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Fitting a square peg into a round hole: Perceptions of Appalachian physicians on the incorporation of chronic disease prevention into their practice

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ABSTRACT

This study used a focus group in August 2017 (n = 9) to explore the perceptions of rural physicians to a state request to incorporate diabetes prevention screening into their West Virginia medical practice. Analysis of the data revealed that the participants did not think private physicians were equipped to incorporate diabetes prevention programming into their practice. Three categories emerged from the data analysis to explain the reasoning of the health practitioners on the incorporation of pre-diabetes screening and management into their practice.

- * The practice of medicine
- * Prevention is a mismatch
- * Social determinants of health

In the end, the study revealed that a request for physicians to identify and refer at risk patients to a diabetes prevention program is problematic due to conceptual and structural issues. Based on the findings it does not appear at this time that private physicians in rural settings can incorporate diabetes prevention into their existing practice. To address conceptual and structural barriers the invitation to rural physicians must: 1) present evidence on how physicians may be effective in a diabetes management team; 2) include a model that demonstrates a limited, specific role and duties for the physician within a team setting; and last, 3) integrate physicians into an existing community-based network of social and human service providers set up to provide diabetes prevention services.

1. Introduction

A government initiated pilot program provided incentives to rural physicians in West Virginia to incorporate diabetes prevention strategies into their practice. This study sought to unpack the meaning behind the phrase, “I don't have time” a reply from the rural physicians when asked why they did not participate in the pilot. In the U.S. it is thought that physicians participating in team based care are in a unique position to influence healthy behaviors and prevent diabetes and obesity (Bergman, 2013; Lianov and Johnson, 2010; Narayan et al., 2012; Ockene et al., 2007). Team based care is a healthcare delivery approach, that combines multidisciplinary, health and social services professionals in order to enhance the physician's ability to deliver and

follow through on preventive services (Bergman, 2013; Lianov and Johnson, 2010; Proia et al., 2014). Rural physicians, often the only accessible health care for miles around, are in a good position to benefit from these team based health care approaches.

Based on the likelihood that the team based approach would make more prevention services available in hard to reach, medically underserved areas, the West Virginia Bureau for Public Health, Division of Health Promotion and Chronic Disease (herein after the State Division), started building team based care models in 2013 to increase referrals to community based, nationally accredited diabetes prevention programs. As a next step in 2016, the Division collaborated with a county health department to initiate a pilot that would work more closely with local physicians in harder to reach places.

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During the 30-day pilot, physicians would use the Centers for Disease Control (CDC) pre-diabetes risk assessment screening tool (see Website references) with their adult patients, make referrals to nationally accredited community programs based on the National Diabetes Prevention Program or the Diabetes Self-Management Education Programs, and provide follow up A1c screenings as appropriate (DiBenedetto et al., 2016; Ely et al., 2017; Freudenberg and Atkinson, 2016; Herman et al., 2017; Hohman, 2017; Poltavskiy et al., 2016). Physicians would receive a \$700 stipend for enrolling 20–25 patients. After 90 days, the State Division found that no physicians had agreed to participate in the pilot. The physicians who responded to a query form the Division as to why they had not participated simply said, “I don't have time”.

2. Methods

2.1. Recruitment and focus group

Given the private physicians' underwhelming response to joining the pilot and no clear explanation for the lack of participation, the State Division set up a 90-minute focus group in the fall of 2017 in partnership with the West Virginia State Medical Association (WVSMA). The focus group was conducted by one of the researchers (LA). The authors declare there is no conflict of interest. The research was approved by the West Virginia University Institutional Review Board.

Focus group participants were selected from the West Virginia State Medical Association roster of members based on convenience sampling, an approach in which the researcher asks individuals who fulfill all the research criteria to participate (Blanche et al., 2006). Eligibility to participate included membership in the state or national medical association or attendance at the WVSMA annual meeting. Eleven healthcare practitioners were invited to the focus group via emails and telephone contact from the WVSMA. Of the eleven, four did not participate and two physicians not in the original sample joined the focus group. In the end, the focus group was comprised of nine physicians.

A focus group script was developed by L.A. and approved by the State Division. At the start of the focus group, participants were told that the Division wanted to find out how to incentivize rural physicians to collaborate in a pilot to screen and refer patients requiring pre-diabetes management. The Division's 2016 pilot was presented as an example of a rural, pre diabetes prevention program. During the focus group, the following materials were distributed to participants.

- Policy strategies from the Division's 2016 report titled “Addressing Obesity and Related Chronic Diseases: A Strategic Plan to Combat Obesity and Related Chronic Diseases in West Virginia”;
- Demographic questionnaire;
- A list of the West Virginia locations for nationally accredited diabetes prevention and management programs

2.2. Qualitative data analysis

A qualitative approach was adopted to more clearly understand the knowledge and beliefs that supported the physicians' decisions. In comparison to quantitative research, qualitative methods often pick up more nuanced experiences. Getting at *how* and *why* is elevated in qualitative research over *how many* (Blanche et al., 2006; Small, 2008, 2009).

The design and procedures employed for the data analysis emanated from grounded theory. Grounded theory is thought to work as both a method as well as a methodology (Cho and Lee, 2014). At the start of the inquiry, there were no clear hypotheses or theories as to why the rural physicians of West Virginia would not want to participate in a pilot to incorporate diabetes prescreening into their practice.

As a methodology, the emphasis in grounded theory is theory development when no theory exists (Cho and Lee, 2014; Glasser and

Strauss, 1967). Grounded theory as a method entails coding, and finding categories and themes. However, in grounded theory collection and analysis may occur simultaneously (Cho and Lee, 2014).

Within 6 h, after the focus group, L.A. generated a memo composed of remembrances and observations from the event without the aid of notes and a transcript. A memo is one step between data collection and writing a paper when the researcher analyzes their ideas about the data and emerging themes in whatever way occurs to them (Charmaz, 2014). As a result of the initial memo a preliminary list of thematic ideas was generated by L.A.

The focus group was audio-recorded, with participants' informed consent. A transcript was available six weeks after the focus group. One team member read the transcript and generated ideas and categories manually (L.A.). The transcript was searched for categories plus patterns, ensuring that the physician participants' understandings of prevention gave rise to the various observations and remembrances recorded in the early memo composed by L.A. This is consistent with Glasser and Strauss's (1967) grounded theory methodology. Further, saturation was reached when all identified ideas and categories in the memo and transcript transferred and reinforced one another facilitating the development of a potential theory or set of theories (Morse, 1995). Based on the transcript and the initial memo, a member of the research team (L.A.) considered theoretical relevance of the categories to existing theories and scholarship in the tradition of Burawoy's (1991) idea of refining, refuting, or reconstructing theories (Burawoy, 1991; Glasser and Strauss, 1967). Coding and analysis was conducted between October–November 2017.

In order to increase the credibility of the study findings, moderate researcher bias in the data, and diminish the likelihood of misinterpretation, methods of triangulation may be used including member checking, showing representative quotations, peer debriefing, and document reviews (Cho and Lee, 2014). A sample of transcripts was reviewed by another team member (D.S.) for agreement. Discrepancies were identified, discussed, and resolved. A physician from the focus group read the initial draft of the paper and provided edits and comments. The physician and all members of the research team reviewed the summary of the data and subsequent paper.

3. Results

Nine physicians made up the focus group. All of the focus group members completed a demographic profile with the exception of one physician. All of the participants in the focus group were white males who practiced medicine in West Virginia. Of the eight physicians that completed a demographic profile, three attended a medical school in West Virginia; the remaining participants attended medical schools in New Jersey, Texas, Missouri, Pennsylvania, and New York. A little over half (5) of the participants were sixty years of age or older and had a general or family medicine practice. Other physicians (3) practiced internal medicine, nephrology, and pediatrics.

The focus group was about diabetes prevention programs but analysis of the data demonstrated that the physicians transformed the discussion into their perspectives on prevention generally. Three categories emerged from the data analysis to explain the reasoning of the health practitioners on the incorporation of pre-diabetes screening and management into their practice.

- The practice of medicine
- Prevention is a mismatch
- Social determinants of health

3.1. The practice of medicine

Participants described issues with the practice of medicine as it is carried out in the United States under the health care system. The comments focused on the constraints that the health care system placed

on the established practice of medicine as major impediments to a rural physician's ability to deliver prevention services. One participant's statement illustrated the systems-based issues that can inhibit a physician's prevention activities:

If we are talking about interventions run by physicians, we need to talk about structural and educational changes. Structural changes in how practices are organized and paid...And educational changes in how physicians are trained to make that more likely to happen. And that's not to say that physicians are bad. Because, ... when I go to my doctor, I get good care, but I know what I'm getting care for. ...if I went in as a pre-diabetic, I would not be expecting that a physician practice would necessarily be a very good effective intervention for me in that situation. I think it's a mismatch. And – it doesn't say that physicians aren't motivated. It doesn't say the physicians aren't good doctors...I know he [physician] wants to do the right thing, but it's hard. you want me to talk about smoking. You want me to talk about diabetes. You want me to talk heart protection. You want me to talk exercise. Well, just a minute. that becomes overwhelming for patients.

Specifically, payment and reimbursement policies established by insurance companies and government agencies served as barriers. Physicians suggested that prevention services were incompatible with physician practices due to the gap between the schedule of services for which they are paid versus requests to add prevention services for which they would not be paid.

Participant 1

Well, it is time, number one. If you're in private practice, you're trying to minimize ... FTEs [full-time employees], because your reimbursement's going to be static. If you're in a university or a big, large group, the answer is: They do the scheduling, they do the – most of the nursing, etc., and you're just put in to see patients. And they're not about to break their routine.

Participant 2

..... if you think about it, we don't have the financial incentives set up for doctors to do this. ... The system,has holes in it, so it's not even like it's easy and straight forward. You're referring people into a system with holes like you know, "You'd really benefit from diabetic education. Too bad you can't get it. Too bad that's not really available. I guess I can do it in my office and my free time, doing, you know, a patient every six minutes. Sure." ... I think that's something that we have to address if we want docs to be involved in these public health measures. That – and, again, forgive me for being so crass. They're economically juxtaposed against the doctors' financial self-interest.

Participant 3

The financial support system for it is difficult because payers like Medicaid don't really pay for components of it. We have no way of reimbursing for certified diabetes educators. There are a few [educators] that get reimbursed under a grant, but the majority don't. We also don't have any codes that help you pay for any nutritional counseling. And we certainly don't have any way of paying for exercise programs. We encourage them – but we just don't have the financial support for it and so medical providers – just say, "I like the idea. I just don't have time to do it."

The participants felt that physicians needed access to a team in order to defer prevention services to other caregivers. They emphasized that other organizations, systems, and institutions should work with physicians. Interestingly, physicians seem to want such a team to be available but not necessarily manage or be part of that team. This kind of team would allow physicians to deliver reimbursable services while coordinating with other health sectors and social services to provide prevention programs.

Participant 1

Well, ...that's been the way success was achieved at the FQHC [federally qualified health center] in Williamson. Doctor [x] is pretty enthusiastic about getting his diabetics controlled and they've done this program where they have community health workers. He is kind of the face of the program. Uh-huh. But it's all about other people getting people out to exercise, drop that five percent of body weight.

Participant 2

It's got to really be separate. It's got to really be built around team care. So I'm not the best doctor to spend a bunch of time with someone who's struggling with their diabetes. I'd be far better off to move on to the next patient who needs me to diagnose something and let somebody else well-trained in my office spend time with that patient and really answer all their questions and help direct them on diabetes.

3.2. Prevention is a mismatch for physicians

The physician's role as an agent of prevention was questioned and arguments were advanced to explain why a physician was not the best method of delivery for preventive services in comparison to other available interventions. The point was made that physicians can't compare to the simplicity, effectiveness and efficiency of tools like anti-smoking campaigns, drugs, and regulations. In fact, the metaphor of using a tool or weapon that is too large for the job was invoked to explain why the use of physicians for prevention is incompatible.

Well, here's the problem: What we have here is a kind of mismatch...a mismatch of solutions or proposed solutions to problems...I've seen this before. The one example is trying to persuade physicians to do something that's much simpler than what is on offer here. And the simpler thing had to do with smoking cessation. The evidence showed pretty clearly and convincingly that if the physician would recommend to a smoking patient that the patient stop smoking, that there was a small probability that over the next year or so, that patient would make an attempt to quit and an even smaller probability that the patient would quit... I mean, our medical society went through years and years and years of having Doctor [name] gently but firmly remind all of us that we really could do something about smoking. And I'm not sure to this day how many physicians are reliably taking that one simple step.

This statement on the convenience of drugs to treat illness further demonstrated the extent to which the participants found the delivery of prevention services by physicians to be incongruous.

Now, the reason I'm raising this issue is because physicians, in general – and I think even to this day – are not accustomed to dealing with small probabilities when they have really powerful tools at their hands. If I go into my doc with pneumonia, he's going to pick out an antibiotic and it's probably going to be an effective one and I'm probably going to be cured in less than a week. Now, that's close to a 100 percent versus 1 or 2 percent maybe a long way down the road...even things like blood pressure. Blood pressure meds are so effective that three months after initiating therapy, most physicians can get a patient with really terrible high blood pressure under good control.

3.3. Social determinants of health

Another argument used to demonstrate the ineffectiveness of physicians as agents of prevention relied on a social determinants of health (SDOH) framework. Participants pointed out that social and economic factors and the physical environment shape the degree to which a physician may influence healthy behavior and disease prevention. These assertions track a SDOH model where clinical care makes up 20% of the factors that influence health while at least 50% of health is attributed to social and economic considerations and the physical

environment (Remington et al., 2015). The quotes below indicate the participant's sense of how clinical efforts to promote behavior have been consistently and historically contravened by forces that lie beyond the healthcare sector.

Participant 1

Well, let me focus on sodium because it's something that I know something about. A number of nations have actually been effective at decrease [ing] the salt intake of their population. But they don't do it through the doctors' office. It's done elsewhere. And frankly, we need the will to do that and it would have, I think, tremendous impact on – more populations – blood pressure and ultimately health... And, again, this is something that could be addressed and is probably more effectively addressed at a regulation of foods –processing of foods than it is talking about the doctors' offices where, bluntly, most doctors don't even know how to tell people to lower their sodium intake. They'll talk about "Don't add salt at the table," and "Don't add salt when you're cooking," and the two add up to about 12 percent of your sodium intake.

Participant 2

It's the choice of the food manufacturer and the retailer. I've made personal efforts to obtain a reliable supply of low sodium food...I go to my local Kroger's. I've had a lot of conversations with the manager of that Kroger's. Because you go to the shelves just to get a can of tomatoes. Got a lot of salt and you have to look hard to find the sodium-free tomatoes...The issue is one of making healthy choices the easy choices and that happens – not at the physicians' office level, that happens at the food policy level.

Participant 3

...physicians can do stuff at that the clinical level. They should do stuff at the clinical level and we should address some of the structural problems that make it impossible for some physicians to be very effective at it. And you've heard a lot of that around the table. But, physician interventions have not brought about the reduction in tobacco-caused disease that we have in this country. Interventions at the community and at the regulatory level have done that.

The extent to which patients followed a physician's orders was expressed as a barrier to effective prevention services. It was asserted that patients fail to use prevention services when offered, and compliance was attributed to the patient's characteristics versus other determinants of behavior such as food policies, transportation, or wages.

One thing I keep seeing of all these things is a lack of attention to patient accountability. I work in [an] FQHC [federally qualified health center]. We had a diabetic educator. I can refer people to her all day long. Getting them to come was near impossible. I don't have her anymore because we never had enough patients to come see her. And this program says here, "A year-long program consisting of 16 weekly sessions." I can't get these diabetic patients to come see me 4 times in a year. What's going to make them come to 16 weekly sessions?

4. Discussion

At first blush, it seems natural, due to accessibility, to have rural physicians in private practice incorporate diabetes prevention. However, analysis of qualitative data from U.S. rural health practitioners demonstrated that this idea is fraught with difficulties. On the whole, the data show that physicians find the production of optimal health to be under siege against forces that operate within the current sociopolitical context of our ecosystem which further diminishes attempts at positive behavior and the practice of medicine set within a difficult healthcare system.

Focus group findings show that while the importance of preventions is understood, private physicians in rural regions face structural and

Table 1
Rural physician's issues with incorporating prevention services.

Type of issue	Description
Structural	Incorporating additional responsibilities with the delivery of care in relation to office arrangements, staffing levels, and payment for services.
Conceptual	Belief in the degree to which a physician's contribution can make a difference given the complexity of the problem, patient noncompliance, other determinants of health that undermine healthy practices, and the conviction that drugs or health campaigns are more effective.

conceptual barriers to incorporating diabetes prevention into their practice (Table 1). The structural issues identified from the data analysis involved incorporating additional responsibilities with the delivery of care in relation to office arrangements, staffing levels, and payment for services.

The conceptual issues from the analysis that served as barriers to incorporating prevention were expressed as belief in the degree to which a physician's skills, tools, and training could make a difference given (a) the complexity of the problem, (b) patient compliance; (c) other determinants of health that regulate efforts to achieve good health; and (d) the conviction that other forms of prevention have historically been more effective including drugs or public health campaigns.

5. Conclusion

Based on the findings it does not appear that private physicians in rural settings can incorporate diabetes prevention into their existing practice. As originally thought, these West Virginia physicians do see the kinds of at-risk people that need the prevention programs. On the other hand, the physicians do not have the time, staff, or financial incentives to incorporate and deliver prevention care. First, it would seem that the wrong request was extended to the rural physicians. Such a request for physicians to incorporate diabetes prevention into their practice must take account of conceptual and structural issues (Table 1). To address structural barriers the request to the rural physicians must instead be more specific highlighting that they will not work alone but rather as part of team based care by identifying and referring at risk patients to a diabetes prevention program. The request would need to account for a physician's low level of awareness about diabetes prevention programs, their effectiveness, and the specific role that physicians may play. To work, the physicians must know they have access to a community-based network that provides diabetes prevention services. Rather than integrate into these prevention programs, physicians seemed to prefer a minimal time commitment that fit their existing medical practice.

Next, the physicians were constrained by conceptual issues such as beliefs about the efficacy of their skills and tools being weaker than other intervening factors (Table 1). In contrast to prescription drugs, social policies that either support or thwart efforts to make healthy choices, health campaigns that reach entire populations and patient noncompliance, physicians felt that their knowledge and has specific, limited utility. The analysis of data demonstrated that physicians are frustrated and conflicted by a perception of their role in relationship to current frameworks on the production of health and primary care models that exhibit the need for collaborative and multi sectored interventions to address the complex pathways by which uncountable factors interact to shape health. Educating physicians about the efficacy of diabetes prevention programs might counteract the belief that too many forces undermine the efforts of patients to change behavior. Last, physicians should be presented with a narrative on the usefulness of their role in these successful prevention programs when limited and targeted to their skills and medical practice. One focus group

participant described this knowledge building exercise and specific role for physicians.

... convincing the physician is worth doing. So, related to the diabetes prevention program, ... you see the statistics on this page. It's between 60 and 70 percent effective in preventing someone from progressing from pre-diabetes to diabetes. I would suggest to you, other than an antibiotic or an infection, there are not very many other things we do in health care that are that effective. So, ... if I can be persuaded that it's worth my time to try to get somebody there because if I can get them there, they've got a 60 percent chance of not progressing on to diabetes in the near term. That's probably worth doing. So you've got to convince them [physicians] that it's the right thing to do, then you've got to make it super easy.

This study did not analyze the implications of the participants' knowledge about existing diabetes prevention programs. When asked if they knew about the locations of community based diabetes prevention programs in West Virginia while looking at a map, none of the participants knew the programs existed. It might be possible that knowledge about existing diabetes prevention programs would lead to a greater likelihood that rural physicians in private practice would add prevention to their practice because they know that a team approach exist in their region.

Alternatively, even physician knowledge of nearby prevention programs might not address other structural issues like the time commitment or the need for financial incentives to incorporate prevention into medical practice. Finally, it is also possible that knowledge of nearby prevention programs could also fail to overcome the conceptual issues including the belief by physicians that their skills are ineffective in the face of the complexity of the problem, patient noncompliance, other determinants of health that undermine healthy practices, and the conviction that drugs or health campaigns are more effective.

In summary, this qualitative study found that rural physicians in West Virginia did not think private physicians were equipped to incorporate any kind of prevention programming into their practice. The subsequent analysis supported by quotes paint a picture of rural physicians as overwhelmed and swept up in the structural and contextual issues including sociopolitical forces and a healthcare system that is upending the practice of medicine.

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