Title

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Journal

BMJ Global Health, 10(2)

ISSN

2059-7908

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Publication Date

2025-02-26

DOI

10.1136/bmjgh-2024-016646

Peer reviewed

BMJ Global Health

Development of a virtual asylum medicine curriculum: applying a medical education model to a global health priority

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To cite: DeFries T, Emery E, Cuneo CN, *et al*. Development of a virtual asylum medicine curriculum: applying a medical education model to a global health priority. *BMJ Glob Health* 2025;**10**:e016646. doi:10.1136/bmjgh-2024-016646

Handling editor Naomi Clare Lee

► Additional supplemental material is published online only. To view, please visit the journal online (https://doi.org/10.1136/bmjgh-2024-016646).

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Received 11 July 2024
Accepted 13 January 2025

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ABSTRACT

Each year, millions of people fleeing persecution seek asylum in the USA and elsewhere. Many have experienced psychological and/or physical trauma that can be documented with objective forensic medical and mental evaluations (FMEs) performed by trained clinicians. FMEs can assist adjudicators in deciding claims, and asylum seekers who undergo an FME are significantly more likely to be granted asylum. However, there is a shortage of clinicians trained to perform FMEs, and existing training models have shortcomings, including lack of accessibility and consensus-driven best practices. To meet the rising need for FMEs and improve training in the burgeoning field of asylum medicine, we used Kern's model to design an interdisciplinary, consensus-driven, virtual curriculum that prepares clinicians to conduct FMEs. The curriculum development process involved a diverse group of 80 contributors from over 40 US organisations and academic centres. We used a staged needs assessment to identify critical issues in the existing training paradigm. Through an iterative process, we then developed an introductory curriculum consisting of eleven modules paired with assessments. Contributors reported high rates of satisfaction with the curriculum development process. To our knowledge, this is the first consensus-based training in asylum medicine that is national in scope, and it has since been adopted by Physicians for Human Rights as the standard for FME training. The process employed here offers a model for developing and improving training relevant to other global health priorities internationally.

SUMMARY BOX

⇒ As the number of asylum seekers worldwide rises, so too does the need for objective, trauma-informed processes to assist host countries in determining who meets the criteria for asylum.

⇒ Forensic medical and mental evaluations (FMEs) are objective assessments performed by trained clinicians informed by the international guidelines set forth in the 'Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment' or the 'Istanbul Protocol'. In an FME, a trained clinician documents clinical evidence of past persecution which can assist adjudicators in deciding asylum claims.

⇒ To meet the growing need for FMEs, we designed a novel curriculum using Kern's model for curriculum development, which has been used previously in global health education. Here, we used it to guide a national effort by a diverse group of stakeholders to improve the training paradigm in asylum medicine.

⇒ The curriculum development process outlined here offers a model to guide efforts to design and improve complex global health education projects that can be adapted to other national and international contexts.

INTRODUCTION

Each year, record numbers of individuals worldwide are displaced from their homes due to conflict and persecution.[1] Many of those fleeing dangerous circumstances seek refuge in countries that have committed to offering a pathway to safety through the process of asylum, which is defined in such international treaties as the 1951 Refugee Convention and the 1967 Protocol to the Refugee Convention. Many countries, including the USA, have also incorporated protections for asylum seekers into their legal systems.

Many asylum seekers have experienced persecution and other human rights violations that result in long-term physical or psychological sequelae. A large portion have experienced torture, defined under the United Nations Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment as 'any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person … by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity'.[2]

Forensic medical and mental evaluations (FMEs) performed by trained clinicians can provide objective documentation of evidence of past mistreatment, such as scars related to torture or trauma-related psychiatric diagnoses, in a medicolegal report. FMEs are critically important for assisting adjudicators in deciding asylum claims.[3–5] In the USA, asylum seekers who undergo FMEs are significantly more likely to be granted asylum.[6] However, the demand for FMEs outstrips the number of trained clinicians available.[7]

Asylum medicine is a growing field composed of clinicians and human rights professionals who perform and teach FMEs, contribute to scholarly works and advocate for a fair and effective asylum system.[8] The skills needed to perform an FME are not taught in traditional medical curricula,[9] so education is a key component of asylum medicine. Training is necessary to augment the skills of clinicians so they can provide FMEs and be recognised as experts in US immigration courts.[3–5] In the US immigration context, there is a lack of validated guidelines on the content and structure of FMEs, and recent efforts have been made to build consensus and develop best practices to enhance the quality of medico-legal reports that are produced through FMEs.[3 10] Physicians for Human Rights (PHR) and HealthRight International, two US-based international non-governmental organisations, have outlined training standards based on the international guidelines set forth in the 'Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment,' or the 'Istanbul Protocol', updated in 2022.[11]

For decades, asylum medicine trainings largely consisted of in-person didactic sessions that featured experts from a single institution or geographical area and represented the informed opinions of the speaker alone. These trainings were concentrated in cities with academic medical centres, and there was significant geographical variation in the number of clinicians trained to perform FMEs.[12–14] Many organisations that host trainings report that 30% or less of those who attend go on to conduct FMEs.[7]

We created the Asylum Medicine Training Initiative (AMTI)[15] to meet an identified need to create accessible and standardised training that prepares healthcare professionals to address the global health priority of humanitarian protection through FMEs using peer-reviewed standards based on interdisciplinary, expert consensus and evidence where available.[16] In this article, we describe (1) the curricular development process and (2) results from a survey of contributors. It serves as a guide for curriculum development that addresses global health trends while optimising accessibility and consensus-building between experts.

CURRICULUM DEVELOPMENT PROCESS

We developed AMTI's curriculum using Kern's six-step approach, described as 'a practical, theoretically sound approach to developing, implementing, evaluating and continually improving educational experiences in medicine,' which has previously been applied to global health education.[16 17] The six steps are as follows: (1) problem identification and general needs assessment; (2) needs assessment of targeted learners; (3) goals and specific objectives; (4) educational strategies; (5) implementation and (6) evaluation and feedback. Below, we describe the application of these steps to the global health priority of improving training in asylum medicine.

Steps 1 and 2: Problem identification and needs assessment in asylum medicine education

To identify challenges with the current training paradigm and determine an ideal approach to training in asylum medicine, we convened stakeholders from the national asylum medicine community, including two prominent organisations in asylum medicine, PHR and the Society of Asylum Medicine. We conducted key informant interviews that included trainees and clinicians who had piloted novel virtual curricula during the COVID-19 pandemic. The overall goal was to update the training paradigm to address the evolving needs of learners in the era of online learning and to reach participants not affiliated with existing asylum clinics, who would be critical for expanding capacity for FMEs nationwide. The needs assessment resulted in consensus around key features:

- The curriculum should be interactive and founded in best practices of medical education; virtual and asynchronous to promote accessibility; open access (free of cost for the user); focused on skills application, promoting hands-on supervision and mentorship to bridge clinicians to the practice of performing high-quality FMEs; inclusive of assessment tools to ensure learners have mastered key learning objectives.
- The content should be peer-reviewed to reflect consensus among subject experts; based on international standards, including the updated Istanbul Protocol; durable ('evergreen') to eliminate the need for frequent updating amidst rapidly evolving immigration policies; created by individuals from diverse disciplines, personal and professional backgrounds, geographies and legal jurisdictions, which is particularly important given the cross-cultural and cross-disciplinary nature of asylum work.

Using a snowball approach for recruitment, we convened an AMTI committee as a vehicle for targeted needs assessment of a national cohort of learners, including medical students, residents and clinicians of various health professional backgrounds and practice location. The committee proposed updates to previously published competencies,[10] many of which highlighted current topics affecting both asylum seekers and learners in the field:

- Using trauma-informed care as a cross-cutting theme in training.
- Highlighting the high prevalence of sexual and gender-based violence.

- Training non-behavioural health specialists to do mental health evaluations.
- Incorporating updates from the 2022 Istanbul Protocol.
- Responding to the surge in remote/virtual evaluations in the setting of COVID-19.
- Addressing vicarious trauma in evaluators.
- Recognising the need for additional training in specialty areas (traumatic brain injury, paediatrics, persecution due to sexual orientation and gender identity, evaluation of individuals in detention).

Steps 3 and 4: Creating goals, specific objectives and educational strategies in asylum medicine

Based on these general and targeted needs assessments, we organised into three distinct working groups to address different elements of the identified priorities in curriculum reform: content, virtual platform and assessment. These groups were led by a leadership team comprised of three co-leads (CNC, TD and EE) and a project coordinator (EM).

The content working group used Bloom's taxonomy to develop an initial set of course goals and associated learning objectives highlighting modifications to existing competencies identified in the needs assessment phase.[18] The introductory course was based on the following competencies:

1. Apply knowledge essential to conducting FMEs.
2. Integrate best practices of trauma-informed care when working with asylum seekers and other trauma-exposed individuals.
3. Recognise the unique needs of special populations of asylum seekers and others seeking humanitarian protection and how to gain the additional training needed to care for these populations.

We initially grouped course goals and objectives into 10 modules (online supplemental appendix 1). Working group members were divided into 10 module teams based on areas of interest and expertise. We identified the first five 'core' modules as mandatory for meeting competencies 1–2, while the remaining five modules that contained more in-depth content relevant to specific populations of asylum seekers per competency 3 were categorised as 'focused' modules.

Each module team included one or two speakers, a faculty coordinator, a minimum of two expert reviewers and a minimum of two student or trainee (learner) reviewers. One member of the leadership team was assigned as an editor to each module. Description of team member roles is shown in online supplemental appendix 2.

The teams met virtually to review and revise their module's proposed goals and objectives through an iterative process. The leadership team reviewed revised objectives to identify areas of overlap or content gaps between modules. For example, we identified that no module was thoroughly covering the topic of vicarious trauma, a key area of learning in the needs assessment, so we added an eleventh module. Through multiple rounds of consensus-building, a final set of eleven modules was developed with the learning objectives outlined in online supplemental appendix 1.

The virtual platform working group surveyed existing platforms and ultimately determined that Panopto[19] best met our objectives of generating interactive, asynchronous content on a limited budget. We generated a guide to the interactive features on the Panopto platform, including question types; use of graphics and resources such as checklists; and connection to external websites and inclusion of videos, such as standardised patient demonstrations. Module teams used this guide to design content that was interactive and learner-friendly, such as by turning text into graphics, checklists or demonstration videos. Module teams shared examples of educational strategies they were employing as a way to crowdsource. Ultimately, a variety of educational strategies, including interactive assessments and activities, videos and case studies were employed.

The assessment working group focused on different methods of evaluating learners' mastery of the content using Panopto's interactive features. They agreed on two main strategies: mandatory formative questions embedded within each module and a pre/post-test with summative questions that evaluated participants' knowledge and attitudes before and after completion of the core modules. They proposed questions based on each module's learning objectives that were then revised through an iterative process with the teams until a final set of questions for each module and for the pre/post-test were agreed on.

Steps 5 and 6: Implementation and evaluation of curriculum

After finalising the content, we created an AMTI webpage to host course instructions, registration, the modules and the pre/post-tests. AMTI members and pilot groups of learners tested the curriculum over a 6-week trial period to identify technical and other issues. The website was disseminated widely by members of AMTI via social media, global health listservs and professional networks.

To evaluate the AMTI curriculum development process, we conducted an online survey of all AMTI contributors (N=80) that was distributed via email (online supplemental appendix 3). The survey was developed by the AMTI co-leads and assessed several domains including personal and professional backgrounds and satisfaction with the curriculum-building process, including the module team structure, the consensus process, the quality of the final product and the appropriateness of the overall curriculum for the intended audience. Open-ended prompts were included to elicit qualitative feedback from participants and were evaluated by a co-lead who is an experienced qualitative researcher (CNC) using basic thematic analysis. Patients and the public were not involved.

To monitor utilisation of the curriculum, the AMTI leadership team tracks website traffic, registration and

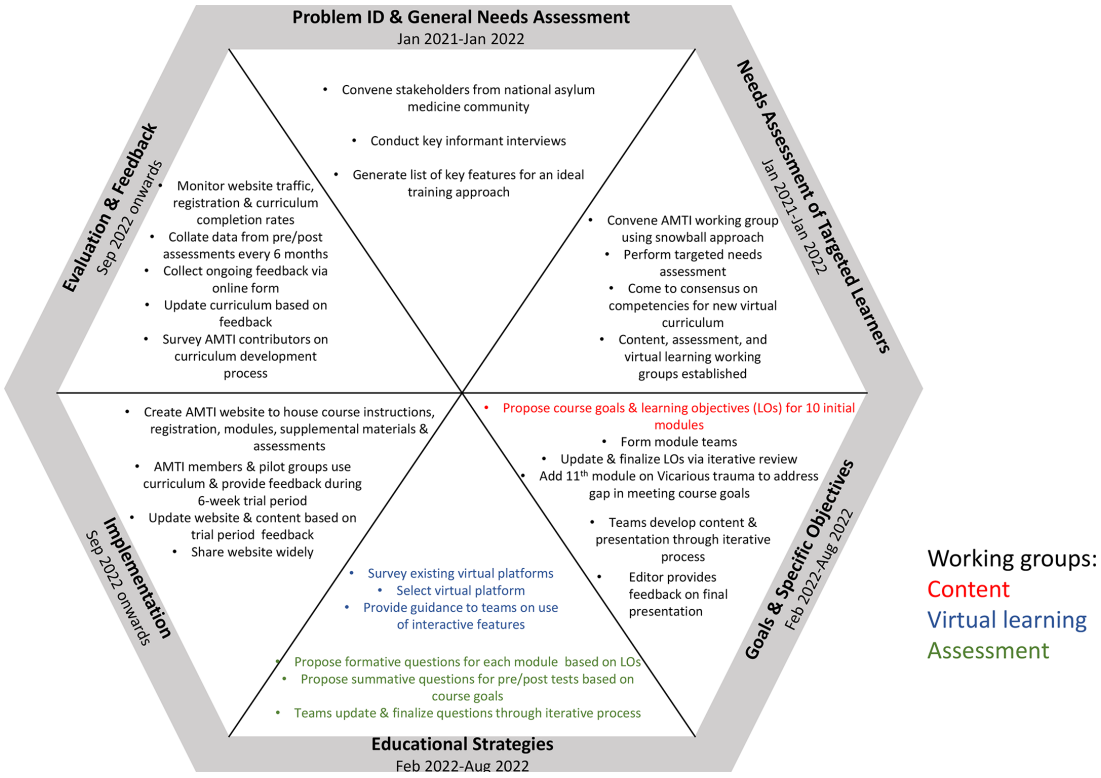

Figure 1 Application of Kern's six-step approach to curriculum development to the AMTI Introductory Curriculum. AMTI, Asylum Medicine Training Initiative.

curriculum completion rates. We use an online feedback form to monitor and correct technical issues with the website and virtual platform in real time. We collate data from pre/post-tests every 6 months to identify areas for improvement in module content and the user experience of the virtual platform and share a summary of this data with all AMTI collaborators.

The six stages of the AMTI curriculum development process are shown in figure 1.

FINDINGS FROM THE SURVEY OF CURRICULUM CONTRIBUTORS

The AMTI's Introductory Curriculum was collaboratively developed by a group of 80 experts and learners in asylum medicine and human rights law from over forty organisations and academic centres across the USA (online supplemental appendix 4).

Table 1 shows the demographic and professional backgrounds of the AMTI contributors based on the online survey (response rate of 65%, 52/80). A majority were female, aged 20–39, independently licensed clinicians with an MD/DO background. Internal Medicine was the most common specialty among the physicians. Almost half of respondents identified as a child of immigrant(s), and one quarter identified as immigrants.

Overall, respondents reported high satisfaction with the curriculum development process. On a Likert scale of 1–10, with 1 being 'completely disagree' and 10 being 'completely agree', respondents reported high rates of agreement with all of the positive evaluative statements about the curriculum and development process with a mean score of 8.85 or above (table 2). Respondents expressed greatest agreement with the statement "I'd recommend the AMTI curriculum to a colleague" (mean 9.81, 95% CI 9.65 to 9.96). A majority (93.75%, N=48) of respondents indicated that they planned to use the AMTI Introductory Curriculum for their own learning or when teaching others.

In response to the first open-ended prompt ("Please share any feedback about the process of participating as a contributor to this project. What was your favorite part?"), emerging themes included the enjoyment of working with a diverse group, learning from content experts, building a broader community, and being inspired by others across disciplines. Themes in response to the second prompt ("What would you recommend changing about the process of participating as a contributor to this project?") included expression of burnout related to the amount of work required, a wish to streamline communication regarding the project, pressure associated with an ambitious timeline for project benchmarks, and a desire for additional opportunities for feedback throughout module creation. See table 3 for exemplary quotations.

APPLICATION OF THE CURRICULUM DEVELOPMENT PROCESS TO GLOBAL HEALTH

Using Kern's six-step approach, we convened a diverse group of contributors to design a novel, virtual curriculum that prepares healthcare professionals to conduct FMEs of people seeking asylum and other forms of humanitarian protection in the USA. The product paired

Table 1 Background and professional characteristics of curriculum contributors

Respondent characteristics	Frequency	Percentage
Self-reported gender identity/sexual orientation (N=52)		
Male	17	32.7
Female	35	67.3
Other	1	1.9
Lesbian/gay/bisexual	4	7.7
Location of the USA (region; N=52)		
Northeast	13	25.0
Mid-Atlantic	14	26.9
West	13	25.0
South	7	13.5
Midwest	5	9.6
Self-reported race/ethnicity (multiple responses allowed; N=52)		
Asian	14	26.9
Black/African American	2	3.8
Hispanic, Latino/a/x or of Spanish origin	4	7.7
Middle Eastern or North African	5	9.6
Native American or Alaskan Native	1	1.9
White or Caucasian	31	59.6
Multiracial or biracial	3	5.8
Other	1	1.9
Age (N=51)		
20–29	17	33.3
30–39	18	35.3
40–49	9	17.7
50–59	2	3.9
60–69	3	5.9
70–79	2	3.9
Immigrant identity (N=51)		
Child of immigrant(s)	23	45.1
Child of refugee(s)	5	9.8
Child of asylee(s)	2	3.9
Immigrant	12	23.5
Refugee or asylee	1	2.0
Spouse of immigrant, asylee or refugee	8	15.8
Other	5	9.8
None of the above	16	31.3
Professional background (degree completed or in process) (N=52)		
Physician (MD/DO)	41	78.8
Psychologist (PhD/PsyD)	4	7.7
Licensed clinical/licensed independent social worker (LCSW/LICSW)	1	1.9
Other (eg, JD)	6	11.5
Professional stage (N=52)		
Medical student	16	30.7
Graduate student	2	3.8
Postgraduate trainee	3	5.8

Continued

Table 1 Continued

Respondent characteristics	Frequency	Percentage
Independently licensed clinician	31	59.6
Experience conducting FMEs (N=51)		
No prior experience or formal training	11	21.54
Have received training	1	1.96
Have been trained but not yet completed FMEs independently	12	23.5
Have conducted FMEs independently	6	11.8
Have supervised and trained others	21	41.2
Specialty (among licensed physicians; N=22)		
Emergency medicine	3	14.2
Family medicine	1	4.8
Internal medicine	6	28.6
Medicine-paediatrics	3	14.2
Neurology	3	14.2
Ob/Gyn	2	9.5
Paediatrics	1	4.8
Psychiatry	3	14.2

FMEs, forensic medical and mental evaluations.

interactive modules with assessments and addressed key issues related to training in the field of asylum medicine, including the inaccessibility of trainings, lack of consensus-driven best practices, and the need to update content based on the revised Istanbul Protocol. To our knowledge, this is the first consensus-based training in asylum medicine achieved through an iterative curricular development process that was national in scope and featured peer review by experts in the fields of medicine, mental health and human rights. Contributors reported high rates of satisfaction with the curriculum design process and ultimate product.

Given its multidisciplinary focus and accessibility, this curriculum can be used in a variety of settings and embedded in different professional training programmes. It teaches knowledge, skills and behaviours essential to all clinical practice but not traditionally covered well in health professional school.[20] Though this course focuses on the US immigration context, the skills taught are based on the Istanbul Protocol and thus are highly applicable to the international setting, and we intend to evaluate whether, how and where it is used by international partners. The modules can be used alongside experiential learning activities, such as live group or mentored practice, which have been shown to be critically important in asylum medicine education.[12]

The curriculum development process employed here offers a model for others in global health seeking to update, standardise or otherwise improve trainings. Many subject areas in global health require training

Table 2 Curriculum contributors' responses to evaluative statements about AMTI (N=47)

Survey statements*	Mean (95% CI)
The AMTI curriculum creation process was effective	8.85 (8.50 to 9.20)
There was adequate consensus about the content presented in this curriculum	9.09 (8.71 to 9.46)
I am proud of the AMTI module(s) I helped create	9.32 (9.03 to 9.61)
Working in a team to create our AMTI module was of educational value	8.68 (8.20 to 9.16)
Working in a team to create our AMTI module allowed me to understand key topics in asylum medicine from new/diverse perspectives	8.74 (8.30 to 9.19)
Working in a team to create our AMTI module allowed us to create a product that represents best practices in asylum medicine rather than one person's expert opinion	9.30 (9.02 to 9.58)
I'd recommend the AMTI curriculum to a colleague	9.81 (9.65 to 9.96)
The AMTI curriculum effectively addresses the most important topics in asylum medicine.	9.43 (9.20 to 9.65)
The AMTI curriculum (or module) is at an appropriate level for a beginner clinician	9.41 (9.15 to 9.67)

*Rated on a 10-point Likert scale, 1=completely disagree and 10=completely agree.
AMTI, Asylum Medicine Training Initiative.

Table 3 Qualitative feedback about curriculum development process

Emerging theme	Representative quotation (participant ID)
Enjoyment of working with a diverse group	"[Enjoyed] getting to meet folks working in different institutions/areas of the country and share diversity of experiences with one another." (53) "Loved working with experts from different parts of the country to learn about their experiences. Loved hearing varying perspectives." (38) "I appreciated that it involved people at different levels of training and experience." (15) "[Enjoyed] hearing others' experiences from which there is much to learn from." (5)
Learning from content experts	"As a medical student, I felt engaged and honored to be part of this project and learning from those with expertise." (44) "Allowed me to collaborate with people whose work I admire." (11) "It was inspiring to see what the experts provided in terms of content." (14)
Building a broader community	"I enjoyed being a part of something bigger, with lots of other people working on modules." (36) "I appreciated being able to meet with and learn from experts from different institutions." (30) "[Enjoyed] building a broader community and working together towards a shared mission." (25)
Being inspired by others across disciplines	"[Enjoyed] learning from many different kinds of providers in asylum medicine (lawyers, physicians, students)" (12) "[Enjoyed] working with individuals of different disciplines" (49)
Burnout related to the amount of work required	"Participation in this project also contributed to my own feelings of academic burnout in part because there is not a clear benefit of participating in this work, and much like textbook writing, can feel extractive of people's energy and intellectual property." (36)
Wish to streamline communication regarding the project more efficiently	"(I recommend) increasing (the) efficiency of revision process." (53) "Though the process was organised, because of the volume of people involved, the lengthy emails and instructions became hard to follow and know concisely how to take next steps (eg, where and how to upload materials)." (15)
Pressure associated with an ambitious timeline for project benchmarks	"[I recommend] longer timelines for module creation to give experts more time to complete their contribution." (14) "The overall process was incredibly time-consuming and fell heavily to the faculty coordinator even above and beyond the speakers. This along with challenging deadlines made it difficult to participate." (36) "[I would change the] time demands on presenters." (8)
Desire for additional opportunities for feedback throughout the module creation	"[I recommend] having residents allocate more time for formatting revisions. Faculty appeared to spend the most time doing revisions in the editor style role." (25) "I feel as if there could have been more direct feedback on the questions I created." (23)

beyond content taught in traditional academic centres that is currently delivered in an ad hoc format. The process outlined here of collaborating across institutions and disciplines to create a curriculum that is national in scope is based in medical education theory, was highly acceptable to participants and could be readily adapted to other global health priorities.

Limitations of our approach

A key limitation of this curricular design process is that we did not employ validated, formal consensus-building approaches (eg, Delphi method) where anonymity is used to minimise bias in the selection of learning priorities. However, the iterative aspect did allow for multiple opportunities to propose and modify goals and learning objectives in an effort to ensure all stakeholders' input was considered. Despite significant diversity among the curriculum contributors, certain specialties, professions and those with direct lived experience with asylum remained under-represented.

The process was also time-intensive due to the large group of contributors and the extent of consensus-building that took place; it may, therefore, have limited generalisability given the intensity of effort and time commitment required. A high degree of oversight by the co-leads and a dedicated project manager were critical to the project's success. We found that clearly communicating roles and responsibilities upfront and offering a flexible timeline for content creation are essential for preventing burnout among learners and professionals who serve highly traumatised populations. We anticipate that future rounds of module development may require less time input now that a standardised process is in place.

The self-directed learning design of the curriculum presents both benefits and challenges. Advantages of this self-paced format include accessibility, flexibility and the reliance on a clinician's internal motivation, which is a common characteristic of clinicians volunteering in asylum medicine.[20] However, self-directed learning is not a uniformly effective teaching strategy.[21] The structure of this curriculum may not allow for personalised, immediate feedback and the sense of community that is available in some live, small group learning formats. Moreover, this format does not allow for facilitators to address discomfort and distress that may arise from the disturbing and sometimes triggering content regarding torture and trauma in real time. This online curriculum is a first step in the training process, but clinicians benefit from additional team-based learning, live standardised patient practice and role playing, and in-person mentoring to further advance their skills

and provide emotional support. Indeed, as described previously, the curriculum was designed to be paired with experiential learning.

The survey that evaluated contributors' experience was limited by selection bias in the responding sample, lack of validation of the survey tool and the cross-sectional, retrospective nature of the data collected.

Future directions

The development of the AMTI Introductory Curriculum represents a first step in the ultimate goal of expanding global capacity to conduct FMEs. Next steps include evaluating the curriculum's effects on participants' knowledge, practice and attitudes. Longitudinal follow-up is also needed to determine how many participants who complete the curriculum go on to perform FMEs, and how the curriculum is implemented within broader asylum medicine and global health training programmes. We plan to use this information to guide the development of additional modules, including a module for and by asylum seekers themselves. More research is also needed into training methods for advanced practitioners and mentorship models that can help bridge clinicians to practice.

CONCLUSION

As the number of individuals seeking asylum rises, so too does the need for clinicians trained to conduct FMEs. We used Kern's model to develop an interdisciplinary, consensus-driven, accessible curriculum in asylum medicine that improves on the existing training paradigm in this growing field. The process was highly rated by a large, diverse group of contributors. The resulting curriculum was designed for the US context but can be applied to international contexts as well, and the model for curriculum development described here offers a roadmap for developing and improving training in other areas of global health.

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Acknowledgements The data included in this piece were shared at the 2023 North American Refugee Health Conference in Calgary, Canada.

Contributors TD and EE conceived the study design, acquired and analysed data, and drafted the manuscript. They contributed equally and will be guarantors. CNC, EF and EM contributed to study design, performed analysis and revised the manuscript critically. KM and RM contributed to writing and reviewing and interpretation. All authors contributed to substantial contributions to the conception or design of the work; or the acquisition, analysis or interpretation of data for the work; drafting the work or reviewing it critically for important intellectual content; final approval of the version to be published; agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants but Johns Hopkins IRB (JHMIRB00370029) exempted this study. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information. The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials.

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REFERENCES

1 Global trends, forced displacement in 2021. UNHCR; 2022.
2 United Nations. Convention against torture and other cruel, inhuman or degrading treatment or punishment [online]. 1984. Available: https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-against-torture-and-other-cruel-inhuman-or-degrading [Accessed 10 Nov 2024].
3 Hampton K, Mishori R, Forensic Asylum Evaluation Expert Group. What constitutes a high-quality, comprehensive medico-legal asylum affidavit in the United States immigration context? A multi-sectoral consensus-building modified Delphi. *J Forensic Leg Med* 2023;96:102513.
4 Green AS, Ruchman SG, Birhanu B, *et al*. Immigration Judges' Perceptionsof Telephonic and In-Person Forensic Mental Health Evaluations. *J Am Acad Psychiatry Law* 2022;50:240–51.
5 Scruggs E, Guetterman TC, Meyer AC, *et al*. "An absolutely necessary piece": A qualitative study of legal perspectives on medical affidavits in the asylum process. *J Forensic Leg Med* 2016;44:72–8.
6 Atkinson HG, Wyka K, Hampton K, *et al*. Impact of forensic medical evaluations on immigration relief grant rates and correlates of outcomes in the United States. *J Forensic Leg Med* 2021;84:102272.
7 Gu F, Chu E, Milewski A, *et al*. Challenges in Founding and Developing Medical School Student-Run Asylum Clinics. *J Immigr Minor Health* 2021;23:179–83.
8 *Asylum Medicine: A Clinician's Guide*. Springer Nature, 2021.
9 McKenzie KC, Emery EH. Lessons from Asylum Seekers: How Forensic Medical Evaluations Can Teach Us Things We Didn't Learn in Medical School. *J Gen Intern Med* 2021;36:2121–2.

10 Ferdowsian H, McKenzie K, Zeidan A. Asylum Medicine: Standard and Best Practices. *Health and Human Rights Journal* 2019;21/1:215–25.
11 United Nations. Office of the high commissioner for human rights. In: *Istanbul Protocol: Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*. United Nations Publications, 2022.
12 Rezaei SJ, Twardus S, Collins M, *et al*. Utilizing a participatory curriculum development approach for multidisciplinary training on the forensic medical evaluation of asylum seekers. *J Forensic Leg Med* 2024;105:102718.
13 Asylum medicine clinics & regional resources. Available: https://asylummedicine.com/asylum-medicine-clinics-and-regional-resources [Accessed 28 Mar 2024].
14 PHR partner medical school clinics. Available: https://phr.org/issues/asylum-and-persecution/student-asylum-clinics/ [Accessed 28 Mar 2024].
15 Asylum medicine training initiative. 2024. Available: https://asylummedtraining.org/ [Accessed 28 Mar 2024].
16 Thomas PA, Kern D, Hughes MT, *et al*. Curriculum development for medical education: a six-step approach. 2015.
17 Sweet LR, Palazzi DL. Application of Kern's Six-step approach to curriculum development by global health residents. *Educ Health* 2015;28:138.
18 Bloom BS, Krathwohl DR. Taxonomy of educational objectives: the classification of educational goals. Longmans, Green; 1956.
19 Panopto. 2024. Available: https://www.panopto.com/ [Accessed 28 Mar 2024].
20 Mishori R, Hannaford A, Mujawar I, *et al*. "Their Stories Have Changed My Life": Clinicians' Reflections on Their Experience with and Their Motivation to Conduct Asylum Evaluations. *J Immigr Minor Health* 2016;18:210–8.
21 Murad MH, Coto-Yglesias F, Varkey P, *et al*. The effectiveness of self-directed learning in health professions education: a systematic review. *Med Educ* 2010;44:1057–68.