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Primary Care Physicians' Prevention Counseling With Patients With Multiple Morbidity

Shoshana H. Bardach[1] and **Nancy E. Schoenberg**[1]
[1]University of Kentucky, Lexington, Kentucky, USA

Abstract

The prevalence of multiple health conditions or multiple morbidity (MM) is increasing. Providing medical care for adults with MM presents challenges, including balancing disease management with prevention. We conducted in-depth semi-structured interviews with 12 primary care physicians to explore their perspectives on prevention counseling among patients with MM. Participants described the complex relationship between disease management and prevention, highlighted the importance of patient motivation, and discussed various strategies to promote receptivity to prevention recommendations. The perceived potential benefits of prevention recommendations encouraged physicians to persist with such counseling, despite challenges presented by visit time constraints and reimbursement procedures and concerns over futility. Physicians recommended the development of alternate care delivery and reimbursement models to overcome challenges of the existing health care system and meet the prevention needs of patients with MM. We explore implications of these findings for maximizing the health and quality of life of adults with MM.

Keywords

health care primary; illness and disease; chronic; illness and disease; prevention; interviews; semi-structured; research; qualitative

Nearly a third of the overall U.S. population, and roughly two-thirds of older adults have been diagnosed with multiple morbidity (MM), the presence of two or more co-occurring conditions (Robert Wood Johnson Foundation, 2010; Wolff, Starfield, & Anderson, 2002). With an aging population and medical advances enabling individuals to live longer with chronic conditions, the prevalence of MM is increasing (Uijen & van de Lisdonk, 2008). This trend has important implications for health, expenditures and provision of care (Vogeli et al., 2007). Managing multiple, often interacting, conditions can be challenging for physicians, since MM recommendations might result in overly complex management efforts and adverse drug reactions (Boyd et al., 2005).

Although controlling existing conditions is important, preventing disease also has important implications for maximizing health and quality of life (Crabtree et al., 2005; Goldberg & Chavin, 1997). Gross and colleagues (2006) found that 67 year old men diagnosed with stage one colorectal cancer (CRC) had an estimated 19.1 years to live if they had no co-morbid conditions, but had only 12.4 or 7.6 years left to live if they had one to two other

Corresponding Author: Shoshana H. Bardach, University of Kentucky Graduate Center for Gerontology, 900 S. Limestone, 303E Wethington Building, Lexington, KY 40536-0086, USA shbardach@uky.edu.

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conditions or three or more conditions respectively; for women these years to live were 22.9, 15.7, and 6.9, respectively. Thus, older adults with MM often have enough remaining years of life to warrant disease prevention and health promotion activities (Goldberg & Chavin, 1997).

The Frequency of Prevention Counseling

The U.S. Preventive Services Task Force has recommended that preventive services provision be included in every medical visit (Stange, Flocke, & Goodwin, 1998). Physician compliance with this recommendation remains suboptimal, with counseling for certain prevention behaviors, such as diet, physical activity, and CRC screening, falling well below recommended levels (American Academy of Family Physicians, 2011; Kolasa & Rickett, 2010; Rex, Johnson, Lieberman, Burt, & Sonnenberg, 2000). Although most adults are overweight (Ogden et al., 2006), less than a quarter of adults who have seen a doctor in the past year report receiving diet or physical activity advice (Honda, 2004). In primary care, 20% of visits included counseling for diet and 14% for physical activity; the likelihood of this counseling has declined in recent years despite rising incidence of obesity, overweight, and sedentary behavior (McAlpine & Wilson, 2007). CRC screening discussions occurred among only 14% of visits for patients 50 years of age and older (Ellerbeck et al., 2001).

The Physician's Role in Prevention Counseling

Most Americans visit their doctor at least once a year, with an average of 2.1 annual visits (U.S. Department of Health and Human Services, 2005). Physicians are particularly well-situated for prevention counseling for patients with MM who generally interact with the health care system even more frequently. For primary care visits alone, individuals with diabetes and up to two additional conditions make, on average, 2.64 visits a year, compared to 3.93 for those with four to five total conditions and 6.36 visits for individuals with six or more total conditions (Starfield et al., 2003). Similar patterns exist using various other index conditions.

Most adults have reported that their physician is their most trusted and influential source of health information (Krewski et al., 2006). Thus, low rates of preventive counseling represent a missed opportunity for health promotion. For instance, although 42% of patients reported their physicians to be their primary source of cancer information, the majority of patients did not discuss CRC screening with their physician (Greiner, Engelman, Hall, & Ellerbeck, 2004). Physicians also exert a priming effect; when they have provided advice about health behaviors, patients were more likely to view printed materials as personally relevant, which has led to greater likelihood of lifestyle changes (Galuska, Will, Serdula, & Ford, 1999; Kreuter, Chheda, & Bull, 2000).

Theoretical Background

We currently lack theoretical and substantive insights on the relationship between disease prevention and MM management. In one of the few existing models focused on physician counseling, Lewis and colleagues (1986) found that physicians' counseling attitudes, comprised of their motivation, perceived skills, and perceived barriers in providing recommendations, predicted physician counseling practices. Lewis focused exclusively on the physician, overlooking systems and patient factors. In contrast, the Systems Model of Clinical Preventive Care (SMCPC) was designed to predict engagement in prevention activities.

The SMCPC included both physician and patient factors that might influence preventive care activities. Developers of the SMCPC proposed that predisposing, reinforcing, and

enabling factors on the individual level, as well as health care delivery system/organizational factors, features of the preventive activity, and situational factors/cues to action predict preventive behavior and ultimately health outcomes. Despite this wide array of factors, the developers of the SMCPC overlooked the role or potential utility of behavior change counseling (Walsh & McPhee, 1992). Thus, although there is extensive research associating patient factors with the likelihood of prevention counseling, little is known about the nature of physicians' prevention counseling among patients with MM (Wee, McCarthy, Davis, & Phillips, 1999).

To rectify this deficit, we explored physicians' perspectives on prevention counseling among their patients with MM. Our long term goal was to improve the effectiveness of such counseling. We used the Theory of Triadic Influence (TTI) to integrate several theories of health behavior and address intrapersonal, social situation-context or interpersonal, and cultural-environmental factors that can have direct or interrelated influences on health behaviors (Flay & Petraitis, 1994). While initially developed in the context of adolescent substance abuse, the TTI has been used for a wide array of behaviors. The model addresses health promotion and disease prevention in the context of behavior initiation and behavior maintenance (Flay & Petraitis, 1994). We applied this ecological framework to ensure we addressed each of these domains of potential influence within our interview protocol.

We focused this article specifically on physicians' preventive counseling in relation to three key behaviors — diet, physical activity, and CRC screening — and sought to understand how the presence of MM influences the nature of counseling delivery. We included physicians rather than other health care providers because individuals with complex care needs are more likely to see physicians than non-physician clinicians for their health care needs (Druss, Marcus, Olfson, Tanielian, & Pincus, 2003). Furthermore, physicians tend to be the most influential figure in patient preventive care activities, at least for receipt of CRC screening (Gilbert & Kanarek, 2005; Sarfaty & Wender, 2007). We focused on primary care physicians because individuals with MM tend to rely more on primary care physicians than on specialists (Starfield, et al., 2003). Selecting diet, physical activity, and CRC screening allowed us to address a broad array of prevention behaviors, including ongoing lifestyle behaviors and single time point clinical services.

Methods

Two trained qualitative researchers (Bardach and Schoenberg) engaged 12 physicians in semi-structured interviews (Schoenberg, 2002). We used a purposive sample to obtain a diverse array of physicians—men and women from rural and urban practices, community and academic settings, and family and internal medicine specialties (Patton, 2002). Initial inclusion criteria included being a practicing internal medicine or family practice physician with a willingness to participate in the study. We subsequently included one physician in obstetrics-gynecology (OB/GYN), after initial interviews highlighted that for some women, their OB/GYN served as their primary care provider. Physicians who focused on pediatric populations were excluded.

Potential participants were identified through a primary care physician email directory. Thirty potential participants were contacted via email and asked about their willingness to participate in an interview study about prevention practices among complex patients. Physicians who indicated a willingness to participate were re-contacted via email to schedule an interview session. Sixteen physicians never replied, 14 replied and were willing to participate, and 12 were scheduled and interviewed. The remaining two physicians who had indicated a willingness to participate were not interviewed because of scheduling difficulties and having already achieved saturation. No physicians actively declined; thus we

have no information about reasons for non-participation. Consistent with tenants of theoretical saturation, we ceased conducting new interviews after we obtained a diverse sample of physicians and responses no longer contributed novel insights (Strauss & Corbin, 1990).

Using the TTI, we developed semi-structured questions that encompassed a range of intrapersonal, interpersonal, and cultural/environmental factors related to physician prevention recommendations among patients with MM (Flay & Petraitis, 1994). For the first three participants, we focused the interview guide exclusively on CRC screening because these interviews were designed as a complement to a broader study on CRC screening determinants. After we conducted these initial three interviews, we expanded the scope of the interview to include diet and physical activity. These additional areas were included due to a prior interest in prevention overall, which we realized fit well within the interview schedule. We obtained informed consent and permission to audio-tape the interviews from each participant prior to the interview. Interviews lasted approximately one hour, with the length varying because of participant loquaciousness. The interviews took place at a mutually agreeable location, usually the physician's office. All protocols were approved by the University of Kentucky Institutional Review Board.

Data Analysis

All interviews were tape recorded and then transcribed. We repeatedly read each of the transcripts to achieve a broad understanding of the content. We then engaged in coding to develop inductive categories and identify emerging themes (Hsieh & Shannon, 2005; Kondracki & Wellman, 2002; Schoenberg, 2002). We compiled the resulting categories into a codebook. A subset of interviews was co-coded to ensure consistent interpretation of categories. Discrepancies were discussed, codes clarified and the codebook modified as needed, and we recoded when coding changes warranted it.

Consistent with the Morse's criteria for using intercoder reliability, we conducted semi-structured interviews using the same questions in the same order and coded the data on completion of data collection (Morse, 1997). Because these interviews were not unstructured and the interview guide was not interactive or emergent, coding interpretations and decisions could be subjected to inter-rater reliability procedures. We calculated inter-rater reliability by the number of codes agreed on by two independent raters divided by the total number of codes used by the two raters, ultimately establishing an inter-rater reliability of .8 (Bernard & Ryan, 1998). After establishing this level of reliability, the remaining interviews were coded by a single coder. Discussions between the authors were used to verify the final interpretation of the data (Miles & Huberman, 1994).

A document compiling illustrative quotes for each of the categories was created in parallel to this process. Through this document, we were able to more easily retrieve key quotes, enhancing clarity from the data regarding the intent and nature of the various codes, and allowing us to compare participant perspectives within a category or theme. The TTI aided in the organization of our findings. We did not use the TTI as a template for thematic identification or confirmation (Miles & Huberman, 1994; Willms et al., 1990).

Findings

Participant Characteristics

We interviewed six male and six female physicians, ranging in age from 31 to 57 years. Six were family practice physicians, five were internal medicine, and one specialized in OB/GYN. All participants were affiliated with a university health-system, but five practiced in offsite community locations. Years in practice ranged from 3-22 with all physicians

reporting diverse patient populations in terms of age, insurance status, socio-economic status, race, and health needs.

Themes

Participants defined prevention in the context of MM and, consistent with the TTI, they discussed intrapersonal, interpersonal, and cultural/environmental influences on their prevention counseling practices. The intrapersonal factors identified related to patients' MM status. The interpersonal factors centered around issues of patient-physician relationships of trust. The cultural/environmental factors addressed systems factors. Participants also discussed recommendations for enhancing prevention counseling, including their own methods for keeping track of prevention.

The Relationship between Disease Management and Prevention Counseling

Physicians emphasized that prevention for patients with MM included primary, secondary, and tertiary prevention. Given this broad conceptualization of prevention, providers described significant time requirement devoted to prevention:

> Even managing diabetes and hypertension is a preventative measure. So everything I do every day is all about preventative health care. It's just making the patient better acutely to prevent things from happening again, well, that's preventative measures. And then to maintain your quality metrics so you avoid things, too, like your colon cancer screen, making sure they're doing that. So if you look at it in that context, probably 75% of the time that I spend with every patient is more preventative matters. And again if you look at my whole concept of how I practice medicine, of educating the patient, that's preventative medicine in and of itself, which is how I practice medicine.

For patients with MM, a substantial aspect of preventive care encompassed management of existing conditions and prevention of complications to maximize quality of life and limit functional declines. One physician explained how his view of prevention among patients with MM encompassed disease management:

> To me prevention is prevention not of preventing disease from happening, but in a chronic medical condition patient, it's preventing those diseases from getting worse. So if you've already got somebody who's diabetic and his kidneys are acting up, you want to prevent that from progressing… . You're really doing preventive care in a different way; not in the traditional screening sense of prevention, but in the chronic medical condition patient, you've got to look at each one of those problems and see if you can prevent them from getting worse, at least extend the quality of life as long as you can.

One physician indicated that for patients with MM much of their preventive care is tertiary prevention, but that, "Primary prevention, for another co-morbidity that we're trying to think about in the mix of everything, that's where it gets dropped because we just don't have the time." Another physician provided an example of a patient in his mid-fifties with a history of heart attack and two bypass surgeries, poorly controlled diabetes, gout, arthritis, and chronic back pain who has never had a colonoscopy. He lamented this lack of primary prevention for fear that an additional condition could be too much for this patient:

> He will probably die of his heart disease. But I would hate for him to get colon cancer too because he would have great difficulty surviving the big operation. And if we can remove or deliver a polyp before it became invasive, that would be much better for him physically than having to have a major operation.

A number of physicians spoke about where prevention falls in a list of priorities. One physician indicated how he addresses his patients with MM by prioritizing acute needs over prevention:

> Number one, triage them as far as create a hierarchy of what needs to be addressed first and foremost, what are the life-threatening immediately versus longer term preventative measures, and trying to find a healthy balance between the two.

Similarly, another physician indicated how, "Preventive care is also discussed once their chronic issues are on the right track." One physician suggested that preventive care probably accounts for "less than 10% of the visit simply because everything else is considered higher priority." In contrast, another physician suggested that prevention probably accounts for "80% of my time, because it's so important to people with chronic medical problems who already have established disease, preventing that from progressing."

Responses revealed that physicians' engagement in diet and physical activity counseling often did not match the high value they placed on this aspect of preventive care, due to time constraints and competing demands within the visit. For instance, one physician indicated she viewed lifestyle counseling as high priority, because, "a lot of people can control a lot of their problems if they were just motivated to do these types of things. It's unfortunate that I only spend a minute or two talking about these things with them." Another physician also indicated how she wished she could spend more time counseling about these behaviors. When asked how much time she devotes to these discussions, she responded, "Not enough. I mean, they've done the calculations right. If you did preventive care for every person, you'd be in the office ten hours a day." Physicians indicated how existing conditions can serve as barriers to and facilitators of primary and secondary preventive care through their impact on patient receptivity to prevention.

Complexity as constraint

Some physicians hesitated to broach prevention issues given their desire not to overwhelm patients with MM. One physician indicated that with complex patients:

> I think we make a lot of decisions based on what's going to be simpler for the patient rather than what's actually going to be better. Or we don't and then we get a bad outcome when the patient can't manage that… . You can't overwhelm them. Because their blood pressure is out of control and you have to give them another pill. If you start talking to them about a colonoscopy, it's just too much.

If patients were in "crisis" mode in MM management, they and their physician tended to focus on the problem at hand, relegating prevention discussions to a secondary place. One physician summarized the challenge, "More co-morbidities equates to a much higher chance of dropping the ball on something," specifically dropping the ball on primary and secondary prevention. Similarly, another physician indicated that, "the more you come with, the less you are going to get dealt with" in regards to prevention. This physician also indicated that for individuals with multiple concerns it can be hard to shift their focus to prevention. Consequently, she said:

> For people who are overweight and they don't bring it up, it's fairly rare that I do it. Unless they have a medical condition that's obviously impacted by weight, like osteoarthritis of the knees… . If it's just me bringing it up and it's not them it's probably a lot rarer.

Complexity as opportunity—Physicians also indicated that patients' having complex medical conditions can create opportunities for prevention. Physicians described how patients with MM might be more apt to recognize the relevance of particular prevention

behaviors to their conditions, which encouraged physicians to have prevention discussions. One physician explained how she was more likely to discuss healthy diet and physical activity with individuals whose conditions were clearly associated with energy balance, specifically individuals with diabetes:

> It just becomes so much more obvious that I emphasize it [diet and physical activity] more in a diabetic. Not that I think it's not as important for other people, but it's so much more an obvious part of their disease condition and interrelated and I think they are just more motivated because it's, because they see that, most of them… . And it's very motivating for them to just see what their sugar does when they eat certain things.

Similarly, one physician explained how it is easier for her to bring up diet and physical activity if she can connect it to a medical condition:

> I find it very hard to just be like, 'you know, you're overweight and I think we should work on it.' Like I said, if there is a medical condition to tie it into, I'll usually do that. And that is actually what prompts me to do it most of the time. It's like, 'yeah, I know your knees hurt, we're going to work on this stuff, but I think you also, while we're doing this, work on trying to lose a little bit of weight too.' Like tie it in that way as part of the treatment plan.

Physicians described how they used disease symptomology and function complaints as a compelling illustration of the need for patients to engage in certain prevention behaviors. One physician explained how this might work:

> If it's a joint complaint, for instance, they are overweight, I jump right in. When I'm doing an examination, 'well, it looks like you've strained something' or 'I've found nothing wrong on your examination. We can get an x-ray, but I know what's wrong. Look at you, you weigh 350 pounds. It's like putting three tons on the back of a pick-up that's built for two tons. The wear and tear on those shock absorbers is going to wear them out pretty soon, so we have to do something about this.' And launch right into it, sometimes give them a referral to a dietician. That kind of stuff helps too, but almost immediately if it's a weight or an activity or preventive related problem, I just jump right in and tell them.

Patients might further benefit from their complexity because they might be more accustomed to going to the doctor and, consequently, might be more open to scheduling additional tests like colonoscopies. One physician voiced this possibility, "I think that people with chronic conditions, they are used to going to the doctor a lot and so they understand that this [prevention] is just another part of their care."

Complexity is complex—Providers acknowledged that interacting with their patients with complex health status posed both challenges to and facilitates discussions of prevention. Specifically, participants discussed how the influence of MM on prevention varied depending on the specific diseases, their severity, and the degree to which these conditions connected to lifestyle behaviors:

> The more somebody has that points to being related to a disease or to a lifestyle thing, the more, the more power you have…It makes it more likely if they are related. Now, if they are totally unrelated…then it probably makes it less likely because then you just got other things to deal with and this probably just gets a smaller percentage of the pie.

Another physician explained how:

> If they have multiple issues, they can be more motivated because they know that it'll affect every single health issue. And yet, when they have all these multiple issues they often have the pain issues that go along. You know, the arthritis and the disability secondary to their obesity or diabetes or something. So, it's a catch 22.

One physician suggested:

> Most patients with stable chronic conditions are very receptive to discussions of prevention because they do not want one more preventable condition to worry about and would like to improve their current condition. Those with uncontrolled conditions usually are not receptive to preventive discussions until the current condition is controlled.

Prevention Counseling Strategies

Physicians universally emphasized the importance of patient motivation in complex patients' receptivity to prevention recommendations. They shared different strategies for how to promote patient motivation based on their personal experiences and preferences. These strategies included education and personalizing risks and benefits of preventive care. Education included the "why" and "how" of what a patient should be doing: "If you put it on the level of the patient and they understand, they're more apt to be compliant and follow through with your stuff." Participants emphasized the importance of patient education for individuals with MM, given the complexities involved in balancing a number of existing conditions with the prevention of complications and new conditions. Physicians also discussed the importance of tailoring prevention recommendations to a patient's existing conditions. One physician discussed her communication goal as:

> Tailored to each patient's individual needs is important, being able to have them see where their own weaknesses are, where they can improve. And oftentimes, have them offer those things, 'what do you think is your biggest weakness with your diet?'

Personalization might also involve a "focus on what they [patients] can do, not their limitations." Physicians also described the value of finding personally meaningful goals and personalizing reinforcement for prevention behaviors. One physician indicated how she tries to:

> Help them [patients] recognize that it's really for their health that they need to do it. Sometimes it helps to bring in personal experience or examples to bring it down to a human level. Because most people think about all of this preventive care as theoretical and outside them.

Participants indicated that personalization guided whether, when, and how to counsel patients. One physician noted she used informal risk stratification for diet and physical activity recommendations:

> I try to recommend it regularly to the patients who are overweight or obese. I would say I probably don't talk about it as much to my patients of normal weight. At every initial visit though, I do ask them about their diet and exercise habits.

A few providers commented how while they might ask patients about their health behaviors, they are hesitant to discuss recommendations for diet and physical activity at initial visits. One physician explained her reasoning:

> I do personally have some discomfort in not wanting them to feel sort of overwhelmed in that first visit because it's a lot of stuff to cover. So, when I bring it up, I would say, now it depends on the patient, but to an overweight or an obese

> patient, I would talk to them about the importance of losing weight either to make their current comorbidities better or to prevent comorbidities in the future.

One physician mentioned limiting her diet and physical activity recommendations and instead providing encouragement for any changes the patient might have made:

> I won't talk about it every time, because that is often too oppressive. Especially if there's not any progress made and they say they've changed their diet. Generally if they say they've changed their diet in a positive way, there's nothing like encouragement.

Developing a plan for engagement in prevention behaviors was also viewed as important, focusing on small, tangible changes to avoid overwhelming the patient. One physician specified how she counsels about exercise first and then might counsel about diet. She indicated that diet "is focused on once a strategy to get moving is in place. Exercise usually makes people feel better and if they feel better they are more motivated to take care of themselves." Her belief was that by successfully making one change, patients will be encouraged to make additional changes. One physician discussed how for multimorbid individuals who might have a lower life expectancy, she will focus:

> Much more quality of life aspect and the little changes are to improve quality of life or to really try to tackle one of the chronic conditions that is bringing them down a lot before you get into anything else. You know, to maybe get them back to a state where they would maybe benefit from other preventive things.

The establishment of a good relationship with patients was perceived to enhance patient trust and increase patient receptivity to prevention behaviors. One physician explained how, "if they [the patients] trust you and that you've given them good advice and that you've listened to them, they are much more likely to take your advice.' One physician referred to the development of trust as "the art of medicine" indicating that trust is, "a huge part of preventative health measures. And so that's probably the biggest thing you've got to focus on, is just trying to connect with the patient. Then you can open up anything." Another physician elaborated on the importance of developing trust, discussing his recent conversations with patients where he asked:

> 'How's your holiday? Did you spend time with family?' And they'll tell me what they cooked for Christmas dinner or whatever they got for Christmas. And that's part of the relationship that is critical to taking care of these folks, too, because you develop trust and they know you listen.

Many physicians indicated how when they develop a trusting relationship, patients are more likely to be compliant. For instance, one physician specified:

> Things that they won't agree to now they'll agree to after a year, after they trust you, that you are not going to force them to do something, but that you've treated them well and tried to listen to them over the year.

Physicians explained how trust increased patient receptivity to physician recommendations which encouraged physicians to broach prevention topics. Many of the suggestions discussed previously regarding how to communicate with and educate patients were also perceived to build rapport and trust.

Staying on top of patients' prevention needs was frequently discussed as a challenge. Many physicians discussed personal efforts to develop systems for keeping track of prevention activities and discussions, and suggested structured efforts, "I don't think we have a reminder system, it's just me." One physician explained:

> If you don't have some systematic guide like that in the chart it really dramatically increases your time if you have to sort through all the records to figure out when their last colonoscopy was… . I try to keep that easily accessible to kind of streamline the visit that way.

Others used a variety of approaches including the creation of personal lists, flow sheets, mnemonics devices, prevention checklists, and adaptation of notes sections of paper charts into health maintenance records. One physician described how she tries "to be OCD in my notes" regarding documentation of prevention counseling. Participants also touted the much anticipated arrival of electronic medical records (EMRs), just now being implementing in the university health system in which the participating physicians were all affiliated. Participants anticipated that a coordinated EMR system would better organize personal prevention practices, prevent wasted time flipping through charts, provide prevention reminders, and facilitate communicate with other physicians. One physician explained:

> We don't have a good infrastructure in our practice right now. We are working towards that, but you can put together a lot more support systems to take care of that stuff and prevent it from dropping through the cracks… . The EMR can help with that a lot.

Perceived Futility and Benefit of Prevention Counseling

Many physicians also believed their patients lacked the resources needed to follow prevention recommendations. Such perceptions led to the perception that these preventive health discussions were futile. One physician voiced this concern:

> What are the resources? What are my tools to fix this problem? They are extremely minimal. Facing a society where there is advertising everywhere, where many people live in places where they can't access, where they can't exercise safely. They don't have the financial means to access exercise programs or really fresh fruits and vegetables. So I think that's the reason that most of us don't, not only time, but also this idea of futility.

This perceived futility was exacerbated when physicians felt community resources were also lacking, a particular concern regarding cancer screening for uninsured individuals. One physician talked about the futility of counseling with older adults who might not be able to imagine a healthier future:

> Once you get to a certain point in your life where you're at a certain age, and you've got so much medical problems going on that's irreversible, you probably reach a point mentally, psychologically, or maybe you're wired this way, that at this point this is as good as it's going to get and I'm not going to be able to improve things. And I'm not sure that a lot of people can overcome that. So no matter what I do to try to get some people to do better, if I can just maintain where they are and not have them deteriorate more, that's good, but getting them to improve, I just don't see it's happening very much.

One physician explained the importance of the patient seeing the benefit of preventive care, using the example of colonoscopies:

> They have to have a perceived need for the colonoscopy; it's not just another test they are having to endure, but it's going to make a difference in their life or potentially make a difference in their lives… . I think the biggest thing is that they have to just buy into the fact that it's a test that may extend their life or at least reduce serious illness down the road and once they kind of buy into that they are more accepting of it.

Despite these perceived challenges and the uncertainty of prevention's effectiveness, physicians persisted in their attempts to encourage prevention. One physician cited research supporting the value of encouraging patients in health behavior change, though she indicated that even without this research she would still try, "The data is, being encouraged by your provider actually makes a difference. But you know, even if it didn't, I'd encourage them."

Cultural/Environmental Influences: Systems Factors

Time constraints were the most frequently discussed systems factor influencing prevention recommendations. Physicians emphasized how visit time constraints can limit prevention discussions when patients have multiple health concerns, including chronic condition management and acute symptomology. One physician described this challenge:

> You just don't have enough time. You're dealing with five or six things that are pressing to them and they want immediate responses for and so you don't have as much time to tack on, 'Do you need a colonoscopy? Or, do you need a PSA screen?' Or some of the preventative health measures, and you say, well, 'I'll just postpone that to the next visit', but what happens at the next visit is the exact same thing.

Other physicians also discussed the role of time constraints, "If we're running out of time, it's [prevention's] probably one of the things that's going to be left off." One physician indicated that:

> When you're focused on the chronic medical problems year after year after year, or visit after visit after visit, you sometimes lose track of time and before you know it two or three years have gone by and you haven't looked at the preventive measures.

Physicians were aware that postponing prevention measures eventually resulted in a decreased quality of care. One physician discussed this risk, "The challenge is not forgetting about it [prevention]. Because every time they come in, especially the sicker they are, you can get really distracted by about a million things." Accordingly, one physician expressed:

> If they come regularly, you are hoping that one of those times that don't have much going on… . If they are finally stable and they don't have all those things that I'm needing to address or explain, then I'll take that time to go over, kind of healthy stuff.

This physician touched on the potential time-related benefit of MM; individuals with MM have more frequent visits, creating more potential opportunities for prevention discussions.

Participants discussed other health care system challenges for promoting preventive care, including lack of reimbursement for prevention counseling. Physicians explained that prevention counseling is reimbursed at a lower compensation level than other office activities and insurance does not always covering all auxiliary prevention services, such as diabetes and pharmacy-related educational programs. One physician explained how insurance reimbursement for prevention limited her ability to focus on prevention:

> A lot of insurances … limit what you actually get paid for or what you can code for for prevention. And so if you can't code for it … money motivates people and so, that's how you make your living. You need to be able to do things that you can get paid for.

Physicians noted that the existing reimbursement system is volume-driven which is not consistent with quality prevention recommendations, "it's a balance between productivity and quality and I don't think in America we've quite found that balance yet."

Another systems-level challenge to the preventive care of patients with MM related to care coordination, particularly in the absence of a centralized electronic medical record (EMR) system. The value of interdisciplinary resources and educational programs, such as referring patients to dieticians or health educators, was often recognized but perceived to be underutilized because of time and financial constraints.

Recommended Policy Level Changes to Promote Prevention

Participants provided policy-level suggestions, including alternative care delivery and reimbursement models, for overcoming systems-level challenges and promoting prevention within the existing health care environment. Several physicians discussed the potential of health care reform, and specifically the promise of the medical home model. Such a model is designed to promote interdisciplinary, coordinated, patient-centered care, while lowering healthcare costs and improving patient outcomes (Rosenthal, 2008). One physician stated:

> There's a proposal now for this medical home … where they'll actually pay for you to take care of all aspects of a patient… . You'll get paid a reasonable amount to help pay for, not only the visit with the doctor but also staff people that can help with some of this stuff, that are better trained to do it than me… . We'll pay you more for the complicated patients, so you can have the staffing and the time to be able to take care of them, to keep them out of the ER and keep them out of the hospital and prevent their chronic problems from getting worse, which is all well and good, but so far nobody's been willing to pay for that.

Several physicians also suggested that launching public-health campaigns might promote routine prevention. One physician recommended that campaigns be initiated that parallel women's habit of regular, routine preventive office visits:

> An ideal situation would be a public health campaign where people knew, like once a year or once every couple of years or when you turn fifty, you need to do this or something. It actually just helps open the door.

Limitations

The physicians who participated in this study were not necessarily representative of all primary care physicians because they were identified by their affiliations with one academic institution and many indicated that their experiences were shaped by this affiliation. Generalizability is also limited by the small sample size, lack of geographical variability, and the possibility that participants willing to volunteer because of interest in thee topical focus might have been more interested or engaged in prevention recommendations than other physicians. Despite these limitations, the grounded perspectives of these physicians help shed light on the provision of prevention recommendations among patients with MM.

Discussion

This is the first known article to explore how MM influences physician prevention counseling, a focus with key implications for maximizing the quality of life of adults with MM. We had originally considered using the TTI to organize our findings; however, the TTI is an individual theory of health behavior, oriented toward the assumption that decisions and intentions are precursors to behavior (Flay & Petraitis, 1994). Prevention within a clinical visit, on the other hand, reflects a shared behavior because the patient and/or the provider might be responsible for its occurrence. Prevention counseling might not always result from conscious decisions or intentions. Accordingly, our analyses and discussion are not constrained by this model; our results do, however, suggest the domains of the TTI - intrapersonal, interpersonal, and cultural-environmental - each influence physicians' prevention counseling with patients with MM. Thus, all three domains should therefore be

considered when trying to improve prevention counseling. In light of these factors and the results of the present study, below we expand on the physician recommendations regarding how to improve prevention counseling among patients with MM.

Our study reveals that MM creates both challenges and opportunities for prevention discussions on an intrapersonal level. MM might serve as a barrier to prevention discussion because physicians do not want to overwhelm already burdened patients. MM might also deplete a patient's personal resources, and in light of limited community resources, physicians believed that prevention recommendations might be futile. Previous research indicates that physicians often feel discouraged from recommending preventive behaviors, believing such counseling to be futile (Walsh, Swangard, Davis, & McPhee, 1999); consistent with this research, our findings indicate that physicians experience a sense of futility when their patients are unable to follow recommendations. Prior research has also described how patients with MM struggle with prevention (Crabtree, et al., 2005); our findings suggest how the intrapersonal aspects of MM influence physician prevention practices and help to explain this relationship. Researchers have determined that suboptimal health and disease burden increase the likelihood of prevention discussions (Honda, 2004; Wee, McCarthy, Davis, & Phillips, 1999); because poorer health and specific conditions might be more likely among individuals with MM, our findings suggests that patient symptoms can highlight the need for tertiary prevention and explain this greater likelihood of prevention discussions. Physicians were able to focus on their patients' symptoms and health concerns to help patients see the need for and value of various prevention recommendations, increasing receptivity to recommendations and motivation to comply.

On an interpersonal level, we found that trusting relationships shaped whether physicians and patients were able to engage in good prevention discussions. Many researchers confirm the association between such positive relationships and the likelihood that prevention discussions will take place (Sinclair, Lawson, & Burge, 2008). Conversely, researchers have identified perceived patient disinterest as one of the most prominent barriers to prevention recommendations, particularly counseling-based prevention recommendations (Cornuz, Ghali, Di Carlantonio, Pecoud, & Paccaud, 2000). Trusting relationships seem especially critical among patients with MM who, in the face of competing health concerns and disease management priorities, might overlook prevention without a strong physician influence. Researchers also have suggested that a lack of continuity can prevent patients from discussing health concerns with their providers (Rogers, Kennedy, Nelson, & Robinson, 2005). When possible, patients should request a continuous provider and health systems should be oriented to recognize the value this has to enhanced trust and quality of care and facilitate patient-provider continuity.

Cultural-environmental systems factors of visit time limitations and reimbursement issues have been identified previously (Meriwether, Lee, Lafleur, & Wiseman, 2008). Physicians in the present study highlighted how time constraints are exacerbated when providing care for patients with MM, creating the likelihood that prevention recommendations might be overlooked (Yarnall, Pollak, Ostbye, Krause, & Michener, 2003). Physician judgment regarding when to recommend and/or provide preventive care is a necessary component of clinical practice (Crabtree, et al., 2005). Even when physicians decide to address some of these prevention areas, patient concerns regarding existing health conditions might limit resulting discussions.

In light of these various challenges, physicians reported a variety of strategies and suggestions to enhance prevention recommendations with patients with MM. On the intrapersonal level, participants reported incorporating existing, salient conditions and symptoms into their efforts to educate and motivate patients. Consistent with existing

research, physicians in this study viewed patient motivation as a fluid characteristic, modifiable by the physician's preventive care approach (Story et al., 2002). Physicians also recognized their role in promoting patients' health understanding and indicated that when patients drew connections between their behavior and their health status, they were more receptive to prevention recommendations. Researchers have demonstrated the value of personal approaches to keeping track of preventive care recommendations, such as flow sheets (Ellerbeck, et al., 2001); we found that physicians view these approaches as critical among patients with MM, for whom practice time constraints are exacerbated by multiple health needs.

Providers stressed the need to control chronic conditions as a first priority, but we also maintain that by adopting a holistic view of disease management, prevention can be incorporated into chronic disease management. Through this process, prevention activities like diet and physical activity counseling, not only can mitigate existing conditions, but might prevent future conditions (Mosca et al., 2005). A more targeted prevention strategy that takes into account each patient's own values, specific health conditions, and health goals may be more productive than a blanket statement regarding the importance of prevention (McGrath, 1999). Motivational interviewing might be one approach to facilitate inclusion of prevention in this context (Ledderer, 2011).

As an influential source in patients' health decisions, primary care providers have a responsibility to try to promote prevention (Nekhlyudov, 2009). Even though they certainly will not get through to everyone, it is important to focus on the benefit for those who do engage in the suggested behaviors, rather than focusing on the futility. Although there is an initial time investment to counsel patients on prevention, the time savings from the potential benefits down the line should warrant this initial expense.

Participants also identified cultural-environmental systems level changes to alter the health care climate and enhance prevention among their patients with MM. Interdisciplinary teams and EMRs might be effective in increasing prevention recommendations and enhancing chronic disease management (Hillestad et al., 2005; Hung et al., 2007; Loo et al., 2011). Physicians in the present study indicated that both interdisciplinary models of care and EMRs that included prompts for prevention were promising for promoting prevention, particularly with their patients with MM. In an era of healthcare reform, we need to support these promising policy approaches and the development and implementation of meaningful EMRs that help with prevention (Blumenthal & Tavenner, 2010). In order for these efforts to be successful, we must change our focus from the immediate costs associated with longer visit times to a long-term view where the value of prevention is recognized.

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Bios

Shoshana H. Bardach, M.A., is a doctoral candidate in gerontology at the University of Kentucky in Lexington, Kentucky, USA.

Nancy E. Schoenberg, PhD, is the Marion Pearsall Professor of Behavioral Science at the University of Kentucky in Lexington, Kentucky, USA.

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