Teaching Geriatrics and Transitions of Care to Internal Medicine Resident Physicians

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Abstract: (1) Background: Internal medicine (IM) resident physicians need to be trained to care for older adults and transition them safely across care settings. Objective: The study purpose was to evaluate the efficacy of a curriculum in geriatrics assessment and communication skills for transitions of care (TOCs) to IM resident physicians. (2) Methods: IM residents rotated for 4 weeks on the geriatrics consult service at a large public teaching hospital, where they received didactic lectures and clinical experience in consultation and transitional care. The curriculum was designed to meet consensus guidelines for minimum geriatrics competencies expected of IM residents. Previously validated and published assessment tools were used for geriatrics knowledge and attitudes. Locally developed tools were used to directly observe and rate communication skills, and self-assess geriatrics assessment and health literacy skills. The curriculum was evaluated using a quasi-experimental, nonrandomized, single-group pre- and post-test observational design. Data on 31 subjects were collected over 18 months and analyzed using mixed-effects models. (3) Results: Average knowledge scores improved from 65% to 74% (Δ9%, 95% CI 4–13%, $p < 0.001$). Communication skills improved by an average of 1.15 points (95% CI 0.66–1.64, $p < 0.001$) on a 9-point scale. Attitudes did not change significantly. Self-rated confidence in geriatrics assessment and health literacy skills improved modestly. (4) Conclusions: The curriculum is effective in teaching basic geriatrics knowledge and communication skills, and increasing self-confidence in geriatrics assessment skills. In settings where an inpatient geriatrics consult service is feasible, the curriculum may be a model for combining geriatrics and TOC training.

1. Introduction

1.1. Problem Identification and General Needs Assessment

Non-geriatricians need to be educated in minimum geriatrics competencies using evidence-based methods in order to adequately care for our aging population [1]. In 2013, there were approximately 3590 full time equivalent (FTE) geriatricians in the United States; based on projections, there will be a national shortage of 26,980 FTE geriatricians in 2025 [2]. Therefore, all internal medicine (IM) residents need to be trained in minimum geriatrics competencies to prepare them for caring for geriatrics patients in both inpatient and outpatient settings.

How to best train resident physicians in geriatrics is not clear. The Accreditation Council for Graduate Medical Education (ACGME) requires exposure to geriatrics for IM residents, but does not specify learning outcomes. Consensus guidelines for content in geriatrics skills, knowledge, and behaviors for internal medicine residents have been published; twenty-six minimum geriatrics competencies (MGCs) for IM/family medicine (FM) residents were developed in agreement with ACGME core clinical competencies [3]. However, most published geriatrics curricula address a limited number of MGCs [4], or are comprehensive programs requiring significant faculty development and additional funding [5–8]. Frequently reported outcomes assessments were Kirkpatrick levels 2a and 2b in knowledge and attitudes [4]. Residency programs should use training strategies that are outcomes based, directly assessing professional skills and behaviors, i.e., Kirkpatrick levels 3 and 4 [9–13].

1.2. Problem Statement

To prevent health care disparities where geriatricians are in shortage, IM resident physicians need to be trained to care for older adult patients and transition these high-risk patients safely across care settings. Geriatrics curricula need to specifically teach and assess documentable outcomes for geriatrics competencies in knowledge, attitudes, and communication skills, and demonstrate lasting retention.

1.3. Targeted Needs Assessment

Our internal medicine (IM) residency program trains 51 categorical residents annually and is primarily a single-site program at a 553-bed public teaching hospital. Our local needs were to develop a geriatrics rotation with a comprehensive curriculum in accordance with ACGME requirements, assess outcomes in knowledge and skills, and ultimately improve the care of older adult patients in our safety-net setting.

2. Materials and Methods

We developed the curriculum using Kern's six steps for developing medical education curricula [14], and evaluated the curriculum using a quasi-experimental, nonrandomized, single-group pre- and post-test observational design.

2.1. Curriculum Conceptual Framework

We selected content topics related to MGCs based on the care needs and characteristics of our safety-net hospital setting (see Table 1). Twenty-four of the 26 MGCs were mapped to specific learning materials, using educational principles of adult learning—in particular, deliberate practice, formative feedback, and scaffolding (Table A1). The curriculum provides a structure for participants to focus on practicing specific skills and receive constructive feedback through direct observation [14] (Appendix A). Peer-reviewed educational materials and assessment tools were used. Evaluation and feedback methods were chosen using the principles of Miller's framework for clinical assessment [15]. Learning materials were available to the residents for self-study on an electronic share drive.

2.2. Rotation Format

The educational intervention was a 4 week clinical rotation in geriatrics and TOC. The curriculum consisted of a lecture series, direct patient care, and direct observation of clinical performance, with focused, formative feedback.

(1) There were 30 min lectures given by the geriatrics faculty (board certified) on thirteen geriatrics topics (Table 1). Peer-reviewed lectures were obtained from the Portal of Geriatrics Online Education (POGOe) [16], the American Geriatrics Society, or were locally developed.

(2) Direct patient care on the inpatient geriatrics consult service, which targeted a high-risk, vulnerable elderly population with low health literacy and socioeconomic status, included:

- Conducting a comprehensive geriatrics assessment (using the assessment packet),
- Performing a health literacy assessment,
- Educating patients and caregivers on medications and chronic disease management using the Personal Health Record tool,
- Daily patient assessment and presentation on attending rounds,
- Documenting communication with the PCP/outside provider, and
- Evaluating patients after discharge in the Transitions of Care Discharge Clinic.

Preoperative frailty assessment in geriatrics patients has gained traction as a predictor of post-operative complications and therefore possibly an important modifier to guide care [17–19]. Therefore, patients aged 70 and above admitted to our hospital's surgical services who met frailty screening criteria were automatically evaluated by the geriatrics consult service. Patients with dementia, depression, stroke, fall, hip fracture, or readmission within 90 days triggered the automatic consult. Our care transitions program is based on the Coleman model, which incorporates a Transitions Coach to provide continuity of care between inpatient and outpatient, targeted patient education, and medication reconciliation [20].

(3) Direct observation and feedback by geriatrics attending physicians on residents' clinical performance of geriatrics assessment tools and communication skills. Residents were provided a skills checklist to track practice of each skill (Supplementary Materials: Geriatrics Skills Checklist) and facilitate formative feedback. Residents were observed during patient encounters and given focused, formative feedback by the attending physicians using a locally developed Geriatrics Communication Skills Mini-CEX, which comprises specific items that were scored by the attending physicians (Clinical Evaluation Exercise) (Supplementary Materials: Geriatrics Communication Skills Mini-CEX).

Table 1. Geriatrics Content Topics.

1	Transitions of Care
2	Health Literacy and Health Disparities
3	Interdisciplinary Teams
4	Pre-Op/Peri-Operative Care
5	Pressure Ulcers
6	Urinary Incontinence
7	Delirium
8	Dementia
9	Osteoporosis and Hip Fractures
10	Gait Disorders and Falls
11	Appropriate Medications and Polypharmacy
12	Anticoagulation
13	Geriatrics Primary Care and Screening

2.3. Study Design

To meet ACGME requirements, the 4 week clinical rotation in geriatrics was required for our IM residents (PGY2 and PGY3). All IM residents on the rotation (*n* = 52) were recruited from November 2014 through June 2016. Data were collected and managed using the REDCap electronic data capture tools hosted at the Lundquist Research Institute (Los Angeles BioMedical Research Institute) [21]. The local Institutional Review Board reviewed and approved the study protocol as exempt (LA BioMed IRB # 30248-01). Participants were assigned study identification numbers, and the data were de-identified for analysis by the statistician.

2.4. Evaluation

The curriculum was evaluated using a quasi-experimental, nonrandomized, single-group pre- and post-test observational design (Table 2).

Table 2. Learner Assessments.

Assessment	Instrument	O1	O2	O3
Knowledge	University of Michigan Geriatrics Clinical Decision-Making Knowledge Assessment (21 items)	x	x	x
Attitudes	UCLA Geriatrics Attitudes Survey and Carolina Geriatrics Education Center Health Literacy Survey	x	x	
Communication Skills	Locally Developed Mini-Clinical Evaluation Exercise (Mini-CEX)	x	x	
Curriculum Effectiveness	Program Satisfaction Survey		x	

Geriatrics clinic knowledge, attitudes towards geriatrics patients and clinical care, communication skills, and reaction to the curriculum were assessed pre- (O1) and post- (O2) rotation. Residents completed the University of Michigan Geriatrics Clinical Decision-Making Assessment (UM Geriatrics Assessment), a 21 item multiple-choice test that was used to assess knowledge outcomes, which was scored by the study investigators [22]; the University of California, Los Angeles (UCLA) Attitudes Scale (self-assessment comprising 14 items using a Likert scale) to assess attitudinal outcomes [23]; and a retrospective pre-post survey on knowledge and attitudes on health literacy (self-assessment comprising 11 items using a Likert scale). The attendings completed the Mini-CEX on communication skills (10 items using a Likert scale), which were administered at O1 and O2. Knowledge retention was assessed six to twelve months after the completion of the rotation (O3) by repeating the UM Geriatrics Assessment. The investigators developed a Program Satisfaction Survey (available in Supplementary Materials) that was administered at O2 to the resident participants to assess overall curriculum effectiveness.

2.5. Statistical Analysis

Changes in clinical knowledge over time (O1, O2, and O3) were assessed using a generalized linear mixed model with binomial family and logit link function specified. These models were fit with person random intercept and nested random slope for time. Responses to each of the 21 clinical knowledge items were scored as correct or incorrect and global scores for the proportion correct across all items at each time point were estimated using the aforementioned mixed model. Specifically, the participants' 21 binary items were modeled as the outcome with a fixed and random effect for time. The marginal means from this model were used to represent the overall knowledge scores at each time point. For the UCLA attitudes items, communication skills, and health literacy assessments, Cronbach's alpha was used as a measure of scale reliability. Using the formed scales, a mixed-effects linear regression model was used to assess changes over time in a manner similar to those described for the knowledge assessments. Differences in baseline values and residency year were assessed using *t*-tests and Fischer's exact tests between those with and without complete data at all timepoints. All analyses were conducted in Stata version 15.1, Stata Corp LP (College Station, TX, USA).

3. Results

Of the 52 participants, 48 provided a pre-test assessment (O1), 41 completed the first post-test assessment (O2), and 24 provided for the second post-test assessment at 6–12 months (O3) after

rotation. There were no statistically significant differences between those with and without missing data on residency year (PGY), the baseline values of knowledge scores, observed communication skill, or self-rated geriatric assessment and health literacy skills.

Knowledge, observed communication skills, and self-rated geriatrics assessment and health literacy skills improved. Attitudes towards geriatrics and geriatrics patients did not change significantly.

Average knowledge scores improved from 65% (95% CI 62–68%, $p < 0.001$) to 73% (95% CI 70–76%, $p < 0.001$) (Figure 1). Forty-six percent (24 of total $N = 52$) completed the knowledge assessment at O3, with average scores of 74% (0.70, 0.78); an undetectable difference from the average scores at O2.
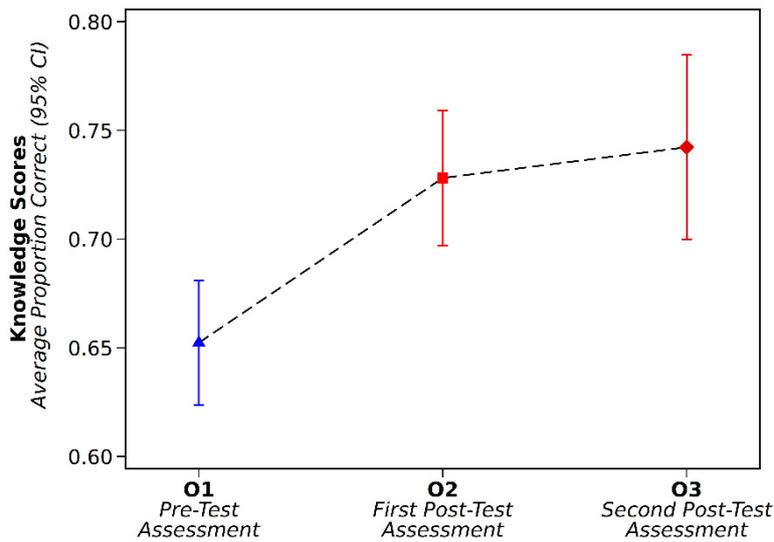
Figure 1. Change in Knowledge Scores.

Communication skills improved by an average of 0.93 points (95% CI 0.54–1.33, $p < 0.001$) on a 9-point scale (Figure 2). Self-rated confidence in geriatrics assessment skills improved by an average of 1.32 points (95% CI 1.18–1.47, $p < 0.001$) on a 5-point scale, and health literacy skills improved by an average of 1.42 points (95% CI 1.22–1.63, $p < 0.001$) on a 5-point scale (Figure 2).
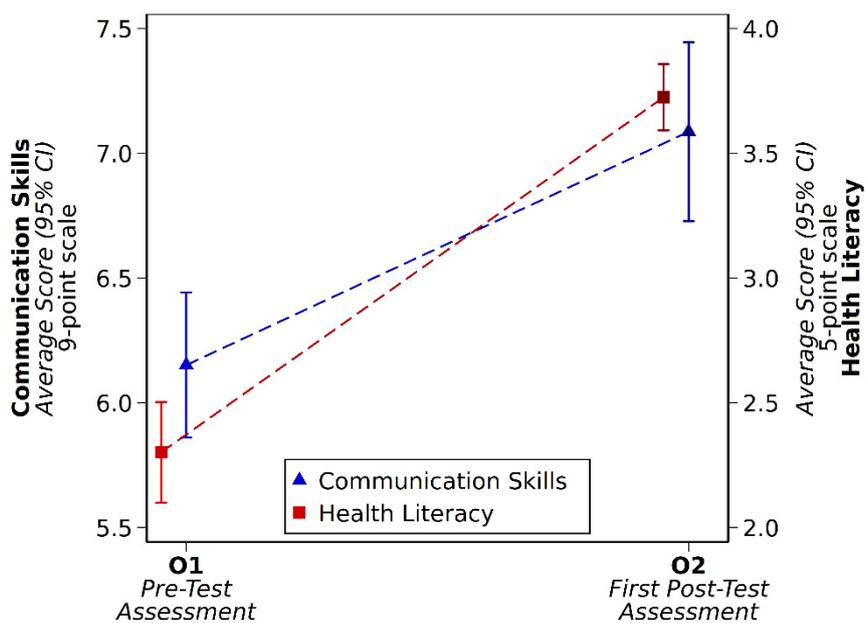

Figure 2. Change in Communication Skills and Health Literacy Skills.

Analyses for interactions among variables did not show that improvement in knowledge was associated with improvement in attitudes, communication skills, or health literacy.

The Mini-CEX generated specific attending feedback to residents based on direct observation of clinical skills. The comments addressed communication skills (e.g., "talk directly to patient (not translator)," and "ask about pain and mood at beginning—acknowledge emotion"), using literacy-appropriate language and avoiding medical jargon (e.g., "'confounding', 'mental status', 'Foley'—examples of jargon used"), and demonstrating active listening and empathy (e.g., "patient started to cry; did not acknowledge emotion").

Participants self-rated their knowledge and skills in health literacy, transitional care, and geriatrics assessment as improved after the rotation.

Participants demonstrated increased awareness of limited health literacy in older adults, effective methods for screening for low health literacy, an increased awareness of the added health costs associated with low health literacy, and an increased preparedness to use "teach back" methods for communication.

The Program Satisfaction Survey assessed the learners' reaction to the curriculum. Learners showed improved confidence in their ability to communicate effectively with outpatient providers about patient's hospitalization and recommended follow up. Comments suggested that participants used deliberate practice to improve confidence in clinical skills (e.g., "I had not used many of the aspects of the geriatrics exam regularly. Now after performing the exam multiple time[s] I feel more comfortable and aware of those functional tests") and had developed confidence in translating skills across care settings (e.g., "I feel much more confident with the geriatrics assessment and feel that it is a tool I can use on a lot of my clinic patients").

In summary, participants' geriatrics clinical knowledge, communication skills rated by faculty, and learners' self-assessment of their geriatrics clinical skills improved after the curriculum. Knowledge was retained after six months.

4. Discussion

For the primary outcome of geriatrics knowledge scores, the curriculum was as effective at teaching basic geriatrics knowledge to residents as previously published geriatrics curricula, with similar improvements in knowledge scores. The lack of improvement in attitudes towards geriatrics patients and clinical care may be due to the short time frame of the educational intervention or biases against older adults developed earlier in life.

The curriculum meets current trends in medical education by teaching knowledge and skills for preparing residents for practice in new models of care since the Affordable Care Act. The curriculum provides a means to document direct assessment of clinical performance, such as in practice-based learning and improvement, interpersonal communication skills, professionalism, and IM Entrustable Professional Activities (EPA), e.g., managing transitions of care, modeling cross-cultural communication, and establishing therapeutic relationships with persons of diverse socioeconomic backgrounds.

The curriculum is potentially reproducible at other institutions; most of the curricular materials are publicly available on POGOe [16].

Future directions include revision and validation of the locally developed Geriatrics Communication Skills Mini-CEX, and developing a template for reportable competency outcomes relevant to residency program leadership. Assessing patient-level outcomes for patients evaluated on the geriatrics consult service would evaluate the educational impact on quality of patient care, particularly in a safety-net population.

Limitations

This curriculum was administered at a single site and the residents and patient population may not be representative of the target population of internal medicine residents training in all safety-net settings. The patient population represented in our geriatrics consult service is enriched in surgical patients due to an agreement with the surgical leadership at our institution to perform geriatrics assessment on all geriatrics surgical patients meeting pre-specified frailty screening criteria.

While patient goals of care (GOCs) and caregiver capability and strain are important components in geriatrics assessment and transitional care, formal GOC training and caregiver assessment tools were not included in the curriculum. At our institution, the IM residents have a required rotation in palliative care, which includes curricula in how to elicit and document goals of care. If other institutions do not have a similar service or curricula, these elements of the curricula should be made more robust to help residents develop these essential skills.

The ABIM Mini-CEX tool has been previously shown to require a minimum of four observations to have sufficient reliability for summative assessment of clinical skills [24,25]. While there was an improvement in scores on the Mini-CEX in this study, this finding should be interpreted cautiously. The intended utility of the Mini-CEX in this curriculum was primarily for facilitating and documenting formative feedback.

Primary outcomes at Kirkpatrick level 4, such as residents' quality of clinical care in practice after the rotation (e.g., rates of screening for dementia) and patient-level outcomes (e.g., length of stay, 30 day hospital readmission rates) were not assessed.

5. Conclusions

The curriculum was effective in teaching basic geriatrics knowledge and communication skills, and increased self-confidence in geriatrics assessment skills. Knowledge was retained at between six and twelve months. Attitudes towards geriatrics patients remained unchanged. Most of the didactic and assessment tools are publicly available. The curriculum may be a model for combining geriatrics and TOC training in safety-net hospital settings.

Appendix A

Table A1. IM Resident Geriatrics Competencies and Didactic Materials.

Topic	Competency Domain	Skill or Behavioral Competency	Learning Materials	Assessment
Transitions of Care (TOCs)	Transitions of Care	#21 In planning hospital discharge, work in conjunction with other health care providers (e.g., social work, case management, nursing, physical therapy) to recommend appropriate services based on: the clinical needs, personal values and social and financial resources of the patients and their families (e.g., symptom and functional goals in the context of prognosis, care directives, home circumstances and financial resources); and the patient's eligibility for community-based services (e.g., home health care, day care, assisted living, nursing home, rehabilitation, or hospice).	1. LECTURE: Care Transitions (Ward) ** 2. Annals Transitions of Care Toolkit 2013 (pdf) [26] 3. Functional Decline in Older Adults (Colon-Emeric, pdf) [27] 4. LECTURE: Medicare, Medicaid and Discharge Planning (1st case only) [16] https://www.pogoe.org/productid/21790 5. Medi-Cal Services for Immigrants (pdf) 6. ABCDs of Medicare 2019 (pdf) [16] http://www.pogoe.org/productid/21388	1. Patient evaluation and presentation at bedside rounds 2. Communicates with PCP for every patient and identifies important issues for follow up 3. Collaborates with IDT members
	Medication Management	#3 Periodically review patient's medications (including meds prescribed by other physicians, OTC and CAM) with the patient and/or caregiver to assess adherence, eliminate ineffective, duplicate and unnecessary medications, and assure that all medically indicated pharmacotherapy is prescribed.	1. SmartPrescribe module [16] http://www.smartprescribe.org; http://www.pogoe.org/productid/20222 2. Personal Health Record (pdf/doc) (Supplementary Materials)	Skills Checklist: Practice medication reconciliation in Transitions of Care Clinic using Personal Health Record
	Palliative and End-of-Life Care	#16 In patients with life-limiting or severe chronic illness, identify with the patient, family and care team when goals of care and management should transition to primarily comfort care.	LECTURE: Palliative Care (AGS) [28]	Geriatrics Communication Skills Mini-CEX
Health Literacy and Health Disparities	Complex or Chronic Illnesses in Older Adults	#8 Identify and assess barriers to communication such as hearing and/or sight impairments, speech difficulties, aphasia, limited health literacy, and cognitive disorders. When present, demonstrate ability to use adaptive equipment and alternative methods to communicate (e.g., with the aid of family/friend, caregiver).	1. LECTURE: Health Literacy and Health Disparities (Wu) ** Health Literacy (HL) Tools: 1. JAMA Clinician's Corner: Can this Patient Read and Understand Health Information? (Powers, pdf) [29] 2. AMA Health Literacy Clinicians Manual (Weiss, pdf) [30] 3. Newest Vital Sign (pdf) [31]	1. Adapt to history taking limitations with appropriate strategies (e.g., phone interpreter, pocket talker) 2. Skills Checklist: Practice using HL screening tool
	Complex or Chronic Illnesses in Older Adults	#9 Determine whether an older patient has sufficient capacity to give an accurate history, make decisions and participate in developing the plan of care.	LECTURE: Decision-Making Capacity (AGS) * [28]	Geriatrics Communication Skills Mini-CEX: Practice using Teachback Method for assessing patient understanding

Table A1. *Cont.*

Topic	Competency Domain	Skill or Behavioral Competency	Learning Materials	Assessment
Interdisciplinary Teams	Transitions of Care	#21 In planning hospital discharge, work in conjunction with other health care providers (e.g., social work, case management, nursing, physical therapy) to recommend appropriate services based on: the clinical needs, personal values and social and financial resources of the patients and their families (e.g., symptom and functional goals in the context of prognosis, care directives, home circumstances and financial resources); and the patient's eligibility for community-based services (e.g., home health care, day care, assisted living, nursing home, rehabilitation, or hospice).	1. LECTURE: Introduction to IDT (with optional video) ** 2. Functional Decline in Older Adults (Colon-Emeric, pdf) [27] 3. Katz Activities of Daily Living (ADLs) (pdf) 4. Personal Health Record (pdf/doc) (Supplementary Materials)	Propose discharge plan (setting, need for caregiver, need for home/community services)
Pre-Op/Peri-Operative Care	Complex or Chronic Illnesses in Older Adults	#12 Demonstrate understanding of the major age-related changes in physical and laboratory findings during diagnostic reasoning (e.g., S4 does not reflect CHF, pulse increase less common with orthostasis, pO2 declines with age, abdominal pain may be less severe).	1. LECTURE: Physiology of Aging (Geriatrics: An Overview) (AGS) * [28] 2. American College of Surgeons (ACS) Pre-Op Geriatric Guidelines 2015 (pdf) [32] https://www.facs.org/quality-programs/acs-nsqip/geriatric-periop-guideline 3. Peri-Op Care for Hip Fracture 2018 (pdf) [16] http://www.pogoe.org/productid/20862	Discuss why physiologic changes of aging increase surgical risk in a particular patient
	Complex or Chronic Illnesses in Older Adults	#14 Develop a treatment plan that incorporates the patient's and family's goals of care, preserves function, and relieves symptoms.	1. The Geriatric Assessment (Elsawy, pdf) [33] 2. Katz Activities of Daily Living (ADLs) (pdf)	Discuss how results of patient's functional assessment impacts goals of care
Pressure Ulcers	Hospital Patient Safety	#18 In hospitalized medical and surgical patients, evaluate—on admission and on a regular basis—for fall risk, immobility, pressure ulcers, adequacy of oral intake, pain, new urinary incontinence, constipation, and inappropriate medication prescribing, and institute appropriate corrective measures.	1. Pressure Ulcers interactive module (swf) [16] http://www.pogoe.org/productid/21193 2. LECTURE: Pressure Ulcers (Cook) **	Identify patients at high risk of pressure ulcers
Urinary Incontinence	Hospital Patient Safety	#19 In hospitalized patients with an indwelling bladder catheter, discontinue or document indication for use.	LECTURE: Practical Approach to Urinary Incontinence (Wu) **	Physical exam and documentation of indication for catheterization on rounds
	Hospital Patient Safety	#18 In hospitalized medical and surgical patients, evaluate—on admission and on a regular basis—for fall risk, immobility, pressure ulcers, adequacy of oral intake, pain, new urinary incontinence, constipation, and inappropriate medication prescribing, and institute appropriate corrective measures.		Correct performance of screening tools for hospitalized patients (Skills Checklist)
	Ambulatory Care	#24 Detect, evaluate and initiate management of bowel and bladder dysfunction in community dwelling older adults.	Comprehensive Geriatrics Assessment Packet (Supplementary Materials)	Screen for chronic incontinence and propose evaluation and management plan

Table A1. *Cont.*

Topic	Competency Domain	Skill or Behavioral Competency	Learning Materials	Assessment
Delirium	Hospital Patient Safety	#17 As part of the daily physical exam of all hospitalized older patients, assess and document whether delirium is present.	1. JAMA Clinician's Corner: Does this Patient Have Delirium? (Wong, pdf) [34] 2. Confusion Assessment Method (CAM) (pdf) and CAM-ICU (pdf) and in Comprehensive Geriatrics Assessment Packet (Supplementary Materials) OPTIONAL: 1. Confusion Assessment Method (Inouye, pdf) 2. CAM Training Manual (Inouye, pdf) [35] 3. CAM-ICU Training Manual (Ely, pdf) [36]	Skills Checklist: Practice using delirium screening tool (CAM)
	Cognitive, Affective, and Behavioral Health	#5 Recognize delirium as a medical urgency, promptly evaluate and treat underlying problem. #6 Evaluate and formulate a differential diagnosis for patients with changes in affect, cognition, and behavior (agitation, psychosis, anxiety, apathy).	1. LECTURE: Delirium (Ward) ** 2. LECTURE: Post-Operative Delirium (AGS) * [28]	Delirium case analysis/discussion: differential diagnosis, workup strategy
	Complex or Chronic Illnesses in Older Adults	#10 In evaluating adults with undifferentiated illness, generate differential diagnoses that include diseases that often present atypically in older adults (e.g., acute coronary syndromes, the acute abdomen, urinary tract infection, and pneumonia).	LECTURE: Physiology of Aging (AGS) * [28]	
	Hospital Patient Safety	#20 Before using or renewing physical or chemical restraints on geriatrics patients, assess for and treat reversible causes of agitation. Consider alternatives to restraints such as additional staffing, environmental modifications, and presence of family members.		Name nonpharmacologic strategies to prevent and manage delirium
	Medication Management	#2 When prescribing drugs which present high risk for adverse events and interactions (these medications include, but are not limited to, coumadin, NSAIDs, opioids, digoxin, insulin, strongly anticholinergic drugs, and psychotropic drugs), discuss and document the rationale for their use, alternatives, and ways to decrease side effects.	1. Effectiveness of Atypical Antipsychotics in Alzheimer's Disease: CATIE-AD (pdf) [37] 2. SmartPrescribe module [16] http://www.smartprescribe.org; http://www.pogoe.org/productid/20222	Name indications and discuss risks vs. benefits of antipsychotics for treatment of delirium

Table A1. *Cont.*

Topic	Competency Domain	Skill or Behavioral Competency	Learning Materials	Assessment
Dementia	Cognitive, Affective, and Behavioral Health	#4 Appropriately administer and interpret the results of at least one validated screening tool for each of the following: delirium, dementia, depression, and substance abuse.	1. LECTURE: Dementia (Ward) ** 2. Annals of Internal Medicine Dementia Toolkit 2014 (Rabins, pdf) [38] 3. Cognitive Testing Tools (e.g., Mini-Cog, Mini-Mental State Exam (MMSE), Montreal Cognitive Assessment (MoCA), pdfs) 4. Depression Screening Tool (Patient Health Questionnaire-2 and 9, pdf, in Comprehensive Geriatrics Assessment Packet) 5. OPTIONAL: MoCA: A Brief Screening Tool for Mild Cognitive Impairment (Nasreddine, pdf) [39]	1. Skills Checklist: Practice using dementia screening tool (Mini-Cog, MMSE, or MoCA) and depression screening tool (Patient Health Care Questionnaire: PHQ-2)
	Cognitive, Affective, and Behavioral Health	#7 In patients with dementia and/or depression, initiate treatment and/or refer as appropriate.		If depression is identified, document communication with PCP for follow-up evaluation
Osteoporosis and Hip Fractures	Ambulatory Care	#23 Yearly screen of all ambulatory elders for falls or fear of falling. If positive, assess gait and balance instability, evaluate for potentially precipitating causes (medications, neuromuscular conditions, and medical illness), and implement interventions to decrease risk of falling.	1. Osteoporosis Fact Sheet: [16] https://pogoe.org/sites/default/files/Osteoporosis_1.pdf 2. Osteoporosis Educ Series: [16] https://www.pogoe.org/productid/21181 3. FRAX online tool: http://www.shef.ac.uk/FRAX/tool.aspx?country=9	In a patient presenting with fragility fracture, elicit and present a comprehensive falls history including risk factors for osteoporosis
	Hospital Patient Safety	#18 In hospitalized medical and surgical patients, evaluate—on admission and on a regular basis—for fall risk, immobility, pressure ulcers, adequacy of oral intake, pain, new urinary incontinence, constipation, and inappropriate medication prescribing, and institute appropriate corrective measures.	4. Peri-op Care for Hip Fracture 2018 (pdf) [16] http://www.pogoe.org/productid/20862	1. Propose peri-operative hip fracture care plan that accounts for risks of delirium and debility 2. Propose pain management plan for geriatrics surgical patients accounting for GFR and presence/absence of delirium
	Transitions of Care	# 22 In transfers between the hospital and skilled nursing or extended care facilities, ensure that: for transfers to the hospital, the caretaking team has correct information on the acute events necessitating transfer, goals of transfer, medical history, medications, allergies, baseline cognitive and functional status, advance care plan and responsible PCP; and for transfers from the hospital, a written summary of hospital course be completed and transmitted to the patient and/or family caregivers as well as the receiving health care providers that accurately and concisely communicates evaluation and management, clinical status, discharge medications, current cognitive and functional status, advance directives, plan of care, scheduled or needed follow up, and hospital physician contact information.		Identify osteoporosis and fragility fractures as problems to be addressed in outpatient setting when communicating with PCP

Table A1. *Cont.*

Topic	Competency Domain	Skill or Behavioral Competency	Learning Materials	Assessment
Gait Disorders and Falls	Ambulatory Care	#23 Yearly screen of all ambulatory elders for falls or fear of falling. If positive, assess gait and balance instability, evaluate for potentially precipitating causes (medications, neuromuscular conditions, and medical illness), and implement interventions to decrease risk of falling.	1. LECTURE: Falls for the Inpatient Physician [16] http://www.pogoe.org/productid/20212 2. Geriatrics Functional Assessment Videos (POGOe) [16] http://www.pogoe.org/content/9910 3. OPTIONAL: Gait Assessment Module (Tinetti): [16] http://www.pogoe.org/AngelUploads/applications/Tinetti/Contents/01_intro.swf 4. OPTIONAL: Tinetti Gait and Balance Assessment Tool (pdf)	1. Skills Checklist: Practice gait assessment tool (Tinetti or Timed Up and Go Test) 2. Propose assistive device based on gait assessment
Appropriate Medications and Polypharmacy	Medication Management	#1 Prescribe appropriate drugs and dosages considering: age-related changes in renal and hepatic function, body composition, and CNS sensitivity; common side effects in light of patient's comorbidities, functional status, and other medications; and drug–drug interactions.	1. LECTURE: Med Use in the Elderly Patient [16] https://www.pogoe.org/productid/18917 2. Cockcroft-Gault Equation http://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation/	Skills Checklist: Estimate GFR in an older adult
	Complex or Chronic Illnesses in Older Adults	#11 Consider adverse reactions to medication in the differential diagnosis of new symptoms or geriatrics syndromes (e.g., cognitive impairment, constipation, falls, incontinence).	1. Beers Criteria Pocketcard 2019 (pdf): https://geriatricscareonline.org/ProductAbstract/2019-ags-beers-criteria/PC007/?param2=search 2. Comprehensive Geriatrics Assessment Packet (Supplementary Materials)	Identify possible drug interactions on current medication list
Anticoagulation	Medication Management	#2 When prescribing drugs which present high risk for adverse events and interactions (these medications include, but are not limited to, coumadin, NSAIDs, opioids, digoxin, insulin, strongly anticholinergic drugs, and psychotropic drugs), discuss and document the rationale for their use, alternatives, and ways to decrease side effects.	LECTURE: Anticoagulation in Older Persons (Reuben) **	Recommend appropriate DVT ppx or anticoagulation treatment in hospitalized patient using estimated GFR
Geriatrics Primary Care and Screening	Ambulatory Care	#26 Individualize standard recommendations for screening tests and chemoprophylaxis in older patients based on life expectancy, functional status, patient preference and goals of care.	1. LECTURE: What is Geriatrics Primary Care? (Wu) 2. Final Years JAMA (Reuben) (pdf) [40] 3. Katz Activities of Daily Living (ADLs) (pdf) 4. Prognosis online calculator: ePrognosis [16,41] http://eprognosis.ucsf.edu/; http://www.pogoe.org/productid/21148	1. Skills Checklist: Practice scoring functional assessment and estimating prognosis 2. Discuss impact of prognosis on decision making
	Complex or Chronic Illnesses in Older Adults	#13 Discuss and document advance care planning and goals of care with all patients with chronic or complex illness, and/or their surrogates.	Advance Directives (English and Spanish, pdf)	Present at bedside rounds if patient has identified a surrogate decision maker

* AGS = American Geriatrics Society Teaching Slides: https://geriatricscareonline.org/toc/grs-teaching-slides/S001. ** Unpublished lecture materials developed within UCLA Geriatrics; available upon request to the authors.

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