Processes of care desired by elderly patients with multimorbidities

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**Background.** Most recommended care for chronic diseases is based on the research of single conditions. There is limited information on ‘best’ processes of care for persons with multiple morbidities. Our objective was to explore processes of care desired by elderly patients who have multimorbidities that may present competing demands for patients and providers.

**Methods.** Qualitative investigation using one-on-one interviews of 26 community-dwelling HMO members aged 65–84 (50% male) who had, at a minimum, the combined conditions of diabetes, depression and osteoarthritis. Participants were chosen from a stratified random sample to have a range of 4–16 chronic medical conditions.

**Results.** Participants’ desired processes of care included: the need for convenient access to providers (telephone, internet or in person), clear communication of individualized care plans, support from a single coordinator of care who could help prioritize their competing demands and continuity of relationships. They also desired providers who would listen to and acknowledge their needs, appreciate that these’ needs were unique and fluctuating and have a caring attitude.

**Conclusions.** These respondents describe an ideal process of care that is patient centered and individualized and that supports their unique constellations of problems, shifting priorities and multidimensional decision making. Individual and ongoing care coordination managed by a primary contact person may meet some of these needs. Achieving these goals will require developing efficient methods of assessing patient care needs and flexible care management support systems that can respond to patients’ needs for different levels of support at different times.

**Keywords.** Care management, comorbidity, geriatrics.

**Background**

Most strategies for the care of chronic medical conditions are disease specific. These recommendations are based, where possible, on evidence-based clinical trials which demonstrate that improved health outcomes are associated with specific processes of care—often incorporated into single-disease management programs. However, persons with multiple medical conditions (multimorbidities) may have different care needs: at some point along the continuum from the occurrence of single diseases through the development of complex multimorbidities to end of life care; care must shift from a population-based approach based on outcomes for single diseases to consider the variable needs of the complex patient.

Processes of care oriented towards single complaints that are currently used in office visits are not ideal for complex patients with multiple conditions.\textsuperscript{1} Addressing increasing numbers of medical conditions may increase competing demands within already busy office visits and result in adverse health outcomes. These adverse outcomes include less preventive care, less treatment for concurrent conditions, lower intensity treatment for index conditions and less intensive psychiatric treatment, among others.\textsuperscript{2–6} Multimorbidity also results in a greater number of hospitalizations and outpatient visits and higher health care costs.\textsuperscript{7–10} Persons with multimorbid conditions for which treatments and symptoms may interfere with each other are particularly vulnerable to such adverse outcomes.
There is a need to identify new processes of care that meet the specific needs of this population.

Designing improved processes of care for persons with multimorbidities requires several perspectives that include but are not limited to those of the patients receiving the care, their families or social support networks, the clinicians delivering the care, third party payers and health care systems. Paradoxically, recent reports from the latter perspective describe higher quality of care for the multimorbid population than for those with single conditions.\textsuperscript{11,12} However, these investigations focused on quantifying discrete provider actions and recommendations rather than assessing patients’ ability to adhere to (or benefit from) them. For this reason (among others), it remains impractical to apply current recommendations for the care of single diseases to complex patients and is necessary to improve on existing processes of care.\textsuperscript{13,14}

There have been recent efforts to set standards for high-quality care specifically for the population of patients with multimorbidities.\textsuperscript{15,16} These new standards address needs that may be associated with characteristics of multimorbid patient populations such as their lower levels of functioning, multiple symptoms and tasks that interfere with work or leisure activities, knowledge deficits, financial constraints and high rates of depression.\textsuperscript{17-19} These standards also address potential problems with coordination of care including duplication of tests, lack of communication among health professionals and patient receipt of conflicting information.\textsuperscript{20} Thus, care of patients with multiple medical conditions should be oriented toward patients’ overall needs, account for patterns of comorbidities and emphasize continuity and integration of biopsychosocial needs.\textsuperscript{21,22} Initial explorations of this area confirm the appropriateness of a patient-centered approach to self-management support for this population.\textsuperscript{19,23}

The process of defining high-quality care for this population is just beginning and should be informed by multiple perspectives. In this paper, we add to previous investigations by exploring processes of care desired by elderly patients who have multimorbid conditions and for whom symptoms and treatment strategies may present competing demands. Our intent was to explore patient perspectives on components of ‘best’ processes of care for persons with multiple morbidities in order to inform the development of future interventions to improve care.

Methods

As part of a larger project designed to assess barriers to self-management for persons with multimorbidities, we conducted semi-structured interviews with 26 elderly patients.\textsuperscript{17} The participants were age 65 or older and had at a minimum the conditions of diabetes, depression and osteoarthritis. These conditions were chosen based on the premise that they would provide the challenge of potentially conflicting symptoms and management strategies. For example, obtaining exercise to improve glycemic control in diabetes may be more difficult in the face of pain from osteoarthritis or lack of motivation due to depression. Such a constellation of comorbidities differs in important ways from comorbidities such as hypertension and coronary disease, in which the same treatments (such as physical activity and diet) are mutually reinforcing because they apply to both conditions. We selected participants randomly from a larger sample of 357 survey respondents with the same disease characteristics who expressed a willingness to be contacted for an interview. The random selection was within strata to reflect a range of genders, age (65–74 versus 75 and over) and overall level of morbidity (number of self-reported conditions including the three target conditions either 4–9 or 10+).

All participants were members of a not-for-profit Health Maintenance Organization (HMO). Within this care structure, each patient has a primary care physician who shares a practice with his or her partners. Patients also access physician consultants (within the HMO) as needed. In addition, patients with multiple medical conditions may have contact with other professionals including nurse educators in areas such as diabetes care or cardiac rehabilitation, physical therapists and pharmacy specialists. A few may have experienced more broad-spectrum nurse care management. The investigation was approved by the Institutional Review Board of the participating institution.

Each semi-structured interview lasted approximately an hour. Five participants elected to bring their spouse to the interview, although the spouse contributed minimally to the responses as part of the overall discussion. Questions were designed to explore overall processes of care for participants and to shed light on what might be desired from the health care system to support these needs. Questions included the following: Tell me a little about what you do to care for your medical conditions. What things help you the most in taking care of your health? Do you experience any obstacles in caring for your health? Do you find that caring for one condition helps (makes it difficult to) care for another condition? How do you decide what to do first? Is there anything that anyone in the clinic does that is particularly helpful (could be more helpful) to you? If you could design the ‘perfect’ clinic support system for someone with several chronic conditions, what would it include?

The interviews were taped and transcribed. The transcripts were analyzed with Atlas Ti\textsuperscript{TM} software to elicit themes present in the transcripts. These themes were subsequently reviewed and categorized to reflect
possible components of the process of care. Two authors (EAB and AEE) independently reviewed the transcripts for themes and then separately considered the themes relative to overall processes of care. A third author (DSM) served as an external ‘auditor’ who reviewed the themes, quotations and case examples to verify that they adequately reflected the experience of participants. Once components of preferred processes of care were developed based on these themes, we used the method of constant comparison to re-review transcripts to test these concepts.

Results

Overview and participant characteristics

Twenty-six respondents participated in the interviews. Half were female, their ages ranged from 65 to 84 and they had from 4 to 16 self-reported chronic medical conditions. Table 1 provides a description of participant characteristics.

Participants described care of their conditions as a daily routine that was modified by their own perceived needs, physical abilities and sources of support. This routine included various self-management tasks as well as an ongoing process of assessing symptom priorities and making personal treatment decisions. Although these processes were often quite time consuming, most respondents worked hard to maintain outside interests. Several respondents defined themselves as caregivers to others (usually a spouse) in addition to managing their own care. All provided detailed descriptions of the effect that management of their conditions had on daily activities and their interactions with the health care system. A clinical vignette provides one such example (Box 1).

Themes from the interviews that reflected participants’ preferred processes of care included the following: the need for convenient access to providers (telephone, internet or in person), clear communication of individualized care plans, support from a single coordinator of care who could help patients prioritize the competing demands from their multiple conditions and continuity of relationships. Participants wanted clinicians to appreciate the fluctuating nature of their medical needs and to have a caring attitude. Finally, participants felt that they knew their own needs well and wanted to ‘be heard’ and acknowledged in their interactions with providers. They described these preferences both directly in answer to questions about what would constitute perfect clinic

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13 (50)</td>
</tr>
<tr>
<td>Age 65–74</td>
<td>12 (46)</td>
</tr>
<tr>
<td>Age 74–84</td>
<td>14 (54)</td>
</tr>
<tr>
<td>Highest grade completed</td>
<td></td>
</tr>
<tr>
<td>8th grade or less</td>
<td>1 (3.8)</td>
</tr>
<tr>
<td>Some High school, but did not graduate</td>
<td>1 (3.8)</td>
</tr>
<tr>
<td>High school graduate or General Equivalency</td>
<td>8 (30.8)</td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
</tr>
<tr>
<td>Some college or 2-year degree</td>
<td>13 (50)</td>
</tr>
<tr>
<td>4-year college graduate</td>
<td>2 (7.7)</td>
</tr>
<tr>
<td>More than 4-year college degree</td>
<td>1 (3.8)</td>
</tr>
<tr>
<td>Married</td>
<td>21 (80.8)</td>
</tr>
<tr>
<td>Widowed/divorced</td>
<td>5 (19.2)</td>
</tr>
<tr>
<td>Self-reported health status</td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>1 (3.8)</td>
</tr>
<tr>
<td>Very good</td>
<td>1 (3.8)</td>
</tr>
<tr>
<td>Good</td>
<td>10 (38.5)</td>
</tr>
<tr>
<td>Fair</td>
<td>11 (42.3)</td>
</tr>
<tr>
<td>Poor</td>
<td>3 (11.5)</td>
</tr>
<tr>
<td>Number of chronic conditions 4–9</td>
<td>10 (38)</td>
</tr>
<tr>
<td>Number of chronic conditions 10–16</td>
<td>16 (62)</td>
</tr>
<tr>
<td>Number of different providers per patient in 2006 (mean, median, range)</td>
<td>8.2 (6, 2–29)</td>
</tr>
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*Including the three conditions of diabetes, depression and arthritis plus others.

I have . . . what is it called? Arthritis in the knees . . . I’m a diabetic and I take my warfarin, because I’m supposed to have a blood problem. . . . And since I had the double mastectomy I’ve ended up with . . . stomach problems, leg problems and everything else. I use a cane a good part of the time . . . because I never know when this silly knee might go out. I’ve had the cataract surgery and that just turned out beautifully. The first time I went out after I got them done I was absolutely flabbergasted by the beautiful colors that we have outdoors. I’m still working 40 hours a week. I love it. I love people and I can sit at a computer and I greet people . . .

I don’t like taking pills, but I’d rather take pills and stick around for awhile . . . as well as I am not bashful at all about coming to the doctors when I think I’ve got a problem . . . I’ve noticed that some things they tell me I cannot eat . . . The salads, which I dearly love, would be better right now the knees are needing the oil. If the stomach starts acting up then it will get some attention. When the eyes get to where I have to have glasses changed they get the attention. But you just go with the flow, because when you reach this age you know lots of things are going to fall apart.
support and indirectly when referring to previous positive and negative experiences.

Convenient access to providers
Participants’ interactions with their health care system were primarily centered on three forms of communication: appointments (usually initiated by the participant), contacting providers with questions that (in the participant’s opinion) did not necessitate an appointment and seeking or receiving follow-up information on laboratory or other tests. For all these interactions, participants emphasized the need for convenient access to their providers and preferably access to a provider who knew them well. Most required care from specialists, and these appointments often posed logistical problems. Several participants were pleased with the increased access to providers afforded them by e-mail contact. Due to frustrations with what they termed ‘telephone-tag’, participants wished for telephone numbers that would connect them directly to nurses or care managers that knew them and knew their situations. Most were reluctant to ‘bother’ their physicians with appointments. Therefore, they preferred prompt appointments when needed—specifically because they had already assessed their own symptoms and felt that they were beyond their own self-management abilities. (In order to characterize the respondents, their respondent number, gender, age range and self-reported number of conditions follow the selected quotations.)

Well, I think the main thing is when I need to see a doctor. . . . I mean, they get me in. (556, M, 65–74, 10 conditions)

And Dr. P is only in on Tuesdays and Fridays and so it’s hard for me . . . if I have a problem and want to see him, because he’s filled up on those two days pretty much. And I do kind of feel like I’m fighting a battle alone. (467, F, 75–84, 12 conditions)

I don’t like having to go over to . . . [to see the] specialists. I wish they had them all in the same place. (385, F, 75–84, 10 conditions)

. . . with the new system you can email your doctor . . . I’ve only used it a couple of times, but you don’t have to go in and see the doctor for something simple. (365, M, 75–84, 9 conditions)

Well specifically [it would be helpful] to have more direct lines . . . That is terribly frustrating to . . . tell somebody else that you need to call. (690, M, 65–74, 8 conditions)

I try not to be a bother . . . I have enough of a reputation with the people that know me that if I call they pay attention. I don’t bug them. (139, M, 65–74, 11 conditions)

Clear communication of care plan
Several respondents discussed the importance of good communication with their providers about care plans. Participants were willing to try most recommendations; however, having multiple conditions often increased the complexity of these plans and increased the need for supplementary (usually written) communication.

Well, that printout that Dr. I does [helps me], because many times you talk about so many different things that you don’t remember. (275, F, 75–84, 12 conditions)

I need it in writing, because I tell you what, I have a lousy memory. And when you’re talking to me over the phone, I don’t usually write all this stuff down. (696, M, 65–74, 4 conditions)

One of the things I think would be to make it easier for seniors to understand things better [would be] . . . a written out sheet, when you go to see your doctors they can write it out for you. (160, F, 65–74, 12 conditions)

Individualized and coordinated care
When asked about their recommendations on how a clinic should support patients with multiple medical
problems, participants emphasized the unique needs of most patients. They were unsure whether systematic approaches to care would be sufficient to meet their individualized needs. However, one consistent recommendation was that there be one person in the primary care clinic who served as a primary contact and care coordinator for individual patients. This person would not only serve as a continuity contact and provide easy access for questions and/or appointments but also would be a liaison between specialists and primary care providers and help the patient keep track of multiple shifting priorities.

I don’t know that I could design [a clinic system] that would fit, because everybody is totally different and has different needs. (624, M, 75–84, 13 conditions)

Well … not everybody is alike. And not all diseases are alike … I’m not so sure you could devise an overall plan for multiple problems. It depends on the kind of person that they are and what the problems are. But you could work individually with each one and find what works best for them, but not as an overall plan. (139, M, 65–74, 11 conditions)

I know you can’t do a one on one for everything … your problems all the time, but to me that would be the optimum thing. (731, F, 75–84, 7 conditions)

I still think [it would be helpful if] in the primary care department … you would be seen by someone kind of on a regular basis every 3 months, every 4 months …, so you could kind of bring everything together … all the different things that you are caring for … [my doctor] wouldn’t have to do it herself, because she is so busy …, but where her nurse practitioner could kind of go over and study what is going on with me with the different things and if she needs to talk to one of my specialists … Just someone who kind of has everything studied so you can come in and talk about it. (445, F, 75–84, 15 conditions)

‘Being heard’

Finally, participants wanted to be heard and understood. With regard to the self-management of their conditions, they felt that they knew themselves and their symptoms well and that they could help providers with diagnosis and treatment planning. Several participants mentioned both good listening and a caring attitude as reasons for either choosing or leaving physicians.

I guess I’d like to have a doctor who would listen to me … I don’t like having doctors that don’t listen … They are in a hurry and they don’t want to listen. (160, F, 65–74, 12 conditions)

Another one that I enjoy very much is a Dr. S that is here at this clinic. She is my primary … very open to listening. (385, F, 75–84, 10 conditions)

I like him [my doctor] very much. He is down to my level and if you tell him the sky is blue he’ll say, “It is blue”. He won’t try to say it’s gray. He’s my kind of person. (696, M, 65–74, 4 conditions)

Discussion

In this qualitative investigation, these elderly patients with multimorbidities describe ideal processes of care that are patient centered and individualized and support their unique constellations of problems, shifting priorities and multidimensional decision making. These preferences reflect both their total disease burden and the fact that these participants were often faced with conflicting and complex treatment plans to manage their multimorbidities.

Our results are consistent with previous investigations that have investigated care processes for complex patients. Noel et al. recently explored collaborative care needs and preferences in the multimorbid population and concluded that the principles of patient-centered care including facilitating access, communication and continuity can be used as a guide for this population. Parchman et al. found that reports of improved communication and coordination of care were associated with fewer ‘hassles’ with the health care system for veterans with multiple medical conditions, and Jerant has reported poor physician communication as a barrier to active self-management in a population of persons with multiple conditions. Soubhi advocates for an ‘ecosystemic’ approach to the delivery of chronic care that integrates an appreciation of patients’ individual preferences, medical needs and psychosocial environment.

Accounts from our respondents expand on these findings by identifying specific components of patient-centered care and provider skills that may enhance the overall care process for patients with multimorbidities: Convenient access to providers (telephone, internet or in person) so that patients can easily clarify small questions and be promptly assessed for larger concerns, clear communication (preferably written) of individualized care plans that clarify and address potentially conflicting treatment strategies, continuity of relationships with physicians so that they do not have to re-educate providers on their complex care needs, specific continuity with a single coordinator of care who helps patients track all their health-related tasks and an appreciation from providers that patients’ needs are unique and fluctuating and that they will be ‘heard’ when they raise concerns. In instances when
these components of the care process are necessary, but missing, most can be addressed by either system redesign or specific provider training.

Although our interview participants were offered the opportunity to discuss the content of their care, they largely focused on the process. For example, a few mentioned a desire for increased information on management of specific conditions such as diabetes or the rationale for certain laboratory tests. However, these requests for a change in content of care were couched in the context of inadequate patient–provider communication, a process of care. This emphasis on process is also important in light of the obvious disease burden carried by many respondents. Although it is possible that none experienced conflicts in symptoms or treatment and therefore did not mention them, we think it is more likely that in the face of complex medical regimens, there is a particular need for specific components of patient-centered care. This observation is particularly important in designing future interventions to improve care for this population as current guidelines for chronic disease care (and associated measures that quantify quality of care) are based almost exclusively on the content of that care rather than the process.

Patient-centered care is essential for patients at all levels of morbidity, not just those with multiple chronic conditions. Our study participants, however, identified components of patient-centered care that they feel are important and had two specific suggestions that may be relevant for their population: the idea of a single coordinator of care (or contact person) and the concept of care that responds to ongoing and fluctuating needs. More complex patients may require a high level of ongoing support that responds to shifting priorities and symptoms, reflecting their heterogeneous disease burden. Although they may not always need the same intensity of support, it must be continuous and not intermittent.

The system desired by these individuals with multimorbidities is a labor-intensive proposition for the health care system and creates a tension between the desire to provide such care and the magnitude of both the care needs and the size of the population. It behooves us to develop systems to help us determine which patients need what sort of support at which times. McCormick and Boling recognize the magnitude of this prospect and call for investigation into the size and characteristics of populations most likely to benefit from more intensive care coordination. In addition, Stille et al. advocate investigation into the evidence base for coordination of care, with specific attention to the care coordination needs of persons with multimorbidities.

Our investigation is limited in that all our respondents were members of a single HMO and as such reflect the perspectives of that population—specifically their own experience with care management within that care system. However, we believe our findings are likely generalizable to many older adults with multiple chronic conditions as the participants’ desired processes of care fit under the well-established umbrella of patient-centered care. In addition, some of their reported care preferences reflect our participants’ age and functional level rather than purely their disease burden. Given the prevalence of multimorbidity in older adults, it may not be possible to separate the two. Furthermore, lower physical functioning is often a function of disease burden rather than age. As a qualitative investigation, our conclusions are preliminary and will invite further investigation to quantify and confirm our recommendations.

Conclusions

These elderly patients with multiple medical conditions report a desire for specific components of patient-centered care that could be implemented to meet their individual and changing health care needs. They feel that their needs are best met through emphasizing continuity, excellent bidirectional communication and a caring attitude. Many specifically requested a relationship with a care coordinator that would help them negotiate the complex logistics of caring for multimorbidities and help with prioritizing self-management needs.

For a subgroup of complex patients, individual and ongoing care coordination may meet many of these needs. However, as this patient population grows, there will be an increased demand for intensive care management support that may tax the resources of the health care system. One challenge to be addressed in further investigations is to determine which patients are likely to benefit from which levels of care management support and at what times. This will require developing both efficient methods to assess patient care needs and care management support systems flexible enough to meet these varying needs.

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