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Identifying core curricular components for behavioral health training in internal medicine residency: Qualitative interviews with residents, faculty, and behavioral health clinicians

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Abstract

Objective: Behavioral health services frequently delivered by primary care providers include care for mental health and substance abuse disorders and assistance with behavioral risk factor reduction. Internal medicine residencies in the United States lack formal expectations regarding training in behavioral health for residents.

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This qualitative study aimed to determine learners' and teachers' perceptions about appropriate behavioral health curricular components for internal medicine residents.
Method: Focus groups and interviews were conducted with the following individuals from the Duke Outpatient Clinic: residents with continuity practice (n = 27), advanced practice providers (n = 2), internal medicine attending physicians (n = 4), internal medicine/psychiatry attending physicians (n = 2), and behavioral health clinicians (n = 4). A focus group leader asked regarding residents' successes and challenges in managing behavioral health issues and about specific learning components considered necessary to understand and manage these behavioral health conditions. Transcripts were coded using an editing analysis style to identify central themes and concordance/discordance between groups.
Results: Regarding mental health management (Theme 1), residents emphasized a need for better care coordination with specialty mental health, while attendings and behavioral health clinicians gave priority to residents' skills in primary management of mental health. Residents, attendings, and behavioral health clinicians all emphasized advanced interviewing skills (Theme 2) with subthemes: eliciting the patient's perspective, managing time in encounters, improving patients' understanding, and patient counseling.
Conclusions: Internal medicine residents, attendings, and behavioral health clinicians may differ significantly in their perceptions of primary care's role in mental health care. Future internal medicine behavioral health curricula should specifically address these attitudinal differences. Curricula should also emphasize interview skills training as an essential component of behavioral health learning.

Keywords
behavioral medicine, clinical competence, mental health services, interpersonal relations, medical education, graduate

Introduction

Every attentive physician involved in clinical care frequently cares for patients who have behavioral health (BH) needs. BH, defined by the Substance Abuse and Mental Health Services Administration as "care provided for patients' mental/emotional well-being and/or actions that affect wellness,"[1] has been recognized by the American College of Physicians as needing to be integrated into the work of internal medicine (IM).[2] As practitioners of the largest medical specialty in the United States, IM physicians should address their patients' BH issues as appropriate within their competencies. IM residents—whose careers may include primary care, hospital medicine, or medical subspecialties—also have the responsibility to provide appropriate BH care.

Despite these responsibilities, IM residencies have traditionally given little attention to BH, emphasizing a biomedical approach over the biopsychosocial model.[3] IM program directors have long been aware of the gap between needs and realities in BH training,[4] and a few IM residency training programs have followed the pattern of family medicine and pediatrics by designing curricula that incorporate BH training.[5–7] Although BH core curricular components exist for family medicine residencies[8] and have been proposed for pediatrics,[9] IM as a specialty lacks formal guidance. IM residencies would benefit from a set of central components that have relevance to other IM training objectives (such as the IM Milestone Project[10]) and that address common, essential BH needs.

The current study aimed to identify a list of core curricular components that IM residents, their primary care attendings, and the BH providers in their clinic feel would be most valuable to their learning and most relevant to their patient care. At our general IM clinic, BH services are available to patients through the work of a clinical social worker, two dual-trained psychiatrist-internists, a nurse care manager, and two licensed BH counselors; however, like with many IM residencies, there is limited formal BH training at our residency. We interviewed residents, attending physicians, and BH clinicians to determine areas of emphasis where teacher–learner perspectives converged and to identify future areas of study where learners' and teachers' perspectives may diverge.

Methods

Focus groups design

We designed a qualitative study that involved residents, attending physicians, advance practice providers (APPs), and BH clinicians at our residency program. We asked the question, "What learning components relating to BH care do residents, APPs, faculty, and BH clinicians believe are most relevant and essential to IM residents' learning and development?"

We developed a semistructured interview guide (Appendix) that framed the main research question in participants' own experiences working with BH clinicians to assist patients. We intended prompts to be open and exploratory. We anticipated that residents might be somewhat unfamiliar with the term *behavioral health*. Accordingly, we described BH using a broad definition as "care for patients who have chronic medical conditions (including mental health and substance abuse disorders) and who benefit from counseling on changing specific health behaviors." We developed the interview guide from a conceptual framework of Social Cognitive Theory,[11] which suggests that through dynamic social interactions with patients, supervising attendings, and BH clinicians, residents learn new practice patterns and gain self-efficacy in their patient care.

Participants

We recruited residents, APPs, attending physicians, and BH clinicians via e-mail—a convenience sample based on their clinic schedule. We invited the four attending physicians who precept most frequently. All eligible BH clinicians participated, including two dual-trained medicine-psychiatry attendings who both precept and provide direct patient care at the clinic. A day prior to the focus group, we sent a reminder e-mail to residents who had full- or half-day clinic on the day of the scheduled focus groups. Lunch was provided for participants. Depending on the participants' other time constraints, the duration of focus groups ranged from 35 to 50 min. One researcher (JAR)–who has some training in BH counseling but no supervisory, clinical, or teaching role—facilitated the focus groups. Two researchers (PH and JAR) met between sessions to review whether the interviews were addressing the central research question. We conducted focus groups with attending physicians and those with BH clinicians without residents present. In instances where only one participant was present for the scheduled focus group (this occurred seven times), the focus group facilitator used the interview guide with the single informant, allowing for more in-depth personal perspectives. One-on-one interviews lasted for 20 to 30 min.

Qualitative analysis

Recorded interviews were transcribed by a third party; one researcher (PH) listened to all the recordings and checked the transcripts for errors. Two researchers (PH and JAR) conducted the qualitative analysis independently using the editing analysis style, a technique that searches for "meaningful units or segments of text that both stand on their own and relate to the purpose of the study."[12,13] Following the initial review of several transcripts, the two researchers met to review the focus group content. Our initial analysis indicated that focus group prompts were allowing exploration of the central research question and that responses clustered into several recurring themes. Following the completion of the remaining focus groups, the two researchers conducted a second review of all transcripts. From the second review, we developed a codebook of common themes relating to the central research question. In a third pass, the two researchers used the codebook to assign codes to all of the transcripts. The two researchers adjudicated discrepancies in coding through discussion and modified codes as necessary to incorporate both researchers' interpretations. We chose relevant sections of text relating to each coded theme and again reviewed whether the excerpts reflected the coded theme. We contacted eight of the participants to review the themes developed from their statements to confirm the accuracy of our interpretations. Additionally, we reviewed excerpts of statements from each of the groups (residents, attendings, and BH clinicians) from each theme for differences in content between learners and teachers. Finally, we compared each theme to competency

domains from the IM Milestone Project[10] to reach a consensus among authors on which competencies aligned most closely. Duke University School of Medicine Institutional Review Board reviewed and approved the research protocol.

Results

We conducted seven focus groups and seven one-on-one interviews with 39 participants (Table 1). The number of participants in each focus group ranged from two to six based on participants' clinic schedules. Respondent demographics are presented in Table 2.

We condensed interview respond coded transcripts into two main themes. Theme 2 included four subthemes (Table 3), which are highlighted here via direct quotations.

Theme 1: Managing mental health disorders

Theme 1a: Coordination with specialty mental health. Multiple residents described being perplexed about community mental health resources and frustrated by their inability to coordinate with outside mental health providers.

> We need to bridge the gap between the care our patients are receiving from their psychiatrist and their primary care doctor. I really don't know how to get in touch with the mental health providers.

> Teach us about the local behavioral health care system. What are the agencies that care for our patients, and what do they actually do?

Neither Attending physicians nor BH clinicians specifically mentioned a curricular need to address care coordination with specialty mental health.

Table 1. Focus groups and one-on-one interviews, by participants' training (n = 39).

Focus group participants (n = 32)
Resident focus groups (total of five focus groups)
Residents (total of five focus groups) = 22
Advance practice providers (participant in one resident focus group) = 1
Attending physician focus groups (total of one focus group)
Attending physicians = 4
Behavioral health clinician focus groups (total of one focus group)
Nonphysician behavioral health clinicians (one focus group) = 4
Medicine-psychiatry attending physicians (included in behavioral health clinician focus group) = 1
Separate one-on-one interviews (n=7)
Residents = 5
Medicine-psychiatry attending physicians = 1
Advance practice providers =1

Table 2. Participant demographics.

	N	Percentage
Sex		
Male	17	43.6
Female	22	56.4
Training/position		
Categorical internal medicine residents	23	59.0
Medicine-psychiatry residents	2	5.1
Preliminary year residents	2	5.1
Advanced practice providers	2	5.1
Internal medicine attendings	4	10.2
Medicine-psychiatry attendings	2	5.1
Nonphysician behavioral health clinicians	4	10.2
Race (non-white)		
African American	4	10.2
Asian	4	10.2
Year of training		
Postgraduate year 1	12	44.4
Postgraduate year 2	5	18.5
Postgraduate year 3	9	33.3
Postgraduate year 4	1	3.7

Table 3. Behavioral health core curricular components: Themes and subthemes matched with Internal Medicine Milestone Project competency domains (with number).

Themes and subthemes	Corresponding milestone competency[a]
Theme 1: Mental health management	
Theme 1a: Coordination with specialty mental health	Transitions patients effectively within and across health delivery systems (#11)
Theme 1b: Primary mental health management	Develops and achieves comprehensive management plan for each patient (#2)
Theme 2: Advanced interviewing skills	
Theme 2a: Eliciting the patient's perspective	Responds to each patient's unique characteristics and needs (#18)
Theme 2b: Managing time in encounters	Manages patients with progressive responsibility and independence (#3)
Theme 2c: Improving patients' understanding	Communicates effectively with patients and caregivers (#20)
Theme 2d: Patient counseling	Skill in performing procedures (#4)

[a]Milestone competencies are referenced from the Accreditation Committee for Graduate Medical Education and American Board of Internal Medicine.[10]

Table 4. Attending physicians' proposed mental health topics for resident training.

- Pain management and opioid stewardship
- Addiction to drugs and alcohol
- Intoxication and withdrawal
- Anxiety disorders
- Depression
- Screening for mental health disorders and substance abuse
- Dementia and cognitive impairment
- Personality disorders
- Psychiatric emergencies
- Suicidal ideation
- Somatoform disorders

Theme 1b: Primary mental health management. Residents provided few details about any needs for primary mental health management skills. Two residents suggested a need to learn about managing acute psychiatric emergencies, and another stated, "We all know how to use an antidepressant." By contrast, attending physicians strongly emphasized a need for learning management of several common BH conditions (Table 4). BH clinicians similarly focused on primary management concerns. One IM/psychiatry attending described a more assertive approach to mental health management by residents: "If we want it to be our residents' responsibility to manage mental illness, then we would have to teach those skills."

Theme 2: Advanced interviewing skills

Theme 2a: Eliciting the patient's perspective. Residents described a sense that they and their peers needed to better develop the skills to listen to their patients, develop relationships, and respond to the unique, individualized needs of their patients.

> I need the ability to just talk to people and realize I am not talking [to] a list of medications or a list of diseases. I am talking to an actual person, and I need to continue the humanistic approach in medicine . . . What we think about and what the patient thinks might not be congruent.

> What we're missing is how to listen to people, validate them, and use the resources that we have.

Attending physicians described some communication deficits among residents noting that residents need to ask patients questions that are more open-ended

and avoid asking leading or judgmental questions. One BH clinician described clinic patients telling her they felt disconnected with their resident physicians:

> My main thing is just really listen to your patients. That's been across the board in feedback: patients just feel like their resident's agenda is the one that's most important.

Theme 2b: Managing time in encounters. Residents described frequently feeling a sense of conflict over time management. In the interest of understanding their patients, residents perceive a need to give patients ample time to share their stories and symptoms. At the same time, they struggle to manage the time limits of a clinic visit. The following exchange between two residents illustrates this tension:

> Participant #1: How do you say to the patient, "Yes, absolutely, that's a really important feeling," and then table that? If you address that issue, you open up this can of worms and you don't know how you can leave.

> Participant #2: I find that very challenging. Most of the time it is a choice between having this encounter go very long or being rude, which means I always let it go long.

Time management was also an area of special attention from attending physicians. One of the IM/psychiatry attendings acknowledged the time-management challenge and the need for training:

> I think there are certain skills that are both validating to the patient and improve efficiency, and that's an area where the residents could use some more training.

BH clinicians concurred that often setting an agenda and limiting the scope of a visit is productive:

> If you have a plan in place for all twelve items, you don't necessarily accomplish what you hope. If you focus on one or two things, and it is doable for the patient, they might be more likely to follow through.

Theme 2c: Improving patients' understanding. Residents also noted the need for learning how to communicate with patients without using jargon or speaking down to them:

> We sometimes speak in medical jargon, so we need to be able to explain things in a way that makes sense to the average person.

> You want it to be intelligible, but you also don't want to come across like you're talking down to someone. You don't want to offend someone by being too simplistic.

Although attending physicians mentioned the great value of observing residents in their interactions with patients, they did not specifically mention language. BH clinicians, however, did comment on language; one BH clinician said, "Patients say to me, 'I don't know what my doctor just said to me.'"

Theme 2d: Patient counseling. Residents expressed a desire to counsel patients more effectively. They identified motivational interviewing as a well-known evidence-based approach.[14]

> The objective would be: What are the actual behavioral modification targets that I can identify (whether that is depression, a financial situation, or some other physical or mental barrier)? What is stopping them from making this change?

> We all want results. We want our patients to do what it is that we ask them to do. Residents resist thinking of using communication as our tool.

Attending physicians shared pitfalls from their previous attempts at motivational interviewing curricula, including low intrinsic engagement from learners and competing time commitments. BH clinicians described a need to help residents identify ways to help patients get "unstuck" using communication techniques that are as applicable to physical disorders like diabetes, as they are to mental health: "Sometimes I feel like things are thought of as being more psychiatric. That's not psychiatric. That's just medicine."

Discussion

This study highlights areas of divergence and convergence between the perceptions of IM residents, their attendings, and integrated BH clinicians as this relates to BH training in the primary care setting. Teachers' and learners' perspectives appeared to differ regarding skills needed to manage mental health disorders and converge around the need for advanced interviewing skills. These findings are important because there is so little formal guidance for IM residencies regarding BH education. Our qualitative approach adds greater detail to previously published needs assessments, which have not studied residents or BH clinicians' perspectives on the learning objectives.[7,15]

Further examination of the two divergent subthemes of Theme 1 (Mental Health Management) shows that residents described their mental health management learning needs in terms of care coordination with specialists (Theme 1a) and not primary mental health management (Theme 1b). This perspective is

similar to the most recent published survey of IM leaders' perspectives on BH. Gaufberg et al.[15] reported in 2001 that only 21% of IM leaders expected their residents to demonstrate a high level of competency in behavioral interventions; fewer still expected residents to be highly competent in psychopharmacology or psychiatric differential diagnosis. This low level of expectation contrasts with the perspectives shared in our study by attending physicians, who reported significant needs for skills in mental health management. Residents' comments regarding Theme 1—describing mental health disorders as conditions frequently outside of their locus of control—suggest a need to reexamine how to frame the teaching of IM residents in mental health evaluation and management. Several IM residencies have published curricular models to train IM residents as primary agents in mental health management.[4–6,16] Smith et al.[17] concluded that effective residency curricula in biopsychosocial teaching include the following: a structured multidimensional approach that is a required activity and that balances learner-centered and teacher-centered approaches. The advent of increased BH integration in primary care clinics may offer residents a platform to learn BH skills[18,19]; however, even within an integrated clinic such as the one studied, residents' experience with addressing mental health conditions is insufficient. Our residents' perspectives further strengthen the case for addressing residents' attitudes—which may deemphasize active management of mental health disorders—through increased mental health training within IM curricula.

Theme 2 (Advanced Interviewing Skills) was generally concordant between residents, attending physicians, and BH providers. Prior needs assessments have demonstrated IM resident deficits in communication skills and a general lack of training on medical interviewing within IM residencies.[7,15,20–22] Our findings echo a large array of published educational research that establishes medical interview skills training as the foundation of any successful BH-focused training.[4,5,17,23–29]

Theme 2 has four subthemes. Theme 2a (Eliciting Patients' Perspectives) supports a move toward teaching residents to practice patient-centered interviewing. Through better eliciting patients' perspectives, residents can develop necessary rapport and individualize treatments according to patients' needs.[29,30] Theme 2b (Managing Time in Encounters) is critical to residents' performance and satisfaction in clinic, and it is a central component of multiple BH-focused curricula.[24,27] Practices like rapport building, agenda setting, and noticing nonverbal cues can actually improve efficiency,[31] and research suggests that using empathy skills adds 2 min or less to a visit.[32] Theme 2c (Improving Patients' Understanding) indicates that residents are able to recognize that they—like many other residents—sometimes communicate ineffectively in language that their patients do not understand.[33] Curricula that teach principles like clear communication and teach-back can assist residents in overcoming the tendency toward ineffective communication.[34] Finally, regarding Theme 2d (Patient

Counseling), some residents in this study described communication as one of physicians' most important tools. Multiple principles from existing counseling curricula could be applied broadly to IM residency curricula, including the Stages of Change,[26,35] the 5A model, [20,36] and motivational interviewing.[27,28,37] Educators may wish to focus counseling curricula on impacting very specific patient behaviors, such as weight loss,[20,36,37] smoking cessation,[35] physical inactivity,[28] or medication adherence.[34]

Medical educators recognize that effective curricula must balance teacher-centered and learner-centered objectives.[17] Our qualitative interviews with learners add a new perspective to the existing literature on BH training in residency. How do generalist educators make BH teaching relevant to IM learners who are likely to subspecialize and leave general outpatient medicine? The discordance seen in our study regarding mental health care between teachers and learners likely reflects this generalist-specialist divide. Residents pursuing subspecialties may view mental health skills as less relevant than interviewing skills, but both aspects are central to competent care for the diverse needs of patients in any specialist's or subspecialist's practice. The BH curricular components reported by this study's participants relate closely to 2015 milestones for IM trainees.[10] Future BH curricular development must seek to bridge this attitudinal divide and effectively make the case that mental health provision is broadly applicable to IM and its subspecialties.

Our study has several limitations. This is a single-institution study, which may not reflect the opinions of IM residents or attendings at other institutions. There was also some heterogeneity in the focus groups' size and duration due to residents' schedules and availability. Additionally, future quantitative surveys can more systematically explore the observed qualitative differences between the attitudes of residents and attendings toward mental health management. Qualitative research has the specific goal of generating hypotheses, so these findings have not been subjected to hypothesis testing. We believe that the qualitative differences between residents, attending physicians, and BH clinicians merit attention and future investigation.

In summary, our themes are concordant with IM published curricula in BH, which call for creating protected time within IM residency for BH teaching to teach skills that include team-based care coordination, primary mental health management, relationship-based care, communication skills, and patient education and counseling.[5,6,17] Divergent perspectives between IM residents and their teachers regarding management of mental health disorders suggest that residents may have attitudes that deemphasize primary care mental health management. We propose that IM residencies should establish structured, multidimensional curricula with teacher-centered and learner-centered objectives to help residents to gain comfort and confidence in assisting patients with mental health disorders. Residents and their clinical teachers also agree that residency programs

should also place advanced interviewing skills as central components of any IM BH curriculum.

Appendix: Focus group semistructured interview guide

Patients who have chronic medical conditions (including mental health and substance abuse disorders) benefit from counseling regarding changing specific health behaviors.

1. To residents and APPs: Please think of a time when you have collaborated with a BH provider to encourage behavior change in a patient with a chronic health condition (mental or physical health).

To attendings: Please think of a time when you have collaborated with a resident and a BH provider to encourage behavior change in a patient with a chronic health condition (mental or physical health).

To BH clinicians: Please think of a time when you have collaborated with a resident to encourage behavior change in a patient with a chronic health condition (mental or physical health).

- What about these experiences made them go well? Not go well?
- As a result of these experiences, what have you learned? What are the pearls that you extracted?

2. To residents: Please think of the type of clinical work you hope to do after residency (whether in primary care, hospital care, or subspecialty).

To attendings and APPs: Please think of residents' postresidency career paths:

- What skills and knowledge regarding helping patients achieve behavior change for mental or physical health conditions do you anticipate them needing most?
- What training experiences do you wish you had more of?

To attendings, APPs, and BH clinicians:

- What skills and strengths do our residents demonstrate?
- What learning gaps have you noted with our residents?
- What ideas do you have for addressing these learning gaps?

3. To all participants: A goal in conducting these focus groups is to identify a list of essential competencies for graduating internal medicine residents, specifically for helping patients achieve behavior change for chronic diseases, including mental health and substance abuse disorders.

- What do you think those competencies should be?

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References

1. Substance Abuse and Mental Health Services Administration. *National behavioral health quality framework*, https://www.nasmhpd.org/.../SAMHSA%20Quality%20Improvement%20Initiative.pdf (2012, accessed 13 September 2018).
2. Crowley RA and Kirschner N. The integration of care for mental health, substance abuse, and other behavioral health conditions into primary care: executive summary of an American College of Physicians position paper. *Ann Intern Med* 2015; 163: 298–299.
3. Sperry L. Teaching the biopsychosocial perspective: a comparison of two approaches. *Psychol Rep* 1991; 68: 99–102.
4. Merkel WT, Margolis RB and Smith RC. Teaching humanistic and psychosocial aspects of care: current practices and attitudes. *J Gen Intern Med* 1990; 5: 34–41.
5. Kern DE, Grayson M, Barker LR, et al. Residency training in interviewing skills and the psychosocial domain of medical practice. *J Gen Intern Med* 1989; 4: 421–431.
6. Smith RC, Laird-Fick H, D'Mello D, et al. Addressing mental health issues in primary care: an initial curriculum for medical residents. *Patient Educ Couns* 2014; 94: 33–42.
7. Cohen-Cole SA, Boker J, Bird J, et al. Psychiatric education improves internists' knowledge: a three-year randomized, controlled evaluation. *Psychosom Med* 1993; 55: 212–218.
8. Accreditation Committee for Graduate Medical Education. *ACGME program requirements for graduate medical education in family medicine*, https://www.acgme.org/.../0/.../ProgramRequirements/120FamilyMedicine2018.pdff (2018, accessed 13 September 2018).
9. Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health. Policy statement—the future of pediatrics: mental health competencies for pediatric primary care. *Pediatrics* 2009; 124: 410–421.

10. The Accreditation Council for Graduate Medical Education and the American Board of Internal Medicine. *The Internal Medicine Milestone Project*, www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineMilestones.pdf (2015, accessed 9 July 2018).
11. Bandura A. Human agency in social cognitive theory. *Am Psychol* 1989; 44: 1175–1184.
12. Crabtree BF and Miller WL (eds) *Doing qualitative research*. Newbury Park, CA: SAGE, 1992.
13. Wright SM, Wolfe L, Stewart R, et al. Ethical concerns related to grateful patient philanthropy: the physician's perspective. *J Gen Intern Med* 2013; 28: 645–651.
14. Rubak S, Sandbaek A, Lauritzen T, et al. Motivational interviewing: a systematic review and meta-analysis. *Br J Gen Pract* 2004; 55: 305–312.
15. Gaufberg EH, Joseph RC, Pels RJ, et al. Psychosocial training in U.S. internal medicine and family practice residency programs. *Acad Med* 2001; 76: 738–742.
16. Gunther PG and Bingham RL. A continuous quality improvement cycle for teaching the identification of psychosocial problems to general internal medicine residents. *Acad Med* 1993; 68: 308–310.
17. Smith RC, Marshall AA and Cohen-Cole SA. The efficacy of intensive biopsychosocial teaching programs for residents: a review of the literature and guidelines for teaching. *J Gen Intern Med* 1994; 9: 390–396.
18. Hemming P, Hewitt A, Gallo JJ, et al. Residents' confidence providing primary care with behavioral health integration. *Family Medicine* 2017; 49: 361–368.
19. Hemming P, Levine RB and Gallo JJ. "Conversational advice": a mixed-methods analysis of medical residents' experiences co-managing primary care patients with behavioral health providers. *Patient Educ Couns* 2018; 101: 85–91.
20. Jay MR, Gillespie CC, Schlair SL, et al. The impact of primary care resident physician training on patient weight loss at 12 months. *Obesity (Silver Spring)* 2013; 21: 45–50.
21. Duke MB, Griffith CH III, Haist SA, et al. A clinical performance exercise for medicine—pediatrics residents emphasizing complex psychosocial skills. *Acad Med* 2001; 76: 1153–1157.
22. Fluker SA, Whalen U, Schneider J, et al. Incorporating performance improvement methods into a needs assessment: experience with a nutrition and exercise curriculum. *J Gen Intern Med* 2010; 25: S627–S633.
23. Rosenberg MR and Hoffman-Wilde S. Teaching behavioral medicine in a primary care setting: an integrated approach. *Gen Hosp Psychiatry* 1989; 11: 59–62.
24. Chou C and Lee K. Improving residents' interviewing skills by group videotape review. *Acad Med* 2002; 77: 744.
25. Smith RC, Lyles JS, Mettler J, et al. The effectiveness of intensive training for residents in interviewing. A randomized, controlled study. *Ann Intern Med* 1998; 128: 118–126.
26. Jerant A, Kravitz RL, Azari R, et al. Training residents to employ self-efficacy-enhancing interviewing techniques: randomized controlled trial of a standardized patient intervention. *J Gen Intern Med* 2009; 24: 606–613.

27. Childers JW, Bost JE, Kraemer KL, et al. Giving residents tools to talk about behavior change: a motivational interviewing curriculum description and evaluation. *Patient Educ Couns* 2012; 89: 281–287.
28. Katz DL, Shuval K, Comerford BP, et al. Impact of an educational intervention on internal medicine residents' physical activity counselling: the Pressure System Model. *J Eval Clin Pract* 2008; 14: 294–299.
29. Maatouk-Bürmann B, Ringel N, Spang J, et al. Improving patient-centered communication: results of a randomized controlled trial. *Patient Educ Couns* 2016; 99: 117–124.
30. Smith RC, Marshall-Dorsey AA, Osborn GG, et al. Evidence-based guidelines for teaching patient-centered interviewing. *Patient Educ Couns* 2000; 39: 27–36.
31. Mauksch LB, Dugdale DC, Dodson S, et al. Relationship, communication, and efficiency in the medical encounter: creating a clinical model from a literature review. *Arch Intern Med* 2008; 168: 1387–1395.
32. Gulbrandsen P, Østbye T, Lyna P, et al. The influence of physician communication style on overweight patients' perceptions of length of encounter and physician being rushed. *Fam Med* 2012; 44: 183–188.
33. Deuster L, Christopher S, Donovan J, et al. A method to quantify residents' jargon use during counseling of standardized patients about cancer screening. *J Gen Intern Med* 2008; 23: 1947–1952.
34. Kripalani S, Osborn CY, Vaccarino V, et al. Development and evaluation of a medication counseling workshop for physicians: can we improve on "take two pills and call me in the morning"? *Med Educ Online*. Epub ahead of print 8 September 2011. DOI: 10.3402/meo.v16i0.7133.
35. Cornuz J, Humair JP, Seematter L, et al. Efficacy of resident training in smoking cessation: a randomized, controlled trial of a program based on application of behavioral theory and practice with standardized patients. *Ann Intern Med* 2002; 136: 429–437.
36. Burton AM, Brezausek CM, Agne AA, et al. Evaluation of a workshop to improve residents' patient-centred obesity counselling skills. *Postgrad Med J* 2016; 92: 455–459.
37. Burton AM, Agne AA, Lehr SM, et al. Training residents in obesity counseling: incorporating principles of motivational interviewing to enhance patient centeredness. *J Grad Med Educ* 2011; 3: 408–411.