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Global Health Faculty Competency Checklist for US Medical School and Family Medicine Residencies: Development and Initial Validation

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Abstract

Introduction: Literature reviews show little written on the competencies needed for US faculty who teach global health to US medical students and family medicine residents. The authors, three family medicine physicians with global health expertise and one medical educator, adapted Srinivasan's ten teaching competency domains for global health teaching in the medical school and residency settings.
Methods: The checklist was developed and self-assessments were completed over several years at two Annual Family Medicine Global Health Conferences and using a listserve with predominantly US Family Medicine physician educators. Srinivasan's adapted framework was presented to family medicine educators who participated in a workshop at the Annual American Academy of Family Physicians (AAFP) Global Health Workshop (2013) to further define knowledge, skills, and attitudes important for a comprehensive approach to global health. A modified Delphi process was used to further refine the objectives and finalize the checklist. The finalized 55-item checklist was presented at a workshop at the 2014 AAFP Global Health Workshop for self-assessment of skills as novice, master, or expert for each item. Then, participants self-identified as predominantly novice, master, or expert and broke into groups to discuss faculty development needs.
Results: The 55-item checklist defines the competency objectives for faculty development of educators teaching global health in the medical school and residency setting in the US. While the participants were predominantly family physicians, many of the objectives are relevant to other specialties.
Discussion and next steps: The checklist is a first step in guiding and developing global health educators to train students and residents to deliver culturally appropriate health care in international settings. Self-assessment by more educators is needed for full validation. Initial findings show that faculty who self-identified as novice or master/expert reported different needs. Participants who identified as novices wanted resources to further their medical knowledge, cultural competence, and understanding of public health and health systems in different countries. Masters/experts suggested educational sessions on ethics, tools for program evaluation, resources for funding, leadership development, and program implementation.

Keywords: Faculty development, global health, faculty needs assessment, competency-based education, cultural competency

Article

Introduction

While there is a growing literature on clinical competencies for medical students and residents,[1,2] less is known about educational competencies that promote effective learning and develop competent faculty. To address this shortcoming, Srinivasan, et al, conducted a literature review followed by a conference at which essential educator skills and attributes were derived and then collapsed into a framework of ten competencies.[3] Srinivasan's ten competency domains, each containing knowledge, skills and attitudes, included the six ACGME competencies (medical knowledge, learner-centeredness, interpersonal and communication skills, professionalism and role modeling, practice-based reflection, system-based practice) and four specialized competencies for faculty with programmatic roles (program design and implementation, evaluation and scholarship, leadership, and mentorship). Each competency had a number of objectives and sub-objectives, totally over one hundred items for faculty development.

We adapted Srinivasan's ten core competencies for global health teaching. Since the needs of teachers in an international setting differ somewhat from traditional US learning environments,[4] our focus was the development of teaching competencies to improve the global health education of US medical students and family medicine residents.

Further, we wanted to pilot the checklist as a self-assessment tool. To simplify this, we collapsed Dreyfus's five-stage model of skill acquisition or competence/capability assessment into three categories: novice, master, and expert.[5]

The purpose of our project was to develop a checklist for global health medical education to help faculty and mentors to understand where to focus their educational efforts and to pilot test it as a self-assessment tool.

Methods

Initial Development

Two medical educators and three faculty physicians with expertise in global health adapted Srinivasan's ten domains to global health focusing on the needs of faculty teaching in US educational settings. The initial framework was presented to family medicine educators (40) who participated in a workshop at the 11th Annual American Academy of Family Physicians (AAFP) Global Health Workshop in October, 2013. Educators taught in a medical school, residency program or both in the US. All had participated in some type of health care provision outside the US in a low resource setting. For the purposes of this paper, this is referred to as international work. Workshop participants worked in small groups to further develop the objectives (knowledge, skills and attitudes) assigned to each of the competency domains. New items were suggested, others were refined, and some were eliminated.

Modified Delphi process

Following this development session, the authors edited the instrument for clarity and redundancy. For example, one competency, leadership, was divided into two domains: 1) creating a shared vision for medical education in the global context and 2) developing the next generation of leaders with a global vision. The revised 55 objectives within the ten competency goal areas were considered to be important knowledge, skills and attitudes for global health educators.

Next, 2013 AAFP workshop participants and members of a global health listserve were invited to be part of a final round of revisions via Redcap,[6] a secure resource. Sixty-two faculty members who either participated in the 2013 workshop (n=40) or indicated that they wanted to participate after seeing a post on the

AAFP Family Medicine Global Health listserve (n=22) were sent the checklist. Thirty-two of 62 (52%) responded. Participants rated the ten goal areas and their objectives using a 5-point scale (no importance to extremely important) and could add comments as well.

Frequency distributions and measures of central tendency were used to assist in the final development of the checklist, and respondent comments were used to improve clarity. All but four of the 55 items had mean scores of 4.0 or higher; the remaining four items were ranked 3.6, 3.8, 3.9, and 3.9. We did not delete any items, but comments pointed out redundancy on several items. For example, under program design the old item: *Utilize resources within medical education to advocate for learners and optimize teaching and learning* was edited to the new item: *utilize major theories of medical education in program design.*[7]

Self-Assessment

Participants in a workshop at the 2014 AAFP Global Health workshop were presented with the 55-item checklist and asked to rate their skill acquisition as novice, master or expert[5] for each of the competency areas. Prior to ranking, definitions and examples of the each skill level was provided. After completing the individual rankings, participants were asked to self-identify as predominantly novice, master or expert. Only two individuals considered themselves experts. In order to have reasonable sized groups for discussion, one novice group and two masters/expert groups were created.

Study protocols were reviewed by the University of Minnesota institutional review board for the work done at 2013 AAFP Global Health Workshop and the Modified-Delphi Process. The leading author moved to Wright State University, so that institution's review board looked over the activities planned for the 2014 AAFP Global Health Workshop. Both review boards found the activities to be exempt from review.

Results

Thirty-two participants used the updated and revised 55-item checklist to assess their skills and knowledge related to global health education at the 2014 AAFP Global Health workshop. Twelve (37%) were assistant professors, 12 (37%) associate professors, six (19%) professors, and two (6%) did not report an academic title. Half of the participants (16) started working internationally in the year 2000 or later. The other 16 began international work in the 1980s and 1990s except for two outliers, one who started in 1967 and another in 1978. Seventeen of 32 (56%) started working in medical education in the year 2007 or later. Most (83%) taught in residency education, although 13% were in medical student education. One participant(s) worked with a nongovernment organization.

Due to the small number who consistently ranked themselves as expert on the objectives, we combined the master and expert categories for all analyses. Table 1 reports the percent of participants rating themselves novice or master/expert on the 55 objectives. Some goal areas showed consistency in the ratings of the objectives between the novice and master/expert categories. For example, in *Medical and Educational Knowledge and Practice* (I) at least two thirds rated themselves as master/expert on each of the three objectives. These objectives focused on the ability to determine the learner's mastery of knowledge, skills and attitudes through questions and direct observation; to assess the cultural context of the learning environment; and to help learners develop reflective practice. Other goal areas such as *Evaluation and Scholarship* showed more diversity. Seventy-one percent of the participants rated themselves as master/expert for *set aside time at specified intervals to debrief learners, facilitating safe dialogue and reflection.* (VI. 1.) Whereas, over 50% rated themselves as novices in the other objectives. (See Table 1; Goal I.)

For Table 2, the percent indicating master/expert for each objective within a competency was calculated, and then the sum of the percents was divided by the number of objectives within a competency. For example, if a competency goal with three objectives had master/expert percentages of 65%, 72%, and 85%, the competency goal mean percent would be 74% (65% + 72% + 85% / 3). Participants reported their highest level of competence to be in the goal area *professional* and *role modeling* (93%) and their least in

evaluation and *scholarship* (42%). Proficiency ratings were close to fifty percent or less in the goal areas of *leadership* (52%) and *program design and implementation* (48%).

In group discussion at the AAFP 2014 workshop, participants who self-identified as novices wanted resources for medical knowledge, cultural competence, public health and international health systems. Groups of masters suggested sessions on ethics, tools for program evaluation, education on resources for funding, leadership development, and program implementation. Practical resources were requested – e.g., a list of non-governmental organizations (NGOs) that support international experiences for medical students or residents, a website with a toolbox of resources, and sharing of program designs and evaluation tools. Participants encouraged the development of mentorships and consultations.

Discussion and Next Steps

The global health faculty competency checklist is a product of collaborative efforts over several years with the purpose of guiding the professional development of faculty who work in global health, particularly family medicine physicians, who teach in the US medical school or residency setting. Work provided in the international setting should be culturally sensitive and useful to the receiving community. The competency needs of novice global health educators were the acquisition of medical knowledge, cultural competency skills and the understating of various health and public health system. Resources for these domains are outlined in *Development of a Global Health Curriculum for Family Medicine Based on ACGME Competencies.*[8] The competency needs brainstormed by the masters/experts group included knowledge and skills related to developing, evaluating, and sustaining programs. These domains could be addressed during session at annual meetings such as the AAFP Global Health Workshops, or through one-on-one efforts in mentorship and consultancy formats. Development would require an investment of time, planning and financial resources.

Several of the goals/competency areas are not specific to global health, but important for teaching in general. These include Learner-Centeredness and Mentorship (Goals II and VII). The other eight take on additional complexity because of the global health overlay. For example, Practice-Based Reflection and Improvement and System Based Learning (Goals V and VIII) become much richer and easier to teach in the international setting because of the differences and diversity of practices compared with those in the US.[9]

The development needs of global faculty in other specialties may be different. However, other specialties might use our process and checklist as a foundation for creating their own checklist. Faculty development in the goal areas of Leadership, Program Design and Implementation, and Evaluation and Scholarship are important to faculty in many specialties since these areas are not stressed in medical or specialty training. The small number of workshop participants may have skewed the priority rankings and self-assessment by more educators is needed for full validation.

Despite these limitations, we hope that our work will begin to guide the development of global health educators so that they can train students and residents to work internationally in a culturally appropriate manner. Although validation requires self-assessment by larger numbers of educators, individual family medicine faculty or departments might use our checklist as a way to identify their own educational needs or to plan workshops or symposiums. As the value of global health experiences is understood, the development of faculty mentors with appropriate skill sets is imperative.[10]

Notes on Contributors

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Table 1: Faculty Ratings of Objectives in Global Health Education Competency Checklist (n = 32)		
Preamble: Every US faculty member who is involved in teaching global health in the US medical school or family medicine residency setting should seek to achieve the following competencies in the local (US) and international setting	Novice %	Master/ Expert %
I. GOAL: Medical and Educational Knowledge and Practice ***Teach global health content and assess learners mastery***		
Objectives		
1. Determine each learner's mastery of the knowledge, skills and attitudes through questions and direct observation and identify gaps	25	75
2. Demonstrate the ability to assess the cultural context of the learning environment and adapt to changes	13	87
3. Demonstrate the ability to help learners develop reflective practice skills to assess their own progress in acquiring knowledge, skills, and attitudes for global health (i.e. clinical care, public health, refugee health, travel medicine, cultural competence)	31	69
II. GOAL: Learner Centeredness ***Demonstrate an ongoing commitment and responsiveness to the unique goals and needs of the learner as they grow in their professional roles***		
Objectives		
1. Assess each learner's learning style and demonstrate respect and responsiveness to their unique needs and learning goals	25	75
2. Facilitate the learner to understand and navigate the curriculum requirements	19	81
3. Guide learners in self-reflection assessment to identify their strengths and barriers in the achievement of their goals and the formulation of a plan to enhance and overcome them	31	69
4. Assess learner's readiness to work in unfamiliar and stressful environments.	41	59
III. GOAL: Interpersonal and Communication ***Employ teaching and communication styles that facilitate learning***		
Objectives		
1. Recognize one's own beliefs and attitudes and how they may affect the learners or educational partners	31	97
2. Demonstrate curiosity to understand the beliefs and attitudes of the learner and appreciate how these cultural differences might affect relationships	6	94
3. Recognize and respect the teaching paradigms of global educational partners and learners	38	62
4. Communicate expectations, goals and information in ways that stimulate and engage learners	16	84
5. Teach learners how to recognize conflict in a cross-cultural environment and employ culturally appropriate practices for conflict resolution	38	62
IV. GOAL: Professionalism and Role Modeling ***Demonstrate best educational practices and role model those behaviors for learners***		
Objectives		
1. Demonstrate compassionate, value-conscious and culturally competent practice that inspires and informs learners	9	91
2. Be accountable for actions and follow-through on agreed upon activities in a timely	9	91

manner		
3. Model adaptability and humility for learners and foster it in them	6	94
4. Avoid use of coercive or inappropriate behaviors	3	97
V. GOAL Practice-based Reflection and Improvement ***Demonstrate continuous lifelong learning and self-assessment***		
Objectives		
1. Routinely reflect on one's educational methods and teaching techniques	25	75
2. Seek and utilize input and feedback about the quality and effectiveness of educational practices	22	78
3. Modify teaching techniques and approaches to improve current educational practice	19	81
4. Develop personal education goals based on self-assessment, learner feedback and community partner feedback (360 degrees)	34	66
5. Seek a mentor with international teaching experience	28	72
6. Seek faculty development opportunities to improve educational practice	16	84
VI. GOAL: Evaluation and Scholarship		
Use program evaluation to assess the experience of the learner, the quality of the program and to advance the knowledge in the field.		
1. Set aside time at specified intervals to debrief learners, facilitating safe dialogue and reflection	29	71
2. Identify validated, practical evaluation modalities and input from key informants to identify the strengths and weaknesses in the learner in both the local and international settings	71	29
3. Identify validated, practical evaluation modalities and input from key informants to diagnose the strengths and weaknesses in the program in both the local and international settings	74	26
4. Present and publish outcomes and lessons learned	52	48
5. Assist local and international partners in the development and publication of scholarship	68	32
VII. GOAL: Mentorship ***Facilitate the career growth of individuals (learners, faculty, staff): one–on-one (micro) and the programmatic level (macro - Dept., hospital, clinic, NGO, etc.)***		
Objectives		
1. Articulate expectations and outcomes of the mentor – mentee relationship	36	64
2. Develop opportunities to enhance individual/group goals	23	77
3. Identify or develop programmatic resources for individuals to achieve their goals	32	68
4. Create a mentorship network and facilitate connections	35	65
5. Create an environment in which prepared individuals can personally and professionally succeed	19	81
VIII. GOAL: Systems-based Learning		
Utilize resources within medical education to advocate for learners and optimize teaching and learning.		
Objectives		

1. Identify existing community and institutional resources in the local setting that can assist learners to meet their personal learning goals	28	72
2. Identify existing community and institutional resources in the international setting that can assist learners to meet their personal learning goals	50	50
3. Nurture collaborative relationships with all involved parties to create a network of learning opportunities	44	56
IX. GOAL: Program Design and Implementation **Design and implement sound, sustainable educational programs**		
Objectives		
A. Development		
1. Utilize major theories of medical education in program design	59	41
2. Foster international /local academic and clinical collaborations that can sustain mutually beneficial long-term goals.	50	50
3. Conduct a strengths/needs/opportunities/threats assessments to ensure that program goals and content are appropriate and relevant	53	47
4. Identify culturally appropriate learning goals and educational objectives, tailored to the needs of learners, patients, in-country learners.	53	47
5. Develop evaluation plan to assess impact of program and provide feedback data	59	41
B. Implementation		
1. Develop action plan with responsibilities and timeline but model the flexibility that will be needed in most cross-cultural context for meeting time-focused deadlines.	47	53
2. Negotiate for resources appropriate to the scope of development	47	53
3. Anticipate and address barriers as they arise, modeling flexibility in finding appropriate alternatives	34	66
C. Program sustainability		
1. Provide timely feedback to key stakeholders to improve the program	28	72
2. Ensure ongoing financial support to the development of faculty and the program	72	28
3. Utilize objective program evaluation tools to provide realistic understanding of outcomes	56	44
4. Ensure ongoing faculty development opportunities for participating program faculty in both the program and the international setting.	59	41
X. GOAL: Leadership		
Objectives		
A. Create a shared vision for medical education in a global context while anticipating future needs		
1. Engage local and international partners in preparing learners who are collaborative and flexible in their service, education, and research	59	41
2. Prioritize competing needs of groups and new projects for appropriate time and resources	47	53
B. Develop the next generation of educational leaders with a global vision		
1. Recruit, mentor and retain talented individuals by creating opportunities for leadership and skills development	48	52
2. Delegate responsibility and authority for tasks in a logical fashion	36	64

3. Develop leaders who can assume responsibility for the program and other key leadership roles	52	48
C. Create resilient, flexible and sustainable systems in which team members can grow and succeed		
1. Recruit, nurture and retain relationships with local and international partners	41	59
2. Create systems that are resilient, flexible, accountable, and balanced between stability and growth	53	47
3. Monitor and respond to program performance outcomes	50	50

Table 2: Workshop Participant Proficiency in Competency Goals (n = 32)

Competency Goal	**Rank (%)***
Professionalism and Role Modeling	1 (93)
Interpersonal and Communication	2 (80)
Medical and Educational Knowledge and Practice	3 (77)
Practice-based Reflection and Improvement	4 (76)
Learner Centeredness	5 (72)
Mentorship	6 (71)
Systems-based Learning	7 (59)
Leadership	8 (52)
Program Design and Implementation	9 (48)
Evaluation and Scholarship	10 (42)

*percent indicating master or expert