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Exploring Glocalization in the Construction and Implementation of Global Curricula

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Abstract

Despite proposed advantages of global curricular harmonization including physician mobility and improving the quality of care, the challenges and unintended consequences require greater study. The aim of this study was to problematize the concept and implementation of global oncology curricula and their relationship to local contexts of power and culture. Fourteen international participants involved in the development and implementation of global oncology curricula completed in-depth, one-on-one semi-structured interviews lasting 40–60 min. Snowball sampling was employed. Through iterative analyses, using an abductive approach, the study team discussed and reviewed the data and made revisions through collaborative analysis to enhance comprehensiveness and to improve credibility. In the final analysis the meaning and implication of the themes were discussed yielding a conceptual analysis. Our data have articulated 5 key challenges for global curricula including 1) Ambiguous or conflicting perspectives on the purpose and scope of Global Oncology Curricula 2) Insufficient representation of diverse perspectives and realities in the creation of the final curricula 3) A rigid conceptualization of competency requirements 4) A mismatch between the curricular requirements and local context and 5) The influence of power relationships and decision makers. Leveraging the strengths of diversity including fostering representation, addressing power differentials and factoring local contexts may be an approach to mitigating these challenges. Global oncology curricula may serve important advocacy roles within the healthcare system. Leveraging diversity may positively impact the common challenges in the construction and implementation of global oncology curricula.

Keywords Global curriculum · Globalization · Curriculum · Cancer education · Curriculum implementation · Neocolonialism

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Introduction

There is a growing health human resource crisis in cancer care. Training programs globally are working to address the need for changes and increase capacity in oncology training [1]. In addition, there is a perceived mismatch between the training curricula for healthcare professionals and the needs of patients, families and the health-care system argued to fuel a healthcare crisis [2]. Given the global nature of these crises, international organizations have focused on developing harmonized training standards or global curricula [3, 4]. These efforts to produce curricula with a global focus [5] raise the question of how the process for developing global oncology curricula is aligned with their goals.

There are several common motives for creating global curricula including defining specialty specific standards, harmonizing training standards, and improving the quality of training [6]. Despite many proposed advantages of global curricular harmonization efforts including physician mobility and improving the quality of care [7], the challenges and unintended consequences, including a mismatch between global priorities and

local needs [8], requires greater study [9]. We have previously reported, based on a scoping review, that intercountry variation, the need for a multi-stakeholder approach, and complexity in implementation are important aspects related to global medical curricula [6]. The potential unintended effects of engaging in this form of global standardization, such as perpetuating the Western medical priorities (for example biomedicine [10]), requires further study. The concept of glocalization is relevant in this discourse on global medical curricula because it refers, in medical education, to developing the skills and knowledge to address the universal and particular or to be adaptable in the global and local spaces [11]. What is greatly lacking in the global-local debate in the medical education literature is evidence of positive or negative impact of global curricula on clinical care, the healthcare system, and trainees' knowledge and skills [8, 12]. A first step in understanding impact is to understand the factors impacting implementation.

The existing literature is largely from the Western perspective [5], and as such we are not able to ascertain the degree of local customizations that occurs or the degree to which these curricula address local health care needs. The majority of global curricula are constructed through social group processes such as committees, task forces, or a Delphi process [6]. These approaches, while practical, do not necessarily preserve or promote diversity especially for minority expert voices. Any social process involving individuals is susceptible to biases including conflicts of interest and political pressures [6]. How these biases impact an already challenging situation to establish what is "core" curricula coupled with the tension between meeting local needs and achieving international standards [13] requires further investigation.

The aim of this study was to problematize the concept and implementation of global oncology curricula in postgraduate training. We explored, through interviews with international participants, how global oncology curricula are constructed and implemented and their relationship to local contexts of power and culture.

Methods

Design and Procedures

This qualitative study involved interviews with international participants. Study recruitment began with individuals involved in the development of global oncology curricula based on publication or professional reputation. Participants were selected who have experience and/or expertise in the area of global oncology education in the form of curriculum development or local implementation or translation to practice and included representatives of organizations with global curricula as well as educators in diverse geographic areas around the world. We believed this approach and these participants would yield rich data and enable us to further understand the construction and implementation of global oncology curricula. To address the dominance of Western perspectives we specifically targeted participants with non-Western experiences or low–middle income country perspectives. Snowball sampling was employed for this study [14].

A semi-structured interview guide was developed and was adapted during the data collection process based on data from prior interviews. Interviewed participants were asked to reflect on the concept of a global curriculum, the purpose it serves for training oncologists, their perception of differences from local or traditional curricula/pedagogical practices and perceived advantages and limitations of such a concept. Interviewees also reflected on their perceptions of how global curricula may be perceived within their local contexts with specific focus on power, culture, and pedagogical priorities. All interviews took place in English however the option of utilizing a translator was available. The interviews lasted 40 to 60 min. The interviews were conducted in person, over the phone or through electronic interfaces such as Skype™. This facilitated the participation of global experts who reside in geographically disparate locations. The interviews were audiotaped and transcribed verbatim. University Health Network research ethics board exemption was received for this study [waiver 19-0310]. All participants provided informed written consent to participate. To ensure anonymity participant quotes are reported by participant number.

Participants and Sampling

Fourteen participants completed in-depth, one-on-one semi-structured interviews with a study investigator (MG). Data collection occurred from February to May 2019. Sampling continued until there was sufficient information power to address the dominant themes [15]. The participant sample was representative of different geographic regions, genders, and professional scopes of practice to ensure diverse perspectives were sought. Of the 14 participants 7 (50%) were female. Five (36%) were from Europe, 3 (21%) were from Africa and 3 (21%) from Asia, and 1 (7%) participant each from North America, Latin America, and Oceania. The participants were clinical or medical oncologists ($n = 6$) or radiation medicine professionals ($n = 8$). Some participants carried double roles with experience in diverse geographic healthcare settings and/or experience across different oncology professional scopes of practice.

Analysis

One study investigator (MG) read each transcript and performed an initial analysis to produce a coding framework [16]. Other investigators (TM, ED, and JF) reviewed and coded a subset of the transcripts. The analysis built upon previous

work by the study team in the area of global curriculum development [5, 6, 17]. The framework was then used to code the transcripts. Through iterative analyses, using an abductive approach, the study team discussed and reviewed these data and made revisions through collaborative analysis to enhance comprehensiveness and to improve credibility [18]. The abductive approach included applying a combination of theoretically derived codes and capturing emerging codes. In the final analysis the meaning and implication of the themes were discussed yielding a conceptual analysis. NVivo version 11 software was used to facilitate coding and analysis [19].

Research Team and Reflexivity

The research team consisted of an oncology physician with experience in curriculum design with an international focus and education scientists whose expertise is on globalization and internationalization in medical education. Members of the research team have also served as educational advisors for organizations which publish global curricula. The research team explicitly discussed the impact their prior experience and professional training had on the conduct of the study and interpretation of the data.

Results

A number of challenges were identified in the construction and implementation of Global Oncology Curricula. These challenges include 1) Ambiguous or conflicting perspectives on the purpose and scope of Global Oncology Curricula 2) Insufficient representation of diverse perspectives and realities in the creation of the final curricula 3) A rigid conceptualization of competency requirements 4) A mismatch between the curricular requirements and local context and 5) The influence of power relationships and decision makers. First, we elaborate on these challenges, and then, we introduce how diversity can be leveraged to potentially mitigate these challenges (Table 1).

Ambiguous or Conflicting Perspectives on the Purpose and Scope of Global Oncology Curricula

All participants problematized the concept of a "global curriculum". Specifically, they all identified the term "global" as complex and a common definition or understanding of how the label 'global' was applied to a curriculum was not articulated. Global curricula as a construct was identified by some as positive and linked to aspirational view points as well as an opportunity for consensus building and by others as negative being a vehicle for imposing and perpetuating a dominant perspective. The positive and negative tensions around global curricula were captured as "I both like the term and I hate the term. I like the term because it's easy to understand what this is about. But this is also why I hate it because for me global also sounds a bit imperialistic and whatever we do in teaching education in trying to raise the standards it should not be imperialistic. So, in that sense I really do like and I always know this will never be global but it would be something which would hopefully be applicable across the globe." (P014).

The concept of "curriculum" was also problematized. After reflecting on the concept of "global" P003 went on to state "the other part which is open to interpretation is what's meant by curriculum…A curriculum should mean a lot more than that [competencies or learning outcomes] in terms of some kind of structure to a training program to ensure that the learning opportunities and experiences and teaching that is required is present to support attaining those competencies and also that there be some form of matching or complementary assessment". These diverse viewpoints about the scope of the components of the curricula under the heading of curriculum is important when one reflects on the implementation complexities and whether some curricula may not include these other aspects due to the global local tensions and complexities. This problematization of the concept of curricula also lends itself to the discourse on the purpose of these curricula. This leads us to the next challenge around representation of diverse perspectives.

Insufficient Representation of Diverse Perspectives and Realities in the Creation of the Final Curricula

According to the participants, a lack of representation, particularly of low- and middle-income countries (LMIC), in development was directly linked to a challenge of implementing curricula globally. A core development challenge is "how best to make them [global curricula] useful in environments that may not have had much input into the development" (P003).

The participants identified the process of determining the content of the curricula as challenging. The presence of "different confrontation styles and different conflict resolution styles depending on a different culture" (P002) was one aspect of this challenge. Most curricula are created through a social group process [6], and as such differences in communication and conflict resolution styles may directly impact whose perspective is more dominant and thus reflected to a greater degree in the final product. The degree to which differences of opinion or perspectives were acknowledged and/or resolved in the development process is unknown. Other participants described a co-creation approach for "global" curricula. When discussing the construction of these curricula using a collaborative approach, they described the processes of glocalization where the universal is negotiated with the local to produce a final produce. A participant speaking from a

Table 1: How leveraging diversity could positively influence global oncology curricula

Challenges	Leveraging the strengths of diversity….	How?	Illustrative quotes
Ambiguous or conflicting perspectives on the purpose and scope of Global Oncology Curricula	**Requires clarifying the curricular purpose and scope as a foundational activity**	Build consensus with individuals from diverse perspectives about the goal and scope of the curriculum	"I think, we need to take people's advice in those countries for … their circumstances and then write curricula… rather than saying oh well you've got to learn how to do it to this standard." P001
Insufficient representation of diverse perspectives and realities in the creation of the final curricula	**Fosters representation in the curriculum development stage**	Ensure diverse perspectives are represented in the curriculum construction phase	"are they just gandasizing themselves… what is their right to call it global?" and "I think when you look at it in a global perspective very often the global is say European, North American." P001
A rigid conceptualization of competency requirements	**Creates opportunities for mitigating neo-colonial effects and power differentials**	Value local/indigenous knowledge and expertise	"Because that's where you're going to get the buy in because you -- everyone has saw that you're appreciating everyone's sort of culture and identity and I think that's -- because that's where the difference is apart from sort of the differences we discussed, which is very much where you draw your line of competency, that's actually making sure that whenever you're designing the curriculum is relevant to each local team for them to have buy in. But if you've got some general principles that everyone agrees with and general competencies, everyone agrees with them, then you have the local nuances about." P008
A mismatch between the curricular requirements on local context	**Create opportunities for addressing inequities in low resource countries**	Advocate for systems level changes including resources for infrastructure to underpin education	"you can use it [the curricular document] to push [stakeholders] if you want to push." P014
		Ensure all countries have agency and self-determination	"state of the science global document and recommendations that different training programs in different locations would accept,
			reject or adapt the recommendations according to their own purposes." P005
The influence of power relationships and decision makers	**Improves the quality of the implementation**	Factor local context throughout development and implementation phases	"having [existing groups] share their practices and reviewing the current curriculum and adding value to it. I think that's what's really lacking and what will be really important in order to make progress and again not reinventing the wheel." P011

European perspective about curricular co-creation stated "we were very conscious that we did not want to impose what we thought everyone should know from a [European] viewpoint in [other countries]" (P008). Buy-in from stakeholders was also seen as critical for implementation; "If you don't get buy in and you're just given a set of core competencies that you may think are old fashioned or not relevant to your particular culture, then you're not going to adhere to them as strongly as if you've actually bought into it" (P008).

A Rigid Conceptualization of Competency Requirements

The concept of what constitutes competence for completion of postgraduate training, leading to independent practice, was identified as an area of controversy. This diversity in where the bench mark for competence is set or even what is understood by the term "competence" was presented by the participants as a challenge. "I think these local sort of hurdles where you set the bar for saying you completed your training even though you never really complete your training… where you set the bar for competence is going to change between different countries." (P008). Varying scopes of practice and duration of training prior to independent practice between countries was a specific area contributing to this controversy related to competence. "What a doctor does in one place may be different to another place" and went on to state "you have this mismatch [globally] that you've got some specialties that are very country specific and you've got other specialities which are more general" (P008). One participant when describing the challenges within a region stated (P014) "it's still 28 to 30 different countries with totally different systems and in many ways we have organized our health system, in the way we have organized our education in terms of economically wealth."

Participants drew links to the greater health systems context in relation to the concept of competence and curricular content. One participant from Africa saw an association between the concepts and tensions of human resource requirements and training considerations. This participant reflected that a curriculum in clinical oncology and ultimately competence as a clinical oncologist would be most relevant to address the health human resource needs in their context "trained as a clinical oncologist because in this part of the world you just cannot afford to have separate radiation oncologist and separate medical oncologist" (P010). The clinical oncologist discourse is also relevant in other regions including Europe[20].

Participants go on to postulate that to give the variation in where the bar for competence for independent practice is set in different jurisdictions global curricula should be adaptable. The curricula itself is considered by some as a guiding document "so the adaptation is done locally and the curricula is more of an overall recommendations document" (P004). Adaptation here was conceptualized as the global curricula serving as an overall repository where local educators could then accept, reject, or change content to fit their purposes and needs for where they define training priorities and competence. There was an articulated tension between the comprehensiveness or size of the curricula and the possibility for flexibility for local priorities. "I think as it [the curricula] does get larger and more sophisticated it gets harder for it to be adopted" (P005). The conceptualization of what a sophisticated curriculum entails was not clear from the interviews and could possibly reflect a perception of educational infrastructure or clinical infrastructure. This concept of adaptability leads into the next challenge which is related to implementation and local context.

A Mismatch Between the Curricular Requirements and Local Context

Reflection by national stakeholders about whether or not to implement a global curricular document was related to whether or not they felt they could meet the requirements set out in it. There were two main facets considered by participants when deciding how applicable a curriculum is. These included the length of training and the medical or systems factors.

There are many factors which determine the length of training in a speciality including historical aspects, clinical service demands, and international recommendations. The need for clinical service was a critical factor in determining the length of training as articulated by our participants. They discussed a relation between increasing needs for clinical services and keeping the length of training short in areas with the greatest need for health human resources; "on the one hand they want to make it a five year program but on the other hand… there's an alarming lack of colleagues in the country" (P011). Therefore, during the construction of global curricula, consideration of these local realities and discussion around where the curricula can be modified and to what extent may assist in endorsement and implementation.

The medical or systems factors related to local availability of medication, such as certain chemotherapy regimens or certain technologies such as image guided radiotherapy.

Participant 006 stated "I want my residents to know all the new stuff that's happening there even if we don't have access to it… for two reasons. First is it good enough for us to adopt or advocate for the government to pay especially for our universal health coverage or the patient has private insurance and also to explain to the patients as they are very well informed… so it has to do with stewardship of resources. …recently they [the residents] were presenting an American trial for lung cancer chemotherapy and they know that it might not have for many years to come but they do want to know about it so then if it becomes available for all the patients. It's always a negotiation between the evidence that [is] usually generated in high

income countries and the local environment. So, for example, the [breast cancer] patient may not be tested for estrogen receptor because it's not available but because, they have done some health services research and they go for some of the evidence in East Africa, maybe there's more estrogen receptor positive cancers they could treat empirically." Consideration of these systems level factors is also related to decision makers and those in positions of power. This leads us to our final challenge.

The Influence of Power Relationships and Decision Makers

Power relationships were critical to implementation of global curricula with respect to ensuring decision makers, such as government or universities, possessed the required insight into the medical reality of their local context to advocate for and approve the necessary supports for curricular implementation. Having a mutual understanding with decision makers is critical because "the ministry is responsible for developing so-called standards…professional standards and those examinations that one needs to pass in order to get a certificate of consulting" (P011). One participant (P009) describing their experience with barriers to implementing core curricula across different European countries reflected that "this kind of lack of understanding or lack of awareness of government level that this [curriculum] is actually required" is a key barrier to get things implemented. They went on to elaborate that "Buy-in from who I would call the primary stakeholders so they are actually the policymakers whether that's at the national level at the Ministry of Health … [or at] a local level at the University or the clinic" (P009) is crucial. P004 reflects on the use of global curricula as advocacy tools with decision makers stating "I'll focus more on what is expected [by] someone with regulatory power instead of how it [the curricula] can be delivered". An example to illustrate this point is that if the purpose of the global curricula is to advocate for longer periods of training there should be recommendations on minimum length of training as found in some curricula [20, 21] whereas this may be omitted or not emphasized if the purpose is to promote homogeneity in clinical skills. A collaborative, international approach to curriculum design was seen as a powerful mechanism to advocate for training needs to decision makers in local jurisdictions.

Leveraging Diversity

While our participants identified these five challenges which have been described about, they also identified how diversity was a critical factor in mitigating these challenges. Table 1 articulates the way in which diversity can be leveraged to address these challenges in Global Oncology Curriculum construction and implementation.

Discussion

Our data have demonstrated the complexity of global oncology curricula in both their construction and implementation. We have articulated five key challenges and outlined how diversity can be leveraged as a positive influence to mitigate these challenges (Table 1). Achieving the balance between global and local as well as contextual diversity will remain challenging; however, this can be framed positively as an opportunity to inter-regional collaboration. If progress is made, we may be able to prepare graduates to serve as advocates for their local healthcare system [22].

Our data have demonstrated a critical function of global curricula is to serve as advocacy tools. Our data has demonstrated an inverse relationship between availability of health human resources and length of training. As the pressures increase to expand the cancer workforce to meet the demands for care the cancer training programs may face equal pressures to reduce their lengths of training [1]. This phenomenon is not unique to cancer; however, investments in training in the face of health human resource shortages may ultimately counteract forces causing these shortages and result in strengthening of the workforce [23]. In addition to the tension between health human resource shortages and length of training, differences in local practices for length of training compared to recommendations from global curricula are a barrier to implementation. While some jurisdictions leverage these differences as an advocacy tool to protect time in training others may feel their training situations are not represented in the recommendations of the curriculum. In many areas high level political commitment to medical education is lacking [22]. In order to address the growing health human resource crisis in cancer, where there is a need to double the workforce [1], there will need to be logistical coordination between governments, universities, and training institutions as well as those who determine curriculum and assessment [22]. The use of global oncology curricula as a mechanism for advocacy in political and other decision making arenas as well as a vehicle for collaboration should be explicitly explored in future curricula efforts.

Neocolonialism in medical education is conceptualized as practices of exporting Western concepts and pedagogical methods without consideration of power relations [24]. The concept of neocolonialism is an important consideration in the creation and implementation of global curricula as identified by participants in this study. There is implicit tension in such concepts as global standards, including the generation and setting of global core competencies with educational ideals oriented to respecting local diversity and local historical educational practices [25, 26]. The concept of a "universally global physician" who has a minimum set of essential competencies implies everyone from around the world can see themselves as represented. Operationalizing such competencies raises concern over who is represented in such

recommendations and how this concept is related to broader economies of medical education (i.e., who garners material and symbolic benefit) [27]. One questions, who garners material and symbolic benefit from the packaging of competencies as universal? Our data has demonstrated that physical representation in the curriculum development process does not necessarily ensure that all relevant perspectives are reflected in the final document. While critical education scholars would support that physician competencies must reflect local socioeconomic and political contexts and local health needs [24] how this is realized with the rising popularity of articulating core or universal skills is unclear. One is led to question the degree to which developing shared concepts in medical education is possible without the undue influence of Western values [24]. However, all participants may achieve a greater understanding if greater value is placed on embracing contextual difference in cancer education and fostering bidirectional exchanges [28].

There are limitations to this work. We were not able to directly observe the process of global curriculum construction therefore could not analyze that type of activity directly. Further projects directly observing such a process would provide rich data and be of interest in advancing this field of research. In addition, we were not able to actually go to diverse geographic locations and to directly observe what occurs locally with respect to the use and implementation of global curricula. Triangulation with these other forms of data collection and analysis is an important next step for this area of research.

Conclusions

Global oncology curricula may serve important advocacy roles within the healthcare system. Leveraging diversity may positively impact the common challenges in the construction and implementation of global oncology curricula.

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