ ] SMOKING ASSESSMENT

[ ] SMOKING CESSATION COUNSELING

[ ] ALCOHOL ASSESSMENT

[ ] DEPRESSION SCREENING

[ ] VACCINATIONS

[ ] BONE DENSITY TESTING

[ ] OTHERS?

F. Conclusion

F1	Is there anything else you would like to say about providing preventive health in primary care?	(open ended)

This concludes the interview. [Stop recording.]

Thank you so much for participating. We hope this will add to the research in preventive health and primary care. If you have any additional questions about this research project, feel free to contact me.