# Promoting the health of marginalized populations in Ecuador through international collaboration and educational innovations

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Abstract This paper examines two innovative educational initiatives for the Ecuadorian public health workforce: a Canadian-funded Masters programme in ecosystem approaches to health that focuses on building capacity to manage environmental health risks sustainably; and the training of Ecuadorians at the Latin American School of Medicine in Cuba (known as *Escuela Latinoamericana de Medicina* in Spanish). We apply a typology for analysing how training programmes address the needs of marginalized populations and build capacity for addressing health determinants. We highlight some ways we can learn from such training programmes with particular regard to lessons, barriers and opportunities for their sustainability at the local, national and international levels and for pursuing similar initiatives in other countries and contexts. We conclude that educational efforts focused on the challenges of marginalization and the determinants of health require explicit attention not only to the knowledge, attitudes and skills of graduates but also on effectively engaging the health settings and systems that will reinforce the establishment and retention of capacity in low- and middle-income settings where this is most needed.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترحمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

#### Introduction

Much attention has been paid to the pronounced shortage of health workers in low- and middle-income countries (LMICs). <sup>1-3</sup> In addition, greater recognition of interrelated determinants of health suggests that personnel with new skills must be added to the mix of human resources mobilized to improve health. Nevertheless, there is little evidence that training programmes for LMIC health personnel are meeting this challenge. Furthermore, the way that international assistance is provided to assist education of health workers may be contributing as much to the problem as providing solutions.

To examine this concern, we studied two post-secondary educational initiatives for the Ecuadorian health workforce: a Canadian-funded Masters Programme in Ecosystem Approaches to Health (MEAH) that focuses on building capacity to sustainably manage environmental health risks;<sup>4</sup> and the training of Ecuadorians at the Latin American School of Medicine in Cuba (ELAM – using the acronym from the Spanish name *Escuela Latinoamericana de Medicina*).<sup>5</sup> We suggest a typology to guide analysis of challenges and gaps. We then consider key elements for learning from such programmes with particular regard to lessons, barriers and opportunities at the local, national and international level.

## Training to meet the needs of marginalized populations

In reviewing challenges in building a global public health workforce, Beaglehole & Dal Poz drew attention to the limitations of traditional approaches to public health education,

which include narrow disciplinary focus, isolation from field experience, overly medicalized orientations and weak incentives to work in LMIC settings where need is greatest.<sup>6</sup> In keeping with the framing of the public health workforce as those who are "primarily involved in protecting and promoting the health of whole or *specific populations*" [emphasis added],<sup>6</sup> we concentrate on the challenge of educating health workers whose mandate is to focus on marginalized communities. In doing so we recognize the inevitable tensions and controversies in describing specific populations as "marginalized", "disadvantaged" or "vulnerable", and the dual importance of recognizing the assets and capacity of such communities as well as the structural power differentials and processes of exclusion that drive health inequities from global and local levels.7-11 With these challenges in mind, we suggest a typology for training programmes in LMICs (Table 1) that points to where greater attention is needed to equip graduates with specific capabilities to address: (i) determinants of health to complement skills necessary for delivery of clinical services; and (ii) the needs of marginalized populations that are particularly vulnerable to poor health conditions, status and services and other manifestations of structural inequities.

In the context of our typology, MEAH is explicitly oriented to building skills for addressing health determinants that affect vulnerable communities. On the other hand, ELAM focuses on providing clinical health services to disadvantaged populations, but in a context that is sensitive to health determinants. Examining these two examples in the Ecuadorian context, we argue that a range of training innovations is required to create a public health workforce capable of responding to emerging challenges.

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(Submitted: 27 June 2007 - Revised version received: 18 July 2008 - Accepted: 21 August 2008 - Published online: 10 February 2009)

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Table 1. Typology of training programmes for the Ecuadorian public health workforce

Type of programme	Focused on clinical services	Focused on health determinants
Oriented to marginalized populations	ELAM	MEAH
Oriented to general populations	Traditional professional training programmes	General public health training programmes

ELAM, Escuela Latinoamericana de Medicina (Latin American School of Medicine) in Cuba; MEAH, Masters in Ecosystem Approaches to Health.

Health inequities experienced by marginalized communities in Ecuador are exacerbated by socioeconomic trends, including growing income inequalities. This is illustrated by an increase in the Gini coefficient (where a score of 0 indicates perfectly equal income distribution and 1 complete inequality) from 0.54 in 1995 to 0.59 in 1999.12 Research in the past decade has also drawn attention to a range of global and local driving forces (such as expansion of the petroleum, mining and agro-industrial sectors) with worrying implications for social and environmental conditions in Ecuador. 13-18 Such pressures demand more than service from "health services providers" and call for explicit and critical consideration of health determinants. This includes what Breilh describes as both the destructive and protective interactions of global and singular influences on the health of individuals and communities, as well as the design of community-based interventions to respond to inequitable distribution of hazardous exposures such as toxic pollutants, stress and "modes of life". 19,20 These trends not only reinforce the analysis from the Latin American social medicine movement<sup>20-22</sup> but also the relevance of ecosystem approaches to health with an emphasis on transdisciplinarity, multi-stakeholder participation and social equity.<sup>23</sup>

To respond to these challenges, human resources must be trained for interdisciplinary and intersectoral team work, sensitive to the realities of disadvantaged populations. Yet education of health professionals in Ecuador has paid little attention to these concerns. Rather, a "traditional" health service training, oriented to hospitals and urban health centres, has implicitly encouraged health professionals to seek upward mobility in the private sector, rather than contributing to improving health at the community level in marginalized areas. While relevance of skills such as cooperation, interdisciplinary interaction and community-level participatory health promotion may arise during such experiences as the *año rural* (a compulsory year of rural, often isolated, practice for graduating Ecuadorian medical students), these tend to be short-term rather than valued as long-term career trajectories.

# A new generation of international training programmes

#### Escuela Latinoamericana de Medicina (ELAM)

While Cuba (11.3 million) and Ecuador (13.7 million) are relatively close in population size, their capacities for training human resources for health are quite different. Between 2004 and 2005, 300 physicians graduated from Ecuador's five public and three private medical schools, while Cuba's 22 medical schools produced 3708 national and 1610 foreign graduates. Building on Cuba's infrastructure for large-scale training, over 8500 foreigners from 29 countries throughout Africa and the Americas (including the United States of America) are presently studying medicine at ELAM and will train alongside Cuban nationals in 14 affiliated medical schools (Table 2). These foreign students (like the Cubans) do not pay for tuition, residence, food, clothes or resources while studying in Cuba. Their only "cost" is a moral commitment to return to their home communities to apply their skills.

The idea for ELAM emerged after the devastation caused by Hurricane Mitch in Central America in 1998. Cuban medical brigades realized that without long-term capacity building, their services would always be required.<sup>28</sup> Cuba therefore initiated a programme to train local people from affected regions as doctors – with the understanding that they would eventually return to their home communities to replace Cuban medical brigades. In 1999, the programme expanded beyond the countries affected by Hur-

ricane Mitch to include the majority of countries in the Americas and some in Africa. Taking between 1600 and 2200 students per year, ELAM is unparalleled in generating health workers for developing countries. As of August 2007, close to 5000 physicians, including 542 Ecuadorians, had graduated from ELAM. The school's curriculum is heavily focused on community-based practice, with graduates trained to return to their home countries to work alongside, or replace, Cuban medical brigades, often in marginalized and underserved communities. As there are currently no Cuban brigades in Ecuador, Ecuadorian graduates return to serve an año rural alongside other Ecuadorian medical graduates.

### Masters Programme in Ecosystem Approaches to Health (MEAH)

A complementary approach to promoting health in Ecuador's disadvantaged populations is MEAH, a Canadian-Ecuadorian-Cuban-Mexican collaboration funded by CIDA (Canadian International Development Agency). Five years of previous Canadian-Cuban collaborative experience in developing and refining training strategies for environmental health<sup>29-31</sup> provided the foundation for the 6-year project entitled "Sustainably managing environmental health risks in Ecuador". Launched in 2005, this project aims to build human resources and institutional capabilities for improving social and ecological determinants of health, particularly in marginalized populations (e.g. rural and indigenous communities); and to demonstrate that associated health impacts can be reduced.

The project seeks to enhance existing Ecuadorian capacity by strengthening links between universities and communities, building an international network involving Latin American centres of excellence in Cuba and Mexico, in addition to Canadian and other Ecuadorian partners, to enhance sustainability. While the programme has a multi-level

#### Table 2. Characteristics of the two programmes analysed

Characteristics	ELAM	MEAH
Graduates	542 Ecuadorian students (average 60 per year) 5000 total graduates by August 2007	60 masters students in 2 cohorts
Programme duration	6 years (not including pre-medicine)	2 years (including modular and thesis phase)
Pedagogy	,	
Knowledge	Strong focus on community-based determinants of health.  Disease prevention strategies, community knowledge building and coping with poor resources in rural areas	Understanding and integration of different types of knowledge, including integration of different disciplines (health, social sciences, environmental and ecological sciences); community, specialized and strategic knowledge <sup>24</sup>
		Includes understanding of different dimensions of scholarship, including integration, application and engagement <sup>25</sup>
Skills and techniques	Core clinical skills (including knowledge of	Qualitative and quantitative research methods
	practising alternative and green medicine)	Problem solving (problem-based learning)
	Community health management and public engagement for health promotion	Collaboration and teamwork – especially through interdisciplinary group work for modules and in focus of research in defined communities of impact
Attitudes and values	Approaching medicine as a public good rather than as a commodity	Ethical research and practice: respect, reciprocity, relevance, responsibility $^{26}$
		Student evaluation designed to emphasize knowledge, skills and attitudes, including reflective journals on learning process
Links to local level com		
Selection process	Focus on marginalized populations and service equity: Selecting students from underserved communities	High involvement in: universities (14/30 students), government and NGOs(14/30), communities (11/30) with 5 students who are indigenous leaders
	Over 100 ethnic groups represented and > 50% women	Interdisciplinary scope: health disciplines (medicine, nursing, veterinary medicine), other professions (engineering, law,
	100s of interviews conducted per country, in country of origin by Cuban Embassy except in the United States of America (where a faith-based organization administers interviews)	planning, disaster preparedness), sciences (chemistry, biology) 50% women
		1st cohort selected from 150 applicants, 90 interviews conducted by Canadian and Ecuadorian team in university of
	588 Ecuadorian ELAM trainees in 2005 represented 17 provinces, > 10 ethnic groups, > 50% women	application
Community orientation	Curriculum strongly focused on community- oriented primary care  Some students complete 6th year working with Cuban medical brigades in home country	Each teaching module includes community field experience
		Thesis projects must define a community of impact and community involvement. These have already resulted in a range of community workshops, educational and planning activities
Links with national leve	el capacity	
Partners in Ecuador	One year rural practice ( <i>año rural</i> ) funded by Ecuadorian Ministry of Health	3 provincial universities (Bolivar, Cuenca and Machala) and 1 regional university (Universidad Andina Simon Bolivar)
	Many alumni and support networks exist for graduates and current students	1 national NGO (Centro Estudios y Asesoría en Salud/Health Research Advisory Centre)
	No formal links with Cuban Embassy after graduation	Creation and support of an Ecuadorian network of laboratories for environmental health research
		Consolidated experience in Ecuador informs national and international initiatives (including Canadian community of practice in ecosystem approaches to health) 27
Links with internationa	l level capacity	
International funding	Cuban Ministry of Health	Canadian International Development Agency (University Partnerships in Cooperation & Development) with in-kind support from University of British Columbia and partners
Partner countries	Cuba	Canada, Cuba, Ecuador and Mexico
Countries of students	29 countries from Africa, North America and South America	Ecuador

ELAM, Escuela Latinoamericana de Medicina (Latin American School of Medicine) in Cuba; MEAH, Masters in Ecosystem Approaches to Health; NGO, nongovernmental organization.

approach to capacity building, we focus here on the first cohort of 30 students completing the MEAH programme as a "train the trainer" cornerstone of the project. To build competencies for designing, conducting and evaluating community-based environmental health interventions, the programme is explicitly community-oriented, with an interactive problem-based curriculum, community-based fieldwork in each training module, evaluation strategies focused on the values and skills of collaborative learning, and student theses designed and developed with targeted communities. The programme's modules are team-taught, drawing on Canadian and Ecuadorian professors alongside Cuban and Mexican partners. In addition to traditional environmental health content, modules focus on issues of particular relevance to disadvantaged and vulnerable communities, including heavy metals in mining communities, agro-industry and pesticides, ancestral knowledge, food nutrition and sustainable agriculture, and disaster preparedness.

These two training initiatives offer insights into how international programmes can contribute to crossing disciplinary, professional, sectoral and national barriers to address health determinants and meet the needs of marginalized populations. We have identified specific aspects at local, national and international scales that may influence the impact and sustainability of these programmes.

#### **Attracting and selecting students**

There is evidence that Canadian doctors rarely practice in rural or marginalized communities for the long term if they do not come from those communities.<sup>31</sup> This applies equally to Ecuador. The acceptance and retention of students from marginalized (e.g. rural, indigenous, immigrant) populations into health professions is typically low and demands increased attention to ensure better representation of these students among those training as health workers.<sup>32–34</sup>

A notable feature of both programmes is the explicit selection of students who are oriented to the needs of disadvantaged communities. ELAM seeks candidates who would not otherwise have the opportunity to study medicine in their home countries either because of minimal resources or institutional discrimination. Students from

marginalized communities are thus given special consideration, reflected by the high representation from rural or under-resourced communities (including more than 100 ethnic groups) in the first graduating class of 49% women.

The demographic profile of the initial cohort of 30 students in the MEAH programme similarly reflects specific criteria. Academic disciplinary aptitudes were weighed alongside capacity for undertaking communitybased interventions, knowledge translation and cultural diversity. Four of the initial cohort are indigenous leaders of their local communities or organizations. Sustainability was also factored into selection with five students from each university centre already holding university positions with the promise of continuation after completion of their programme. The intention is that these students lead subsequent iterations of the programme and extend beyond teaching to consider accountability and research ethics inherent in the scholarship of integration, application and engagement.<sup>24–26</sup> Progress towards these ends has already been indicated by positive feedback (evaluation of and by the students) through surveys, student reflective journals and activity logs at the end of each module.

A related feature is the explicit intention to build communities of practice<sup>35–37</sup> for future work within local communities, building bridges between the provincial, university, community and local government representatives within the student body, as well as with community partners established through the research process. Early outcomes from this approach include workshops initiated as part of community-oriented thesis development - with themes ranging from sustainable drinking-water management for an island community in the south-east of Ecuador to options to commercialize pesticide-free products in the Ecuadorian ranges. By May 2008, eight workshops had been initiated involving 336 community leaders in educational and planning activities.

## Orienting to existing national capacities

A point of contrast between the two programmes is the extent to which they address national capacity. For ELAM graduates returning to Ecuador – where no special integration strategy exists - the process of reintegration can be harsh. ELAM graduates join other Ecuadorian medical graduates in the año rural, where they work in poorly resourced clinics. After conducting interviews with 80% of ELAM graduates working in four regions of Ecuador, Huish found that they demonstrated outstanding competency and confidence working in their clinical settings as well as sound knowledge of social and environmental factors contributing to poor health in their communities.<sup>38</sup> Limitations in their ability to practice disease prevention and health promotion - the cornerstones of Cuban medical education - largely reflected limited support at the community level.

After the año rural, like most young Ecuadorian doctors, ELAM graduates struggle to find residency spaces. The ELAM graduates are not necessarily in a better position than locally trained counterparts to address the broader infrastructure needs to improve health care for the marginalized. Without a substantial long-term reintegration strategy or a clearly defined career trajectory that effectively uses the skill set and enthusiasm of the ELAM graduates, the potential for expanding health care to marginalized communities is not being fully realized. Many ELAM graduates are returning to Cuba for specialization or to join Cuban-funded health brigades in other countries, where infrastructure and like-minded colleagues are more readily found. Ironically, the dilemma faced by ELAM graduates may not be too different from other graduates returning from study "abroad" to a home country whose health systems do not reflect the orientation of the training country.

In this regard, strategies adopted by the MEAH programme offer potential direction. The community and province-level interactions of the initial cohort of students are being complemented by national-level interactions - with coordinators from each of the three universities building relationships with a national team that includes an academic director and senior tutors with complementary skills in ecosystem approaches to health, community development, agro-ecology and laboratory science as well as strong ties with the Latin American Social Medicine movement. 19-22 Since programme inception, the National (Ecuadorian) Steering Committee has consolidated a national

Table 3. Specific features of the two programmes categorized by the five categories of health promotion action as defined by the Ottawa Charter<sup>43</sup>

Health promotion action	ELAM	МЕАН
Build public policy for health	Builds on success of Cuban models but little direct influence on national policy (I)	Strategic partners with precedents for engagement at national and international level e.g. <i>Centro Estudios y Asesoría en Salud</i> and, more recently <i>Universidad Andina Simón Bolívar</i> (N, I)
Create supportive environments	More difficult as an individual practitioner but possible with cross-sectoral support. Depends on graduate commitment and opportunities for links (P, N)  Alumni networks (P, N)	Aiming for a culture shift towards community-university engagement in each university as well as building a national network of universities (P, L, N)
		Alumni networks (P, N)
		Links to international communities of practice in ecosystem approaches to health (I)
Strengthen community action	Precedents of Cuban system but may be difficult to translate in isolation from the political economy (N, I)	Masters research thesis projects are required to engage community partners and demonstrate community impact (P, L, N)
Develop personal skills	Sound knowledge and confidence in core clinical competency; heightened knowledge of social and environmental determinants; knowledge of building disease prevention and health promotion frameworks at the community level (P, L, I)	Skills for collaboration and intersectorality are emphasized but cross-disciplinary research can be difficult to operationalize (P, L, N)
		Emphasize on skills and value of self-directed learning may increase capacity to self-initiate for ongoing opportunities for learning and exchange (P)
Reorient health services	Cuban model is based on a culture of "health-in-the-community" and community service (P, L)	Potential for innovations based on community-university-policy alliances (L, $N$ )
	Incentives for career trajectories focused on promoting health in disadvantaged populations (L, N)	Incentives for career trajectories focused on promoting health in disadvantaged populations (L, N)

ELAM, Escuela Latinoamericana de Medicina (Latin American School of Medicine) in Cuba; I, international capacities and scale; MEAH, Masters in Ecosystem Approaches to Health; L, local capacities and scale; N, national capacities and scale; P, personal (individual) capacities of health worker.

network as a platform for future iterations of the Masters programme. This network bodes well for the integration, consolidation and sustainability of efforts, although is arguably more resource-intensive and ambitious than disaggregated programmes at each of the three universities. An indication of the deepening of national capacity is the participation of members of the emerging Ecuadorian team in the research programme of the Canadian community of practice in ecosystem approaches to health. Here Ecuadorians can offer valuable insights to international colleagues seeking to consolidate and refine strategies for teaching and research in ecosystem approaches to health.<sup>27</sup> Yet while explicit attention to a supportive and stimulating national network may offer a counter to the pressures of outmigration, programme graduates will not be immune to the factors driving migration of health workers.<sup>39–42</sup>

#### **Roles and responsibilities**

Training programmes must anticipate and respond not only to the complex health determinants in disadvantaged

communities but also factors determining the ability of the health workforce to fulfil the potential of training with this orientation. Specific features of the two programmes are summarized by the five categories of health promotion action defined by the Ottawa Charter 43 (Table 3). Here we see that these themes are as relevant for the trainees and their training environment as they are to the communities themselves. The interplay between personal, local, national and international scales is also consistent with the opportunities and challenges identified by the Bangkok Charter for Health Promotion in a Globalized World.44 The Bangkok Charter's call for critical attention to the involvement of civil society, governments and politicians at all levels, the private sector, international organizations and the public health community, highlights the imperative of training health workers capable of engaging with complex, multi-stakeholder and collaborative processes to address the determinants of health.<sup>23,45,46</sup> Designers and funders of international training programmes are therefore faced with growing responsibilities – not only to equip students to respond to the protective and destructive factors influencing health in disadvantaged populations but also to anticipate and respond to the complex, conflicting pressures (ranging from outmigration to institutional inertia) that could determine whether graduates are able to fulfil their potential to serve these populations.

#### Conclusion

Both ELAM and MEAH are doing well in preparing health professionals with the necessary skills to work within, and lead, their communities. The selection process, the curriculum and the aim of placement in marginalized communities all bode well for empowering communities to take control of their health determinants. However, little guarantee exists with either programme that graduates will return to or develop long-term sustainable solutions in their communities. In fact, our analysis suggests a need to identify the specific vulnerabilities faced by these graduates and to proactively plan to address the structural and institutional obstacles and opportunities at local and national levels in conjunction with any international training of future health workers. We would be well served to ensure that, both during and after training, health workers are able to cultivate the principles of responsibility, respect, relevance and reciprocity that are critical in responding to health issues in marginalized communities.26 The value of these considerations have not only been reinforced by the experience in Ecuador, but are now being reflected back to inform efforts to build capacity for ecosystem approaches to health in Canada and internationally.<sup>27</sup>

A starting point for this paper was the concern that the design and provision of international training assistance requires critical attention to meet the specific health needs of marginalized communities in LMICs.<sup>6</sup> We have highlighted a new range of responsibilities which we overlook at our peril. Without a firm understanding of how and with

whom health workers can reintegrate to impact their communities, graduates of capacity-building programmes, such as the two examined here, may be "lost" to broader social and economic forces. Beyond building capacities of individual trainees, we have also identified the importance of communities of practice, as well as supportive local, national and international networks. International programmes and partnerships thus have an ongoing role in developing such strategies and focusing attention to the multiple levels required to ensure that capacity building of individual trainees is not lost.

#### **Acknowledgements**

We thank the Health Disparities Research Unit at UBC (funded by the Michael Smith Foundation for Health Research), the university project coordinators in Ecuador (Ivan Villacres, U de Machala Joscelito Solano, U de Bolivar; Maria Merchan, U de Cuenca), other

members of the Ecuadorian Academic Advisory Committee (Arturo Campana, Maria Lourdes de Larrea and Marcello Cevallos) and UBC faculty and staff, (Rosamelia Andrade, Bill Black, Bill Bowie, Bonnie Henry, Eduardo Jovel, Veronica Moreno, Elena Orrego, Laurie Pearce, Alejandro Rojas, Francisco Silva and Marcello Veiga).

Funding: Canadian International Development Agency (University Partnerships in Cooperation and Development Program); Canadian Institutes of Health Research Doctoral Fellowship (Cabarcas); Canadian Institutes of Health Research Global Health Research Initiative Fellowship (Parkes); Michael Smith Foundation for Health Research; Trudeau Foundation Scholarship (Huish).

Competing interests: None declared.

#### Résumé

## Promouvoir la santé des populations marginalisées en Equateur à travers la collaboration internationale et des innovations en matière de formation

Le présent article examine deux initiatives innovantes pour former la main d'œuvre équatorienne au service de la santé publique : un programme de masters financé par le Canada sur les approches de type santé humaine et écosystème, axé sur le renforcement des moyens pour gérer durablement les risques pour la santé environnementale ; et la formation de ressortissants équatoriens à la *Escuela Latinoamericana de Medicina* de Cuba. Nous avons appliqué une typologie pour analyser comment ces programmes de formation répondent aux besoins des populations marginalisées et renforcent les capacités pour faire face aux déterminants sanitaires. Nous attirons l'attention sur certains des enseignements que nous pouvons tirer de ces programmes et notamment sur les

leçons, les obstacles, les possibilités de garantir une pérennité de ces programmes aux niveaux local, national et international et les opportunités d'appliquer des initiatives similaires dans d'autres pays et contextes. En conclusion, les efforts de formation axés sur les défis que représentent la marginalisation et les déterminants de la santé doivent non seulement viser explicitement les connaissances, les attitudes et les compétences des diplômés mais également une implication efficace dans les secteurs et les systèmes sanitaires, de manière à renforcer la mise en place et le maintien des capacités dans les pays à revenu faible à moyen, où cela est le plus nécessaire.

#### Resumen

### Promoción de la salud de poblaciones marginadas en el Ecuador mediante la colaboración internacional e innovaciones educativas

Se analizan aquí dos iniciativas innovadoras de educación de los trabajadores de salud pública en el Ecuador: un programa de máster financiado por el Canadá sobre la aplicación de una perspectiva de ecosistemas a la salud, centrado en aumentar la capacidad para gestionar los riesgos medioambientales para la salud de forma sostenible; y la formación recibida por ecuatorianos en la Escuela Latinoamericana de Medicina en Cuba. Se ha aplicado una tipología para determinar de qué manera encaran los programas de formación las necesidades de las poblaciones marginadas y cómo crean capacidad para abordar los determinantes de la salud. Se ponen de relieve algunas fórmulas que podemos aprender a partir

de esos programas en lo relativo sobre todo a las lecciones, los obstáculos y las oportunidades para garantizar su sostenibilidad en los planos local, nacional e internacional, y con miras a aplicar iniciativas similares en otros países y contextos. La conclusión es que las actividades de educación centradas en los problemas asociados a la marginación y los determinantes de la salud obligan a prestar atención expresamente no sólo a los conocimientos, actitudes y aptitudes de los titulados, sino también a la necesidad de implicar eficazmente a los contextos y sistemas sanitarios de modo que refuercen la creación y retención de capacidad en los entornos de ingresos bajos y medios allí donde más se necesite.

#### ملخص

#### تعزيز صحة السكان المستضعفين في الإكوادور من خلال التعاون الدولي والابتكارات التثقيفية

تدرس الورقة مبادرتين تثقيفيتين مبتكرتين للقوى العاملة في مجال الصحة العمومية في الإكوادور: برنامج للتأهيل للحصول على درجة الماجستير في الأساليب المتعلقة بالنظم البيئية وأثرها على الصحة وهو برنامج يركز على بناء القدرات ضمان استدامتها على المستوى المحلى والوطني والدولي ومواصلة مبادرات مشابهة في بلدان أخرى وفي بيئات أخرى. واستنتجنا أن الجهود التثقيفية التي تركز على تحدِّيات الاستضعاف وعلى المحدِّدات الصحية تتطلب اهتماماً واضحاً لا يقتصر على المعارف والمواقف والمهارات لدى المتخرجين، ولكنه متد إلى إدراجهم الفعَّال في المواقع والنظم الصحية التي ستعزز تأسيس القدرات وتعمل على استبقائها في المواقع المنخفضة والمتوسطة الدخل والتي تمس

حاجتها إلى تلك القدرات.

لإدارة المخاطر الصحية البيئية بشكل مضمون الاستمرار، ويحصل على التمويل من كندا، وتدريب الإكوادريين في كلية الطب الأمريكية اللاتينية في كوبا، وقد طبقنا نمطاً من التحليل حول كيفية تلبية البرامج التدريبية لاحتياجات السكان المستضعفين وبناء القدرات للتصدِّي للمحددات الصحية. وقد ألقينا الضوء على بعض الطرق التي يمكننا أن نتعلمها من هذه البرامج التدريبية مع إيلاء اهتمام خاص للدروس المستفادة، والحواجز والفرص التي تواجه

#### References

- The world health report 2006: working together for health. Geneva: World Health Organization; 2006.
- Vujicic M, Zurn P, Diallo K, Adams O, Dal Poz M. The role of wages in the migration of health care professionals from developing countries. Hum Resour Health 2004;2:3. doi:10.1186/1478-4491-2-3 PMID:15115549
- 3. Chen L, Evans T, Anand S, Boufford JI, Brown H, Chowdhury M, et al. Human resources for health: overcoming the crisis. Lancet 2004;364:1984-90. doi:10.1016/S0140-6736(04)17482-5 PMID:15567015
- Spiegel JM, Breilh J, Parkes MW, Bowie W, Pearce L, Yassi A. UBC's experience in building partnerships for development in Ecuador -1. From the top down: Establishing sustainable community-focused networks. In: 11th UNESCO-APEID international conference — Reinventing higher education: toward participatory and sustainable development, 12-14 December 2007, Bangkok, Thailand. Available at: http://www.unescobkk.org/fileadmin/user\_ upload/apeid/Conference/11thConference/papers/5A2\_J\_Spiegel\_et\_al.pdf [accessed on 11 March 2009].
- 5. Huish R. Going where no doctor has gone before: The role of Cuba's Latin American School of Medicine in meeting the needs of some of the world's most vulnerable populations. Public Health 2008;122:552-7. doi:10.1016/j. puhe.2008.03.001 PMID:18466937
- Beaglehole R, Dal Poz MR. Public health workforce: challenges and policy issues. Hum Resour Health 2003;1:4. doi:10.1186/1478-4491-1-4 PMID:12904251
- 7. Aday LA. Health status of vulnerable populations. Annu Rev Public Health 1994;15:487-509. doi:10.1146/annurev.pu.15.050194.002415 PMID:8054096
- 8. Breilh J. Epidemiology's role in the creation of a humane world: convergences and divergences among the schools. Soc Sci Med 1995;41:911-4. doi:10.1016/0277-9536(95)00278-F PMID:8545665
- Spiegel JM, Labonte R, Ostry A. Understanding "globalization" as a determinant of health determinants: a critical perspective. Int J Occup Environ Health 2004;10:360-7. PMID:15702749
- 10. Marmot M. Social determinants of health inequalities. Lancet 2005;365:1099-103. PMID:15781105
- 11. Lynam MJ, Cowley S. Understanding marginalization as a social determinant of health. Crit Public Health 2007;17:137-49. doi:10.1080/09581590601045907
- 12. Waters WF. Globalization and local response to epidemiological overlap in 21st century Ecuador. *Global Health* 2006;2:8. doi:10.1186/1744-8603-2-8 PMID:16712722
- 13. Country profile: Ecuador. Washington, DC: Pan American Health Organization Available from: http://www.paho.org/english/dd/ais/be\_v25n2-perfil-ecuador. htm [accessed 23 January 2009].
- 14. Cole DC, Sherwood S, Crissman C, Barrera V, Espinosa P. Pesticides and health in highland Ecuadorian potato production: assessing impacts and developing responses. Int J Occup Environ Health 2002;8:182-90. PMID:12358074

- 15. Webb J, Mainville N, Mergler D, Lucotte M, Betancourt O, Davidson R, et al. Mercury in fish-eating communities of the Andean Amazon, Napo River Valley, Ecuador. EcoHealth 2004;1 (supp.2):59-71.
- 16. San Sebastián M, Armstrong B, Stephens C. Outcomes of pregnancy among women living in the proximity of oil fields in the Amazon Basin of Ecuador. Int J Occup Environ Health 2002;8:312-9. PMID:12412848
- 17. Betancourt O, Narváez A, Roulet M. Small-scale gold mining in the Puyango River Basin, Southern Ecuador: a study of environmental impacts and human exposures. EcoHealth 2005;2:323-32. doi:10.1007/s10393-005-8462-4
- 18. Breilh J, Campana A, Hidalgo F, Sánchez D, Larrea ML, Felicita O, et al. Floriculture and the health divide: a struggle for fair and ecological flowers. In: Alternative Latin American Health Report. Quito: Latin American Health Watch; 2005. pp. 66-79.
- 19. Breilh J. Epidemiología Crítica. Buenos Aires: Lugar Editorial; 2003.
- Breilh J. Latin American critical ('social') epidemiology: new settings for an old dream. Int J Epidemiol 2008;37:745-50. PMID:18653510
- 21. Krieger N. Latin American social medicine: the guest for social justice and public health. Am J Public Health 2003;93:1989-91. doi:10.2105/ AJPH.93.12.1989 PMID:14652317
- 22. Waitzkin H, Iriart C, Estrada A, Lamadrid S. Social medicine in Latin America: productivity and dangers facing the major national groups. Lancet 2001;358:315-23. doi:10.1016/S0140-6736(01)05488-5 PMID:11498235
- 23. Forget G, Lebel J. An ecosystem approach to human health. Int J Occup Environ Health 2001;7 Supplement 2;S3-36. PMID:11387989
- 24. Brown V. Collective decision-making bridging public health, sustainability governance and environmental management. In: Soskolne C, Westra L, Kotzé LJ, Mackey B, Rees WE and Westra R, eds. Sustaining life on earth: environmental and human health through global governance. Lanham, MD: Lexington Books; 2007.
- 25. Woollard RF. Caring for a common future: medical schools' social accountability. Med Educ 2006;40:301-13. doi:10.1111/j.1365-2929.2006.02416.x PMID:16573665
- 26. Kirkness V, Barnhardt R. First Nations and higher education: The four R's - respect, relevance, reciprocity, and responsibility. J Am Indian Educ 1991:30:9-16.
- 27. A Canadian community of practice in ecosystem approaches to health with an EcoHealth training and awards program [homepage]. Available from: www. copeh-canada.org [accessed on 23 January 2009].
- 28. Huish R, Kirk JM. Cuban Medical Internationalism: the development of the Latin American School of Medicine and human-resourcebased healthcare provision. Lat Am Perspect 2007;34:77-92. doi:10.1177/0094582X07308119
- Spiegel J, Garcia M, Bonet M, Yassi A. Learning together: A Canada-Cuba research collaboration to improve the sustainable management of environmental health risks. Can J Public Health 2006;97:50-5. PMID:16512329

- 30. Yassi A. Kiellström T. de Kok T. Guidotti T. Basic environmental health. New York, NY: Oxford University Press; 2001.
- 31. Yassi A, Kjellström T, de Kok T, Guidotti T. Salud Ambiental Básica [in Spanish]. Mexico DF: PNUMA/OMS/INHEM; 2002.
- 32. Dhalla IA, Kwong JC, Streiner DL, Baddour RE, Waddell AE, Jonson IL. Characteristics of first-year students in Canadian medical schools. CMAJ 2002;166:1029-35. PMID:12002979
- 33. Prideaux D, Saunders N, Schofield K, Wing L, Gordon J, Hays R, et al. Country report: Australia. Med Educ 2001;35:495-504. doi:10.1046/j.1365-2923.2001.00947.x PMID:11328521
- 34. Schwab RG, Anderson I. Trends in indigenous participation in health sciences education: the vocational education and training sector, 1994-97. Canberra: Australian National University; 1999.
- 35. Barab SA, Duffy T. From practice fields to communities of practice [Technical report no. 1-98]. In: Jonassen D, Land S, eds. Theoretical foundations of learning environments. Bloomington, IN: Center for Research on Learning and Technology, Indiana University; 2000.
- 36. Wenger E. Communities of practice and social learning systems. *Organization* 2000;7:225-46. doi:10.1177/135050840072002
- 37. Johnson H. Communities of practice and international development. Prog Dev Stud 2007;7:277-90. doi:10.1177/146499340700700401
- 38. Huish R. Going where no doctor has gone before: the place of Cuba's Latin American School of Medicine in building health care capacity for Ecuador [PhD thesis]. Burnaby, BC: Department of Geography, Simon Fraser University.

- 39. Clark PF. Stewart JB. Clark DA. The globalization of the labour market for health-care professionals. Int Labour Rev 2006;145:37-64. doi:10.1111/ i.1564-913X.2006.tb00009.x
- 40. Cooper RA. Physician migration: a challenge for America, a challenge for the world. *J Contin Educ Health Prof* 2005;25:8-14. doi:10.1002/chp.3 PMID:16078797
- 41. Dauphinee WD. Physician migration to and from Canada: the challenge of finding the ethical and political balance between the individual's right to mobility and recruitment to underserviced communities. J Contin Educ Health Prof 2005;25:22-9. doi:10.1002/chp.5 PMID:16078799
- 42. Eckhert NL. The global pipeline: too narrow, too wide or just right? *Med Educ* 2002;36:606-13. doi:10.1046/j.1365-2923.2002.01257.x PMID:12109979
- 43. Ottawa Charter for Health Promotion. Geneva: World Health Organization; 1986.
- 44. The Bangkok Charter for Health Promotion in a Globalized World. Health Promot Int 2006;21 S1;10-4. doi:10.1093/heapro/dal046 PMID:17307952
- 45. Parkes M, Panelli R, Weinstein P. Converging paradigms for environmental health theory and practice. Environ Health Perspect 2003;111:669-75. PMID:12727592
- 46. Parkes MW, Bienen L, Breilh J, Hsu L-N, McDonald M, Patz JA, et al. All Hands on Deck: Transdisciplinary Approaches to Emerging Infectious Disease. EcoHealth 2005;2:258-72. doi:10.1007/s10393-005-8387-y