

## Online Supplement

**Title:** Global health-related training opportunities: a national survey of pulmonary and critical care medicine fellowship programs

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## SURVEY

### Informed Consent Statement

We are reaching out to you, as the Program Director or Associate Program Director of your Pulmonary and/or Critical Care Medicine (PCCM) fellowship program, to request your participation in a brief, 10-minute research survey about global health education within PCCM fellowship training entitled “Global health-related training opportunities: A national survey of pulmonary and critical care fellowship programs.” Funding for this research survey was provided through the University of Washington International Respiratory and Severe Illness Center (INTERSECT).

The purpose of this research survey is to characterize currently available global health training opportunities and to identify potential barriers and facilitators to implementing global health-related educational curricula. We will ask for your name and contact information so that we can ensure that all programs are fairly represented in the survey, but your responses to this confidential online survey will not be linked with your training program. For your participation, you will be entered for a chance to win one of two \$250 Amazon gift cards, and if you are interested we will share the main findings of this survey with you prior to publication. Participation in this research survey is entirely voluntary and will not affect your current or future interactions with the Partners healthcare system.

If you'd like to speak to someone not involved in this research about your rights as a research subject, or any concerns or complaints you may have about the research, contact the Partners Human Research Committee at 617-424-4100.

Thank you very much for your assistance in this important project. If you have any questions or concerns, please contact Crystal North, MD (Principal Investigator) at [cnorth@mgh.harvard.edu](mailto:cnorth@mgh.harvard.edu).

Do you agree to participate in this research?

- Yes
- No

### Instructions

Please provide your name and email address below. This information will be kept confidential; we are requesting it so that we can ensure that all programs are fairly represented in the survey. We will also enter your name in a drawing for a \$250 Amazon gift card, and provide you with the preliminary results of this survey. Again, this information will be kept confidential, and your responses will not be linked with the training program you represent.

### Respondent Information

First Name: \_\_\_\_\_

Last Name: \_\_\_\_\_

Email address: \_\_\_\_\_

Program: \_\_\_\_\_

Role in Pulmonary and/or Critical Care Medicine (P/CCM) fellowship program:

- Program Director
- Associate Program Director
- Other, not listed above. Please describe: \_\_\_\_\_

Where used, the term Global Health references “the area of study, research and practice that places a priority on improving health and achieving equity in health for all people worldwide.” (JP Koplan *et al.* Towards a common definition of global health. Lancet 2009; 373:1993-1995).

### **Program Demographics**

The following questions relate to the general characteristics of your institution’s pulmonary and/or critical care medicine (P/CCM) fellowship program.

1) Which of the following sub-specialty training is offered at your fellowship program? Select all that apply.

- Pulmonary training
- Critical care training

2) Approximately how many faculty are in your division (MD and/or PhD)?

- <35
- 35 – 60
- >60

3) Approximately how many faculty members conduct research focused on global health?

- 0
- 1 – 3
- >3

4) Does your P/CCM fellowship training program have a T32 institutional training grant award from the National Institutes of Health?

- Yes
- No

**Global Health-Related Training Opportunities**

The following questions relate to global health-related training opportunities available to P/CCM fellows at your institution.

5) Please select the choice that reflects program requirements, opportunities, and/or interest in each of the following components of global health training for your fellows.				
	Currently mandatory for all fellows	Currently offered	Would like to offer	No interest in offering
One lecture per year on global health-related research, clinical care or education				
Series of sessions on global health-related <b>research</b> (e.g., lectures, journal clubs, case conferences)				
Series of sessions on global health-related <b>clinical care or teaching opportunities</b> (e.g., lectures, journal clubs, case conferences)				
Global health-related local clinical experiences (e.g., TB, public health, or refugee clinics)				
Global clinical experiences (e.g., patient care-based rotation at clinic or hospital in another country)				
Research in a global health setting				
Global health-related coursework at a School of Public Health (e.g. research methods, neglected diseases, maternal-child health, ethics, capacity-building)				
Enrollment in a degree-granting program at a School of Public Health				
P/CCM track or pathway in global health				
Other _____				

**Facilitators\***

6) Think about the global health opportunities <b>currently offered</b> by your program. Please select the choice that indicates the degree to which the following components facilitated implementation of these opportunities.					
	Very important	Somewhat important	Neutral	Low importance	Not important at all
Faculty member(s) with global health experience <b>within</b> your division					
Faculty member(s) with global health experience <b>external to</b> your division					
Faculty <b>champion</b> for global health-related training opportunities within your division ( <i>e.g. provide faculty leadership on programmatic development</i> )					
Dedicated institutional funding available to support global health-related opportunities					
Presence of a global health-related training program in my institution ( <i>e.g. in a different fellowship, the medical school, a residency program</i> )					
Established partnership(s) outside of the US where your fellows can travel to participate in clinical, research, or teaching opportunities					
Established partnership(s) outside of the US that send fellows and/or faculty to your institution to participate in clinical, research, or teaching opportunities					
Local School of Public Health					
Protected time for fellows to dedicate to global health-related activities					
Interest or initiative of <b>past</b> fellows in your P/CCM program					
Interest or initiative of <b>current</b> fellows in your P/CCM program					
Other _____					

\* Facilitators were only provided by n=12 programs, so these data were excluded from analyses due to concerns regarding sample size and generalizability.

**Barriers**

7) Now think about the global health opportunities you <b>would like to offer but are not currently offering</b> . Please select the choice that indicates the degree to which the following components are barriers to implementation of these opportunities.					
	Very important	Somewhat important	Neutral	Low importance	Not important at all
Competing priorities for lecture content					
Lack of faculty <b>mentors</b> with global health-related experience <b>within</b> your division ( <i>e.g. provide direct scholarly mentorship to fellows</i> )					
No faculty <b>champion</b> for global health-related training opportunities <b>within</b> your division ( <i>e.g. provide faculty leadership on programmatic development</i> )					
Lack of dedicated institutional funding available to support global health-related opportunities					
Lack of established partnership(s) outside of the US where your fellows can travel to participate in clinical, research or teaching opportunities					
Lack of protected time for fellows to dedicate to global health-related activities					
Lack of interest, initiative, or availability of past or current fellows in your P/CCM program					
Other _____					

**Fellows' Interest in Global Health-Related Training**

The following questions relate to your general thoughts on P/CCM fellows' interest in global health-related training opportunities

8) Now think about your current fellows and potential fellowship applicants. Please select the choice that indicates whether you agree or disagree with the following statements.					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The availability of global health-related training opportunities <b>positively</b> impacts my ability to recruit fellowship applicants.					
The lack of availability of global health-related training opportunities <b>negatively</b> impacts my ability to recruit fellowship applicants.					
Current fellows in my P/CCM training program have an interest in engaging in global health-related <b>clinical or teaching</b> opportunities <b>during their fellowship</b> .					
Current fellows in my P/CCM training program have an interest in engaging in global health-related <b>research</b> opportunities <b>during their fellowship</b> .					
Current fellows in my P/CCM training program plan to incorporate global health-related <b>clinical work or teaching</b> into their <b>future careers</b> .					
Current fellows in my P/CCM training program plan to incorporate global health-related <b>research</b> into their <b>future careers</b> .					
The global health-related training opportunities available to P/CCM fellows at my institution match the needs and interests of my current fellows.					

This survey is confidential. However, if you are willing to have your information linked to your coded survey responses and would be willing to be contacted with more detailed questions about your P/CCM fellowship program, please indicate so below.

- Yes
- No

Would you like to receive a summary of the results of this survey prior to publication?

- Yes
- No

## SUPPLEMENTAL DATA

**Table E1.** Program requirements, opportunities, and/or interest in components of global health training for 61 programs

	<b>Mandatory</b>	<b>Offered</b>	<b>Would like to offer</b>	<b>No interest in offering</b>
One lecture per year on global health-related research, clinical care or education	11 (18%)	19 (31%)	29 (47%)	2 (3%)
Series of sessions on global health-related <b>research</b> (e.g., lectures, journal clubs, case conferences)	1 (2%)	10 (16%)	32 (52%)	18 (30%)
Series of sessions on global health-related <b>clinical care or teaching</b> opportunities (e.g., lectures, journal clubs, case conferences)	1 (2%)	12 (20%)	33 (54%)	15 (24%)
Global health-related local clinical experiences (e.g., TB, public health, or refugee clinics)	5 (8%)	18 (30%)	31 (51%)	7 (11%)
Global clinical experiences (e.g., patient care-based rotation at clinic or hospital in another country) <sup>‡</sup>	3 (5%)	15 (25%)	25 (42%)	17 (28%)
Research in a global health setting	1 (2%)	14 (23%)	29 (47%)	17 (28%)
Global health-related coursework at a School of Public Health (e.g. research methods, neglected diseases, maternal-child health, ethics, capacity-building)	0	18 (29%)	27 (43%)	18 (29%)
Enrollment in a degree-granting program at a School of Public Health <sup>‡</sup>	0	24 (40%)	18 (30%)	18 (30%)
P/CCM track or pathway in global health	0	4 (6%)	23 (38%)	34 (56%)

<sup>‡</sup> Data were missing for 1 program

**Table E2.** Program requirements, opportunities, and/or interest in components of global health training based on the presence or absence of an NIH institutional research training grant (NIH T32).

	<b>T32</b> (n=16)	<b>No T32</b> (n=45)	<b>P-value<sup>1</sup></b>	<b>P-value<sup>2</sup></b>
One lecture per year on global health-related research, clinical care or education			0.88	0.57
Offered/mandatory	9 (56%)	21 (47%)		
Would like to offer	7 (44%)	22 (49%)		
No interest in offering	0	2 (4%)		
Series of sessions on global health-related <b>research</b> (e.g., lectures, journal clubs, case conferences)			0.13	0.14
Offered/mandatory	5 (31%)	6 (13%)		
Would like to offer	9 (56%)	23 (51%)		
No interest in offering	2 (13%)	16 (36%)		
Series of sessions on global health-related <b>clinical care or teaching</b> opportunities (e.g., lectures, journal clubs, case conferences)			0.68	0.48
Offered/mandatory	2 (13%)	11 (24%)		
Would like to offer	10 (62%)	23 (52%)		
No interest in offering	4 (25%)	11 (24%)		
Global health-related local clinical experiences (e.g., TB, public health, or refugee clinics)			0.78	0.57
Offered/mandatory	7 (44%)	16 (36%)		
Would like to offer	8 (50%)	23 (51%)		
No interest in offering	1 (6%)	6 (13%)		
Global clinical experiences (e.g., patient care-based rotation at clinic or hospital in another country)*			0.62	0.53
Offered/mandatory	6 (38%)	12 (27%)		
Would like to offer	5 (31%)	20 (46%)		
No interest in offering	5 (31%)	12 (27%)		
Research in a global health setting			0.37	0.19
Offered/mandatory	6 (37%)	9 (20%)		
Would like to offer	7 (44%)	22 (49%)		
No interest in offering	3 (19%)	14 (31%)		
Global health-related coursework at a School of Public Health (e.g. research methods, neglected diseases, maternal-child health, ethics, capacity-building)			<0.001	<0.001
Offered/mandatory	12 (75%)	6 (13%)		
Would like to offer	3 (29%)	22 (49%)		
No interest in offering	1 (6%)	17 (38%)		
Enrollment in a degree-granting program at a School of Public Health <sup>‡</sup>			<0.001	<0.001
Offered/mandatory	13 (81%)	11 (25%)		
Would like to offer	3 (19%)	15 (34%)		
No interest in offering	0	18 (41%)		
PCCM track or pathway in global health			0.09	0.05
Offered/mandatory	3 (19%)	1 (2%)		
Would like to offer	6 (37%)	17 (38%)		
No interest in offering	7 (44%)	27 (60%)		

<sup>1</sup>P-value for chi-square analysis of data presented in 2 x 3 sections of table

<sup>2</sup>P-value for chi-square analysis of data collapsed as offered/mandatory vs not offered (combination of 'would like to offer' and 'no interest in offering') by presence of an NIH T32 training grant

\* Data were missing for 1 program without an NIH T32 training grant

**Table E3.** Program requirements, opportunities, and/or interest in components of global health training based on faculty size

	Faculty Size			P-value <sup>1</sup>	P-value <sup>2</sup>
	<35 (n=44)	35-60 (n=9)	>60 (n=8)		
One lecture per year on global health-related research, clinical care or education				0.68	0.45
Offered/mandatory	19 (43%)	6 (67%)	5 (63%)		
Would like to offer	23 (52%)	3 (33%)	3 (37%)		
No interest in offering	2 (5%)	0	0		
Series of sessions on global health-related <b>research</b> (e.g., lectures, journal clubs, case conferences)				0.64	0.17
Offered/mandatory	7 (16%)	1 (11%)	3 (38%)		
Would like to offer	23 (52%)	5 (56%)	4 (50%)		
No interest in offering	14 (32%)	3 (33%)	1 (13%)		
Series of sessions on global health-related <b>clinical care or teaching</b> opportunities (e.g., lectures, journal clubs, case conferences)				0.95	1.00
Offered/mandatory	10 (23%)	2 (22%)	1 (13%)		
Would like to offer	24 (54%)	4 (45%)	5 (63%)		
No interest in offering	10 (23%)	3 (33%)	2 (25%)		
Global health-related local clinical experiences (e.g., TB, public health, or refugee clinics)				0.57	0.43
Offered/mandatory	14 (32%)	5 (56%)	4 (50%)		
Would like to offer	24 (55%)	4 (44%)	3 (38%)		
No interest in offering	6 (13%)	0	1 (12%)		
Global clinical experiences (e.g., patient care-based rotation at clinic or hospital in another country)				0.03	0.37
Offered/mandatory	9 (21%)	6 (67%)	3 (38%)		
Would like to offer	22 (51%)	2 (22%)	1 (13%)		
No interest in offering	12 (28%)	1 (11%)	4 (50%)		
Research in a global health setting				0.001	0.002
Offered/mandatory	7 (16%)	2 (22%)	6 (74%)		
Would like to offer	22 (50%)	6 (67%)	1 (13%)		
No interest in offering	15 (34%)	1 (11%)	1 (13%)		
Global health-related coursework at a School of Public Health (e.g. research methods, neglected diseases, maternal-child health, ethics, capacity-building)				<0.001	<0.001
Offered/mandatory	6 (14%)	4 (44%)	8 (100%)		
Would like to offer	22 (45%)	5 (56%)	0		
No interest in offering	18 (41%)	0	0		
Enrollment in a degree-granting program at a School of Public Health				0.001	<0.001
Offered/mandatory	13 (30%)	3 (33%)	8 (100%)		
Would like to offer	13 (30%)	5 (56%)	0		
No interest in offering	17 (40%)	1 (11%)	0		
P/CCM track or pathway in global health				0.09	0.06
Offered/mandatory	1 (2%)	1 (11%)	2 (25%)		
Would like to offer	16 (36%)	5 (56%)	2 (25%)		
No interest in offering	27 (61%)	3 (33%)	4 (80%)		

<sup>1</sup>P-value for chi-square analysis of data presented in 3 x 3 sections of table

<sup>2</sup>P-value for chi-square analysis of data collapsed as offered/mandatory vs not offered (combination of 'would like to offer' and 'no interest in offering') by <35 vs >60 faculty members

**Table E4.** Program requirements, opportunities, and/or interest in components of global health training based on the presence of at least one faculty member who works in global health

	At least 1 faculty member in global health		P-value <sup>1</sup>	P-value <sup>2</sup>
	Yes (n=31)	No (n=30)		
One lecture per year on global health-related research, clinical care or education			<0.001	<0.001
Offered/mandatory	24 (77%)	6 (20%)		
Would like to offer	6 (19%)	23 (77%)		
No interest in offering	1 (3%)	1 (3%)		
Series of sessions on global health-related <b>research</b> (e.g., lectures, journal clubs, case conferences)			0.008	0.006
Offered/mandatory	10 (32%)	1 (3%)		
Would like to offer	15 (48%)	17 (57%)		
No interest in offering	6 (19%)	12 (40%)		
Series of sessions on global health-related <b>clinical care or teaching</b> opportunities (e.g., lectures, journal clubs, case conferences)			0.12	0.06
Offered/mandatory	10 (32%)	3 (10%)		
Would like to offer	15 (48%)	18 (60%)		
No interest in offering	6 (19%)	9 (30%)		
Global health-related local clinical experiences (e.g., TB, public health, or refugee clinics)			0.29	0.60
Offered/mandatory	13 (42%)	10 (33%)		
Would like to offer	13 (42%)	18 (60%)		
No interest in offering	5 (16%)	2 (7%)		
Global clinical experiences (e.g., patient care-based rotation at clinic or hospital in another country)			0.13	0.16
Offered/mandatory	12 (40%)	6 (20%)		
Would like to offer	9 (30%)	16 (53%)		
No interest in offering	9 (30%)	8 (27%)		
Research in a global health setting			0.003	0.002
Offered/mandatory	13 (42%)	2 (7%)		
Would like to offer	13 (42%)	16 (53%)		
No interest in offering	5 (16%)	12 (40%)		
Global health-related coursework at a School of Public Health (e.g. research methods, neglected diseases, maternal-child health, ethics, capacity-building)			0.004	0.01
Offered/mandatory	14 (45%)	4 (13%)		
Would like to offer	13 (42%)	12 (40%)		
No interest in offering	4 (13%)	14 (47%)		
Enrollment in a degree-granting program at a School of Public Health			0.07	0.19
Offered/mandatory	15 (50%)	9 (30%)		
Would like to offer	10 (33%)	8 (27%)		
No interest in offering	5 (17%)	13 (43%)		
P/CCM track or pathway in global health			0.007	0.11
Offered/mandatory	4 (13%)	0 (0%)		
Would like to offer	15 (48%)	8 (27%)		
No interest in offering	12 (39%)	22 (73%)		
<sup>1</sup> P-value for chi-square analysis of data presented in 2 x 3 sections of table				
<sup>2</sup> P-value for chi-square analysis of data collapsed as offered/mandatory vs not offered (combination of 'would like to offer' and 'no interest in offering') by presence of at least 1 faculty member in global health				

**Table E5.** Program leaders' impressions of current and prospective fellows' opinions about global health-related training opportunities based on the presence of at least one faculty member who works in global health

	At least 1 faculty member in global health		P value
	Yes (n = 30)	No (n = 30)	
The availability of global health-related training opportunities <b>positively</b> impacts my ability to recruit fellowship applicants.			0.07
Agree or strongly agree	16 (53%)	9 (30%)	
Neutral, disagree or strongly disagree	14 (47%)	21 (70%)	
The lack of availability of global health-related training opportunities <b>negatively</b> impacts my ability to recruit fellowship applicants.			0.006
Agree or strongly agree	9 (31%)	1 (3%)	
Neutral, disagree or strongly disagree	20 (69%)	29 (97%)	
Current fellows in my P/CCM training program have an interest in engaging in global health-related <b>clinical or teaching</b> opportunities <b>during their fellowship.</b>			0.11
Agree or strongly agree	15 (50%)	9 (30%)	
Neutral, disagree or strongly disagree	15 (50%)	21 (70%)	
Current fellows in my P/CCM training program have an interest in engaging in global health-related <b>research</b> opportunities <b>during their fellowship.</b>			0.007
Agree or strongly agree	13 (43%)	3 (10%)	
Neutral, disagree or strongly disagree	17 (57%)	27 (90%)	
Current fellows in my P/CCM training program plan to incorporate global health-related <b>clinical work or teaching</b> into their <b>future careers.</b>			0.03
Agree or strongly agree	11 (37%)	3 (10%)	
Neutral, disagree or strongly disagree	19 (63%)	27 (90%)	
Current fellows in my P/CCM training program plan to incorporate global health-related <b>research</b> into their <b>future careers.</b>			0.006
Agree or strongly agree	10 (33%)	1 (3%)	
Neutral, disagree or strongly disagree	20 (67%)	29 (97%)	
The global health-related training opportunities available to P/CCM fellows at my institution match the needs and interests of my current fellows.			0.60
Agree or strongly agree	11 (37%)	13 (43%)	
Neutral, disagree or strongly disagree	19 (63%)	17 (57%)	