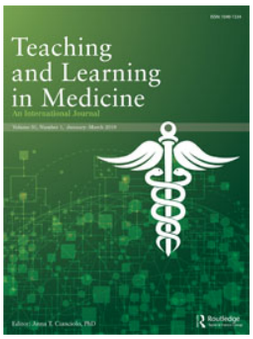

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EDUCATIONAL CASE REPORTS

Using a Six-Domain Framework to Include Biopsychosocial Information in the Standard Medical History

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ABSTRACT

Problem: The traditional approach to physicians' history taking is designed to facilitate diagnosis and treatment of biomedical conditions. However, in the 21st century, health is critically influenced by the interaction of biomedical conditions and nonbiomedical factors such as patient's ability to manage chronic disease and the social determinants of health. Interventions to expand routine history taking to include nonbiomedical factors have not been widely adopted, possibly due to the difficultly of incorporating long checklists into routine care and the inability to achieve consensus on the relevant behavioral or social determinants of health content applicable to all patients. *Intervention*: In 2015–2016, we introduced medical students to a 6-domain (biomedical and psychiatric conditions, behavioral health, living environment/resources, social support, and functional status) approach to history taking and instructed them to elicit information from each domain alongside the traditional approach. Students were required to obtain information from each domain in one admitting history or one daily progress note, discuss their findings with the attending physician, and involve members of the medical team in addressing concerns and barriers in the care of that patient. Students' history notes were reviewed for completeness and compared to those from a student control group. Students also completed a 10-question evaluation of the model. *Context*: The intervention was conducted during a 1-month rotation on a hospitalist general medicine service from May 2015 through August 2016. *Outcome*: Patient history and daily progress notes were collected from 38 fourth-year intervention students and compared to 24 control students on the same service from the previous year. Compared to control students, intervention students provided more patient information ($p \leq .001$) in all nonbiomedical domains except behavioral health. Intervention students reported that the 6-domain model helped them identify clinical information that could be addressed with existing resources and prompted involvement of social workers, pharmacists, and nurses in care planning. They also indicated the framework added clinically valuable information and enhanced team-based care. *Lessons Learned*: A domain-based framework can be used by medical students to identify clinically relevant behavioral conditions and social determinants of health tailored to individual patients while avoiding long standardized checklists. Arguably, routine collection of behavioral and social determinants of health is a necessary first step in enhancing physicians' awareness and skills in working with health care teams to address nonbiomedical determinants of patients' health.

KEYWORDS

medical students; health disparities; social determinants of health; history taking

Introduction

Traditional medical history taking was designed to elucidate information for diagnosing biomedical conditions, with a focus on symptomatology and genetic, substance, and environmental exposures. In the current era, when health and healthcare are dominated by chronic disease, an aging population, and the social determinants of health, biomedically oriented information has demonstrable limitations. For example, gaps in understanding and addressing patient's self-management capacity and caregiver support are associated with poor outcomes in chronic disease,[1] and limited resources (e.g., transportation, medication access) are associated with increased risk of hospital readmission.[2] In recent years, "social determinants of health" has been used to emphasize the importance of a wide range of nonbiomedical factors in patient outcomes.[3–5] Recognition of the limitations of biomedical

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information in clinical care is not new, dating back at least half a century when Engel and others called for expansion of the information base used by physicians to include patients' psychological well-being and social circumstances in routine data gathering.[6,7] However, little progress has been made in altering the format of students' routine data gathering to include psychosocial information. For example, in a national survey, medical students and residents acknowledged the importance of psychosocial information in clinical care but felt that training in successfully eliciting and managing nonbiomedical information was limited.[8] Other studies have demonstrated that physicians routinely secure less of the information relevant to clinical outcomes in psychosocial than biomedical domains.[9,10]

The basic elements of the modern history-taking format developed in the early to mid-20th century as scientific methods became the foundation of clinical medicine.[11] In his groundbreaking work to incorporate psychosocial information into clinical practice, George Engel observed that emphasis in history taking was placed on "objective" phenomena, with little attention to "subjective" information related to patients' experiences.[7] Although variations exist, the central elements of the modern medical history include Chief Complaint (or Concerns), History of Present Illness, Past Medical History, Family History, Social History, and Review of Systems (or Symptoms).[12] Most elements are designed to elicit symptoms (Chief Complaint, History of Present illness, Review of Systems), or relevant exposures or risk factors for biomedical diseases (Past Medical History, Family History). The Social History, as traditionally taught, is of the latter type, and focuses on occupational exposures and substance use habits to inform diagnoses of a presenting illness. Lacking are many variables relevant to health but not to the biomedical diagnosis of a presenting illness, such as chronic disease management by the physician or other member of the health care team (e.g., self-management skills and health-related behaviors) functional status, or the social determinants of disease (e.g., barriers to care such as limited income, housing or food insecurity, and healthcare system factors).

Although some interventions have improved the comprehensiveness of history taking,[13–15] modifications to the traditional format have not been standardized or widely adopted. Our study is based on the premise that the primary barrier to creating a more comprehensive, standardized format is that the list of potential elements is too vast and too varied across patients to be reduced to a manageable number of items that could be inquired of each patient.

As evidence of the importance of creating a brief yet comprehensive format for the standard medical history, the American Medical Association working group on Chronic Disease Management and Prevention, which has undertaken a program to reform the traditional history-taking format as part of its Accelerating Change in Medical Education initiative, is now piloting reformed models in several medical schools to include medical students and residents in standardized patient and "real-world" environments (E. Johnson, personal communication; American Medical Association 2015).

The goal of our study was to determine whether a domain-based medical history, in which a standardized, limited set of domains prompted clinical medical students to gather relevant nonbiomedical information tailored to each patient within each domain, would (a) be perceived as clinically relevant and (b) enable nonbiomedical factors to be addressed in clinical management.

Intervention

Development of the six-domain biopsychosocial model

For over 10 years we have included a six-domain biopsychosocial (BPS) framework in teaching and writing in a number of settings with students, practitioners, and policymakers. The domains were identified by one of us (BW), stemming from performing and teaching geriatrics comprehensive assessment,[16,17] reviewing clinical assessment models used in care of homeless,[18] and chronically mentally ill[19] patients, and comparing with the categories of the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.).[20] In all these contexts, categories of patient assessment converged on six domains, with only minor variations: (a) *biomedical conditions*; (b) major *psychiatric conditions*; (c) *behavioral health*, including dysfunctional behaviors such as personality disorders, health-related behaviors such as disease self-management, health habits (exercise, nutrition, other self-care), and substance use; (d) *social support systems*, including chronic disease management support, caregiver burden, and domestic violence, abuse, or neglect; (e) factors related to *resources and living environment* such as health insurance, housing, neighborhood health, food security, and transportation; and (f) how the patient is *functioning* in daily life. For the latter, we found no uniform format but included in our

teaching a number of frameworks that have been applied in clinical settings, including *role functioning* (how is this patient functioning at work, home, and community), *Activities of Daily Living*, a standardized set of items developed in geriatrics, or the *General Assessment of Function*,[21] used most often in psychiatric settings.

The purpose of our study was to test the perceived clinical relevance and usefulness of incorporating the six-domain BPS model into routine work of medical students.

Internal medicine inpatient subintern pilot/ Feasibility study

Setting

This study was conducted during a 4th-year medical student General Medicine subinternship. On this subinternship, students work directly with the attending hospitalist physician and residents are not present. Students perform many of the functions of residency interns, including independently (i.e., without resident input or oversight) writing admitting history and physical and daily progress notes. Students rotate on this General Medicine service intermittently rather than every month.

In March 2015, one of the authors (DW) piloted a teaching session and slides introducing to the six-domain BPS model to subinterns on the service. After refining the slides based on student feedback, starting in May 2015, during orientation DW introduced all subinterns (intervention students) on the Hospitalist service to the six-domain BPS model. The hour-long session described the rationale for the enhanced model using case examples, reviewed the clinical content of each domain, and provided examples of types of questions the students might ask under each domain for several types of patients. (A guide to teaching the six-domain BPS model based on content from this seminar is included in the Appendix.) Students were required to complete the six-domain assessment for one admitting history or one daily progress note during the month; discuss the six-domain assessment for that patient with the attending physician; and involve members of the medical team including social workers, care managers, pharmacists, and/or nurses in addressing concerns and barriers in the care of that patient related to their findings. For the admitting history or progress notes, emphasis was placed on the six domains and related clinical content for each. Students maintained discretion over whether to and how to integrate the six-domain assessment into the note or provide it as an appendix. Write-ups were collected from all students rotating on the hospitalist service from May 2015 through August 2016.

Control data

To determine the impact of using the six-domain BPS model, we downloaded a consecutive series of admitting history and daily progress notes from students on the same hospital service from the health system's electronic medical records system during a period prior to intervention—July 2014 through August 2015. The first 11 admitting and 13 progress notes (which matched the proportion of admitting and progress notes from the study group) showed consistent findings and constituted the control observation set.

Student evaluation

At the end of the rotation, intervention students were asked to complete a 10-item evaluation on the usefulness and clinical applicability of the model in caring for their patients. Narrative comments were also solicited. Surveys were collected in hard copy by teaching faculty and delivered to an administrator, who periodically entered the results in a spreadsheet. Because surveys did not include student name or date of collection, surveys were inadvertently omitted some months, and surveys continued to be collected after the formal study period, the month of collection could not be identified for all surveys. For the study, all surveys that had been entered from May 2015 to May 2017 were examined.

The study was approved by the University of Michigan Institutional Review Board (protocol number HUM00108957; UM IRB Registration number IRB00000246).

Data analysis

Three of the authors (BW, DW, DC), developed and applied a standardized method for rating the completeness of the six-domain BPS content in students' notes, in three stages. In Stage 1 (development), 15 BPS assessments from intervention students were reviewed independently by three authors with subsequent joint meetings to develop a standardized rubric defining the completeness of information in each domain using a 3-point scale: 0 (*absent*), 1 (*partial*), or 2 (*adequate*) (see the Appendix). In Stage 2 (validation), three additional BPS assessments from intervention students, and three admitting history and three progress notes from control students were performed independently by three authors. Completeness ratings among the authors demonstrated nearly

complete agreement on joint review. In Stage 3 (implementation), an additional 20 intervention and 18 control assessments were divided among the three authors and each was scored by one author.

We used chi-square analysis to compare the completeness ratings of the intervention and control students. Analyses were conducting using the website Social Science Statistics,[22] entering 1 for null cells to allow estimation of chi-square statistics. We used descriptive statistics to summarize results from the end-of-rotation evaluation. Pearson's correlation coefficients were used to examine associations between items.

Outcomes

Thirty-eight admitting history or progress notes from intervention students were collected, and 24 write-ups from control students were reviewed. Notes from the intervention students contained significantly more BPS content than those from control students (Table 1). Significantly more intervention student than control student notes included adequate information for psychiatric conditions, (76% vs. 8%, $p < .001$), social support (87% vs. 0%, $p < .001$), and living environment/resources (68% vs. 4% $p < .001$), with smaller differences for behavioral health (24% vs. 0%, $p = -.08$) and functional status (39% vs. 0%, $p < .001$). No difference was observed in reporting biomedical conditions, for which 89% of intervention and control students' notes included adequate information ($p = .78$).

Twenty-nine intervention students completed end-of-rotation evaluation. Students felt the six-domain BPS framework provided a better understanding of their patients, with 72% agreeing (*agree* or *strongly agree*) that "the BPS evaluation 'added value to the history', and 90% agreeing that information from the BPS evaluation 'improved my understanding of my patient and their needs'" (Table 2). Students also found the model had important clinical implications for patient care, with 83% agreeing that "the BPS evaluation helped identify barriers to care and follow up," 83% agreeing that resources were available to address identified barriers, and 76% agreeing that "I was able to develop a plan of care to address at least one barrier to care." Incorporation of psychosocial information into assessment and planning by the medical team was rated less positively by students, with 69% agreeing that "the medical team used the BPS evaluation to help utilize resources in pharmacy, nursing, and social work" and only 48% agreeing that their preceptor "utilized the information from the BPS evaluation in the care and follow up of patients."

The value of the BPS model was correlated with the adequacy of orientation, with correlation coefficients between Item 1 (adequacy of orientation) and the usefulness of the six-domain BPS model for identifying barriers to care and follow-up (Item 2), adding value to the history and physical (Item 5), and for improving understanding of patients and their needs (Item 7) of .64, .66, and .71, respectively.

Student narrative comments nearly uniformly discussed the positive impact of the six-domain BPS

Table 1. Completeness of domain-specific content in student write-ups.

Domain	Completeness Rating	Intervention[a] *N* (%)	Controls[b] *N* (%)	χ^2	*p*
Social Support	None	3 (8)	9 (38)	42.17	<.001
	Partial	2 (5)	15 (62)		
	Adequate	33 (87)	0 (0)		
Biomedical	None	1 (3)	1 (3)	.49	.78
	Partial	3 (8)	3 (8)		
	Adequate	34 (89)	34 (89)		
Psychiatric	None	1 (3)	14 (58)	35.05	<.001
	Partial	8 (21)	8 (33)		
	Adequate	29 (76)	2 (8)		
Resources	None	3 (8)	19 (79)	35.35	<.001
	Partial	9 (24)	4 (17)		
	Adequate	26 (68)	1 (4)		
Behavioral Non-SUD	None	19 (50)	18 (75)	14.96	.08
	Partial	10 (26)	6 (25)		
	Adequate	9 (24)	0 (0)		
Functional Status	None	5 (13)	13 (54)	15.47	<.001
	Partial	18 (47)	11 (46)		
	Adequate	15 (39)	0 (0)		
Total all Domains	None	32 (14)	73 (51)	83.54	<.001
	Partial	50 (22)	44 (30)		
	Adequate	145 (64)	27 (19)		

Note: SUD = substance use disorder.
[a]*N* = 38.
[b]*N* = 24.

Table 2. Student evaluation results.

Item	% Agree/Strongly Agree
1. There was adequate orientation in performing BPS evaluation.	69%
2. The BPS evaluation helped identify barriers to care and follow-up.	83%
3. There were resources to help with barriers.	83%
4. The medical team used the BPS evaluation to help utilize resources in pharmacy, nursing, and social work.	69%
5. The BPS evaluation had added value to the history and physical.	72%
6. The preceptor utilized the information from the BPS evaluation in the care and follow-up of the patient.	48%
7. The information from the BPS evaluation improved my understanding of my patient and their needs.	90%
8. BPS curriculum helped me to create a comprehensive problem list to identify at-risk patients.	66%
9. I was able to develop a plan of care to address at least one barrier to care.	76%
10. I used the caring with compassion website for resources and education in learning about at-risk patients.	31%

Note: $N = 29$. BPS = biopsychosocial.

model. For example, one student stated, "(By) doing the BPS (the pt) opened up about her … drinking and her worries about how her children perceive her." Other students indicated, "Very helpful exercise … As a result I will be discussing her case with social work and case management"; "Helpful elucidating all details of this patient's functional impairment. Helped me understand the patient … and take into consideration his situation when formulating plans"; and "Overall, good idea to show us resources and the importance of social components of medicine."

Student suggestions for improvement related mainly to the adequacy of orientation to the model during some months. Some students mentioned prior familiarity with the material through the Psychiatry clerkship.

Lessons learned

In this study, a six-domain BPS assessment framework was successfully included in a traditional History and Physical or progress note by senior medical students. Information from the BPS assessment promoted identification of clinically relevant social determinants of health and was incorporated into care planning that often included nonphysician members of the healthcare team. Students who used the model gathered substantially more nonbiomedical information than controls, though compared to other domains they were less likely to gather adequate information on patients' behavioral health strengths and challenges and on their functional status.

Several previous studies have examined expanding medical students' history taking to include information on psychosocial factors. Morely and colleagues used an Integrated Standardized Patient Examination station to improve medical students' ability to take a psychosocial history, as compared to the usual Objective Standardized Clinical Examination.[14] Similarly, Larivaara and colleagues described success in teaching students and practicing physicians to elicit and manage psychosocial information through patient-centered interviewing over a number of years and settings,[15] though the history-taking format was not standardized. However, despite success in some contexts, expanded history taking to include psychosocial factors has not become standardized or widespread. To our knowledge, no previous work has examined the feasibility of a limited set of standardized modifications to the traditional history-taking template to improve physicians' ability to elicit and apply clinically relevant psychosocial information.

Our results provide evidence that a domain-based approach to information collection can be routinely incorporated into medical students' data gathering to inform and facilitate comprehensive, team-based care planning without creating undue burden. One explanation may be that a domain-based framework avoids extensive checklists across multiple areas. Rather, by using a small, standardized set of domains, medical students identified psychosocial factors relevant to individual patients' health by choosing specific information likely to be most relevant to that patient. Pedagogically this represents a significant shift from the traditional checklist-oriented approach to physicians' data gathering to incorporate cognitive models more akin to routine practice by mature clinicians or multidisciplinary health care settings.[23–25]

The acceptability and perceived usefulness of the six-domain BPS framework is supported by our experience in applying the framework in multiple teaching and clinical contexts over the past decade. Applications have included (a) use by 4th-year medical students in routine history taking on community-based rotations on care of the underserved, (b) as a framework for an American Medical Association white paper on primary care for patients following hospital discharge,[26] (c) inclusion in a teaching website on care of the underserved,[27] and (d) as an organizing framework for patient care planning at the Complex Care Management Program at the University of Michigan health system where BW serves as Medical Director.[28] In each of these contexts,

the domain framework was readily adopted by students and clinicians, who felt it was helpful in eliciting clinically relevant information and could be applied in routine clinical work.

An advantage of the six-domain BPS model is that it is incremental rather than a radical shift from the traditional initial history or progress note and can be readily integrated into medical students' routine history taking, especially in the latter years of training. The finding that fewer student notes included information on patients' behavioral health and functional status than other domains, even though students were explicitly introduced to these domains, suggest that skills in assessing behavioral health and functional stats may merit more emphasis in medical curricula in the future.

Although our study was not designed to measure the specific ways in which students applied findings from the six-domain BPS model to clinical care, students' write-ups often integrated BPS findings into the care plan. For example, a student wrote,

> Despite being a well-educated, determined, and highly resourceful individual, Ms. X is no longer in a position in which she can live independently. In interactions with social workers, Ms. X's daughter … is not in a position to … care for her mother full time. … Ms. X would likely benefit from moving to an assisted living facility, (which would) provide her with much needed assistance in performing ADLs and IADLs, (as well as) community and social interaction

and in another write-up,

> Patient now has insurance and is plugged in with PCP. The most important aspect of this admission will be ensuring appropriate outpatient follow up.

These comments from students suggest that the expanded social history increased students' engagement with patients' social determinants of health and with other members of the healthcare team in addressing them. During discharge rounds with care managers and social workers, students had a more enriched experience, as they were able to identify barriers and those were addressed in real time. Attending physicians also often found this information valuable with discharge planning, as students had information they were not aware of and were able to address barriers to care.

Our study has several limitations. First, our students only completed a single six-domain BPS assessment during the month. Opportunities and challenges in applying the model routinely are unknown. Second, the pilot was limited to internal medicine hospitalist services and should be tested in other disciplines and outpatient settings. Finally, the six-domain BPS model does not encompass all clinically relevant information. Rather, it is intended to provide an incremental step forward from the current data gathering framework for physicians.

Implications

A six-domain framework can be incorporated into routine history taking by medical students, provides a basis for systematic assessment and care planning related to patients' psychosocial characteristics, and may facilitate students' consultation of other potential team members (i.e., social work, pharmacy) in chronic disease management.

Long-term implications for the six-domain BPS model lie along at least two lines. First, our finding that application of information in the domains by the medical team in teaching and care planning was relatively low, as well as our experience with teaching faculty, suggests that faculty development is a crucial component of routine implementation of the six-domain BPS framework. Particular attention should be paid to fostering faculty awareness and incorporation into care planning of patients' behavioral health, including health-related beliefs, motivation, and self-management capacities; and functional capabilities, which are essential to patients' long-term well-being. We have found that faculty who are resistant to an expanded history commonly cite concerns that it would take too much time, or reveal problems that lie outside the health care system, are "not my job" as a physician, or not within their own skill sets to address. However, as linkages to poor patient outcomes (e.g., early readmission or functional decline) are made apparent, most faculty eventually see the relevance of behavioral health and the social determinants of health to clinical decision making. Of interest, some of the faculty most avidly interested in the six-domain BPS model at our institution are surgeons, who observe the negative impact of nonbiomedical factors on postsurgical care and patient outcomes.

Second, if adopted into routine data gathering by medical students, the six-domain BPS model provides a natural framework for deeper learning and teaching related to caring for the whole patient, in their social, economic, and cultural context. Effective use of the domains requires clinical insight, as it application requires learners to determine which aspects of a particular patient's circumstances are most likely to influence their health and well-being. For example,

different insights and decisions would guide use of the six domains for older frail person as compared to a chronically homeless patient. The challenges in developing this type of clinical insight offer a powerful platform for teaching. Beyond this, the domains provide a framework and motivator for mastering a broader range of skills than the traditional biomedically focused curriculum, such as behavioral health assessment, motivational interviewing, and patient counseling; detecting domestic violence or exploitation, and caregiver burden; and working effectively with social workers, pharmacists, community health workers, and other members of the healthcare team, to name a few.

In the near term, the feasibility of routinely using the six-domain BPS model across disciplines and clinical settings, its effects on improving interprofessional team management of chronic conditions, and incorporation of social determinants of health into routine patient assessment and care planning should be examined. Part of this work is now under way through a working group of the American Medical Association on Chronic Disease Prevention and Management (E. Johnson, Chronic Disease Prevention and Management Interest group co-chair, personal communication).

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Previous presentations

Findings from this study were presented at the Association of American Medical College's Central Group on Educational Affairs in Ann Arbor, Michigan, on April 6, 2016, and for the AMA Accelerating Change in Education Chronic Disease and Prevention working group in Norfolk, Virginia, on May 18, 2017.

Author contributions

Dr. Williams originated the basic concepts for the study, initiated and led the study, performed data analysis, and wrote the main body of the paper.

Dr. Ward implemented the intervention, secured control student data, performed data analysis, and made substantive contributions to the manuscript.

Dr. Chick contributed to the design of the study, performed data analysis, and made substantive contributions to the manuscript.

Dr. Johnson made substantive contributions to the background and discussion sections of the final manuscript

Dr. Ross guided the study design and made extensive contributions to the manuscript.

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APPENDIX

Table A1. Six-domain biopsychosocial assessment rating rubric

	Completeness Rating		
Domain	None 0	Partial 1	Adequate 2
Psychiatric Conditions	None mentioned	One or more MH/psychiatrically relevant behaviors noted, not described as diagnoses OR MH/psychiatric diagnoses (only) mentioned or listed. Includes "no psychiatric disorders."	Any MH/psych condition(s) assessed or mentioned, including "not present" OR mentioned as diagnoses AND includes some clinical detail.
Biomedical Conditions	Not documented	Listed in problem list OR text	Mentions sequelae or descriptor such as severity, onset, duration, level of control of the condition.
Behavioral Health	None documented or only substance use, tobacco, alcohol. Includes "no behavioral disorders" as only comment.	Any 1–2 behaviors described or mentioned other than substance use, including medication management.	3+ health-related behaviors described (e.g., exercise, diet, stress management, self-management skills, self-efficacy, health goals) OR any mention of dysfunctional behaviors (e.g., personality disorder)
Living Environment/ Resources	None mentioned	1–2 items documented (e.g., income/ finances, insurance status, transportation, housing, childcare, access to healthcare or having a PCP or healthcare provider)	3+ items documented
Social Support	None mentioned	Any mention of who/how many people are in the patient's immediate social network (cohabitants or close personal relationships)	Any mention of how immediate social relations are working (who helps with what, who's in conflict; providing personal or functional support, etc.)
Functional Status	None mentioned	1–2 dimensions of function (e.g., BADL (any/all 6), IADLs continence, driving, food acquisition, food preparation, medication management), gait, mobility; and role function – occupational, social roles, community roles; health literacy/	3+ dimensions of function

Note: MH = mental health;BADL = Basic Activity of Daily Living: eating, bathing, toileting, transferring, dressing, grooming; IADL = Instrumental Activity of Daily Living.

Six-domain biopsychosocial model teaching guide

Developed by Denege Ward, MD; Davoren Chick, MD; Brent Williams, MD, MPH, University of Michigan.

This guide is intended to assist clinician educators familiar with the 6-Domain Biopsychosocial Model in facilitating a one-hour seminar for clinical health professionals on incorporating the model into routine history-taking. Its cryptic phrasing is designed to trigger comments and discussion rather than provide deep background information; and to lend themselves to PowerPoint format if desired.

BOLD text is appropriate for title or transition slides. Numbered sections can generally be put on a single slide. Phrases may be used verbatim. Internal instructions for facilitators are in *ITALICS*.

Making the history more informative and useful in record time: The six-domain biopsychosocial model

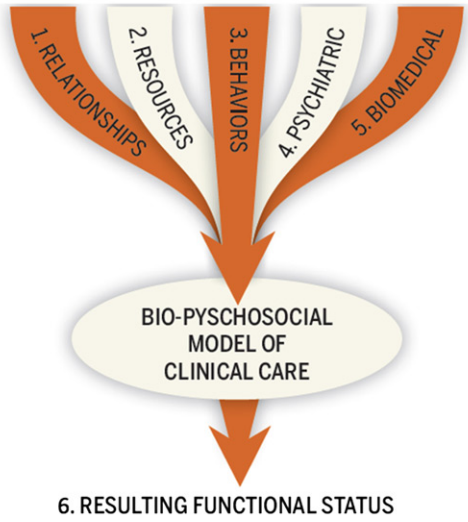
1. Session objectives:
   a. Recognize need for bio-psychosocial (BPS) screening
   b. Understand BPS issues and their impact on health
   c. Understand the limitations of traditional biomedical H&P
   d. **Provide a practical and meaningful tool to collect data**
   e. Act on aspects of BPS information to improve health care delivery and possibly outcomes
2. Outline of session – (*overview the sections of the seminar as outlined below*).

Using the six-domain biopsychosocial framework

1. Case examples – *offer 1 or 2 brief descriptions of patients commonly seen in this teaching setting who suffered poor clinical outcomes attributable to health behaviors or social determinants of health. Examples for hospital services include early hospital readmission or clinical decline after a hospital stay.*
2. Limitations of traditional "H and P"
   a. Incomplete or limited view of patients' overall function
   b. Limited view of patients' healthcare needs
   c. Missed opportunities to affect sequelae of chronic conditions

A few key BPS screening questions – tailored to each patient – improve your H&P by eliciting critical information to guide patient management and care planning!

3. Expectations and assignments for use of 6 domain framework on this rotation
   a. Choose 1 or 2 patients to perform BPS screening
   b. Identify issues to follow up and/or act on with the care team
   c. Engage attending in facilitating team care (nursing, social work, care managers and pharmacy)
   d. Collaborate with patient to address BPS concern or issue
   e. Write up BPS screening and care plan in progress note or H&P (expanded 'Social History') **using the 6-domain framework** and email to: *(insert name and contact information of facilitator)*



Description of six-domain biopsychosocial framework

The Caring with Compassion Website (www.caringwithcompassion.org) and used with permission of the author, Davoren Chick

Illustrative content and sample questions using the 6 domain biopsychosocial model.

Domain *(slide title)*	**Content Areas** *(one slide per text cell)*	**Sample questions** *(one slide per text cell)*
Biomedical conditions	* Chronic and acute medical conditions * Complications of exposure (water, sun, temperature) * Communicable diseases * Effects of substance/tobacco and malnutrition * Consequences of chronic disease	* Symptoms and signs of disease * Current medical conditions / diagnostic work up * Relevant PMH (past medical history) * Medications
Psychiatric conditions	Identified (diagnosed or undiagnosed) disorders, such as: * Depression * Anxiety * Psychosis / Schizophrenia * Bipolar disorder * Dementia / Delirium	* Have you been feeling more depressed or anxious? * Are you taking medications for behavior or mood? * Has anyone given you mental health related labels? * Do you have a mental health case worker? You may notice behaviors on exam. Please document: * Delirium (inattention, waxing and waning) * Anxious affect * Cognition, thought patterns
Behavioral Health (Additional teaching content follows this table.)	* What matters most to you about your health? * What are your goals for this hospitalization? * Health behaviors, such as Exercise Nutrition * Medication management (for real) * Personality-related disordered behaviors (personality disorders) * Substance use	Formulate 3-5 questions personalized to the patient: * Usual substance abuse screening * What benefits do you get from recreational substances? * Do you exercise? * How do you manage your pain at home? * What medications for pain are you given in the hospital or emergency room? * What are your most important health goals? * How do you manage stress?
Community and Environmental Resources	* Financial resources * Insurance status * Access to health care * Access to recreation/exercise safe community * Access to healthy food * Housing status * Transportation	* Where do you live? Where do you stay at night? * Do you have access to health care, healthy foods, parks, safe areas? * Transportation status? * Do you have insurance? How do you pay for medications? * Are financially secure or do you receive or in need of assistance?
Social Support Systems (Relationships)	* Primary relationships ■ Family ■ Friends * Caregiver availability / Capacity / Stress-Burden	* Do you feel safe in your home / environment? * Who helps you or are you a primary caregiver? * Do you have family or friends you can call on for help?

(*Continued*)

Continued.

Domain *(slide title)*	**Content Areas** *(one slide per text cell)*	**Sample questions** *(one slide per text cell)*
	* Domestic violence/abuse/neglect * Community relationships ■ Faith based ■ Clubs or associations	* Who lives with you? * Who do you trust to make medical decisions for you, if you can't make them yourself?
Functional Status	* ADL's and IADL's * Occupational status/history * Gait/mobility * Exercise tolerance * Continence * Health Literacy * Education * Role in the family/work-place/community	* What is/was your occupation? * What can you do independently? * What things do you need help with? * What do you understand about your hospitalization and what was done? On physical exam: * Gait assessment * PT eval for elderly and chronically ill patients.

Medical learners often require additional instruction on assessing behavioral health.

We recommend giving students specific concepts and tools to get them started.

1. Dysfunctional personality-related behaviors - diagnosed mainly by observation:
   - "Difficult" patients
   - Externalization of responsibility
   - Splitting
   - Implicit role assignment -

VICTIM-PERSECUTOR?RESCUER

2. Eliciting beliefs and motivators:
   a. **BATHE***

Background (What is going on in your life?)
Affect (How do you feel about what is going on?)
Trouble (What troubles you most?)
Handling (How are you handling that?)
Empathy (This must be very difficult for you.)
*Stuart MR, Lieberman JA. The fifteen minute hour: a short-term approach to psychotherapy in primary care, third edition. Philadelphia: Saunders, 2002.

   b. **BELIEF***

Beliefs about health (What caused your illness/problem?)
Explanation (Why did it happen at this time?)
Learn (Help me to understand your belief/opinion.)
Impact (How is this illness/problem impacting your life?)
Empathy (This must be very difficult for you.)
Feelings (How are you feeling about it?)
* Dobbie AE, Medrano M, Tysinger J, Olney C. The BELIEF instrument: a preclinical teaching tool to elicit patients' health beliefs. Fam Med 2003;35:316-319.

Resources for implementing the six-domain biopsychosocial framework

1. Pocket Guide – (public domain document available at: www.CaringwithCompassion.org.)
2. Care Team - Medical team, Social Work, Care Managers, Nurses, can help with interventions and resources to address behavioral health needs and social determinants of health.
3. Family/Friends – interview the patient's support network as possible to gain insight.

Additional Resource – www.Caringwithcompassion.org

- Excellent resource to identify and develop skills for at-risk populations
- Curriculum supports care of at-risk populations
- Developed by: Davoren Chick, MD
  - April Bigelow, PhD, ANP
  - Heather Rye, LMSW
  - Brent Williams, MD, MPH