



Global Indigenous Health Research Symposium Report

Papers and Presentations: Directions and Themes in
International Indigenous Health Research 2008



University
of Victoria

Centre for Aboriginal
Health Research

Global Indigenous Health Research Symposium Report

Papers and Presentations: Directions and Themes in International Indigenous Health Research 2008

Edited by Jeff Reading, Namaste Marsden, Rachel Link,
Dinara Kurbanova and Miranda Kelly

Special thanks to Dr. Victor Neufeld, Roberta Lloyd and to the rest of the team of Canadian Coalition for Global Health Research (CCGHR) as well as to Robynne Edgar for organizing Global Indigenous Health Research Symposium.

July 23, 2008 | University of Victoria, Victoria, British Columbia, Canada

Nancy Edwards; Susanna Rance; Violeta Montellano Loreda; Ritsuko Kakuma; Philippa Bird; Mayeh Omar; Crick Lund; Alan Flisher; MHaPP Research Programme Consortium; Laura Arbour; Donald C. Cole; HortiSana Huancayo: Rossana Pacheco Armando Alfaro, Veronica Cañedo, Willy Pradel, Gordon Prain, Mary Luz Solarzano, Bronwyn Underhill; Kimberly A. Scott; Moses Mulumba; Harriet V. Kuhnlein, Bill Erasmus; Research Partners in the CINE Global Health Food Systems Project; Chantal Robillard; Mauricio Delfin; Duncan Pedersen

University of Victoria Centre for Aboriginal Health Research acknowledges the Global Indigenous Health Research Symposium co-sponsors, collaborators and co-funders



The University of Victoria Centre for Aboriginal Health Research (CAHR) is a research centre of the University of Victoria that aims to promote the health and well being of First Nations, Inuit and Métis Peoples' whose health disparities require urgent attention.

The Centre provides a physical and interdisciplinary intellectual environment for research, student training and for the generation and dissemination of basic and applied knowledge. It focuses on the strengths, challenges, opportunities and problems of Aboriginal Peoples' and the societal structures and institutions that affect them. The Centre fosters Aboriginal contributions to society through research that values First Nations, Inuit and Métis culture, community collaboration, experience and knowledge and world views.

The copyright of all papers and abstracts published within the Global Indigenous Health Research Symposium Report Papers and Presentations: Directions and Themes in International Indigenous Health Research 2008 remains with the author(s). The Centre for Aboriginal Health Research is not responsible for any statements or opinions made by the author(s).

Centre for Aboriginal Health Research
University of Victoria
PO Box 1700 STN CSC
Victoria, BC Canada
V8W 2Y2

Address for Deliveries:
Centre for Aboriginal Health Research
University of Victoria
Room 130C
3800 Finnerty Road
Victoria, BC Canada
V8P 5C2

Phone: 250-853-3115
Fax: 250-472-5450
Website: <http://cahr.uvic.ca>

ISBN 978-1-55058-406-6

Preface

A New Perspective: Global Indigenous Health Research

The goal of this book is to offer a glimpse in to the world of Global Health Research through an Indigenous Peoples population lens. This is important because Indigenous Peoples world wide are among the poorest of the poor. Consequently, Indigenous lives are often reduced with fewer opportunities to achieve optimal health and well being. This is reflected in consequent gender differences and disparities seen at each life stage. However, this is only part of the story. In the face of tremendous threats to health and well being, Indigenous Peoples consistently demonstrate tenacity and resilience, often enduring conditions which would severely challenge their dominant counterparts in society.

In the papers and research investigations described here, you will read about how researchers and communities are engaged in partnerships to understand the exceedingly complex and sensitive health concerns. The companion DVD will allow you to hear and see the presenters explaining how their work challenges the status quo and aims to improve health.

The health issues of Indigenous communities are difficult to solve as they are often embedded in a colonial history of dominance and oppression. Expanding political economies of settler societies often excluded and displaced Indigenous communities in seeking opportunities for economic development. The collision of cultural differences often neglected to understand or respect Indigenous ways of knowing in health and the diversity of factors that held promise for improvements.

Efforts to advance our knowledge in Indigenous population and public health now seek to engage communities as full partners. Such alliances will likely lead to improvements in individual and community health if researchers and their community partners use knowledge gained for strategic action. In other words, translating knowledge into action through policy, strategy and new funding for programs is critical to realizing the health dividends accrued from investments in the health research enterprise.

Herein lies the core element of the Canadian Coalition for Global Health Research's (CCGHR) Summer Institute, to quote from the website:

"In January 2004, two Tasks Groups of the CCGHR - the Research Into Action and Capacity Building - committed themselves to holding a Summer Institute. Since then the Summer Institutes have become an annual event. Each year, a Summer Institute is hosted in Canada or in a Low- or Middle-income country and brings together new and experienced global health researchers to strengthen partnerships, build capacity in translating research into action, and to nurture the next generation of global health researchers. Participants come in pairs who are working on their own research projects including a new researcher from Canada and a new researcher from a Low- or Middle-income country.

While each Summer Institute is unique, all of the Summer Institutes are problem based and interactive. The format is based on the principle that the best ways to promote learning are to connect people with a range of individuals with diverse experiences and from different disciplinary backgrounds, and to provide opportunities for participants to spend time with their research partners to apply what they had learnt to their own research projects. To date, the Summer Institutes have been a success." (CCGHR, 2009)

The 5th Summer Institute (SI-5) was held at the Quw'utsun' Cultural and Conference Centre, Cowichan Valley of Vancouver Island, British Columbia, Canada on July 16-23, 2008. Following the Institute, the University of Victoria Centre for Aboriginal Health Research held the Global Indigenous Health Research Symposium on July 23, 2008. This book integrates the research of experienced global Indigenous health researchers with that of new global Indigenous health researchers. The book contains papers based on presentations made at the symposium and abstracts from the new global Indigenous health research trainees.

In 2005, the CCGHR initiated a Task Group on Global Indigenous Health Research. For those readers less familiar with the Indigenous Peoples focus on global health research, the CCGHR was funded by the Canadian Institutes of Health Research Institute of Aboriginal Peoples' Health to commission background papers on Global Indigenous Health Research. These papers titled: Global Activities, Partnerships and Resources for Global Indigenous Health Research (Madruga-Vignudo, Bartlett, & O'Neil, 2006); Identifying Indigenous Peoples for Health Research in a Global Context: A Review of Perspectives and Challenges (Bartlett, Madriaga-Vignudo, O'Neil, & Kuhnlein, 2007); as well as the Integrated Work Plan July 2006-July 2007 Focus on Indigenous Health (Kishk Anaquot Health Research, 2006) can be found on the CCGHR website.

In conclusion, I invite you to read the papers and research abstracts. Listen to and observe the researchers as they present their stories in passionate presentations and become involved in the Indigenous Peoples struggle to improve their health and living conditions through an advanced knowledge agenda that sees Indigenous Health as a global issue.

Jeff Reading, MSc, PhD, FCAHS
Director, Centre for Aboriginal Health Research
Faculty of Human and Social Development
University of Victoria

Works Cited

- Bartlett, J., Madriaga-Vignudo, L., O'Neil, J., & Kuhnlein, H. (2007). Identifying Indigenous Peoples for Health Research in a Global Context: A Review of Perspectives and Challenges. *International Journal of Circumpolar Health*, 66(4), 287-307. Retrieved from http://www.ijch.fi/issues/664/664_Bartlett.pdf
- CCGHR (2009). Summer Institute for New Global Health Researchers Retrieved June, 2009, from http://www.ccghr.ca/default.cfm?content=si&lang=e&subnav=summer_institute
- Kishk Anaquot Health Research (2006, July). Integrated Work Plan July 2006-July 2007 Focus on Indigenous Health Retrieved June, 2009, from <http://www.ccghr.ca/default.cfm?content=indigenous&lang=e&subnav=library>
- Madruga-Vignudo, L., Bartlett, J., & O'Neil, J. (2006, August). Global Activities, Partnerships and Resources for Global Indigenous Health Research Retrieved June, 2009, from http://www.ccghr.ca/docs/Global_Indigenous_Health_Research_e.pdf

Contents

- 1 **Plenary Session Papers**
- 3 Bridging Indigenous and Global Health
Nancy Edwards, RN, PhD
- 7 Ethical Challenges of Intercultural Research
Susanna Rance, Ph.D. with Violeta Montellano Loreda
- 13 Mental Health Research in Africa: Lessons Learned
Ritsuko Kakuma, Philippa Bird, Mayeh Omar, Crick Lund, Alan Flisher and the MHaPP Research Programme Consortium
- 21 DNA on Loan: Does This Apply to the Global Health Research Context?
Laura Arbour MD, Associate Professor, UBC Medical Genetics and the Island Medical Program, University of Victoria Campus.
- 27 Andean Indigenous-Mestizo Peoples, Agro-Ecosystems & Human Health: Horticulture in Peru's Montaro Valley
Donald C. Cole, HortiSana Huancayo: Rossana Pacheco, Armando Alfaro, Veronica Cañedo, Willy Pradel, Gordon Prain, Mary Luz Solarzano, Bronwyn Underhill
- 33 Assessing the Quality of Indigenous Community Life
Kimberly A. Scott, Kishk Anaquot Health Research
- 41 Tackling Inequities in Health: Lessons from the Work of the Regional Network on Equity in Health in East and Southern Africa
Moses Mulumba, Steering Committee Member, The Regional Network for Equity in Health In East and Southern Africa
- 45 Indigenous Peoples' Food Systems: Foundations of Health in Cultures and Ecosystems
Harriet V. Kuhnlein, Ph.D., Chief Bill Erasmus, and Research Partners in the CINE Global Health Food Systems Project
- 51 Strengthening Collective Memories & Resilience in The Peruvian Andes
Chantal Robillard, Trauma & Global Health Program, McGill University; Mauricio Delfín, Realidad Visual; Duncan Pedersen, Trauma & Global Health Program, McGill University
- 57 **Presenter Biographies**
- 65 **Symposium Poster Presentations – Dyad Abstracts**

- 67 **A Participative Action Research Experience for Reducing Pesticide Use in Two Indigenous Communities in Ecuador**
Cabarcas F., University of British Columbia, CIHR awardee, IDRC-INSP awardee
Alulema R., Cuenca University, IDRC-INSP awardee
- 69 **Reducing Health Disparities and Promoting Equitable Access to Health Care for Aboriginal Peoples**
Cameron B., King M., Martial, R., Santos Salas A., & Bourque Bearskin, L.
- 71 **Exploring Protective Factors for Addictive Behaviour Among Urban Aboriginal Canadians**
Cheryl Currie, M.Sc., Daniel McKennitt, B.Sc., & Cameron Wild, Ph.D.
School of Public Health, University of Alberta
- 73 **An Ecosystem Perspective of the Process of Reinfestation by *Triatoma infestans* in Rural Communities of the Gran Chaco Ecoregion – Argentina, Bolivia, Paraguay**
Graciela Dinardi, Consultant, Centro de Estudios de Estado y Sociedad (CEDES)
Fernando De Maio, Assistant Professor, Department of Sociology and Anthropology, Simon Fraser University
- 75 **Mental Health and Mayan Indigenous Populations in Post War Guatemala**
Paula Godoy-Paiz & Victor Lopez
- 77 **Promoting Watershed and Water Source Protection Among the Indigenous Caribs of Dominica**
Karen Morrison & Martin Forde
- 79 **Three Generations of Mayan Women’s Perspectives on Reproductive Health**
Miriam Salvador, B. Ed., Graduate Studies, Universidad de San Carlos, Guatemala
Adrienne Wiebe, PhD, School of Public Health, University of Alberta
- 81 **Promoting Evidence Based Decision-Making Using Actionable Messages on Disease Control Priorities in India: A Randomized Controlled Trial**
Prabha Sati & Vijaya Laxmi Hebaare
Centre for Global Health Research, St. Michael’s Hospital, University of Toronto
- 83 **Why are Children with Cataracts Brought Late for surgery? Qualitative Findings from Tanzania**
Sylvia Shirima, Annie Bronsard & Robert Geneau
- 85 **Climate Change Impacts and Adaptations: Implications for Diet and Health**
Sonia Wesche¹, Brandon Kyikavichik², Pam Tobin¹, Laurie Chan¹

Plenary Session Papers

Bridging Indigenous and Global Health

Nancy Edwards, RN, PhD

Introduction

I am a novice in this new role as Scientific Director and still very much at the stage of learning the ropes and hearing the issues. So I was very pleased to be invited to this symposium as it provides a terrific opportunity for me to learn from you.

I believe that research is a tool for change. There is very important work that has been undertaken since the Canadian Institute for Health Research's (CIHR) establishment. Critical directions have been set. In particular, several initiatives have brought together the work of interdisciplinary teams of researchers in Indigenous and global health. Some of you have been part of those initiatives. My predecessor, John Frank, was a champion for global health research. Both the early CIHR call for research in global health and the more recent Teasdale-Corti Global Health Research Program identified Canadian teams working in partnership with international colleagues on Indigenous health issues. Jeff Reading has led various initiatives that resulted in memoranda of understanding among countries to address Indigenous health issues, the adoption of ethics guidelines for research with Aboriginal communities, and this year's Global Health Research summer institute with its focus on Aboriginal health.

There is a strong case to be made for a joint Indigenous and global health agenda as we inch towards the millennium development goals in this second UN decade of Indigenous people. Today I will offer some early reflections on bridging the work in Indigenous and global health and infusing some of these approaches into population health research. In particular, I will identify some lessons that I think the Institute of Population and Public Health might learn from the fields of global and Indigenous research.

Bridging

What do I mean by bridging? It involves bringing together the insights gained from these two fields of research, thereby creating the potential for new knowledge and its application. This bridging is eased by the convergence of values, goals and methods that characterize research efforts in the areas of Indigenous and global health. Among these are:

- An explicit aim to redress inequities, those inequalities that are unfair and unjust. A social justice orientation underlies the work.
- An intention to ensure that the ethical foundations for the work drive research partnerships, approaches and methods.
- A perspective that one source of knowledge is not dominant over another, but rather our efforts are to bring the best human know-how to complex problems; through genuine partnerships between researchers and community members, through a better understanding of how Indigenous knowledge and conventional scientific knowledge intersect.

I would like to address three issues, which highlight the commonalities and potential areas of convergence between Indigenous and global health. These concern deeply embedded determinants, policy structures that create social disadvantage and dominant sources of knowledge.

Deeply Embedded Determinants

As an increasing number of authors are describing, it is the causes of the causes that have to be addressed or as Nancy Kreiger writes, a distal determinant does not mean an unimportant determinant. Now as health researchers, we are often not very comfortable trying to address these distal determinants. They are deeply embedded, and they have historical roots. They make issues of attribution murky and troublesome. They lead us into methodologically challenging areas like ecological fallacies. Yet, it is my contention that this is where we have to head if we are truly going to address inequities. This is because long-standing structures of disadvantage are at play in creating inequities. So it follows, that if we are going to reduce inequities, we must tackle these determinants through our interventions. We must find a means to support capacity and research that moves beyond the quick fixes, and beyond interventions that exclusively tackle proximal determinants and lie within the purview of health professionals.

But there continues to be an abundance of research that tackles the proximal determinants. An intervention study to reduce childhood injuries in South Africa that was published in *Injury Prevention* is illustrative of the problem. But this is a negative example, how not to do it.

It is through venues such as this that we can begin to identify research projects that are trying to tackle more distal determinants, and learn how to co-construct interventions that might address them.

The urgency of the problems, the urgency of solutions and the need for governments to demonstrate that disparities are being reduced is unquestionable. Alongside this push however, has come a focus on vertically-oriented programs, programs that have clear accountability structures, stated goals that are necessarily confined to the disease condition that we are working to alleviate. But layer these vertical programs onto systems whose capacity is strained, where foreign aid dollars are creating a market place for health workers that encourages them to migrate not only to other countries but also to the private health care system, and you have the potential for increasing inequities.

As Gwatkin and others have reminded us, there is significant potential for higher income groups to benefit substantially more than lower income groups as a result of efforts to meet the Millennium Development Goals.

Tackling these distal determinants requires both multi-level and inter-sectoral action, that is both vertical and horizontal integration. As the World Health Organization (WHO) commission on determinants has pointed out, the key to multi-level action is coherence and this coherence is required to address inequities.

Policy Structures That Create Social Disadvantage

The next example is from the field of maternity care. For decades there have been efforts to try and reduce maternal mortality rates (MMR) by increasing the proportion of deliveries by health professionals. In lower income countries we have seen several rounds of this policy direction, dating back to the 1950s when the WHO made a strong push for all deliveries to be supported by skilled health professionals in health centres and hospitals. This led a number of countries to pass legislation making it illegal for traditional birth attendants to conduct a delivery. But, women continued to seek care where it was accessible, affordable and where the health provider was someone they trusted. The policy initiatives have largely failed. As shown in the next slide, a large segment of women living in lower income countries continue to give birth with Traditional Birth Attendants (TBA) who do not have formal

training. And if you are poor and you don't have formal education, you are much more likely to be delivered without a skilled attendant.

Similarly, in Canada, there has long been a long-standing but unwritten "policy" that Aboriginal women living in remote communities should be flown out to a hospital when 36 weeks pregnant. From the perspective of the medical community, this relocates the women to a medically safe environment in case complications arise during labour and delivery. From the perspective of the Aboriginal community, this may create a socially vulnerable situation for the woman and her family.

What such policies overlook is where women want to deliver, who they want to have with them while they are in labour, what risks are created for the woman and her birth coach when policies require women to deliver outside of their community, and what these policies do to relationships between TBAs and health professionals and between women and their family members.

Comparative studies in the fields of Indigenous and global health may help us to better understand how policy structures are creating social disadvantage and how they may be modified to reduce inequities.

Dominant Sources of Knowledge

Many forces are at work in creating dominant and subservient forms of knowledge. And this issue is rife in both Indigenous and global health fields. Somehow, in the discourse around knowledge production and evidence we have narrowed the term "evidence" to mean that knowledge which is generated by scientists. In efforts to create awareness of evidence-based approaches to practice, programs and policy, we have sometimes managed to discount other types of knowledge inputs.

This has led to interesting tensions between mainstream scientific knowledge and Indigenous knowledge. First, knowledge is not viewed as real science until scientists in the knowledge production industry get involved. Second, our application of Indigenous knowledge is at times highly selective, it is valued when it meets our end goals but may be discarded as myth, legend or story-telling when it does not.

And through this dominance of "scientific" thinking we can miss the obvious. Melodie McGrath describes the relocation of the Inuit in the north. All manner of people were consulted except the Inuit themselves. They were the only ones who really understood how the nuances of their harsh land had to be understood if one was going to survive. We have made this mistake too many times. Consultations with Indigenous peoples have to be genuine and the real connections to the ecosystem, that have been passed down by generations and have resulted in survival (what better evidence than that) have to be recognized and understood.

I think there is another dimension of this issue that has not received much attention. This concerns what is considered 1st rate versus 2nd rate evidence.

It was in Bangladesh in the 1950s when resources were scarce and oral rehydration was used for cholera victims. The randomized controlled trials (RCT) were done and they were conclusive. Health Canada decided to introduce oral rehydration solution in the North in the late 1980s but the science was not deemed good enough and a RCT had to be repeated before this was introduced in hospitals in Canada. This example illustrates a tendency for those of us in Canada to view science arising from the lower income countries as either 2nd

rate or irrelevant for our high tech system. But perhaps it is resource poor areas where the most promising innovations for system change get introduced.

What Are the Lessons For Population Health?

These bridging examples provide several key lessons for population health:

- We must continue to expand our understanding of deep underlying determinants and the social structures that create disadvantage. However, the time has come to reconsider what interventions need to be put in place to address these underlying determinants, and to debate the contributions scientists might make to understanding whether and how these interventions work.
- The inequity agenda takes us well beyond our traditional vehicles for knowledge translation. Addressing deeply embedded determinants suggests the need for important linkages not only with government but also with civil society. It also brings into question science and advocacy roles, a topic that I think gets too little debate in our graduate programs.
- We need to create venues and forums to share research that arises from Indigenous and global health research and explicitly highlight its relevance for other populations. It is time to learn from these successes and make them more prominent. We need to reach out to the research and decision-maker audiences that are not already in the global health and Indigenous fold.

Challenges

In closing, this brings me to one challenge that I hope we will have some time to discuss during the day. In Canada, it seems to me that we have come to see global research as closely tied to an agenda of development aid and therefore when resources are scarce, there is a prevailing view that our dollars for scientific research should be used to address health problems in Canada. But I see global and Indigenous research as being highly relevant for our vexing issues in Canada. I welcome your suggestions on how we can strengthen the case for Indigenous and global health research, both because we are global citizens and because we have much to learn from the innovations in thinking that are coming from these critical fields of research.

Ethical Challenges of Intercultural Research

Susanna Rance, Ph.D. with Violeta Montellano Loreda

In this presentation I shall discuss some ethical challenges that can be posed by intercultural research. I am first going to mention some basic ethical principles used internationally to guide research with human subjects. Then I am going to discuss some definitions and uses of interculturality. After that I will show you a creative application of some of these ideas by a Bolivian anthropologist, in research using photography. Finally, I am going to propose a method for using reflection and action to work on ethical issues throughout a research project.

Ethics and Politics of Research

When embarking on a study, researchers have particular agendas which may be influenced by personal, professional, academic or institutional goals. Pragmatic considerations come into play such as the finance available, the time allotted for the project, and the team to be involved. The concept we have of science will affect our ways of interacting with partners and research subjects, as will the status we give to their knowledge in relation to our own.

Following Joan Sieber's definition, research politics have to do with the methods and strategies used to gain a position of power and control. This is a different approach from ethics, which involves the application of a system of moral principles to prevent harming or wronging others (Sieber, 1993).

Carolyn Fluehr-Lobban (1994) points out that anthropologists and sociologists are by no means exempt from the need to ensure informed consent. Social science made a late entry into the field of ethics protocols, which were first developed by the disciplines of medicine and psychology following the trauma of World War II crimes against human rights and integrity, in biomedical experimentation. Guidelines promoted by the World Health Organization (CIOMS, 2002) point out that research involving human subjects, requiring ethical precautionary measures, includes "studies concerning human health-related behaviour in a variety of circumstances and environments".

Basic Ethical Principles for Research with Human Subjects

The guidelines drawn up by the Council for International Organizations of Medical Sciences (CIOMS, 2002) set out some basic principles that coincide with other international ethical frameworks. These are:

- Respect for persons, incorporating attention to people's autonomy, their self-determination, and protection for subjects in situations of vulnerability;
- Maximising the benefits of research and the welfare of those studied, and minimising harm; and
- Distributive justice, which means the equitable distribution of benefits and burdens of research, among the different parties involved in a study.

These principles provide a useful starting-point for working on ethics in research projects involving human subjects. There are, of course, different ways of interpreting and using them. A contextual or situated approach to ethics looks at their relevance case by case, rather than applying universal notions of autonomy, good, harm, and justice. All these concepts can be opened up to discussion from particular cultural standpoints.

Interculturality Debates

Regarding this last point, considering culture means going beyond the narrow framework of our research agenda, and opening up to a holistic understanding of interwoven dimensions of people's life environments, social worlds, artifacts and practices. It implies exploring the meanings that research subjects give to their lives, rather than sticking with pre-conceived notions that we may have brought to field settings.

In intercultural research, we pay attention to the relations between people and groups whose cultures enter into contact, communication, conflict, or negotiation. As researchers-human beings among other human beings- we too are involved in these relations, from our own backgrounds and standpoints. Questions of gender, sexuality and generation, socio-economic status, different capacities, ethnicity and nationality, are all relevant to the way we see and name each other in research encounters, starting with the team implementing the study.

An intercultural approach is often proposed to promote understanding among peoples and social groups with different identities and practices. However, community dialogues are sometimes used not for a genuine two-way exchange, but as a basis for evaluating local knowledge and cultural practices against certain pre-determined standards of what is considered correct, innocuous or harmful. If this occurs there may be manipulation of groups studied, giving rise to reinforcement of inequality.

While bearing in mind these problems, with some Bolivian colleagues we have developed intercultural methods to work on our own positioning and ways of communicating with others in the field (Lal, 1996; Salinas Mulder, Rance, Serrate, & Castro Condori, 2000). These methods have ethical implications, and this is what I want to illustrate now with reference to a particular anthropological study.

Constructing Photographic Self/Representations

The study I am going to mention was carried out by Violeta Montellano Loredo (2008) for her Anthropology B.A. thesis at San Andrés Public University in La Paz, Bolivia. The study was about self-representation of healers, and therapeutic systems, in Quechua and Aymara communities of the highland municipality of Aucapata. Violeta started using photography in her ethnographic field work, as an amateur activity and as a way of giving something back to her research collaborators. She became interested in using the medium in an analytic rather than illustrative way, and this took her into the field of visual anthropology.

In the central image, you can see Violeta herself behind the camera lens. The small boy who appears below said it looked "like a gun", making her think about the aggressivity of the photographic act. Another little girl, curious about the camera lens, said to Violeta: "Look at me with your eye", as through the technology were an extension of the human gaze. These two incidents led Violeta to develop a different use of photography, in which the healers she studied could orchestrate their own self-presentations, bringing more of their subjectivity into the process. This has an effect on research ethics, especially in the dimensions of autonomy and distributive justice. The third image shown here, with blurring of the

children's figures, was used by Violeta to question the notion of objectivity in photography: how far could it be said to represent "reality"?

This photograph below shows the subject's face, since he participated fully in the staging and selection of the image and knew that it would be shown publicly.

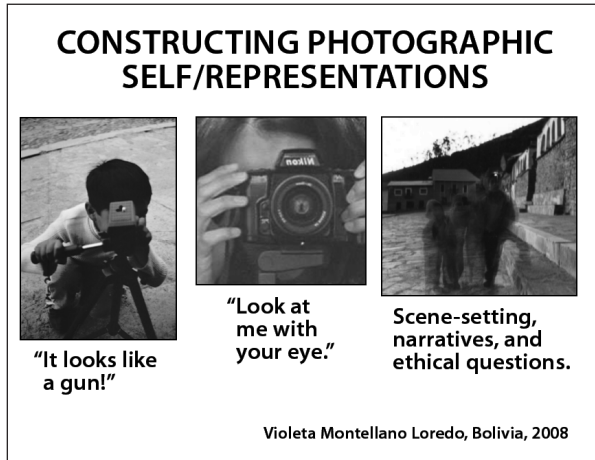
Don Manuel Chuquimia, a traditional healer, asked Violeta to take photos of him in the Catholic church of the community of Yanahuaya. For Don Manuel, religious syncretism in his therapeutic practice was clearly acknowledged.

This was not so for the priest, who told Violeta he had no idea that Quechua healing rituals were drawing on Catholic saintly figures in the church.

On choosing photographs that he allowed to be included in Violeta's thesis, Don Manuel selected this one, commenting to his wife who was present: "When I die it will still be there, see?". In this way, he alluded to the value of immortality that was signified for him by the endurance of his image in the photo.

This image has to do with work done by Violeta on composite identities, following leads given to her by research collaborators. Rather than portraying himself only, or first and foremost as a traditional healer, Don Manuel Chuquimia asked Violeta to photograph him with his son, Don Próspero, in the field with their herd of sheep. In this way, the ethic of autonomous self-representation is extended still further, through construction of visual images of the subject's different roles.

It is worth mentioning that some of the photographs that Violeta took could not be included in her thesis or in conference presentations. This was because the subjects concerned did not give their informed consent for the images to be made public. They feared spiritual harm, if people practising witchcraft obtained access to their soul by getting hold of the photo and even burning it. Violeta developed the notion of imaginary photos that could only be recounted in narrative form, and not visually presented.

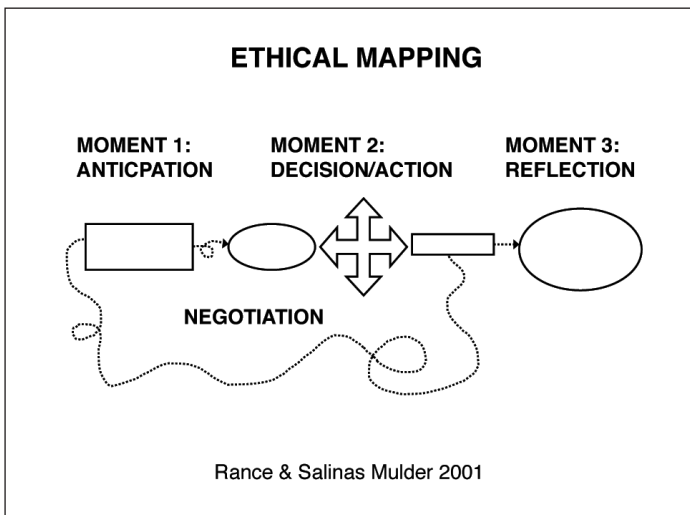


Ethical Mapping

Through these examples, I have tried to show how ethical challenges in intercultural research can be worked on in practical ways. This kind of experimentation can actually generate new methods and approaches to social science. As researchers we are not moving on an abstract plane of high ideals, but in encounters with flesh-and-blood humans, among whom we exist and construct meanings. Through these measures we try to build new kinds of research relations, against the always-present backdrop of a long and extended history of inequality and abuse in science.

With an anthropologist colleague in Bolivia, Silvia Salinas Mulder, we created a proposal I illustrate here of Ethical Mapping, an exercise that can be done by researchers individually or in teams. It consists of anticipating and sketching out the path of a research project, thinking ahead to possible dilemmas or ethical problems; identifying alternative paths of action at certain points, each of which will have pros and cons; proactively deciding to implement one of the alternatives; and reflecting afterwards on the effects of the decision taken (Rance & Salinas Mulder, 2001). Cycles of anticipation, decision and action, and reflection are repeated at different moments in the project's life.

In this way we attempt to go beyond the wall of post hoc lamentations, or always having to learn from our mistakes at others' expense. There will inevitably be errors in research, and I agree with Daphne Patai when she asks: "Is Ethical Research Possible?", and comes to a negative conclusion. Nevertheless, I also remember Patai's advice, and this is what I end with here: "Ultimately we have to make up our minds whether our research is worth doing or not, and then determine how to go about it in ways that let it best serve our stated goals" (Patai, 1991).



References

- Council for International Organizations of Medical Sciences. (2002). *International Ethical Guidelines for Biomedical Research Involving Human Subjects*. Geneva: CIOMS/World Health Organization.
- Fluehr-Lobban, C. (1994). Informed Consent in Anthropological Research: We Are Not Exempt. *Human Organization* 53(1):1-10.
- Lal, J. (1996). Situating Locations: The Politics of Self, Identity and 'Other' in Living and Writing the Text. In D. L. Wolf (ed.), *Feminist Dilemmas in Fieldwork*, pp. 185-214. Oxford: Westview Press.
- Montellano Loredó, V. (2007). 'Triste morirse ¿no?': Reflexiones sobre epistemología y ética en Antropología de la Salud. *Anales de la XXI Reunión Anual de Etnología, 23 al 26 de agosto 2007* (in press). La Paz: Museo Nacional de Etnografía y Folklore.
- Montellano Loredó, V. (2008). Imaginando cuerpos fotografiados en el Municipio de Aucapata (La Paz, Bolivia). Presentation to the VII Encounter of Students of Social Anthropology, 18th February 2008. Mexico D.F.: Escuela Nacional de Antropología e Historia (ENAH).
- Montellano Loredó, V. (2008). *Auto/representaciones de quienes se curan: Sistemas terapéuticos en el Municipio de Aucapata (Depto. La Paz, Bolivia 2006 – 7)*. Unpublished B.A. Anthropology thesis. Universidad Mayor de San Andrés, La Paz, Bolivia.
- Patai, D. (1991). U.S. Academics and Third World Women: Is Ethical Research Possible?. In S. B. Gluck & D. Patai (eds.) *Women's Words; The Feminist Practice of Oral History*, pp. 137-153. New York: Routledge.
- Rance, S. & Salinas Mulder, S. (2001). Investigando con Etica: Aportes para la Reflexión-Acción. La Paz: CIEPP/ Population Council.
- Salinas Mulder, S., Rance, S., Serrate Suárez, M. & Castro Condori, M. (2000). "Unethical ethics? Reflections on intercultural research practices", *Reproductive Health Matters* 8(15):104-112.
- Sieber, J. E. (1993). The Ethics and Politics of Sensitive Research. In C. M. Renzetti & R. M. Lee (eds.), *Researching Sensitive Topics*, pp. 14-26. Newbury Park, London, New Delhi: SAGE.

Mental Health Research in Africa: Lessons Learned

Ritsuko Kakuma, Philippa Bird, Mayeh Omar, Crick Lund, Alan Flisher and the MHaPP Research Programme Consortium

The Mental Health and Poverty Project

A research program is currently underway in Africa entitled “Mental Health and Poverty Project (MHaPP)” (August 2005 – July 2010) (Flisher, Lund, Funk, Banda, Bhana, & Doku, 2007). The purpose of this project is to develop and evaluate mental health policy in poor countries, in order to provide new knowledge regarding comprehensive multi-sectoral approaches to breaking the negative cycle of poverty and mental ill-health at the national, provincial, and district levels. The project involves a situational analysis of existing mental health policies in four countries (Ghana, South Africa, Uganda, and Zambia). The results are informing interventions to develop, implement and subsequently evaluate mental health policies and legislation that focus on making mental health care accessible to poor communities (i.e., through primary care and non-health sectors). These interventions are occurring at national, provincial and district levels. Emphasis is also to be placed on mental health promotion and providing care for those who need and can least afford it. Capacity is being built in mental health research, policy making, and service planning and delivery. The first two years were allocated for the situational analysis and the remaining three years for the intervention and evaluation phase.

The four countries were selected because they represent a variety of scenarios in mental health policy development and implementation. From a practical perspective, they were also selected because they were English-speaking countries, there existed past working relationships among investigators, and because the Ministry of Health supported the project and agreed to participate as partners in the project.

Numerous partners are involved in the Research Consortium. The Consortium’s directorship, coordination and management are based in the Department of Psychiatry and Mental Health at the University of Cape Town. As this is a research project, an investigator affiliated with a university institution in each of the four African countries was identified and recruited. Two full-time research officers were recruited for each of the countries. Partnership with the Ministries of Health in all four countries was felt to be crucial in facilitating progress with the project since much of the success of the data collection and anticipated interventions requires collaboration with the Ministry of Health. In addition, the Consortium includes three “Lead” partners, with various roles. Representatives of the Department of Mental Health and Substance Dependence of the World Health Organization play a key role in providing expertise in mental health policies and legislation. Our partners at the University of Kwazulu-Natal and Human Sciences Research Council in Durban, South Africa bring forth their knowledge on district level analysis and intervention of organization mental health services. And our colleagues at the Nuffield Centre for International Health and Development, University of Leeds, together with the University of Cape Town, have taken the lead in capacity development.

Capacity Development Activities within MHaPP

Table 1. Project Timeline and Training Activities

Milestones	Timeline	Training Activities
Start of Projewct	August 2005	
	June 2006	Training 1: Planning and Use of different data collection instruments/methods
Start of Data collection SSIs & FGD, WHO-AIMS, Checklists	August 2006	
	November 2006	Training 2: Data collection and analysis
End of data collection	March 2007	
		Training 3: Analysis and write-up
	April 2007	Capacity assessment 1: research methods and project management
Deadline for first draft of Country Report	October 2007	
	January 2008	Training 4: Academic writing, policy briefs, press releases
Standardized protocol for intervention phase	March 2008	
	May 2008	Capacity assessment 2: institutional assessment for intervention phase
Customized protocol for intervention phase		

Training activities for the project are presented in Table 1. We have run four training sessions and two capacity assessments thus far. In June 2006, a five-day workshop was held which focused on introduction to, and training in, the data collection instruments to be used to prepare for the data collection phase which commenced on August 1, 2006. Data collection instruments included the World Health Organization's Assessment Instrument for Mental Health Systems (WHO-AIMS) Version 2.2 (WHO, 2005) which assesses key components of a mental health system and thereby provides essential information to strengthen mental health systems. WHO Checklist for Mental Health Legislation and the WHO Checklist for Mental Health Policy and Plan were also utilized to assess the content of mental health legislation, policy and plans according to a number of criteria. In addition to quantitative methods, qualitative methods were also employed to provide an understanding of the processes, underlying issues and interactions between key stakeholders in mental health policy development and implementation. Semi-structured interviews and focus group discussions were therefore also carried out. The training workshop therefore focused on exercises in all of the data collection methods, how to identify key stakeholders for interviews, time management and fieldwork scheduling, interviewing skills, facilitating skills and training on the use of the digital audio tapes and accompanying software. Additionally, introduction to document analysis, qualitative data analysis and academic writing was also presented.

In November 2006, a two-day training workshop was held where the primary focus was on qualitative data analysis. As data collection was still ongoing at the time of the workshop, a short 'refresher' session was held on interviewing techniques and role play. The main focus of this workshop, however, was on translating and transcribing the data, use of the qualitative data analysis software (NVivo 7), analysis and interpretation of the data and on reporting of results.

Data collection officially ended on March 31, 2007 at which point, a five-day workshop was held in response to requests by the research officers. This workshop included in-depth sessions on qualitative data analysis, the framework approach (Lacey & Luff, 2001; Ritchie & Spencer, 1994) that was adopted for the qualitative data analysis, and on writing skills for the country report that was to be produced by October 2007. Over the course of the five days, a standardized coding framework with the flexibility to adapt to country-specific issues and a structure for writing the country reports were developed together. These were used to guide the analysis and writing phase of their work.

Once the country report was produced, the focus of the work shifted to writing various outputs including policy briefs, press releases and academic papers. As many of the research officers were unfamiliar with writing such documents, a four-day writing workshop was held in January 2008. Learning from previous workshops, a different approach was taken for this workshop. Every person participating in the workshop was expected to draft an academic paper for publication with themselves as first author. The manuscripts were to be sent to the coordinators of the workshop (Philippa Bird, Ritsuko Kakuma) one week prior to the start of the workshop so that this draft could be sent to a 'feedback partner'. Each participant was paired with another participant to provide detailed feedback on each other's papers. This allowed each person to have the opportunity to have their paper read, in detail, by someone as well as to give feedback on someone else's paper. Every effort was made to match topics. The feedback partner was from one of the other countries to get an outsider's perspective.

The topics covered in this writing workshop included: 1) approaches to writing different outputs; 2) reviewing literature and the use of Reference Manager software; 3) principles of writing (planning, writing, reviewing); 4) how to effectively read papers/assess quality of papers; and 5) providing/receiving constructive feedback. We also had an editor from the South African Medical Journal give a talk on the process of publishing a paper and what editors look for in academic papers. We protected some time every day for participants to work on their papers and we had some flexibility in the schedule to add a session upon request during the workshop. By the end of the workshop, we selected a deadline for draft two and all of the materials used, including copies of the PowerPoint presentations were provided to the participants to take home.

In addition to the various training workshops, a few capacity assessments have been carried out. In 2007, a capacity development survey was administered to all of the research officers where they were asked how comfortable they felt carrying out various tasks such as data collection, semi-structured interviews, qualitative data analysis, research coordination and management and the like. The capacity development team have also asked research officers to identify training needs. In one of the MHaPP countries, an in-depth capacity assessment was carried out during a site visit which was extremely useful. In addition to the skills necessary to carry out the research, this particular assessment focused on how well they were functioning as a team and how improvements can be made.

The MHaPP members have recently prepared the proposals for the intervention phase of the five-year project. As part of the proposal, each country was asked to also include a capacity development section where they identify training needs in implementing the intervention phase. The capacity development team will then compile the lists from all four countries and develop a plan to help meet these needs which will include online support, possible site visits, and training workshop during the annual meetings.

Ongoing remote support for the MHaPP members include monthly email correspondence and ad-hoc emails and telephone conversations with research officers to “touch base” and identify issues and needs as they emerge. For one country where there were some staff changes in early 2007, a ‘catch up’ training session was held in March 2007 for two officers to bring them up-to-speed for the April 2007 workshop. We also made a site visit to one of the countries in February 2008 where additional support for preparing the country report and academic papers was found to be useful.

Through these various activities over the first three years of the project, various lessons have been learned about how best to support and help build research capacity for the members involved in the MHaPP project.

Lessons Learned

An important consideration from the start was that there were very different levels of research and management skills across partner institutions (including both research officers as well as principle investigators). There were also significant differences in access to resources and technical assistance (onsite and online). The university libraries have different levels of access to academic journals and different access to software. Internet access also varied across sites, with some rural areas having very slow or inconsistent connections which made it difficult for some to progress with their work at the same rate as those with better access to resources. MHaPP members also varied in computer skills and English language proficiency. English was not the first language for some members which meant that some members required more time to produce reports than others. Also, it is important to keep in mind that there may be staff changes over the course of the project and that the learning that occurs from the training sessions are passed on to the next person.

Taking from the experience of the MHaPP, the workshops that worked well were those that involved active participation of all of the participants. For example, the sessions where they role played to practice interviewing skills and developed a plan for data collection strategy were effective. Workshops requiring preparation prior to the start of the sessions, such as the writing workshop where they were required to prepare a draft paper, were successful. Also, settings where the principle investigator and the research officers work closely together and have frequent and regular contact seemed to work efficiently.

Some of the lessons learned regarding how to improve the workshops were:

- **Prepare training material to use/take home.** Providing handouts of the workshop materials, including the PowerPoint presentations, were much appreciated by the participants. These materials provide a record of what was done and allows the participants to share the information with others if they so choose. It also facilitates the transitions when there are staff changes within the research group.
- **Encourage discussions.** We found that workshops worked better when the presentations were minimal and discussions among participants (among everyone or in small groups)

were encouraged. The opportunity to share experiences across countries, in particular, made for very enriching discussions.

- ***Protect time for in-depth discussion.*** We found that it is also very important to protect time for in-depth discussions. In some of the past workshops, there was not enough time to properly discuss some important issues, such as the details of the data analysis methods. The open-spaces in the writing workshop allowed some flexibility in addressing issues that arose during the course of the workshop and modify schedules to ensure that they were addressed.
- ***Tailor the workshop as much as possible.*** We also learned that to maximize participation, we should make the sessions applicable to them as much as possible. Highlighting previous work of MHaPP members and using examples of work done by MHaPP members made it easier for participants to relate to the topic at hand.
- ***Participants should be Invested.*** And as was the case with the writing workshop, each person should be invested in the workshop, with clear expected outcomes at end of the workshop and a plan for follow up, if applicable.

Some overall lessons learned to ensure good working relationships and to help support research capacity are the following:

- ***Building a trusting working relationship takes time but is critical.*** Be open-minded and acknowledge that people work differently, particularly across different cultures.
- ***Focus on the needs of both research officers and principle investigators.*** Though much of the initial focus had been towards training the research officers, we found that more recently, the principle investigators (and even our Ministry of Health partners) have also expressed interest in part participating in various training workshops.
- ***Assess both individual- and team/institution-capacity.***
- ***Explore more effective methods for inter-country communication and support.***
- ***Needs should be identified by research officers and principle investigators as much as possible.*** We should not assume, however, that this will happen, as it may not be in their usual practice to ask for help. Different cultures work differently in terms of the willingness of staff members to admit to not knowing how to carry out a task in the work setting. It is therefore important to be aware of this and try to find different approaches to try to identify such needs. It is also important to keep in mind that it is difficult to know what you do not know. Thus in the case of the MHaPP, the capacity development team has taken the responsibility in providing some guidance in such scenarios to identify training needs.
- ***Need for capacity development budget.*** It is important that sufficient budget be allocated towards capacity development activities.

Where Do We Go from Here?

We have identified a few points as our way forward to improve our support for building capacity for the intervention phase of the project.

- ***Provide more active and tailored support.*** Though training and support as a group has its place, we found that a much more tailored support for each country also has an important role in helping build capacity. It will be important for the capacity development team to

be able to identify and distinguish support that should be provided to the MHaPP team overall and those that are more appropriate to just part of the members.

- *Site visits.* As part of the tailored support, site visits are highly effective in identifying needs and in facilitating the identification of local resources. Site visits also allow for more time allotted to support individual members and discuss topics which may be necessary during the intervention phase.
- *One person per country.* We have also found that having one person be responsible for overseeing the needs for a country is highly useful. For example, one of the members of the Capacity Development team made a site visit to one of the countries two years ago and she has formed a very good relationship with the research officers there. Another person visited one of the other countries and also formed a trusting relationship with the research officers and can discuss openly many of the challenges they may be having with their work. Based on these experiences, we feel it is useful to appoint one person from the Capacity Development team for each country to be in regular email or telephone contact to discuss capacity and/or management issues. Any issues that need to be addressed openly can then be reported back to the rest of the team and managed accordingly, while more sensitive issues can be managed with discretion.
- *Implement online journal club* with key articles relevant to MHaPP. As one of the needs that have been identified by the MHaPP members is better understanding of quantitative research methods, we feel that one effective approach to provide support here is to implement a journal club where we can use articles that are directly relevant to the MHaPP project as example studies for discussion.
- *Identification of 'strengths' within each team* for sharing with others. Combining the rich collection of expertise among the MHaPP members and the concept of 'learning by doing', future workshops will involve sessions being facilitated by members other than the capacity development team. There are many members who have a lot to offer and therefore we will be providing opportunities for others to take on teaching roles. Since one of the goals of the Capacity Development team is to have MHaPP members get involved in building capacity within their own settings, we will also aim to provide opportunities for others to take leadership roles in capacity development activities.
- *Personal career advancement.* The MHaPP, from the very beginning, has been very supportive in promoting personal career development and has encouraged many of the research officers to undertake doctoral programmes with the opportunity to utilize the MHaPP data to carry out their dissertation. The MHaPP members have made efforts to facilitate this process as much as possible. Plans for a 'PhD session' where research officers can share and discuss their experiences in balancing their work and PhD time, finding funding to support their doctoral work and any other issues around individual career advancement is underway for the upcoming annual meeting in November 2008.

And finally, the Capacity Development team will be encouraging and supporting the participation of MHaPP members in local and international conferences.

Although some of the lessons may be obvious, they may be neglected because they are so obvious. This paper highlights the importance of ensuring that adequate attention be paid for capacity development activities when carrying out multi-country research projects.

Acknowledgements

The Mental Health and Poverty Project (MHaPP) is a Research Programme Consortium (RPC) funded by the UK Department for International Development (DfID)(RPC HD6 2005- 2010) for the benefit of developing countries. The views expressed are not necessarily those of DfID. RPC members include Alan J. Flisher (Director) and Crick Lund (Co-ordinator) (University of Cape Town, Republic of South Africa (RSA)); Therese Agossou, Natalie Drew, Edwige Faydi and Michelle Funk (World Health Organization); Arvin Bhana (Human Sciences Research Council, RSA); Victor Doku (Kintampo Health Research Centre, Ghana); Andrew Green and Mayeh Omar (University of Leeds, UK); Fred Kigozi (Butabika Hospital, Uganda); Martin Knapp (University of London, UK); John Mayeya (Ministry of Health, Zambia); Eva N Mulutsi (Department of Health, RSA); Sheila Zaramba Ndyanabangi (Ministry of Health, Uganda); Angela Ofori-Atta (University of Ghana); Akwasi Osei (Ghana Health Service); and Inge Petersen (University of KwaZulu-Natal, RSA).

References

- Flisher, A. J., Lund, C., Funk, M., Banda, M., Bhana, A., Doku, V., et al. (2007). Mental health policy development and implementation in four African countries. *J Health Psychology*;12(3):505-16.
- Lacey, A., Luff, D. (2001). *Trent focus for research and development in primary health care: An introduction to qualitative analysis*. Trent Focus.
- Ritchie, J., Spencer, L. (1994). Qualitative data analysis for applied policy research. In: Bryman A, Burgess RG, editors. *Analysing qualitative data*. London: Routledge.
- WHO. (2005). WHO Assessment Instrument for Mental Health Systems (AIMS) Version 2.1. Geneva: WHO.

DNA on Loan: Does This Apply to the Global Health Research Context?

Laura Arbour MD, Associate Professor, UBC Medical Genetics and the Island Medical Program, University of Victoria Campus.

In May 2007, the Canadian Institutes of Health Research (CIHR) announced the release of the *CIHR Guidelines for Health Research Involving Aboriginal People* (Canadian Institutes of Health Research). Initiated by the CIHR Institute for Aboriginal People's Health and carried out in conjunction with the CIHR Ethics Office, these guidelines were developed by a working group of twelve people, the majority Aboriginal, who were appointed for their expertise in Aboriginal health research or Aboriginal research policy. The draft guidelines were then vetted by Elders, community representatives, and Aboriginal Health Research groups throughout Canada linked through the CIHR Aboriginal Capacity and Development Research Environments (ACADRE) networks. The extensive process took more than three years from its onset until the official release. The guidelines assure that traditional knowledge is protected, that communities have an opportunity for a participatory approach to research, that capacity building within the Aboriginal community is considered, that Aboriginal communities and individuals who participate in research are appropriately acknowledged, and that data collected is protected by on-going oversight.

A participatory approach to research is not a new concept, or necessarily considered 'Canadian'. The approach promotes relevance of research which also serves to empower those involved. Although the term 'participatory action research' (PAR) was first used in the 1980s, the term 'action research' can be traced to the 1940s in the United States (Wallerstein & Duran, 2003) where it was used initially in a somewhat different context, promoting research involvement especially for stakeholders in education and other organizational settings. By the 1970s an expanded methodology was integrated as an 'emancipatory' approach. Developed more in the southern hemisphere in the 1970s in regions such as Latin America, Asia and Africa (Wallerstein & Duran, 2003), the emphasis is on empowerment and an action agenda for those in particular who may have been previously marginalized or exploited (Chambers, 1997; Hagey, 1997; Creswell, 2003). The term continues to evolve, and is now referred to, especially in the context of research involving North American Aboriginal communities as "Community Based Participatory Research (CBPR)" (Israel, Schulz, & Becker, 2001; Wallerstein & Duran, 2003). Thus, in the context of PAR or CBPR as promoted by Canadian Aboriginal communities (Inuit Tapirisat of Canada, 1993; Masuzumi & Quirk, 1993; Hagey, 1997; Macaulay, Delormier, McComber, Cross, Potvin, Paradis, Kirby, Saadhaddad, & Desrosiers, 1998; The Council of Yukon First Nations, 2000) research inquiry is not sufficient, but a participatory agenda which focuses on the needs of the community and their development is crucial to the process (Arbour & Cook, 2006). The CIHR guidelines for Aboriginal health research reflect the years of development and acceptance of a participatory approach to research in Canada and assures that health research with Aboriginal communities funded through the CIHR respects this philosophy.

Inherent to health care research is often the collection of biological samples which therefore needs to be taken into consideration in the discussion of a comprehensive approach to research protection. Should there be special considerations for biological samples obtained from Aboriginal people? Based on a series of workshops that featured International and

Canadian examples of case studies illustrating concerns about genetic research in Aboriginal communities, the CIHR Guidelines adopted the concept of “DNA on loan”. This paper will explain that concept, where it arose and argue that may also be relevant to global Indigenous health research since the concept was informed by global concerns.

In September 1996, the first International Conference on DNA Sampling and Banking was held in Montreal, Quebec. This conference was met by high profile protests by Canadian and international Indigenous people who had particular concerns about the then developing Human Genome Diversity Project (HGDP) which aimed to sample global Indigenous peoples to better understand the ancestral origins and migration patterns of people worldwide (Lyttle, 1997). Although the HGDP was anthropological research and not genetic health research, the borders of the types of research have often blurred with general Indigenous concerns of all types of genetic research. The concerns are broad, citing lack of involvement of the community in the planning of projects, insensitivity to cultural beliefs, potential stigma of research results, lack of feed-back to the community once a project is completed, commercial ownership of DNA, and overall impressions of exploitation of the communities as reasons why genetic research was and may be still unwelcome (Dodson, 1998; Wallace, 1998; Chang & Lowenthal, 2001; Cranley Glass & Kaufert, 2001; 2002; Olsen, 2002). Further concern over the potential uses of stored DNA and cell lines of Aboriginal groups for unauthorized research has been raised by high profile Aboriginal organizations (Indigenous Peoples Council on Biocolonialism, ; Thomas). In Canada, blood drawn for arthritis research on more than 800 people of the Nuu-chah-nulth First Nations in British Columbia was instead used to establish migrational origins. In this case, anthropological research was carried out instead of the health research originally consented to (Ward, Frazier, Dew, & Paabo, 1991; Atkins, Reuffel, Roddy, Platts, Robinson, & Ward, 1998; Wiwchar, 2000; Dalton, 2002). South of the border, the Havasupai of Arizona, also brought to world attention their view of an ethical offense that was committed when blood drawn presumably for diabetes research was then used for schizophrenia and other types of population genetics research (Dalton, 2004).

Examples such as these were used as case studies for a series of consultative workshops that were held to explore widespread concerns about carrying out genetic research with Aboriginal communities. Although a total of five nationally funded workshops were held over a period of three years, two CIHR workshops explored more specifically the cultural issues surrounding use of biological samples when health research was being carried out with Aboriginal people. These were entitled, “An exploratory workshop on a tribal controlled DNA bank, part 1 and part 2”, held in Vancouver and Tofino British Columbia in August of 2001 and January of 2002. The cultural significance of ‘blood’ was discussed from a Native Hawaiian’s, a Canadian Dene First Nation’s, and a Pueblo Indian’s traditional perspective. Although the stories were different, common themes expressing the traditional, cultural and spiritual significance of ‘blood’ were integral aspects of the exploration of the biological matter. The words of Dr. Frank Dukupoo, a Native American geneticist, *“To us, any part of ourselves is sacred. Scientists say it’s just DNA. For an Indian, it’s not just DNA, it’s part of a person, it is sacred, with deep religious significance. It is part of the essence of a person.”* Interview, San Francisco Chronicle, 1998 (Harry, Howard, & Shelton) illustrated the sentiment broadly.

Intertwined with the spiritual context of blood, or other biological samples, was the importance of self determination when information is derived from research involving Aboriginal people. The concept of participatory research is incomplete without the consideration of the use of biological samples. Although it has become widely accepted

that the Indigenous individual or community have the proprietary rights over data and traditional knowledge, it became apparent in our discussions that the use of DNA or other biological samples should also be considered in the same way. The concept of “DNA on Loan” extends the participatory philosophy of research carried out with Aboriginal peoples to include the biological samples. That is, as long as the biological sample is in existence the individual, family or community should have the opportunity to participate in decisions about subsequent use. The concept counters western scientific practices of biological samples often considered by the researcher as a gift and then utilized to build archives for further research. Rather the concept requires that the ownership continues to lie with the donor. The concept does not object to stewardship by the researcher, but requires the understanding that the biological sample is ‘loaned’ for the purpose of the research. As with all other aspects of participatory research, consultation needs to accompany changes in research protocol which would now include the use of the biological samples. As long as the DNA exists, it continues to exist as a loan to the researcher.

The Canadian concept of ‘DNA on loan’ was informed by an international movement that protested against dominant culture control of the research process, and sought to assure that Indigenous people played a role in deciding what research on them should be done and how the research results would be used. This movement, imbedded into objections on ‘biopiracy’, also included the proprietary rights of traditional knowledge about land and plants, illustrated by the San Bushmen of Southern Africa who took control of a lucrative pharmaceutical company development of a traditional plant, Hoodia which has appetite suppressant and energy boosting properties (BBC News World). The success of the San Bushman to ultimately control the research and enjoy the monetary benefits that arose from their traditional knowledge was presented by their lawyer at the African Human Genome initiative in Stellenbosch, South Africa in March 2003. The Canadian concept of ‘DNA on loan’ was considered in the same session on Indigenous rights over research, which was the common theme.

The importance of international Indigenous rights over research, is one with a historical, economical, traditional and cultural basis. Although Indigenous peoples around the world have varying abilities or desires to exercise their collective rights over research, globally, it is possible the concept of ‘DNA on Loan’ as adopted by the CIHR might apply.

Acknowledgements

I would like to acknowledge Doris Cook, who is a co-author of an article by the same name which is the basis for much of this discussion. Doris Cook was the lead on the *CIHR Guidelines for Health Research Involving Aboriginal People*. Prior to the CIHR Guidelines, a number of people helped to inform the DNA on Loan concept. Workshop participants such as Kathleen Glass, Joe Kaufert, Laura Commanda, Barney Masuzumi, Merv Tano, Frwancine Romero, Darlene Watts, Larry Baird, numerous community members and Aboriginal organization leaders. Jeff Reading led the CIHR Institute of Aboriginal People’s Health mandate to assure research carried out with Canadian Aboriginal peoples would be done in a way that was protective and enabling.

References

- Arbour, L. & Cook, D. (2006). *DNA on loan: Issues to consider when carrying out genetic research with Aboriginal families and communities*. *Community Genetics*. 9: 153-160.
- Atkins, C., Reuffel, L., Roddy, J., Platts, M., Robinson, H. & Ward, R. (1998). *Rheumatic disease in the Nuu-Chah-Nulth native Indians of the Pacific Northwest*. *Journal of Rheumatology*. 5(4): 684-690.
- BBC News World. (Last Updated: 2003, March 24). *South African bushmen hail drug deal: South Africa's Indigenous San peoples have signed a deal ensuring they will profit from a diet drug being developed from a plant they have used for generations*. BBC press office, London. (Retrieved October, 2008); available from <http://news.bbc.co.uk/2/hi/africa/2883087.stm>.
- Canadian Institutes of Health Research. (Last Updated: 2007, June 28). *CIHR Guidelines for Health Research Involving Aboriginal People*. Government of Canada Ottawa, ON (Retrieved October, 2008); available from <http://www.cihr-irsc.gc.ca/e/29134.html>.
- Chambers, R. (1997). *Learning to learn. In Whose reality counts?: Putting the last first*. Intermediate Technology Publications London: 106-109.
- Chang, M. & Lowenthal, P. (2001). *Genetic research and the vulnerability of Native Hawaiians*. *Public Health Dialogue*. 8(2): 364-367.
- Cranley Glass, K. & Kaufert, J. (2001). *Research involving Aboriginal individuals and communities: Genetics as a focus*. Proceedings of a Workshop of the Consent Committee. The National Council on Ethics in Human Research (NCEHR). Nov 19-21, 1999.
- Cranley Glass, K. & Kaufert, J. (2002). *Continuing the dialogue: Genetic research with Aboriginal individuals and communities*. Proceedings of a workshop. Canadian Commission for the United Nations Educational, Scientific and Cultural Organization (UNESCO), Health Canada and the National Council on Ethics in Human Research. January 26-27, 2001.
- Creswell, J. (2003). A frame work for design. In *Research design: Qualitative, quantitative, and mixed methods approaches*. 2nd Edition. Thousand Oaks, Sage, CA: 9-11.
- Dalton, R. (2002). *Tribe blasts 'exploitation' of blood samples*. *Nature*. 420(6912): 111.
- Dalton, R. (2004). *When two tribes go to war*. *Nature*. 430(6999): 500-502.
- Dodson, M. (1998). *Indigenous Peoples and the morality of the Human Genome Diversity Project*. *Journal of Medical Ethics*. 25: 204-208.
- Hagey, R. (1997). Guest editorial: *The use and abuse of participatory action research*. *Chronic Diseases in Canada*. 18(1): 1-4.
- Harry, D., Howard, S. & Shelton, B. (Last Updated: 2001, September). *Indigenous People, Genes and Genetics: What Indigenous People Should know about biocolonialism; A Primer and Resource Guide of the Indigenous Peoples Council on Biocolonialism*, Nevada, 2000. Indigenous Peoples Council on Biocolonialism, Nixon, Nevada. (Retrieved October, 2008); available from <http://www.ipcb.org/publications/primers/index.html>.
- Indigenous Peoples Council on Biocolonialism. (Last Updated: 2001, September). *Welcome to the website of the Indigenous Peoples Council on Biocolonialism (IPCB)*. Indigenous Peoples Council on Biocolonialism, Nixon, Nevada. (Retrieved October, 2008); available from www.ipcb.org.

- Inuit Tapirisat of Canada. (1993). *Negotiating research relationships in the North: A background paper for a workshop on guidelines for responsible research.*
- Israel, B., Schulz, A., & Becker, A. (2001). *Community based participatory research: policy recommendations for promoting a partnership approach in health research.* Education for Health: Change in Learning & Practice. 14(2): 182-197.
- Lyttle, J. (1997). *Issues concerning ethical conduct and genetic mapping raised at Montreal meeting.* Canadian Medical Association Journal. 156(3): 411-412.
- Macaulay, A., Delormier, T., McComber, A., Cross, E., Potvin, L., Paradis, G, et al. (1998). *Participatory research with native community of Kahnawake creates innovative code of research ethics.* Canadian Journal of Public Health. 89(2): 105-108.
- Masuzumi, B. & Quirk, S. (1993). *Dene tracking: A participatory research process for Dene / Metis communities: Exploring community-based research concerns for Aboriginal Northerners.* Yellowknife: Dene Nation.
- Olsen, S. (2002). *The burden of knowledge Native Americans and the Human Genome Diversity Project.* In Mapping human history: Discovering the past through our genes (pp. 208-222). Houghton Mifflin: New York, NY.
- The Council of Yukon First Nations. (2000). *Traditional knowledge research guidelines: A guide for researchers in the Yukon.*
- Thomas N. (Last Updated: 2008). *The People's Paths (North American Indian and Indigenous People).* Alpena, MI. (Retrieved October, 2008); available from <http://www.thepeoplespaths.net/mainindex.html>.
- Wallace, R. (1998) *The human genome diversity project: medical benefits versus ethical concerns.* Molecular Medicine Today. 4(2): 59-62.
- Wallerstein, N. & Duran, B. (2003). *The conceptual, historical and practice based roots of community based participatory research and related participatory traditions.* In M. Minkler & N. Wallerstein, Community based participatory research for health (pp. 27-52). Josey-Bass: San Francisco, CA.
- Ward, R., Frazier, B., Dew, K. & Paabo, S. (1991). *Extensive mitochondrial diversity within a single Amerindian tribe.* Proceedings of the National Academy of Sciences. 88: 8720-8724.
- Wiwchar, D. (2000). *Bad blood.* Ha-Shilth-Sa. 27(19): 21.

Andean Indigenous-Mestizo Peoples, Agro-Ecosystems & Human Health: Horticulture in Peru's Montaro Valley

Donald C. Cole, HortiSana Huancayo: Rossana Pacheco, Armando Alfaro, Veronica Cañedo, Willy Pradel, Gordon Prain, Mary Luz Solarzano, Bronwyn Underhill

Rationale

Environment and health relationships have become an increasingly important topic for Indigenous peoples, as incursions by development forces and global climate change affect their livelihoods and their health. In 2004, participants in a United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the United Nations (UN) Permanent Secretariat for Indigenous Peoples organized workshop recommended: "All relevant actors are urged to adopt targeted policies, programs, projects and budgets for Indigenous health problems in strong partnership with Indigenous peoples ... [including as one priority area] 3) environmental degradation that adversely affects the health of Indigenous peoples, including ... contamination of water and other natural resources" (Stephens, Porter, Nettleton, & Willis, 2006). Within the ecohealth research community, researchers have argued for "a special focus on Indigenous perspectives on ecosystem sustainability and health" including the publication of an issue of *EcoHealth* that argues that "Indigenous peoples...be respectfully included as part of the emerging ecohealth community" (Stephens, Parkes, & Chang, 2007).

Among the important areas of environment, livelihood and health relationships is that between agriculture and human health (IFPRI, 2006). Research conducted among Indigenous and Mestizo people's in the Latin American Andes has documented substantial use of external inputs, including highly hazardous and mutagenic pesticides with results of poisonings and neurotoxicity (Sherwood, Cole, Crissman, & Paredes, 2005). Intensive horticultural operations are primarily oriented towards market sale, so small farm households tend to purchase more food resulting in more pre-school children with inadequate protein and essential vitamin intakes (Orozco, Cole, Muñoz, Altamirano, Wanigaratne, Espinosa, & Muñoz, 2007). Exemplifying the complex interactions among current agricultural production approaches, environmental degradation, and nutrition and health (Von Braun, 1997), such activity is part of a broader problem of "cultivating crisis" (Murray, 1994) and violation of human rights through inadvertent poisonings in Indigenous communities associated with highly hazardous pesticides (Rosenthal, 2003).

HortiSana Project

One way of situating the relevant input and marketing rural-urban links involved in intensive agricultural production (Von Braun, 2007) is that around metropolitan regions. These include the rural and peri-urban areas closely connected through a multitude of economic, social and ecological interactions with larger urban centers (Tacoli, 1998). In scaling up from action-research in a few communities (Sherwood et al., 2005), we decided to focus on promoting healthy horticultural systems (HortiSana) in three metropolitan regions.

Initiated in 2007 (to 2010), HortiSana's purpose is "To shift policies, programs and practices among actors in intensive cool-weather horticultural systems towards greater sustainability, reduced environmental impacts, better livelihoods, and improved health of children, women and men constituting small farm households in the central Andes."

The International Potato Center (CIP) has a research station in the Montaro valley and a long history of excellent collaboration with potato-producing communities (e.g. through documentation of traditional potato and tuber varieties that continue to be grown for cultural and survival reasons) (de Haan, Bonierbale, Ghislain, Núñez, & Trujillo, 2007). Increasingly, vegetable production for local, regional and national markets has displaced potato production on the valley floor. The regional government was interested in promoting horticulture, drawing on regional biodiversity and the millennial history of agriculture and trade across eco-zones (Mayer, 2002). HortiSana has built on CIP's relationships with valley stakeholders and forged new alliances with farmer organizations, non-governmental organizations (NGOs), and municipalities interested in more sustainable approaches to horticultural production.

Data Production

Initial sensitization sessions with communities and organizations were followed by group interviews and characterization workshops with community members (between about 6 to 18 people per session, most commonly women). In the latter, we sought to better understand the livelihood context of small farm households, drawing on general work on sustainable livelihoods (Scoones, 1998), recognizing their likely diversity in makeup and income streams (Bebbington, 1999; Ellis, 2000), and being sensitive to the long history of oppressive conditions that Andean Indigenous peasants have experienced but their remarkable resilience in working with and caring for the land (Mayer, 2002). We asked about links between livelihood-related information on assets and vulnerabilities to health problems experienced (Hortisana, CIP-Huancayo 2007, 2008 a&c). In two communities we supplemented the information from these sessions with interviews on dietary diversity and food security (Underhill, 2008). Finally, we held a joint session with organizational representatives and decision makers to share our preliminary findings and assess interest in different policy approaches and change options (Hortisana, CIP-Huancayo 2008b).

Preliminary Findings

Crop cultivation, livestock and daily wages were each important contributors to household income streams, followed by crafts or small business and remittances from migrant members of their extended households. Given the focus of the project, vegetables and herbs were the crops most commonly cultivated but most communities also sold some of their maize-corn and potatoes. Other crops sold were wheat, peas, and beans. Given the seasonality of most rain-fed crops, irrigated vegetable and herb production provided a more continuous stream of cash income to small farm households.

The ranking of crops for consumption was different: potato and maize-corn, traditional Indigenous crops, were by far the most important, with wheat, beans, barley, vegetables, peas, and other traditional Andean grains and tubers following. Periods of relative scarcity for potatoes varied across the communities, linked to their microclimates and access to irrigation. Maize-corn could be more easily preserved dried, while vegetables remained available all year round due to relatively continuous production. Every family ate potatoes and other traditional Andean tubers (olluco, mashua, oca) daily. As one farmer said: "Papa

es principal, si no hay papa no te llenas.” [potato is the most important, without potatoes one isn’t full]. In the two selected communities, most households produced some of the potatoes that they consumed, while fats/oils and sugars were mostly purchased. Interestingly, although Quaker Oats with milk was a common breakfast grain, many families still ate some traditional grains (e.g. quinoa and kiwicha) or roots (e.g. maca and machka) for breakfast. Overall, more “ecologic” or “organic” farmer households and conventional commercial farmers were classified as household food “secure” (FANTA scale). Poorer intermediate farmers reported mild food insecurity. Concerns about limited control over the prices received for their crops, at the same time that food prices for purchased foods were increasing meant that most households remained uncertain about future food security.

In terms of health problems (human capital), pain in the back/waist was very common, consistent with the hard physical labour, with substantial forward bending that most farmers engage in during agricultural work. Yet they also reported a more general body pain, which would also be consistent with the physical expressions of mental distress expressed by survivors of the “troubles” or politically motivated violence widespread in highland Peru into the mid-1990s (Robillard & Delfin, 2008). Stomach upsets and respiratory problems (bronchitis, asthma, and “resfrío/gripe”) were also common, as were various urinary complaints (prostatitis) and arthritis/rheumatism/osteoporosis. Participants cited particularly health impacts of pesticides, including skin rashes, headaches and diarrhea in the short term. They worried that stomach cancer, common in the region, might be linked to historical pesticide use, which included organochlorines (Arica, Yanggen, Kroschel, Forbes, & Saint Pere, 2005).

In terms of natural and physical capital, participants spoke about the small land area available for each household and the impoverished soils associated with continuous, intensive cropping. Either more fertilizer is needed or more application and care for the soil with organic matter is required, including the use of organic wastes from urban areas. The diversity of crops and other vegetation, particularly in some areas, is also a real asset in some communities. Water quality is a key concern for those communities drawing from the Montaro river because of its longstanding contamination by mining wastes further up the watershed [metal levels were sufficiently high to block exportation of artichokes irrigated with this water]. Water quantity is also a challenge for those not part of irrigation organizations, particularly with decreasing tree cover and more erratic rain fall, although some communities have plentiful supplies of fresh stream water from the highlands. Irrigation canals are often littered with garbage, including waste pesticide containers, and are even blocked. Better management of drinking, irrigation, and waste water are also possible. Important for farmers are roads, and many complained of disrepair impacting on transport to markets.

Market conditions were mixed. Small farmers reported being discriminated against and mistreated both by middlemen and some municipal authorities. Of concern were the increasing costs and variable quality of inputs (e.g. adulterated fertilizer and pesticides).

Competition with production from other zones (Lima) with crops of better appearance, the lack of quality seed production locally [although carrot seed replication had been piloted at the local research station] and limited access to credit because of unclear land title were all viewed as constraints. On the other hand, some farmers noted the increasing demand for “healthy” produce, the growth of “bioferias” or organic markets promoted by NGOs and municipalities, and the stability possible in “ecologic” agriculture, which requires fewer purchased inputs and appears to obtain more stable sale prices.

At the policy workshop, stakeholders spoke to some key concepts that are important for moving the horticultural system in the region towards healthy and sustainable ideals (HortiSana, CIP-Huancayo 2008b). Although native or traditional crops may be less preferred by city consumers, they emphasized their cultural, nutritional and ecological value, in keeping with other work by global health research teams on food diversity linked to ancestral Indigenous food traditions (Kuhnlein, 2008). Stakeholders argued the importance of retaining the customs and values associated with use of traditional foods, for both producers and consumers. They also make reference to the ideal of greater food sovereignty arguing that “much of the needed inputs for healthy production are present in our region (quality seeds, organic wastes and fertilizers, knowledge among NGOs and farmers) so it isn’t necessary to seek out artificial inputs, transgenic seeds, or the like but rather take advantage of what we have ourselves”.

Directions

In addition to developing indicators of healthy and sustainable horticultural production with partners and communities, using these data, existing secondary data and survey results (analysis underway), we are implementing interventions that earlier work has shown can bring about changes. Farmers, agricultural extension agents, health professionals, and municipal actors can work together to generate useful information, learned from each other and jointly plan interventions (Orozco & Cole, 2006). Community based interventions, including women’s groups and farmer field schools (FFS), have resulted in greater agro-ecosystem understanding (Sherwood, Nelson, Thiele, & Ortiz, 2000; Sherwood et al., 2005), better pesticide-related practices (Thiele, 1998), and a reduction of pesticide use with significant improvements in farm member health and family recognition of better social relations and healthier crops (Cole, Sherwood, Paredes, Sanin, Chrissman, Espinosa, & Muñoz, 2007).

Acknowledgements

People, organizations and institutions of the Montaro valley participating in the project. Colleagues who are part of the broader investigator team (Charles Crissman, Greg Forbes, Jurgen Kroetzel, Fadya Orozco, Oscar Ortiz, Graham Thiele). International Potato Center, Lima, Peru for hosting the project. Canadian International Development Agency (CIDA) and International Development Research Centre (IDRC) (File 104317) for funding.

References

- Arica, D., Yanggen, D., Kroschel, J., Forbes, G. & Saint Pere, K. (2005). *Plaguicidas Contaminantes Orgánicos Persistentes y Altamente Tóxicos En Perú*. Lima, Peru: CIP Nov 2005, 48 pp.
- Bebbington, A. (1999). *Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty*. *World Development* ; Vol. 27, No. 12: pp. 2021-2044.
- Cole, D. C., Sherwood, S., Paredes, M., Sanin, L. H., Crissman, C., Espinosa, P. & Muñoz, F. (2007). Reversing pesticide neurotoxic effects in farm households. *Int J Occ Environ Health*; Jul/Sep13:281–289. Available at www.ijoh.com.
- de Haan, S., Bonierbale, M., Ghislain, M., Núñez, J. & Trujillo, G. *Indigenous Biosystematics of Andean Potatoes: Folk Taxonomy, Descriptors, and Nomenclature*. VI International Solanaceae Conference :Genomics Meets Biodiversity. *Acta Hort* June, 2007 (ISHS) 745:89-134 http://www.actahort.org/books/745/745_4.htm.
- Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*. Oxford University Press. xiv, 273 p.
- HortiSana, CIP-Huancayo. Informe de Resultados Talleres de Diagnostico, Asca – Pucara. 27 de Noviembre del 2007. 34 pp.
- HortiSana, CIP-Huancayo. Informe de Resultados Talleres de Diagnostico, Carhuapaccha – Chupuro. 07 y 27 de febrero del 2008(a). 46 pp.
- HortiSana, CIP-Huancayo. Fortaleciendo la Horticultura Sana en el Sur del Valle del Mantaro. Memoria del 1° Reunión de Alcaldes. 5 de marzo de 2008(b).
- HortiSana, CIP-Huancayo. Resultados Iniciales del Diagnostico. Rol de la producción, comercialización y consumo de las hortalizas en la vida de las familias en el sur del Mantaro. Mar 2008(c). 17 pp.
- International Food Policy Research Institute (IFPRI). *Understanding the links between agriculture and health*. International Food Policy Research Institute 2006. Focus 13, Brief 8 -16.
- Kuhnlein, H. (2008). *Indigenous Peoples' Food Systems: Foundations of Health in Cultures and Ecosystem*. Presentation at IGHR symposium 2008.
- Mayer, E. (2002). *The Articulated Peasant: household economies in the Andes*. Boulder, Colorado, USA: Westview Press, c2002. xvii, 390 p.
- Murray, D. L. (1994). *Cultivating Crisis: the human cost of pesticides in Latin America*. Austin, Texas, USA: University of Texas Press, 177 p.
- Orozco, F. & Cole, D. C. (2006). representando actores del Centro Internacional de la Papa, Universidad de Toronto, Plataformas Agrícolas de Productores de Papa, Chimborazo y Tungurahua, Municipios de Quero y San Gabriel, Direcciones Provinciales de Salud de Chimborazo y Carchi. *Salud Humana y Cambios En La Produccion Tecnologica De La Papa*. Presentation at XXX Congreso Mundial De Salud Publica, Rio De Janeiro, August 2006.

Orozco, F., Cole, D. C., Muñoz, V., Altamirano, A., Wanigaratne, S., Espinosa, P. & Muñoz, F. (2007). Relationship among production systems, pre-school nutritional status and pesticide – related toxicity in seven Ecuadorian communities – a multi-case study approach. *Food and Nutrition Bulletin*; 28 (2, supplement): S247-257.

Robillard, C. & Delfin, M. (2008). *Rebuilding collective memories and resilience in the Peruvian Andes*. Presentation at IGHR symposium 2008.

Rosenthal, E. (2003). The tragedy of Taucamarca: a human rights perspective on the pesticide poisoning deaths of 4 children in the Peruvian Andes. *Int J Occ Environ Health*; 9(1):53-8.

Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis. IDS Working Paper No. 72.

Sherwood, S., Nelson, R. J., Thiele, G. & Ortiz, O. (2000). Farmer field schools for ecological potato production in the Andes. *ILEIA Newsletter* : December; 24-25.

Sherwood, S., Cole, D. C., Crissman, C. & Paredes, M. (2005). From pesticides to people: improving ecosystem health in the northern Andes. Chapter 9 In: Pretty J (ed). *The Pesticide Detox*. London, UK: Earthscan; 147-164 pp.

Stephens, C., Porter, J., Nettleton, C. & Willis, R. (2006). Indigenous Health 4: Disappearing, displaced, and undervalued: a call to action for Indigenous health worldwide. *Lancet*; 367: 2019–28.

Stephens, C., Parkes, M. W., & Chang, H. (2007). Indigenous Perspectives on Ecosystem Sustainability and Health. *EcoHealth* 4, 369–370, DOI: 10.1007/s10393-007-0140-2.

Tacoli, C. (1998). *Bridging the divide: rural-urban interactions and livelihood strategies*. Gatekeeper series No. 77, IIED, London, UK. pp 3 – 20.

Thiele, G., Navia, O. & Fernandez Northcote, E. N. (1998). Economic analysis of the strategy for chemical control of late blight (*Phytophthora infestans*) In susceptible potato cultivars in Cochabamba, Bolivia. *Fitopatologia* 33: 176-181.

Underhill, B. I. (2008). *Seguridad Alimentaria en Chupuro y Chupaca, Junín, Perú*. CIP – HortiSana. 30 de mayo 2008. 16 pp.

Von Braun J. (1997). The links between agricultural growth, environmental degradation, and nutrition and health: implications for policy and research. In S. Vosti, & T. Reardon (eds.). *Sustainability, Growth and Poverty Alleviation. A Policy and Agroecological Perspective*. Baltimore, Maryland, USA and London UK: John Hopkins University Press and International Food Policy Research Institute. pp 66-78.

Von Braun, J. (2007). Rural-Urban Linkages for Growth, Employment, and Poverty Reduction. International Food Policy Research Institute, Washington, D.C., USA. Ethiopian Economic Association Fifth International Conference on the Ethiopian Economy June 7–9, 2007. United Nations Conference Center, Addis Ababa Keynote, Plenary Session I.

Assessing the Quality of Indigenous Community Life

Kimberly A. Scott, Kishk Anaquot Health Research

Introduction

This work is open ended and exploratory in nature, an appreciative inquiry that seeks promise in First Nations communities; whatever makes them most alive, most effective, and most constructively capable in human, ecological and economic terms. The primary intent is to generate hypotheses, questions and guide future research that will *strengthen* First Nation's capacity to apprehend, anticipate, and heighten positive potential in a way that inspires imagination and discovery rather than spiraling diagnosis.

The inquiry is focused primarily on the perspectives of a purposeful sample of recognized and respected First Nation's leadership from a variety of regions and professional backgrounds regarding what they consider to be 'successful' community. 'Successful community' is defined as a collection of people in social relationship with one another or with some basis of commonality that attain their desired outcomes whatever those outcomes might be. Adapted from the international healthy cities/healthy communities movement a 'successful community' might also be envisioned as:

" . . . one that is continually creating and improving those physical and social environments and strengthening those community resources which enable people to mutually support each other in performing all the functions of life and achieving their maximum potential." (Hancock, 1993)

Thus, implicit in this definition is the emphasis on *process*. In other words, a 'successful community' may not necessarily be one with the highest incomes or health status but one that is conscious of health and wealth, that is continually striving to be healthier and wealthier and takes health and wealth into account when making decisions or policy at the local level.

It is clear that much has been written about measuring the quality of human life or well-being. The intent of this work is not to duplicate or summarize these efforts but to cull through material deemed most relevant to an emerging conceptual framework for the assessment of the quality of Indigenous community life. Before introducing an emerging conceptual framework for the measurement of the quality of Indigenous community life, it is important to note that First Nations communities have been idealized as homogeneous sites of social consensus when in reality they have the same degree of plurality as any other community. Their notions of success, much like everything else varies. Therefore, these broad categories must be taken in stride, adapted and used with the intent of further exploration and refinement based upon unique regional or community priorities. From our interviews with this selected sample of Indigenous leadership, three major themes emerged.

Relationship - the extent to which individuals and groups engage in social action that recognizes their roles and responsibilities to each other, the family, group or society. Successful community living meant that individual obligations to provide, nurture, teach, guard, create or guide were being fulfilled by those charged with such roles. Relationship with the natural world was included here.

Institutional completeness - this term refers to systems and processes both *formal* and *informal* created to meet human needs for survival and expression. Responses under this category most commonly referred to localized access to goods and services as well as the quality or functioning of such systems.

Leadership - the ability of an individual or governing body to influence, motivate, and enable others to contribute toward the efficacy and success of the group to which they are members.

These categories should not be construed as mutually exclusive because families and governance structures could arguably be ‘institutions’ and from a First Nation’s world view, both institutions and governance structures are manifestations of relationship.

In any case, several points of convergence between this purposeful sample of Indigenous leadership and the literature are clear. The extent to which individuals and groups engage in social action that recognizes their roles and responsibilities to each other, the family, group or society appears fundamental. Successful communities mobilize and maximize individual strengths, enjoy collaborative and cohesive environments where human needs are acknowledged openly and addressed appropriately and they have strong community identity, pride, agency and family functioning. Their systems and processes or ‘institutions’, both *formal* and *informal*, were locally accessible, high functioning and “owned” (based in/ controlled and supported) by community. They enjoy a stable and strong economic base or movement towards developing one and cultural strength is guarded and obvious through a variety of means including but not limited to an integrated approach to community issues. In addition, their governance structure *meaningfully* engages community members in the development and implementation of an internal agenda in a way that motivates and enables contributions toward the efficacy and sustainable success of the collective. (Scott, 1998)

Given this conceptual framework, it becomes possible to generate indices that will be framed, not from the deficit and dependence paradigm that characterizes abstract and aggregate data that currently ‘takes the pulse’ of Indigenous community life, but from an appreciative perspective.

The Long and Winding Road of Measuring ‘Success’

Over the span of decades, many global efforts have attempted to assess the quality of human life. The Human Development Index is one example of a widely recognized tool and the World Health Organization’s healthy cities and communities movement has generated many other indices of relevance to the quality of collectives. With specific reference to Indigenous community, the UN Permanent Forum on Indigenous Issues has identified two main core themes for indicators of well being with a variety of sub-themes replicated in Table 1.

Table 1. United Nations Permanent Forum on Indigenous Issues Indicators of Well-Being (Salée, 2006)

Identity, Land and Ways of Living	Maintenance and development of traditional knowledge, cultural expressions and practices
	Use and inter-generational transmission of indigenous languages; support of, and access to, bilingual, mother tongue, and culturally appropriate education
	Ownership, access, use, permanent sovereignty of lands, territories, natural resources, waters
	Health of communities
	Health of ecosystems
	Demographics - more specifically patterns of migration
Indigenous rights to and perspectives on development	Indigenous governance and management systems
	Free, prior, informed consent, full participation and self-determination in all matters affecting Indigenous peoples well being
	Degree of implementation or compliance with international standards and agreements relating to Indigenous peoples rights: Nation-to-Nation Treaties between states and Indigenous peoples, IOL 169, UN Draft Declaration on the rights of Indigenous Peoples, and relevant UN human rights and other instruments recommendations by relevant international monitoring bodies
	Government funding for Indigenous peoples' programs and services

Domestically, the Assembly of First Nations has developed a holistic policy and planning model upon which they have explored a variety of indices related to health. Similarly, many departmental efforts of both Indian and Northern Affairs Canada as well as Health Canada have tracked the quality of life in First Nations communities. Recent advances in Canada include the development of the Aboriginal Community Well-being Index (CWBI) which takes advantage of conveniently available data and represents the first and most rigorous effort to use data comparable to the United Nation's Human Development Index [HDI]² (UN, 2006). Such dis-aggregated, comparable and standardized data is an enormously important vehicle for revealing alarming inequities. Still, the CWBI focuses primarily on *individual* educational attainment, life expectancy and income and while it is true that communities are collections of individuals, they are also much more.

Examining the Individual in Context

Communities or societies form systems or institutions and their collective actions create opportunities that individuals alone could not. While individually focused indicators are useful, they cannot capture the extent of *communal* values or civic participation and most typically collected statistics (e.g., labour force participation) often over look Indigenous means of social inclusion such as participation and sharing within subsistence and mixed

economies. Similarly, there is a vast body of population health literature with volumes of compelling evidence to suggest that risk for a variety of ‘quality of life’ indices is related to socially structured environments. Therefore, in combination with the CWBI and its individually focused indices, there is merit to considering the individual *in context* where important contemporary colonial and contextual influences (e.g., the role of economics, environment and gender relations) could become more visible.

In fact, examination of the *individual in context* is more consistent and fitting with First Nations world views. While remedial intervention may save a life, it rarely changes it. No matter how well designed and effective clinical and programmatic efforts are in the short term, environmental factors have enormous power to override gains prompting many to view the individual *in context* as the only appropriate focus of intervention and analysis (Kessen, 1978; Kirmayer, Simpson, Cargo, 2003; Haime, Searles, Usher, Myers & Frechette, 2004). After all, individuals develop in “niches”³ (Harkness & Super, 1996) and evidence strongly points to variation in individual risk between Canadian Indigenous communities (Super & Harkness, 1986; Cooper, Karlberg, & Pelletier Adams, 1992; Willms, 2002). Examination of the individual in community ensures that the inherent weaknesses of a singular analytic focus (either clinical or social) are cancelled (Chandler & Lalonde, 1998) and many conveniently available databases within Canada (e.g., Aboriginal Peoples Survey and the Regional Health Surveys as well as environmental health data from Health Canada) could be used to advance this trans-theoretical lens.

Glaring omissions in historical measures of quality of life become clear when we take into consideration the essence of the collective. While there is merit to the use of classical epidemiology and gross domestic product to track social conditions, neither takes into consideration the essence of *community* life. In Canada, perhaps the most valuable work, albeit not systematically collected or readily available either nationally or regionally, would be the work of Javier Mignone and John O’Neil in measuring social capital in First Nation’s community. The measurement of social capital (or capacity) is an obvious index of the extent to which there is a collaborative and cohesive environment or relatedness and a whole realm of life’s qualities not captured in typical population health statistics or measures of social condition would become apparent and accessible.

*“ . . . , it is necessary to look beyond the usual spectrum of indicators found in standard development studies to find indicators that treat living conditions as a combination of material and symbolic factors, e.g., the means of making a living and the **means of making a meaningful life**. As a heuristic concept, social cohesion encompasses these two factors, access to making a living and access to a meaningful life.” (Emphasis added) (Sloat & Willms, 2000)*

The multiplicity of perspectives and priorities in measuring quality of life as well as the scatter of conceptual levels and the unexpectedly weak relationship between objective and subjective measures of success are just a few of the salient challenges of this work. For example, those communities identified as successful by First Nation’s leadership consulted did not always correspond to those considered successful by the CWBI probably because many variables not captured by aggregate data contribute substantially to perceived quality of life. While it is clear that most assessment tools and conceptual models take economy into consideration, albeit in very different ways, most do not take into account the proximity to natural resources, the extent to which there is a resistance to natural resource extraction, geographic remoteness or the experience of economic depression all very powerful variables in influencing Indigenous economies (DuHaime, Searles, Usher, Myers, & Frechette, 2004).

Similarly conceptual models or tools related to Indigenous community uniformly and uniquely take culture and language into consideration and most have a focus on gender that is absent in tools of more general application.

“Mainstream statistical and accounting measures of success have proven powerful drivers of public policy. . . . However, they have also been insufficiently respectful of Aboriginal values, the aspirations and needs of communities . . . and the particular contributions of Aboriginal women. Indicators of cultural sustainability, for example, find no place in mainstream indicators.”⁴

Therefore, the need for a new trans-theoretical lens upon the *individual in the context of community* is unmistakable. A combination of tools and perspectives is necessary so that the inherent weaknesses of either a clinical (i.e., individually focused) or structural (i.e., social) measurement strategy are cancelled. While vast differences in circumstance and health outcomes between First Nations’ communities prevail, the influence of those circumstances remain unclear particularly as they relate to the quantity and quality of local systems and processes that support human survival, expression and sound leadership.

Concluding Remarks

This discussion is neither final or proscriptive: it is a catalyst to an *appreciative* approach to assessing the quality of Indigenous community life. The intent is raise the prominence of often over looked areas of social cohesion, cultural vibrancy, ecological integrity and governance that can have a profound impact on individuals. It is intended to challenge historical approaches that reinforce ill fitting world views and render invisible the contributions of sustainable practices, women and local leadership. It is clear that *both objective and subjective indices are needed to understand the quality of community life*. Beyond employment and income, communities must also find meaning, purpose and fulfillment (Findlay, & Wuttunee, 2007) all constructs less easily quantified. While the business and exploration of measuring ‘success’ in First Nations communities will continue to be challenged by varying priorities and little consensus, the inclusion of social capacity, relatedness, institutional completeness and quality as well as leadership can no longer be ignored. At last, if decisions about what to measure are value based, it is time to consider a strengths based, culturally cogent Indigenous framework.

References

- Chandler, M. J., and C. Lalonde. (1998) Cultural Continuity as a Hedge against Suicide in Canada’s First Nations. *Transcultural Psychiatry* 35: 191-219.
- Cooper, M., Karlberg, A.M., & Pelletier Adams, L. (1992) *Aboriginal Suicide in British Columbia: An Overview*, BC Institute Against Family Violence.
- DuHaime, G., Searles, E., Usher, P. J., Myers, H., & Frechette, P. (2004). Social Cohesion and Living Conditions in the Canadian Arctic: From Theory to Measurement. *Social Indicators Research*, 66, 295-317, page 301.
- Findlay, I. M., & Wuttunee, W. (2007). Aboriginal Women’s Community Economic Development: Measuring and Promoting Success. *IRPP Choices*, 13, 1-26, pp. 5.
- Haime, G., Searles, E., Usher, P. J., Myers, H., & Frechette, P. (2004). Social Cohesion and Living Conditions in the Canadian Arctic: From Theory to Measurement. *Social Indicators Research*, 66, 295-317.

Hancock, T. (1993) The Evolution, Impact and Significance of the Health Cities/Healthy Communities Movement *Journal of Public Health Policy*, Vol. 14, No. 1 (Spring) pp. 5-18, page 7.

Harkness, S. & Super, C. M. (1996). *Introduction to Parents Cultural Belief Systems: Their Origins, Expressions and Consequences*. Eds. S. Harkness and C. M. Super. New York, N. Y.: Guilford Press, 1996. 1-55.

Kessen, W. (1978) *The American Child and Other Cultural Artifacts*. Invited address to Division 7, Meetings of the American Psychological Association. Toronto, 1978.

Community and Mental Health Promotion with Canadian Aboriginal peoples. *Australian Psychiatry*, Volume 11, Supplement, 15-23, page 21.

Salée, D. (2006). Quality of life of Aboriginal people in Canada: An analysis of current research. *IRPP Choices* 12(6): 1-38. <http://site.ebrary.com/lib/oculottawa/Top?id=10155347&layout=document>

Scott, K. A. (1998). Balance as a Method to Promote Healthy Indigenous Communities. In *Canada Health Action- Determinants of Health: Settings and Issues (Vol. 3)*: 151-188: Quebec : National Forum on Health.

Sloat, E. & J. D. Willms. (2000) A Gradient Approach to the Study of Childhood Vulnerability. In *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth*. Ed. J.D. Willms. Ottawa, ON: University of Alberta Press and Human Resources Development Canada. Kirmayer, L; Simpson, C.; Cargo, M (2003): *Healing Traditions: Culture,*

Super, C. M., and S. Harkness (1986) The Developmental Niche: A Conceptualization at the Interface of Child and Culture. *International Journal of Behavioural Development* 9: 545-69.

United Nations Permanent Forum on Indigenous Issues, Fifth Session, New York, 15-26, May 2006, Agenda item 4 of the provisional agenda, Ongoing priorities and themes, *Report of the Meeting on Indigenous Peoples and Indicators of Well-Being*, Ottawa, March 22-23, 2006.

Willms, J. D. (2002) Research Findings Bearing on Canadian Social Policy. In *Vulnerable Children: Findings from Canada's National Longitudinal Survey of Children and Youth*. Ed. J. D. Willms: University of Alberta Press and Human Resources Development Canada: 331-358.

¹ The following list of publications were consulted during the first phase of this work where the conceptual framework including relationships, institutions and leadership emerged.

Assembly of First Nations (2006) *First Nations Public Health: A Framework for Improving the Health of Our People and Our Communities*, Ottawa, Ontario.

Bird, M. (2002). Editorial: Health and Indigenous People: Recommendations for the Next Generation. *American Journal of Public Health* 92(9): 1391-1392.

Benson, A. & Brownfield, E. (2004). Creating Healthy Communities: A Conversation about Australian Experiences. *Pimatziwin: A journal of Aboriginal and indigenous community health*, 2(2): 125-145.

Chandler, M. J., and C. Lalonde (1998) Cultural Continuity as a Hedge against Suicide in Canada's First Nations. *Transcultural Psychiatry* 35 (1998): 191-219.

Cooke, M., Beavon, D., & McHardy, M. (2004). *Measuring the Well-Being of Aboriginal People: An Application of the United Nations' Human Development Index to Registered Indians in Canada, 1981–2001*. Strategic Research and Analysis Directorate Indian and Northern Affairs Canada: 1-31.

Cornell, S., & Kalt, J.P. (n.d.). Sovereignty and Nation Building: The development challenge in Indian country today. *The Harvard project on American Indian Economic Development*: 1-35. <http://www.ksg.harvard.edu/hpaied/key.htm>

Natcher, D. C., & Hickey, C. G. (2002). Putting the community back into community-based resource management: A Criteria and Indicators Approach to Sustainability. *Human Organization* 61(4): 350-363.

Newbold, K.B. (1998). Problems in search of Solutions: Health and Canadian Aboriginals. *Journal of Community Health*, 23(1): 59-73.

Ryan, N., Head, B., Keast, R., & Brown, K. (2006). Engaging Indigenous Communities: Towards a Policy Framework for Indigenous Community Justice Programmes. *Social Policy and Administration* 40(3): 304-321.

² The Human Development Index (HDI) is a comparative measure of life expectancy, literacy, education, and standard of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to determine and indicate whether a country is a developed, developing, or underdeveloped country and also to measure the impact of economic policies on quality of life. http://en.wikipedia.org/wiki/Human_Development_Index.

³ Human Resources and Development Canada undertook a large scale study called Understanding the Early Years that collected detailed community context data that was linked to the National Longitudinal Survey of Children and Youth to determine how the social environment affects development.

⁴ The tools and conceptual models reviewed in this work included the following list where the first nine items (A-I) are of general application in measuring the quality of life and the remaining items (J-P in bold) were conceptual models or tools used specifically in or considered specifically for the Indigenous context.

A: Human Development Index

B. Weighted Index of Social Progress

C. Quality of Life Index

D. Prescott-Allen's Indices of the Well-being of Nations

E. Conference Board of Canada's Quality of life Scorecard

F. Genuine Progress Indicator

G. Fordham Index of Social Health

H. Fraser Institute Index of Living Standards

I. Ontario Social Development Quality of Life Index

J. Index of Relative Indigenous Socio-economic Disadvantage

K. Regional Health Survey - National Aboriginal Health Organization

L. DuHaime, G., Searles, E., Usher, P. J., Myers, H., & Frechette, P. (2004). Social

Cohesion and Living Conditions in the Canadian Arctic: From Theory to Measurement. *Social Indicators Research*, 66, 295-317.

M. UN Permanent Forum on Indigenous Issues - Indicators of Well-being

N. Marks, Elisabeth; Cargo, Margaret, D.; Daniel, Mark (2007): Constructing a Health and Social Indicator Framework for Indigenous Community Health Research, *Social Indicators Research* (82), 93-110.

O. Aboriginal People's Survey - Statistics Canada

P. Assembly of First Nations Wholistic Indicators

Tackling Inequities in Health: Lessons from the Work of the Regional Network on Equity in Health in East and Southern Africa

*Moses Mulumba, Steering Committee Member,
The Regional Network for Equity in Health In East and Southern Africa*

Introduction

The terms ‘health inequalities’ and ‘health inequities’ are both used in the research and policy literature, and both refer to the unfair or unjust nature of health differences between social groups, generated by social conditions. (Farrell, 2008). The regional network for Equity in Health in East and Southern Africa (EQUINET) has defined equity in health to imply addressing differences in health status that are unnecessary, avoidable and unfair. (EQUINET, 1998) In East and Southern African countries these typically relate to disparities across racial groups, rural/urban status, socio-economic status, gender, age and geographical region.

EQUINET is a network of professionals, civil society members, policy makers, state officials and others within the region who come together as an equity catalyst, to promote and realise shared values of equity and social justice in health (See, www.equinet africa.org). EQUINET is primarily concerned with equity motivated interventions that seek to allocate resources preferentially to those with the worst health status (vertical equity). It seeks to understand and influence the redistribution of social and economic resources for equity oriented interventions, EQUINET also seeks to understand and inform the power and ability people (and social groups) have to make choices over health inputs and their capacity to use these choices towards health.

To address the inequities in the region, much of the work has aimed at shaping, informing and supporting the development and implementation of policy measures and capacities to revitalise, build and consolidate national health systems. This was based on the understanding that the health systems which are based on principles of universality, comprehensiveness and solidarity, centered on a strong state and public sector in health, organised around the active participation and involvement of communities within a democratic system and delivering on the social right to health effectively tackle the inequities in health.

Health Inequities in East and Southern Africa (ESA)

As it has been rightly observed, health is not just the outcome of genetic or biological processes but is also influenced by the social and economic conditions in which we live. (Farrell, 2008) Thus, inequalities in social conditions give rise to unequal and unjust health outcomes for different social groups which is then reflected at the country, regional and global level. The region of East and Southern Africa, is a region of significant inequality which can be attributed to various reasons including but not limited to the historical setup of countries in this region, economical, social and political factors. In some countries for

instance, the richest tenth of people are 30 times wealthier than the poorest tenth. A child born to a low income household in Mozambique has a ten times greater chance of dying before their first birthday than one born to a middle class family in neighbouring Zimbabwe. The same poor child has a significantly lower chance of having safe water supplies, a healthy diet or access to health services for immunization or treatment of basic diseases than her wealthier counterpart. (EQUINET, 2000)

In an attempt to address these inequalities in the health sectors of the region, EQUINET implements work in a number of areas identified as central to health equity in the region. These areas include:

- Public health impacts of macroeconomic and trade policies;
- Poverty, deprivation and health equity and household resources for health; Health rights as a driving force for health equity;
- Health financing and integration of deprivation into health resource allocation;
- Public-private mix and subsidies in health systems;
- Distribution and migration of health personnel;
- Equity oriented health systems responses to HIV/AIDS and treatment access;
- Governance and participation in health systems; and
- Monitoring health equity and supporting evidence led policy.

Through these programs of work, it has been observed that in a situation of avoidable disparities in health status, equity motivated interventions can both seek to ensure equivalence in health inputs between those whose needs are the same (horizontal equity), or differences in inputs in those whose needs are different (vertical equity). The latter has been identified in recent years as a particularly important principle for resource allocations, requiring that resources are preferentially allocated to those with the worst health status. In relation to health care financing, equity considerations demand that contributions be linked to income levels, with higher income groups contributing more than those on lower incomes. (EQUINET, 2000)

In 2006/7 the EQUINET SC synthesized evidence, experience and views in the work, publications on and from the East and Southern Africa, formal and government data, testimonials, policy statements, and compiled an analysis of the challenges and approaches to strengthening equity in health in the region. (EQUINET, 2007) This work was done in seven parts. Part one was on the progress of health and it traces the sources of inequalities in health within and between communities and countries in the region, analyzing links between poverty, inequality and health. The second part was on reclaiming the economic resources for health and it maps the outflow of resources from Africa, the consequences and the options to address outflows in areas such as food security and access to medicines.

The third part looked at building universal, comprehensive people centered health system. It shows the ways in which systems can make a difference, particularly for those with great health needs, and presents lessons learned from primary health care and from the roll-out of prevention and treatment for HIV/AIDS. The fourth part looks at fair financing of health systems under which it explores options for increasing the resources for health systems and for overcoming barriers to services for people with the greatest need. Part five looks

at one of the critical areas for health systems in the region which is valuing and reclaiming investments in health workers. This part outlines the outflow of health workers from vital health services and discusses the policies and measures to involve, value and retain health workers in the regions.

The sixth part looks at organizing people-centered health system and it points to the many ways health systems can act to empower people, stimulate social action and build alliances to promote equity-oriented health systems. The last part looks at taking action to reclaim the resources for health and it summarizes the policy message presented and proposes targets and indicators to signal progress in key dimensions of health equity and towards meeting regional and global commitments.

The evidence in the analysis points to three ways in which reclaiming the resources for health can strengthen health equity. First, it points to the fact that the poor people should claim a greater share of national resources to improve their health. Second there is need for a more just return for east and southern African countries from the global economy and lastly that a larger share of global and

national resources should be invested in redistributive health systems to overcome the impoverishing effects of ill health. (EQUINET, 2007)

Lessons from the Work in ESA Region

The question of health equity is a critical issue in almost all societies both in the developing and developed worlds. It has been observed that within the countries of Europe, there are many examples of systematic differences in health between different social groups. In all European countries most disadvantaged groups have worse health and higher mortality. (Whitehead, 2007) This manifests itself in large differences in life expectancy between the extremes of the social scale. In Scotland, for instance, a baby born in the most disadvantaged neighbourhood in Glasgow can expect to live ten fewer years than a baby living in the most affluent neighbourhood (Acheson, 1998).

The Russian Federation had a drastic, indeed unprecedented, deterioration in life expectancy after the economic and political shocks of the early 1990s. (Whitehead, 2007) This deterioration did not affect all segments of the population equally. The hardest hit were the least educated groups. In fact, between 1990 and 1994, the chances of survival for men from groups with lower levels of education were poorer than in the 1970s and 1980s. Mortality rates among people with a university education, however, were closer to mortality rates for general western populations (Shkolnikov, Field, & Andreev, 2001).

In Canada, health inequality seems to be persistent in the First Nations communities. For instance, it is reported that based on the list of comparable health status indicators approved by the Conference of Deputy Ministers of Health in 2004, the health of Aboriginal people is well below that of the rest of Canadians. (Health Council of Canada, 2005) It is indicated that: Life expectancy for First Nations and Inuit is lower compared to their Canadian counterparts at the national, provincial and territorial level, it is also indicated that First Nations' infant mortality rates are higher compared to national and provincial rates and are even higher for the Inuit in Nunavik, Nunavut and the Northwest Territories. (Health Council of Canada, 2005) All these are signs of health inequality in a country.

It is probably true that the conditions in the East and South African Region are different from those of the developed countries such as Canada but it is also apparent that societies in both these regions are merged with health inequalities which need to be addressed. Therefore from the analysis done by EQUINET, the following could be lessons for other countries tackling health inequalities:

- Make policy and analysis links across household, national and global level, and across economic, health system and social factors;
- Make visible the health experience of marginalised groups and the strategies for overcoming exclusion;
- Beyond poverty, examine the extent and drivers of inequality and how these can be countered, to mobilise social action;
- Monitor policy commitments and local conditions to promote accountability;
- Promote social empowerment, including through Participatory approaches;
- Share evidence on positive practice that has equity gain to motivate activism, founded on social rights and Primary Health Care oriented policies.

References

- Acheson, D. (1998). *Independent inquiry into inequalities in health report*. London, The Stationery Office.
- Health Council of Canada. (2005). *The health status of Canada's First Nations, Métis and Inuit Peoples*; background paper to accompany Health Care renewal in Canada: Accelerating Change. Toronto, Ontario.
- EQUINET. (1998). *Equity in health in Southern Africa: overview and issues from an annotated bibliography*. Equinet Policy Series No 2. Harare.
- EQUINET. (2000). *Equity in health in Southern Africa: Turning values into practice*. Equinet Policy Series No. 7. Harare.
- EQUINET. (2007). *Reclaiming the resources for health: A regional analysis of equity in health in East and Southern Africa*. Harare.
- Farrell, C. (2008). *Tackling health inequalities: An all-Ireland approach to social determinants*. Combat Poverty Agency/Institute of Public Health in Ireland.
- Shkolnikov, V. M., Field, M. G., & Andreev, E. M. (2001). *Russia: Socioeconomic dimensions of the gender gap in mortality*. In T. Evans, M. Whitehead, F. Diderichsen, A. Bhuiya & M. Wirth (Eds.), *Challenging inequities in health: from ethics to action* (pp. 138–155). Oxford: Oxford University Press.
- Whitehead, M. (2007). *Concepts and principles for tackling social inequities in health*. WHO Collaborating Centre for Policy Research on Social Determinants of Health, University of Liverpool.

Indigenous Peoples' Food Systems: Foundations of Health in Cultures and Ecosystems

Harriet V. Kuhnlein, Ph.D., Chief Bill Erasmus, and Research Partners in the CINE Global Health Food Systems Project

This presentation and its summary were adapted from a report to the Second Conference on Health and Biodiversity held in Galway, Ireland, February 26, 2008.

Introduction and Context

At the center of Ingano (Colombia) worldview, is the vision that nature, culture, and health are intertwined for a complete daily life. (Correal, Zuluaga, Madrigal, Caicedo, & Plotkin, in press). Throughout the world cultures of Indigenous Peoples recognize that the natural environment which provides food and other essential materials of life are part of identity and well-being. There is desperation at environmental threats and loss of food resources integral to culture, and this cry is echoed by elders, leaders and youth for rights and access to their land and knowledge and ability to make full use of these food resources.

Indigenous Peoples in their home territories in rural regions in the world have food resources from both locally available traditional foods and purchased industrialized foods, but the relative proportions of these two components vary widely (Kuhnlein & Receveur, 1996). It is generally recognized that the shift from a diet entirely of local food derived within Indigenous cultures to one derived from markets is associated with a rise in nutritionally-related chronic diseases (Uauy, Albala, & Kain, 2001; Kuhnlein, Receveur, Soueida, & Egeland, 2004) as well as increased household expenditures among income-poor families (Hall & Patrinos, 2005). It is therefore prudent for Indigenous Peoples to recognize the many values of their local food systems, to work for their protection, and to maximize their use for provision of food security and health. This helps to ensure their resources not only for themselves, but also for global knowledge on the values of unique food systems for health. The Centre for Indigenous Peoples' Nutrition and Environment (CINE) of McGill University has conducted research for more than 15 years on issues related to Indigenous Peoples' food systems. This paper is a capsule of recent activities.

Indigenous Peoples' food system research is popular with communities. It makes sense, and shows how grounding in ecosystems and cultural values resonates with community members to "don't forget who you are, and where you come from." Food touches the physical, mental, emotional and spiritual aspects of individuals and communities, and creates a meaningful, if not profound, connection to indigeneity. CINE's work has proven successful because it benefits the people directly involved and has links to a key element of self-determination—that of food sovereignty.

Efforts toward maximizing the use of local food systems of Indigenous Peoples and recognizing their values fit well within the Millennium Development Goals of the United Nations (UN, 2008). Major UN initiatives related to food systems are highlighted in the United Nations system with the International Decades of the World's Indigenous Peoples, and the Declaration on the Rights of Indigenous Peoples (UNPFII, 2008). The International Union of Nutritional Sciences (IUNS) has a Task Force on Indigenous Peoples' Food Systems and Nutrition (IUNS, 2008), and the United Nations System Standing Committee

on Nutrition (SCN) Working Group on Nutrition Ethics and Human Rights has an ad hoc Task Force on Indigenous Peoples and the Right to Food (SCN, 2008). The World Food Summit Plan of Action derived a working definition of food and nutrition security and the United Nations Human Rights Commission (UNHCR) identified the human right to adequate food – both which clarify that access to sufficient, safe and nutritious food is essential to meet dietary needs and food preferences for an active and healthy life. “Access” is defined as having adequate food that is available in quantity and quality, acceptable within culture, and accessible in ways that are environmentally sustainable (FAO, 1996; 2006).

This presentation gives focus to the perspectives of Indigenous Peoples on their food systems, with emphasis on universal cultural attributes and ecosystems challenges driving concerns for declining use of these resources. Data were reviewed from several studies conducted with 44 communities in three cultures of Arctic Canadian Indigenous Peoples and with 12 cultures in nine countries where research is ongoing under the auspices of the IUNS Task Force. In all cases, the importance of partnership between local indigenous leaders and academic researchers has proven invaluable for generating meaningful and credible data. This research is conducted with small local communities: the Ainu (Japan), Awajun (Peru), Bhil (India), Dalit (India), Gwich'in (Canada), Igbo (Nigeria), Ingano (Colombia), Inuit (Canada), Karen (Thailand), Maasai (Kenya), Nuxalk (Canada), and Pohnpei (Micronesia).

Values Held by Indigenous Peoples for Their Food Systems

Canadian Arctic food systems have a broad diversity of wildlife animals and plants that have formed the subsistence base of these peoples for thousands of years. With dietary energy mainly in the form of animal foods, from 100-200 species are represented in current traditional knowledge. The number of species/varieties/cultivars in the local food systems of the international cultures varies greatly – from a low of 35 for Maasai in their drought-prone region of Kenya to a high of 387 for the Karen of Kanchanaburi Province in Thailand (IUNS Task Force, 2008). This diversity of food provided by local environments and used within cultures is assumed to be nutritionally complete when freely available and used wisely. Our research with many cultures of Indigenous Peoples has shown a consistency of perceptions about the value of harvest and use of locally derived food systems. These values include: being an essential part of cultural and personal identity; having food that is tasty, fresh and free of preservatives; contributions to fitness and recreation; healthy and nutritious; keeping people “in tune with nature”; saving money by families who are often poor; opportunity to express cultural values of sharing; providing respect and building pride and confidence; and contributing to the education of children in survival skills, food preparation, spirituality and patience (Kuhnlein, Receveur, & Chan, 2001; Kuhnlein, Chan, Receveur, & Egeland, 2002).

Examples of these principles are amply demonstrated from the CINE Arctic and international Indigenous Peoples' case studies (Kuhnlein et al, 2001; IUNS Task Force, 2008). The Igbo (Nigeria) traditional process of pounding yam, and the Pohnpei (Micronesia) harvest of breadfruit by climbing trees are examples of physical activities promoting fitness. Unique healthy foods have been documented throughout the case studies; there is frequent mention of healthy animal foods and fish from the Arctic, and traditional medicines for healing by the Ainu (Japan) and Ingano (Colombia). Examples of education activities for youth and younger children are regularly presented by case study leaders. Thus, the values Indigenous Peoples hold for harvesting and using their traditional foods are clearly manifest in day-to-day activities affecting whole communities.

Transitions and Threats to Ecosystems and Food Systems

Unfortunately, the proportion of daily energy from local, cultural foods is declining in all Indigenous areas with increasingly more of daily energy from purchased market food with low nutrient density. While rural and remote Awajun (Peru) and Karen (Thailand) report close to full dietary energy (>80% of daily energy) from diverse, local traditional resources, the Maasai (Kenya) who face serious environmental deterioration from prolonged drought, with less than 10% of energy from their traditional pastoral base. Canadian Arctic peoples report a maximum of approximately 40% of dietary energy from traditionally harvested food. (Kuhnlein, Erasmus, & Spigelski, in press)

Indigenous Peoples universally report threats to ecosystems where traditional foods are harvested. Among many threats represented in our case studies are habitat destruction with the loss of wildlife animals and plants as numbers of species and numbers of individuals within species; loss of agricultural varieties; environmental insults and contaminants; encroachment of outsiders on land and resources; cash cropping and bioprospecting/piracy in traditional territories without agreement; trespassing restrictions and other restrictions on food access; climate change and global warming impacting food species; and urbanization and employment away from traditional territories where knowledge of the land promotes subsistence. Finally, a major factor is changing food acceptability for the local foods and new foods presented in markets. As noted earlier, the displacement of traditional food with poor quality purchased food is known to increase obesity, diabetes and other chronic diseases in populations of Indigenous Peoples.

Research to Understand the Importance of Indigenous Peoples' Food Systems

Research conducted by CINE with Indigenous Peoples in the Canadian Arctic created a framework of understanding local food systems and their use. Meetings with knowledgeable community members yielded lists of the species currently known to be used for food; however detailed dietary analysis revealed that only a few key species are regularly consumed in large quantities. While many communities today average less than 20% of dietary energy from traditional food resources, using just one or more items of local traditional food significantly improves adult dietary quality for protein and a wide spectrum of micronutrients, while reducing intakes of sucrose and saturated fat (Kuhnlein et al, 2004; Kuhnlein & Receveur, 2007).

Working with Indigenous Peoples in Asia, a methodology for documenting Indigenous Peoples' food systems was developed (www.mcgill.ca/cine/research/global) which enables communities and their academic partners to conduct the research to understand the local resources which can be used to foster health promotion intervention activities. Methods of assessing Indigenous Peoples food systems can be used to create indicators of food security and these have recently been summarized (see Kuhnlein in Tebtebba, 2008). Useful data include: the traditional food list – by species and variety/cultivar, the market food list – by access and cost; nutrient contents of these by preparation (may include need for lab analyses); species availability and access by seasons of use; species frequency of use by day-week-month-year; dietary intake data as assessed by 24 hour recall including portion sizes; considerations of different food uses by age and gender; importance of foods for infant and young child feeding; and cultural perceptions and attributes by species.

Dietary quality depends entirely on the quality of the foods that people eat, and how much of it is consumed by individuals. Quality indices can be developed using groups of foods (animal foods, fruits, vegetables, grains, etc.) and/or the underlying laboratory-derived

nutrient composition of these foods. When conducting dietary surveys with Indigenous Peoples it is important to clarify unique foods and their preparation (Kuhnlein, 2004) and species, subspecies and varieties or cultivars so that distinctions in nutrient content can be uncovered. There are limited data on species subdivided in this way, but with acknowledgement of its importance, data are being generated. Examples on the richness of these data include the diversity in composition of green leaves and wild foods in Southern Mali (Nordeide, Hatloy, Folling, Lied, & Oshaug, 1996), unique foods of tribal people in South India (Rajyalakshmi & Geervani, 1994), vitamins in the foods of Arctic Indigenous Peoples (Kuhnlein, Barthet, Farren, Falahi, Leggee, Receveur, & Berti, 2006a), and differences among cultivars of Micronesian pandanus fruit (Englberger, Aalbersberg, Fitzgerald, Marks, & Chand, 2003).

Using Indigenous Peoples' Food System Data to Build Sustainable Health Improvement Programs

The overall hypothesis of our research program is that access to traditional food for rural Indigenous Peoples enhances dietary adequacy, nutrition and health. Our goals are to compile Indigenous Peoples' food system data from 12 diverse ecosystems in different global regions, and to present these data in policy settings. Data from food systems of Indigenous Peoples will help in creating programs for local food promotion and protection (Kuhnlein, Erasmus, Creed-Kanashiro, Englberger, Okeke, Turner, Allen, & Bhattacharjee, 2006b). For example, it is possible to conduct community research to understand the most important local foods for women, children, and families with attention to importance by total day intake and percent of daily calories and importance by nutrients, such as vitamin C, protein, etc. It is also useful to understand how local foods may have better quality than imported foods, especially if cost estimates can be attributed to diets with local versus imported foods. Interviews by individual species can reveal cultural attributes and importance for health and total well-being, and how increasing local ecosystem food diversity increases nutrition and food security. Research of this kind is also useful to understand exposure to pollutants by species and food preparation from these species.

Perspective and Conclusions

Throughout our work, it is the people most directly involved in the research and their priorities that guide the research. Creating the food system list and understanding the forces driving change in using these foods is critical before decisions are taken to investigate nutrient contents of unique foods and patterns of harvest, preparation and dietary use. With full understanding of the values and constraints to using these foods, activities for promotion of excellent local foods can be developed with agricultural promotion and/or conservation strategies to improve community access to these important resources.

Food relates to social needs and local economies and depends on multiple dimensions of relationships to culture and environment, as well as health and well-being. With an estimated 300-500 million Indigenous Peoples speaking more than 5000 languages in 70 countries, and recognizing that each food system may contain up to 250 species of traditional food, this knowledge base is massive and phenomenal in scope, and it is a true treasure worthy of global attention. For the well-being of Indigenous Peoples as well as all humankind, protection of these food systems in all of their diversity and multiple dimensions is imperative.

Acknowledgements

The work presented here reflects many years of research with many collaborators and funding by several agencies. These are acknowledged in the publications referenced. Special thanks to members of the CINE Governing Board, and the Institute of Aboriginal Peoples Health of the Canadian Institutes of Health Research.

References

- Correal, C., Zuluaga, G., Madrigal, L., Caicedo, S. & Plotkin, M. (in press). Ingado traditional food and health – Phase I (2004 to 2005) . In H. V. Kuhnlein, B Erasmus, D Spigelski (eds.), *Indigenous Peoples' Food Systems: the Many Dimensions of Culture, Diversity and Environment for Nutrition and Health*. United Nations Food and Agriculture Organization, Rome.
- Englberger, L., Aalbersberg, W., Fitzgerald, M., Marks, G. & Chand, K. (2003). Provitamin carotenoid content of different cultivars of edible pandanus fruit. *Journal of Food Composition and Analysis*. 16:237-247.
- FAO. (1996). Rome Declaration on World Food Security. The Food and Agricultural Organization of the United Nations, Rome.
- FAO. (2006). The State of Food Insecurity in the World (SOFI). Eradicating world hunger. Taking stock ten years after the World Food Summit. Food and Agriculture Organization of the United Nations. Rome. <ftp://ftp.fao.org/docrep/fao/009/a0750e/a0750e00.pdf>. Website accessed August 7, 2008.
- Hall, G. & Patrinos, H. (2005). *Indigenous peoples, poverty and human development in Latin America. 1994-2004*. World Bank, Washington, D.C.
- International Union of Nutritional Sciences (IUNS). <http://www.iuns.org/>. Website accessed August 7, 2008.
- IUNS Task Force on Indigenous Peoples' Food Systems and Nutrition. <http://www.mcgill.ca/cine/research/global/> Website accessed August 7, 2008.
- Kuhnlein, H. V. & Receveur, O. (1996). Dietary change and traditional food systems of Indigenous Peoples. *Annual Review of Nutrition*. 16:417-42.
- Kuhnlein, H. V., Receveur, O. & Chan, H. M. (2001). Traditional food systems research with Canadian Indigenous Peoples. *International Journal of Circumpolar Health*. 60(2): 112-122.
- Kuhnlein, H. V., Chan, H. M., Receveur, O. & Egeland, G. M. (2002). Canadian Arctic Indigenous Peoples, traditional food systems and POPs. In Fenge, T. & Downey, D. (Eds). *Northern Lights Against POPs: Combating Toxic Threats at the Top of the World*. McGill-Queens's University Press. pp 22-40.
- Kuhnlein, H. V. (2004). Karat, pulque and gac: three shining stars in the traditional food galaxy. *Nutrition Reviews*. 62(11):439-442.
- Kuhnlein, H. V., Receveur, O., Soueida, R. & Egeland, G. M. (2004). Arctic Indigenous Peoples experience the nutrition transition with changing dietary patterns and obesity. *Journal of Nutrition*. 124:1447-1453.

Kuhnlein, H. V., Barthet, V., Farren, A., Falahi, E., Legge, D., Receveur, O. & Berti, P. (2006a). Vitamins A, E and D in Canadian Arctic traditional food and adult diets. *Journal of Food Composition and Analysis*. 19:495-506.

Kuhnlein, H. V., Erasmus, B., Creed-Kanashiro, H., Englberger, L., Okeke, C., Turner, N., Allen, L. & Bhattacharjee, L. (2006b). Indigenous Peoples' food systems for health: finding interventions that work. *Public Health Nutrition*. 9(8):1013-1019.

Kuhnlein, H. V. & Receveur, O. (2007). Local cultural animal food contributes high levels of nutrients for

Arctic Canadian Indigenous adults and children. *Journal of Nutrition*. 137:1110-1114.

Kuhnlein, H. V., Erasmus, B. & Spigelski, D. (eds.). (in press). Indigenous Peoples' Food Systems: the Many Dimensions of Culture, Diversity and Environment for Nutrition and Health. United Nations Food and Agriculture Organization, Rome.

Nordeide, M., Hatloy, A., Folling, M., Lied, E. & Oshaug, A. (1996). Nutrient composition and nutritional importance of green leaves and wild food resources in an agricultural district, Koutiala, in Southern Mali. *International Journal of Food Sciences and Nutrition*. 47:455-468.

Rajyalakshmi, P. & Geervani, P. (1994). Nutritive value of the foods cultivated and consumed by the tribals of South India. *Plant Foods for Human Nutrition*. 46(1):53-61.

Tebtebba. <http://www.tebtebba.org/>. Website accessed August 7, 2008.

Uauy R, Albala C, Kain J. 2001. Obesity trends in Latin America: transiting from under- to overweight. *Journal of Nutrition*. 131:89S-899S.

United Nations. UN Millennium Development Goals. <http://www.un.org/millenniumgoals/> Website accessed August 7, 2008.

United Nations Permanent Forum on Indigenous Issues (UNPFII). <http://www.un.org/esa/socdev/unpfi/>. Website accessed August 7, 2008.

United Nations System Standing Committee on Nutrition (SCN).

<http://www.unsystem.org/SCN/>. Website accessed August 7, 2008.

Strengthening Collective Memories & Resilience in The Peruvian Andes

Chantal Robillard, Trauma & Global Health Program, McGill University; Mauricio Delfin, Realidad Visual; Duncan Pedersen, Trauma & Global Health Program, McGill University

Studies in health and social sciences have so far highlighted the breakdown of social order in conflict affected regions as a contributing factor to the increase of interpersonal violence, abuse of women and children, and presence of trauma related disorders (Pedersen, Gamarra, Planas, & Errázuriz, 2003). The disruption of ways of living are also identified as underlying factors in the presence of alcohol and substance abuse, suicides and self-inflicted injuries, including accidents and injuries from external causes (Pedersen, 2002; 2006). Missing from this description is that although communities affected by armed conflict are indeed still facing these everyday hardships years after peace accords have been signed, they manage to continue living and to rebuild their social life. The question remains what has allowed them to do so? Instead of searching for discrete disorders leading to postwar interventions focussing on medical treatment or psychiatric counselling, we shall focus in this paper on endogenous strengths found within each community and its members allowing them to go on. More specifically, this paper wishes to 1) suggest hypothesis of the connection between resilience and efforts to maintain social cohesion as contributing to better mental health outcomes in post-conflict regions; 2) present the case study of social cohesion and modes of resilience in Andean communities affected by over two decades of organised violence and armed conflict between the Shining Path and the Peruvian State army; and 3) to recommend a post-conflict intervention program that may facilitate the development of effective, dynamic and culturally sensitive community-based health campaigns that may advance community empowerment and strengthen resilience towards recovery and coping.

Resilience and Social Cohesion on Mental Health Outcomes in Post-Conflict Regions

Recent work on trauma-related disorders suggests that not all of those who are exposed to extreme stressors will develop mental illness or post traumatic stress disorder (PTSD) and only a fraction will remain dysfunctional (Yehuda, 1999; Pedersen et al., 2003; Nemeroff, Bremner, Foa, Mayberg, North, & Stein, 2006). Most people exposed to traumatic events experience some acute distress but spontaneously recover (Konner, 2007; North, Kawasaki, Spitznagel, & Hong, 2004) and many will respond with resilience (Atlani & Rousseau, 2000; Agaibi & Wilson, 2005; Konner, 2007). In the last three decades, a number of related constructs such as “recovery” (Harvey, 1996), and more recently, “social cohesion” and “social capital” (Bourdieu, 1986; Putnam, 2000), or solidarity (Shalev, 2007; Silove, 2007) are featured prominently in the public health, social psychology and medical sociology literature on resilience. Resilience no longer refers only to individual competencies and adequate use of psychological (cognitive) resources to cope successfully with stressful events, but also to the mobilization of collective resources rooted in contextual parameters. Family cohesion and social support (Rutter, 1990 in Agaibi & Wilson, 2005, p. 202), as well as connection, bonding, and social interaction within a significant social network (Wilson, 1995 in Agaibi & Wilson 2005, p. 203) appear as a predictor of resilience. Furthermore, ideas of resilience seem to be grounded in core cultural values shared by a community that are persisting through adversity in response to collective suffering (Tanner, 1993). In that

sense, resilience appears to be link to social cohesion if we are to define it as the level of interdependence existing between members of a society through shared solidarity and values (Berger-Schmidt, 2000). In some Canadian Indigenous people for example, collective coping strategies such as a seasonal gathering, allowing communities to examine communally their identity, are sought to respond to social suffering (Adelson, 2000). The following case study of Andean communities will further illustrate the relationship between resilience, social cohesion and positive mental health outcomes after armed conflict.

Case study: Resilience and Social Cohesion in Andean Communities

The Quechua, an Indigenous group of Inca ancestry in the Peruvian Andes, faces a long history of racism, marginalization and structural discrimination which led at the time of the Spanish conquest to the almost extermination of their members. More recently, following the long lasting conflict between Shining Path guerrillas and the Peruvian military, an estimated 70,000 people were killed or disappeared (according to the Truth and Reconciliation Commission, about 2/3 of the victims were Quechua-speaking peoples). In a survey our team previously conducted among the highland Quechua survivors, the most affected people by political violence, as measured by the presence of trauma-related disorders such as PTSD, were adults over 50, mostly women with little or no schooling, widowed or separated, and with no stable source of income (Pedersen et al., 2003; 2008).¹ But looking closer, despite poor mental health outcomes and various decades of stigmatization and social exclusion, racism and exposure to organised violence, the highland Quechua manage to resist and cope with, and not only survive but rebuild their life and that of their communities with little external support.

Studies on the complex nature of resilience interventions among Andean children and youngsters appeal to the need to promote related dimensions inherent to their culture such as creativity, autonomy, sense of humour, optimism and persistence (Panez, 2000; Silva, 2000), counteracting current prejudice that Andean people are gloomy, pessimistic and fatalistic. Furthermore, they call for the importance of including cultural references that are meaningful to the children's cultural identity (Panez, 2000; Silva, 2000). Stimulating creativity, fostering self-reliance, and encouraging the use of humour, may bring forward new solutions and complementary skills within children's own potential relevant to their age, helping them in accepting their current limited resources, while promoting their autonomy (Panez, 2000; Clarkson, 2004), and therefore strengthening their resilience. In addition, Andean communities have modes of collective play and socialization which may prove useful to resilience interventions such as the use of workspace as a playground, riddles and tales told by elders and children, or music, songs and dances during agricultural, religious or community festivities performed by children and youth (Ochoa Rojas, Azurza, & Cervantes, 2000; Panez, 2000b). But these resilience and coping strategies were seriously disrupted during the 1980s and 1990s by persistent exposure to extreme violence and terror inflicted by Shining Path in conflict with the Peruvian state army led by an autocratic, repressive and corrupted regime (Delfin, 2006).

The following proposed program² wishes to promote the importance of building upon these cultural-specific modes of resilience and coping with adversity by bringing together the contribution of different members of the community to reinforce affected communities' collective coping strategies as well as to strengthen children and youths' social cohesion. Such program not only aim at strengthening local capacities in line with locally determined priorities (Ager, 1993; Summerfield, 2000; Pedersen, 2006), but also at using culturally adapted knowledge transfer processes (Clarkson, 2004).

New Challenges in Post-Conflict Interventions

As presented in the previous case study, the use of creative and cooperative processes in clinical as well as in school settings (Webb, 2004), in populations affected by organised or structural violence, have proven to be successful in helping to cope with emotional and psychological distress. These interventions promote values serving as protective factors through involvement of history, family and community and contribute to the development of youth identity within family, community and self (Clarkson, 2004). Furthermore, they foster capacity for challenging sources of oppression by organizing collective activity that cultivates cooperation, mutual trust, and a heightened sense of responsibility and agency (Spina, 2003); in sum, promoting social cohesion between different levels of a society.

Capacity-building and empowerment programs should therefore focus on communities' own strength in stabilization and reconciliation processes that have allowed them to go on with their everyday lives and face the future, and how these experiences may help younger generations in the consolidation of their own cultural identity. It would give these communities a sense of power, even control over their future and its meaning, allowing by the same token younger generations to participate in this renewal. By identifying narratives (life stories) of resilience, recovery and reconstruction that are meaningful to each participant and that can be transmitted to children; youths alongside with elders and adults can act as facilitators of a creative process that involves crafting these messages into a culturally appropriate medium (e.g. riddles, tales, music, dance, games, etc.) that can reach children and targeted adults in the best possible way. As a group in the process of constructing its own citizenship, it becomes crucial to promote youth active role in the construction of their community's identity. These messages can afterwards be exchanged between communities for each to learn from each other and promote alliances.

This type of post-conflict intervention could eventually strengthen social cohesion within communities (between members of different generations) by reinforcing intergenerational interdependence through the sharing of values in adapted stories of resilience; as well as between communities (micro-regional level) by promoting solidarity and reciprocity in social relations. These processes are therefore giving to a community who have lived persecution, the agency in the re-construction of their local identity in a generational and inter-regional dialogue in order to generate a process of local and regional cultural deliberation, towards the promotion of cultural citizenship. The immediate expected outcomes would be to increase youth's active participation in consolidating local cultural identity by strengthening citizenship and reciprocity and increasing the participation of the community in the informal education of future generations (promoting local values of recovery, resilience and reconstruction, as well as local experiences in coping with suffering and extreme adversity). Through this vertical (inter-generational and multilevel) and horizontal (inter-personal and cross-cultural) exchanges of collective memories and experiences promoting resilience, recovery and reconstruction, we can join together community healing strategies, ensure cultural continuity, and re-define traditional roles (no longer returning to their original *forms*) to reach out to youth adapting to new context as well as transfer complimentary skills of resilience in children and youth (Spina, 2003; McCoy, 2007). The involvement of government health and education sectors and local NGOs, in partnership with academic and community-based resources are essential to facilitate and accelerate this recognition of community's Indigenous rights and self determination in order to facilitate recovery and reconstruction.

References

- Adelson, N. (2000). Re-imagining aboriginality: An Indigenous peoples' response to social suffering. *Transcultural Psychiatry*, 37(1), 11-34.
- Agaibi, C., & Wilson, J. (2005). Trauma, PTSD, and resilience: a review of the literature. *Trauma Violence Abuse*, 6(3), 195-216.
- Ager, A. (1993). *Mental health Issues in refugee populations: a review*. Boston: Harvard Center for the Study of Culture and Medicine.
- Atlani, L., & Rousseau, C. (2000). The politics of culture in humanitarian aid to refugees having experienced sexual violence. *Transcultural Psychiatry*, 37(3), 435-449.
- Berger-Schmidt, R. (2000). « Social cohesion as an aspect of quality of societies: concept and measurement. » Eureporting Working Paper No. 14. *Towards a European System of Social Reporting and Welfare Measurement*. Center for Policy Research by the European Commission, Manheim, 2000.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.
- Clarkson, P. (2004). Creating hope: art and therapy with suicidal first nations youth. *Insights: News for Clinical Counsellors of B.C.*, 15(3), Winter 2004. Retrieved October 4, 2007 from <http://art-therapy.concordia.ca/newsletter/Spring%202006/Peggy.htm>
- Delfin, M. (Producer & Director). (2006). *NOQANCHIS* (Todos nosotros). [DVD]. (42min/color). Lima, Peru: Realidad Visual.
- Harvey, M. (1996). An ecological view of psychological trauma and trauma recovery. *Journal of Traumatic Stress*, 9 (1), 3-23.
- Jenson, J. (1998). *Mapping social cohesion : The state of Canadian research*. Ottawa : Canadian Policy Research Network, Study No.F-03.
- Konner, M. (2007). Trauma, adaptation, and resilience: a cross-cultural and evolutionary perspective. In L. J. Kirmayer, R. Lemelson & M. Barad (Eds.), *Understanding Trauma: Biological, Psychological and Cultural Perspectives* (pp. 300-338). New York: Cambridge University Press.
- McCoy, J.H. (2007). Treating traumatized children: The State-of-the-Art Guide. [References] *PsyCRITIQUES*, 52(23).
- Nemeroff, C., Bremner, J., Foa, E., Mayberg, H., North, C., & Stein, M. (2006). Posttraumatic stress disorder: a state-of-the-science review. *Journal of Psychiatric Research*, 40(1), 1-21.
- North, C., Kawasaki, A., Spitznagel, E., & Hong, B. (2004). The course of PTSD, major depression, substance abuse, and somatization after a natural disaster. *Journal of Nervous & Mental Disease*, 192(12), 823-829.
- Ochoa Rojas, S.C.; Azurza, D.C. & Cervantes P., A.M. (2000). Juegos y juguetes andinos. In R. Panez, G. Silva & M. Silva (Eds.), *Resiliencia en el Ande* (pp.155-188). Lima: Panez & Silva consultores, Fundacion Bernard van Leer.
- Panez, R. (2000). Un modelo de promoción de resiliencia andina. In R. Panez, G. Silva & M. Silva (Eds.), *Resiliencia en el Ande* (pp.13-38). Lima: Panez & Silva consultores, Fundacion Bernard van Leer.

- Panez, R. (2000b). Los niños y la cultura recreacional andina. In R. Panez, G. Silva & M. Silva (Eds.), *Resiliencia en el Ande* (pp.189-208). Lima: Panez & Silva consultores, Fundación Bernard van Leer.
- Pedersen, D.; Tremblay, J.; Errázuriz, Gamarra, J. (2008). The sequelae of political violence: Assessing trauma, suffering and dislocation in the Pruvian highlands. *Social Science & Medicine*, XXX: 1-13.
- Pedersen, D. (2006). Reframing political violence and mental health outcomes: outlining a research and action agenda for Latin America and the Caribbean region. *Ciencia & Saúde Colectiva*, 11(2), 293-302.
- Pedersen, D., Gamarra, J., Planas, M.E., & Errázuriz, C. (2003), Violencia política y salud mental en las comunidades altoandinas de Ayacucho, Perú. In C. Cáceres, M. Cueto, M. Ramos, & S. Vallenas (Eds.), *La salud como derecho ciudadano: Perspectivas y propuestas desde América Latina* (pp.289-307). Lima: Universidad Peruana Cayetano Heredia.
- Pedersen, D. (2002). Political violence, ethnic conflict and contemporary wars: Broad implications for health and social well-being. *Social Science & Medicine*, 55(2), 175-190.
- Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York : Simon and Schuster.
- Shalev, A. (2007). *PTSD: A disorder of recovery?* In L. J. Kirmayer, R. Lemelson & M. Barad (Eds.), *Understanding Trauma: Biological, Psychological and Cultural Perspectives* (pp. 207-223). New York: Cambridge University Press.
- Silove, D. (2007). *Adaptation, ecosocial safety signals, and the trajectory of PTSD*. In L. J. Kirmayer, R. Lemelson & M. Barad (Eds.), *Understanding Trauma: Biological, Psychological and Cultural Perspectives* (pp. 242-258). New York: Cambridge University Press.
- Silva, G. (2000). *Socialización andina y resiliencia*. In R. Panez, G. Silva & M. Silva (Eds.), *Resiliencia en el Ande* (pp.39-56). Lima: Panez & Silva consultores, Fundación Bernard van Leer.
- Spina, S.U. (2003). Urban youth reimagine trauma: Making meaning of experiences with chronic community violence through the arts. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 63(9-B), Mar 2003, 4422.
- Summerfield, D. (2000). *Conflict and health: War and mental health: A brief overview*. *BMJ*, 321, 232-235.
- Tanner, A. (1993). *Bringing home animals: Religious ideology and mode of production of the Mistassini Cree hunters*. Newfoundland: Memorial University of Newfoundland.
- Webb, N.B. (2004). *Mass trauma and violence: Helping families and children cope*. New York, NY, US: Guilford Press.
- Yehuda, R. (ed.). (1999). *Risk factors for posttraumatic stress disorder, 1st ed*. Washington, DC: American Psychiatric Press.

1 A previous study was conducted between 2001 and 2003 using mixed qualitative and quantitative approaches in four rural areas (Chaca, Cunya, Huaychao, Huaynacancha) and one urban marginal setting (Nueva Jerusalem) in the Peruvian highlands: Focused ethnography, semi-structured interviews (N=45); cross-sectional survey (N=373): socio-demographic, exposure to violence, social support; General Health Questionnaire (GHQ-

12); Hopkins Symptom Checklist-25 (HSCL-25); Trauma Questionnaire (derived version of Harvard Trauma Questionnaire). A 2-year intervention program followed (2003-2005). For further information on research methods, see Pedersen et al., 2008.

2 This project results from Trauma & Global Health Program members Mauricio Delfin and Chantal Robillard participation to the 4th Summer Institute (2007) of the Canadian Coalition for Global Health Research in collaboration with the Centre for Development Studies in Kerala, India. It is based upon results of previous and ongoing research (Pedersen et al. 2003; 2008) led by D. Pedersen (GHRI-Teasdale Corti Team Grant Program: www.mcgill.ca/trauma-globalhealth) at the Douglas Mental Health University Institute-McGill University, involving five research teams based in LMICs.

Presenter Biographies

Dr. Laura Arbour (Canada)

Dr. Laura Arbour is a Pediatrician and practicing Clinical Geneticist for the Vancouver Island Health Authority in Victoria, British Columbia (BC), where she is also an Associate Professor in the University of British Columbia (UBC) Department of Medical Genetics and the UBC Island Medical Program. She completed medical school at McMaster University and pediatric residency and genetics fellowship at McGill University. Her clinical genetics practice and research focuses on northern and Aboriginal health issues as they pertain to genetics, having previously worked as a pediatrician in the Inuit communities of the Eastern Hudson Bay coast.

Dr. Arbour is funded as a Clinical Investigator and for her research by the Canadian Institutes of Health Research (CIHR). She is currently investigating the nutrient and genetic basis of congenital heart defects in the Inuit of Nunavut, Long QT Syndrome in a Northern British Columbia community, and the genetics of primary biliary cirrhosis in Pacific Northwest Native Peoples. Her newest project entails developing a tri-territorial pregnancy outcomes registry to explore causes of infant mortality and birth defects in the three Northern territories. Dr. Arbour's broad interests connect ethics, genetics and clinical medicine. In this regard she has contributed to several Canadian workshops to explore the ethics of conducting biomedical research in aboriginal populations and the concept of "DNA on loan".

Dr. Arbour was a member of the CIHR Aboriginal Ethics Working Group which developed guidelines for carrying out health research in aboriginal communities. She is currently on the executive council of the International Network of Circumpolar Health Researchers, and is the chair of the International Union of Circumpolar Health Birth Defects Working Group. In 2006, Dr. Arbour received a Michael Smith Foundation scholar award for her exploration of genetic conditions affecting the health of Aboriginal people.

Dr. Donald Cole (Canada)

Dr. Donald Cole is a physician who has practiced primary care, public health, occupational health and environmental health in a variety of settings globally. In a community medicine residency at McMaster University he completed a Masters in Design, Measurement and Evaluation of Health Services (1991), and went on to qualify as a Royal College fellow in Occupational Medicine (1990) and Community Medicine (1992). A Tri-Council Eco-Research fellowship in environmental epidemiology and the role of Interim Director of Research followed by Senior Scientist at the Institute for Work & Health fostered his focus on research. Dr. Cole's ongoing interest in agriculture and human health questions led to his leading development of the Agriculture and Human Health Division with the International Potato Center. As a tenured Associate Professor of Public Health Sciences at the University of Toronto, he currently teaches, mentors, does research, and contributes research evidence to public health practice both in Canada and internationally.

Dr. Nancy Edwards (Canada)

Dr. Nancy Edwards is a Full Professor in the School of Nursing, with a cross-appointment to the Department of Epidemiology and Community Medicine, University of Ottawa; Principal Scientist, Institute of Population Health; Senior Scientist, Élisabeth Bruyère Research Institute; and Academic Consultant, City of Ottawa (Public Health Services). Dr. Edwards is the Scientific Director of the CIHR-Institute of Population and Public Health. Dr. Edwards obtained her undergraduate nursing degree from the University of Windsor and completed graduate studies in epidemiology at McMaster University and McGill University. Dr. Edwards has held a career scientist award and was a Visiting Professor at Tianjin Medical University, China; and at Guerrero University, Mexico. Currently, Nancy is the holder of a CHSRF/CIHR Chair Award in Nursing (2000-2010). The focus of her award is “Multiple Interventions in Community Health Nursing Care”. Nancy’s clinical and research interests are in the fields of public and population health. She has conducted health services, policy and clinical research both nationally and internationally and was the inaugural Director of the Population Health PhD program at the University of Ottawa. She has contributed to over 115 peer-reviewed and 100 technical publications and presented nearly 300 conference papers. Through her research in the fields of falls prevention, maternal and child health care, tobacco control and HIV and AIDS, she has informed the design and evaluation of complex multi-level and multi-strategy community health programs. She has been appointed to a variety of board positions; invited to sit on regional, provincial and national advisory and expert panels; and consulted on community health program design and research initiatives in Canada and internationally. Her work in global health has spanned four continents where she has led both development-oriented and research-focused projects.

Dr. Edwards is the recipient of numerous honours. In 1997, she received the Tianjin Hai He award from Tianjin Municipal Government, China, for outstanding contributions by a foreign professor. She was awarded an honorary lifetime membership by the Canadian Public Health Association in 2000 and an honorary lifetime membership from the Registered Nurses Association of Ontario in 2008, and received the Canadian Association of Schools of Nursing national research award in 2004. In honour of her contributions to “long-term changes in policy and practice” the Mayor, City of Ottawa proclaimed “Nancy Edwards” Day in 2006. In 2007 she received the University of Ottawa Research Excellence Award; a YMCA-YWCA Women of Distinction Award (Science, Research and Technology category), an Honorary Doctor of Letters from Thompson Rivers University in Kamloops, B.C, and became a Fellow of the Canadian Academy of Health Sciences. In 2008, she received a Centennial award from the Canadian Nurses Association and was named a distinguished professor of the University of Ottawa.

Dr. Ritsuko (Ritz) Kakuma (South Africa)

Dr. Ritz Kakuma has a Bachelor's degree in Psychology (McMaster University) and a Master's and Doctoral degree from the Department of Epidemiology, Biostatistics and Occupational Health at McGill University. She is currently carrying out her postdoctoral work in Cape Town, South Africa under the supervision of Dr. Paula Goering (Centre for Addiction and Mental Health, Toronto) and Professor Alan Flisher (University of Cape Town, Cape Town). With an interest in international mental health services and policy research (particularly in LMICs) her research is part of a project called the Mental Health and Poverty Project (<http://www.psychiatry.uct.ac.za/mhapp/>) which undertakes an evaluation of mental health policies and services in four African countries (Ghana, South Africa, Uganda, Zambia) and provides interventions to assist in the development and implementation of mental health policies and services that aim to break the negative cycle of poverty and mental ill-health. The focus of the postdoctoral work within this project is to examine the impact of stigma and discrimination in hindering progress in these areas and develop strategies to reduce stigma and discrimination. Through this project, she was a participant of the Canadian Coalition for Global Health Research (CCGHR) Summer Institute 4 in 2007 and the 5th Summer Institute as a Facilitator-In-Training in July 2008; and a trainee in the CCGHR Summer Institute Alumni Leadership Programme.

Dr. Harriet Kuhnlein (Canada)

Dr. Harriet Kuhnlein is Founding Director of the Centre for Indigenous Peoples' Nutrition and Environment (CINE) and Professor of Human Nutrition at McGill University. Dr. Kuhnlein received her doctorate from the University of California, Berkeley, and became Assistant, then Associate Professor at the University of British Columbia. She joined McGill University as Director of the School of Dietetics and Human Nutrition in 1985, a position she held until the founding of CINE in 1993. Dr. Kuhnlein is a registered dietitian in Canada, and holds membership in several nutrition societies and the Canadian Society for Circumpolar Health. She is the 2001-02 recipient of McGill's Earle W. Crampton Award for Distinguished Service in Nutrition and 1993 winner of the International Jack Hildes Medal for Circumpolar Health.

Dr. Kuhnlein's research with Indigenous Peoples spans more than 25 years, and includes participatory research with more than 20 cultures of Indigenous Peoples. She currently directs a Global Health Research initiative through Canadian Institutes for Health Research (CIHR) involving 12 cultures of Indigenous Peoples in different parts of the world, which has the overall intent to provide evidence that biodiversity inherent in traditional food resources of Indigenous Peoples fosters good health, and should be environmentally protected. She is a member of Advisory Board of the CIHR Institute of Nutrition, Metabolism and Diabetes and has served on the Executive of the Canadian Coalition for Global Health Research (CCGHR). She chairs the Task Force on Indigenous Peoples' Food and Nutrition of the International Union of Nutritional Sciences, and co-chairs the Global Indigenous Health Research Working Group of the CCGHR. Harriet is married to Professor Urs Kuhnlein, and they have three adult children and three grandchildren.

Mr. Mulumba Moses (Uganda)

Mr. Mulumba Moses is a lawyer with special interest in Health Rights. He studied at Makerere University where he completed a Bachelors of Laws. He did a Post Graduate Bar Course Diploma at the Law Development Centre, Kampala Uganda and he is currently doing his Master's Program. Mulumba has wide ranging research, advocacy, training and writing skills in emerging and challenging areas of law in Uganda. His main area of interest is Human Rights with specific specialty in Health rights. He has worked on health equity research and advocacy projects under the Regional Network for Equity in Health in East and Southern Africa (EQUINET). He has been active in Forensic Law and has recently worked as a legal assistant to a contributor to the leading text on Forensic Medicine, Medical Law and Ethics in East Africa which exposed him to the various challenges facing the rural community in realising health rights in face of HIV/AIDS. He has also had an opportunity to explore the challenges posed by the International Trade Agreements on access to essential medicines like Anti-Retroviral (ARVs) in the developing world.

Through EQUINET projects Mulumba has been involved in advocacy work to influence the government negotiations in the Economic Partnership Agreement (EPA) to ensure that Health Rights are protected. He has also been involved in a training on participatory methods for a people centred health system which aimed at building skills, sharing experiences and strengthening work on participatory methods for research and intervention towards people centred health systems, with a focus on overcoming community and health systems barriers in accessing comprehensive prevention and treatment for HIV and AIDS and strengthening equitable primary health care responses to HIV and AIDS. This training equipped him with the capacity to understand the processes of transforming health research into actions. He is currently undertaking a study on A Review of the Public Health Laws in Kenya, Uganda and Tanzania in Relation to Policy Areas Relevant to Equity in Health which cover substantial aspects of practical applications of public health laws. He is Uganda's interim country representative on the EQUINET steering committee and he is together with HEPS Uganda – Coalition for Health Promotion and Social Development working towards establishing a health equity network in Uganda.

Dr. Susanna Rance (Bolivia)

Dr. Susanna Rance, sociologist, was born in the U.K. and has resided in Bolivia since 1980. She is a researcher, university teacher, activist and international consultant working on issues of gender, health and rights, particularly sexual and reproductive health and rights, and research ethics. She has special interest and experience in teaching and applying qualitative and participatory research methodologies. She received her doctoral degree from Trinity College, University of Dublin in 2003. Susanna is a member of the teaching faculty of La Paz public university, Universidad Mayor de San Andrés.

Dr. Chantal Robillard (Canada)

Dr. Robillard is an Anthropologist, working as international network coordinator at the *Douglas Mental Health University Institute - McGill University* and as a lecturer in Sexology at *Université du Québec à Montréal*. She has been working in building research partnerships on issues of gender, globalization and (mental) health in Latin America. Her research is framed in an intersectional feminist framework. More recently she has focus on cross-cultural study of stigma and social discrimination in persons with severe mental illness as well as on gender-based analysis of mental health outcomes in Latin American countries confronted with political violence. She is currently developing research on the issue of resistance to globalization and stigmatization of migrant women involved in sex work in Latin America and Canada.

Ms. Kim Scott (Canada)

Ms. Scott is founder and principal investigator of Kishk Anaquot Health Research, an independent Indigenous owned and operated consulting firm specializing in health program development, performance measurement and planning with a wide variety of clients. Her career spans a broad spectrum of activity including public health administration, policy analysis, teaching and training. She has managed large scale health information management systems, a dozen national level evaluation efforts for both the federal government and non-governmental organizations and has written extensively for a variety of high profile Canadian organizations including the Royal Commission on Aboriginal Peoples, the National Forum on Health, the Canadian Centre for Substance Abuse, the Canadian Medical Association and the Aboriginal Healing Foundation. She has lead multidisciplinary health teams at both the community and provincial levels in environmental health, community medicine and nursing services while maintaining an active membership in the Canadian Evaluation Society.

Symposium Poster Presentations – Dyad Abstracts

A Participative Action Research Experience for Reducing Pesticide Use in Two Indigenous Communities in Ecuador

Cabarcas F., University of British Columbia, CIHR awardee, IDRC-INSP awardee Alulema R., Cuenca University, IDRC-INSP awardee

Introduction

This paper describes challenges and accomplishments of a community-based action research initiative for contributing to the reduction of pesticide effects on the environment and health of two Ecuadorian Indigenous communities. The project combines two graduate theses supported by the Canadian International Development Research Centre and the Mexican National Institute of Public Health- Ecohealth scholarship program.

Methods

In 2007, we conducted 191 household surveys, a census of agriculture warehouses, 50 interviews and laboratory analyses to detect pesticides (Carbofuran) in the irrigation channels. We also pursued an intercultural dialogue with community leaders for promoting activities for reducing pesticide-related harm.

Results

Our findings indicated poor safety in pesticide use. We also found 2.12 ppb of Carbofuran in the main irrigation channel and an average of seven per year of documented accidental pesticide poisoning in children, apparently related to migration. With community leaders, we promoted several initiatives such as the launching of a radio show on proper use of pesticides, workshops with farmers and educative videos and materials to be promoted by the warehouses, key actors for pesticide practices. Also, we collaborated with the creation of a group of farmers for commercializing pesticide-free products. Our experience indicates that local level capacity is fundamental for knowledge translation. However, challenges such as smallholdings and poor supporting policies weaken long term efforts.

Conclusion

Building on community capacity is essential for addressing challenges and developing sustainable solutions. Structural challenges such as international trade policies, land distribution and poor state support threaten long term initiatives for reducing pesticide-related harms.

Reducing Health Disparities and Promoting Equitable Access to Health Care for Aboriginal Peoples

Cameron B., King M., Martial, R., Santos Salas A., & Bourque Bearskin, L.

Abstract

This proposed research project originated from an on-going research initiative titled “Reducing Health Disparities and Promoting Equitable Access to Health Care Services for Aboriginal Peoples in Alberta” to investigate access to health care services for Aboriginal peoples from urban, rural, and inner city communities in Alberta, Canada. In line with the international component of the Reducing Health Disparities Initiative we seek to develop an international collaborative research partnership involving Canadian Aboriginal communities, Indigenous Peoples of Chile, and Canadian and Latin American scholars and health care professionals.

Under the umbrella of Indigenous research methodologies and community-based participatory research approaches, we expect to develop an international partnership with people from the Mapuche Nation in Chile. A related key outcome is to be able to act as collaborators with the Mapuche People’s ongoing mobilization to enhance their access to traditional medicine and mainstream health care services. Through a knowledge exchange process, we expect to be able to support and advance local initiatives towards enhancing the delivery of culturally safe health care practices in Chile. Working in partnership with Indigenous communities from other areas of the globe to examine and enhance culturally safe access to health care services is critical to advance our understanding of access to health care for the poor and marginalized both in local and global settings.

Exploring Protective Factors for Addictive Behaviour Among Urban Aboriginal Canadians

Cheryl Currie, M.Sc., Daniel McKennitt, B.Sc., & Cameron Wild, Ph.D.
School of Public Health, University of Alberta

Background

Urban Aboriginal people constitute one of the fastest growing segments of the Canadian population. Preliminary research suggests that they also share a disproportionate burden of addictive behaviour with serious implications for health. Currently, research is needed that examines protective factors among urban Aboriginal people. More than the inverse of risk factors, these indicators are associated with the capacity to cope successfully in the face of elevated vulnerability. *Enculturation*, defined as the process by which individuals identify with and participate in their traditional ethnic culture, has been established as a protective factor against suicide, alcohol dependence and mental health problems in rural First Nation and Native American communities. Presenters to the 1996 *Royal Commission on Aboriginal Peoples* identified several elements important to the cultural identities of urban Aboriginal Canadians including spirituality, language, cultural values, family and ceremonial life. Yet more than a decade later, the impact of enculturation on the health and wellbeing of Canada's urban Aboriginal population remains unknown.

Purpose

The purpose of this project is to work in partnership with the Aboriginal community to identify cultural factors that may protect Aboriginal people from developing problems with one or more addictive behaviours (alcohol, drug, nicotine or gambling), and pilot these markers.

Methods

We assembled a 12-member Aboriginal Advisory Committee made up of key members of the Aboriginal community in Edmonton, Alberta. Together, we worked to identify specific markers of enculturation. We then piloted these markers within a convenience sample of Aboriginal post-secondary students ($n = 34$, 73.5% female; M age = 26.6 years, $SD = 8.4$; 59% First Nations, 28% Aboriginal, 21% Métis, 3% Inuit).

Findings

Within this pilot sample, there were low levels of nicotine dependence and moderate to high levels of harmful alcohol use/dependence, harmful drug use/dependence, and problem gambling. Seeking the advice or guidance of Aboriginal Elders on a regular basis and high connectedness/solidarity with the urban Aboriginal community were each associated with reduced harmful alcohol use among participants (*Kendall's tau-b's* = $-.43$, $p=.01$; $-.30$, $p=.02$, respectively). As well, high biculturalism (i.e., having a highly integrated sense of Aboriginal

and mainstream cultural identity) was associated with reduced problem gambling (*Kendall's tau-b* = $-.37$, $p = .004$) and increased connectedness/solidarity with the urban Aboriginal community ($t = 1.3$, $df = 21$, $p = .03$).

Conclusion

These preliminary findings suggest a complex interplay between various addictive behaviours, enculturation, biculturalism, and social cohesion within the urban Aboriginal community. To further explore this area of research, this study will be replicated with a large, representative sample of urban Aboriginal adults in late 2008.

An Ecosystem Perspective of the Process of Reinfestation by *Triatoma infestans* in Rural Communities of the Gran Chaco Ecoregion – Argentina, Bolivia, Paraguay

Graciela Dinardi, Consultant, Centro de Estudios de Estado y Sociedad (CEDES)

Fernando De Maio, Assistant Professor, Department of Sociology and Anthropology, Simon Fraser University

Team Research

Project Director: Ricardo Gurtler; Social Sciences Coordinator: Ignacio Llovet

Participating Institutions in Argentina

Fundación Mundo Sano- Facultad de Ciencias Exactas, Universidad de Buenos Aires – Centro de Estudios de Estado y Sociedad, CEDES.

This research is funded by IDRC, Canada, September 2007 – 2009.

Background Information

The Gran Chaco and adjacent areas extending over Bolivia, Argentina and Paraguay are hyperendemic for Chagas disease and the heart of the distribution of *Triatoma infestans*. Despite an ongoing elimination campaign, vector-mediated transmission persists in much of the Gran Chaco and insecticide resistance has recently emerged. The main control strategies of Chagas disease are based on residual spraying with pyrethroid insecticides of houses, and screening of blood donors. Environmental management and housing improvement have had a marginal role in almost all triatomine control programs, although in theory, sustainable improvement in housing should largely control infestations.

Study Area in Argentina

Municipality of Pampa del Indio, Department Libertador General San Martín, Chaco Province.

Population: **11.558 (2001) Creole and Toba Indigenous people. Households: 2.456**

Very low educational level and health coverage, problems to access healthcare, many families depending on welfare, poor housing facilities.

General Objective

To identify sociocultural, environmental, biological, economic and institutional determinants of the domestic and peridomestic reinfestation process by *T. infestans* in rural creole (“criollo”) and indigenous communities in the Gran Chaco region in order to build up a comprehensive control and surveillance model for Chagas disease.

Our Research Questions

What is the relative importance of peridomestic or domestic residual foci versus sylvatic foci in the process of reinfestation?

What are the causes and determinants of reinfestation?

How do cultural traits of Creole and Indigenous communities (i.e. knowledge, attitudes and practices) influence differently the process of reinfestation?

What are the mechanisms underlying the reinfestation process at the household, village and regional levels?

How can we combine standard vector control measures with modern scientific tools and multistakeholder participation to achieve more sustainable vector control?

Research to Action Plan-Preliminary steps

1. Identify actors/partners (ongoing)
2. Determine project's research users
3. Establish mechanisms for:
 - a. interaction between researchers and boundary partners
 - b. knowledge sharing between researchers, policy makers and community
 - c. community involvement

Mental Health and Mayan Indigenous Populations in Post War Guatemala

Paula Godoy-Paiz & Victor Lopez

Our poster focuses on the mental health needs of Mayan Indigenous populations in Guatemala, a country that was devastated by an armed internal conflict from 1960 to 1996, and continues to live its effects in the present. Of the Indigenous peoples (Maya, Garífuna, and Xinca) that make up the majority of the population of Guatemala, Mayan Indigenous peoples constitute the largest ethnic group, representing 45% of the national population.

Despite representing a significant segment of the total population, Mayan Indigenous peoples, particularly those in rural areas, have the lowest health indicators in the country. Furthermore, they are faced with coping with the psycho-social consequences of the war, one of the bloodiest wars in recent Latin American history, in a context of scarce mental health resources. Our poster highlights the work being carried out, particularly as part of the *Douglas Mental Health University Institute - McGill Trauma & Global Health Program (TGH)*, in post-war Guatemala aimed at contributing to the creation of innovative, effective, and culturally sensitive mental health programs for minimizing the mental health burden of organized violence among Indigenous peoples.

Promoting Watershed and Water Source Protection Among the Indigenous Caribs of Dominica

Karen Morrison & Martin Forde

Through the International Development Research Centre (IDRC) funded Caribbean EcoHealth Programme (CEHP), efforts are currently underway to develop a research and capacity building programme among the Indigenous Caribs of Dominica specifically related to watershed and water source protection. The proposed programme seeks to draw upon experiences from similar research efforts among Canadian and United States Indigenous communities and apply these to the Indigenous Dominican Carib communities.

Key expected outcomes are:

1. The development and distribution of learning materials on this topic
2. Knowledge and skills transfer related to watershed and water source protection
3. Identification of freshwater pathogens
4. The formulation and development of policies that ultimately improve the quality of water used by these indigenous communities.

The CEHP is a multi-disciplinary research and capacity building programme that is designed to deal with environmental and health issues, such as this one, within the English-speaking Caribbean islands. CEHP led projects are developed from a variety of perspectives, one of which is identifying and carrying out research and capacity building activities among vulnerable and minority communities. This research proposal involving the Indigenous Caribs of Dominica clearly complements this goal.

Three Generations of Mayan Women's Perspectives on Reproductive Health

Miriam Salvador, B. Ed., Graduate Studies, Universidad de San Carlos, Guatemala

Adrienne Wiebe, PhD, School of Public Health, University of Alberta

Background

The reproductive health of Guatemalan Mayan women continues to be among the poorest in Latin America. Guatemalan Indigenous women have an average of 6.2 children while non-Indigenous women have an average of 4.4 children. Maternal mortality for Indigenous women is 240/100,000, about twice as high as non-Indigenous women. Infant mortality is 46/1,000 for the Indigenous and 40/1,000 for general population. (UNICEF, 2003)

Methods and Case Study Community

- Interviews with 60 women between the ages of 18 and 90 years of age.
- A Maya-Mam community of Comitancillo, in the western highlands of Guatemala with 50,000 people in 113 sq kilometres.
- An isolated community, with a subsistence farming base, artisan production, migratory labour, and increasing wage-labour. Education levels are improving, however, the majority remain in extreme poverty.
- Mam is spoken and cultural continuity is strong. Patrilocal, endogamous marriage patterns continue to prevail.
- Local health services include a small government health centre that provides public and community health services, but has very little capacity for treatment.

Conclusion

Guatemalan Mayan women's reproductive health is slowly improving as their knowledge, economic circumstances, and access to health services improves. However, the continuing gap between Indigenous and non-Indigenous women's reproductive health can only be overcome by addressing the cultural and social factors that impact health status, such as culturally-based gender roles within the family and community, spiritual and holistic perspectives on health and well-being, and survival strategies utilized in marginal communities.

Reference:

Paul, L. (1974). "The Mastery of Work and the Mystery of Sex," in *Women, Culture, and Society*, Eds. M. Zimbalist Rosaldo & L. Lamphere, Stanford, CA: Stanford University Press. An ethnographic study of a Zutuhil Maya community beside Lake Atitlán in the 1941.

Three Generations of Mayan Women's Perspectives on Reproductive Health

	Grandmothers 50-90 years	Mothers 30-50 years	Daughters 18-30 years
Reproductive Health Knowledge and Reproductive Role of Maya Women	<p>"Mystery of Sex" (Paul, 1974) Sexuality is a mystery; it is not talked about. Women were unprepared for the crisis of first menstration, the wedding night, and the birth of the first baby. But each experience admits her by stages to growing awareness of female power and connection to other mature women.</p>	<p>Informal learning Increasing knowledge of physical aspects of reproductive health through health and education institutions, media, & opportunities for women to gather and talk (i.e. literacy, economic projects). Social, religious, and cultural barriers still exist to women's decision-making. Important role of women as bearers and reproducers of culture</p>	<p>Increasing Knowledge Learning from mother and in formal educational settings. "When my menstrual period arrived for the first time, my mother told me: "Don't be shocked; this always happens to women. . . Before women were afraid, but now it is different, because time has advanced" Victoria, 17 Women as part Maya revival</p>
Birth Planning & Desired Number of Children	<p>"All the children that God sends" In a marginal subsistence economy and a closed cultural community, all the children sent by God are accepted. "My parent's-in-law were very angry with me because I did not have a baby right away after we were married, it took three years. My father-in-law said: well, since you do not have a baby you can do men's work in the fields. But my mother-in-law said: if you obey me now, you will have a long life with your children and inheritance." Josefa, 75 - married at 15 years of age</p>	<p>Spacing children for health Women think about the economic and health disadvantages of having many children, however, religious beliefs, cultural norms, and male dominance prevent most from acting. "My idea is to stay with the number of children I have now (8), but my husband doesn't want us to use birth control. . . it's a sign that I don't love him. But that is a lie, I just want to space the children to have more materially for them. . . But I am secretly doing something - getting injections. I hope that I will not get pregnant during the next two years while my youngest baby is growing." Ana 34</p>	<p>Considering limiting the number of children Women consider birth planning despite religious, male and cultural pressures. "I look around and see that many babies still die. My sister lost 3 of her 7 babies because of diarrhea, vomiting, fever. What if I only have 3 babies, maybe half will die? I have also heard that pills can cause cancer. What if I get sick and my husband no longer wants me? He suggested sterilization, but what if he decides he wants more? Then he will look for another woman. Anyway, I am a teacher and I support my children, so why is he pushing me?" Silvia, 28 - (husband has been working in the USA)</p>
Reproductive History	<p>Ave. age married: 15.5 yrs. Ave. 11 births per woman Ave. 3.2. infant deaths</p>	<p>Ave. age married: 16.7 yrs. Ave. 7.4 births per woman Ave. 1.35 infant deaths (reproductive lives not all completed)</p>	<p>Ave. age married: 18.5 yrs. Ave 2.6 births 1 infant death in 24 births (reproductive lives not completed)</p>
Childbirth Experience	<p>Prenatal care and delivery of first child with traditional midwife. After first child, preferred to female alone, with assistance of female relatives after the birth</p>	<p>Traditional midwives provide prenatal care and assist with childbirth. Family assists with aftercare. Rarely external support for complications.</p>	<p>Use both traditional midwives and government health centre for pre and post natal care. Delivery at home with midwife and female relatives. Transported to town 2 hrs away for childbirth complications</p>

Promoting Evidence Based Decision-Making Using Actionable Messages on Disease Control Priorities in India: A Randomized Controlled Trial

Prabha Sati & Vijaya Laxmi Hebaare

Centre for Global Health Research, St. Michael's Hospital, University of Toronto

Context

The Disease Control Priorities Project – India report, called “Choosing health: An Entitlement for all Indians” is in the final stages of completion. It has assembled new evidence on mortality, risk factors, cost-effectiveness, and strategies that have been customized to the Indian government plans.

The key conclusion of the report is the need to focus on the highest impact interventions so as to rapidly improve health. Dissemination of the report may lead to policies and programs which can ultimately affect health services and patient outcomes.

Objective

To ascertain whether a package of targeted health-related information to policy makers in India, will affect attitudes of district health officers, discretionary health spending or health care utilization.

Hypotheses

1. Providing information only would not suffice. Information in a summary format that is actionable, timely, which offers a feedback on performance with personal contact will improve knowledge and attitudes of the recipient.
2. Promoting synergy, across groups enhances practice and implementation which would be evident by changes of resource allocation and healthcare utilization.

Design

Cluster- randomized controlled trial using block randomization.

Methods

Distribution of a package including the report “Choosing Health: An Entitlement for all Indians”, a video and summary of the report, a district profile comparing disease burden and health system performance to the National average, and a speech in local language to the Members of Parliaments and Members of Legislative Assembly.

Results

The study will measure the impact of dissemination of Choosing Health report on decision makers and health systems at various levels.

Why are Children with Cataracts Brought Late for surgery? Qualitative Findings from Tanzania

Sylvia Shirima, Annie Bronsard & Robert Geneau

Purpose

Worldwide, at least 190,000 children are blind due to cataracts. Surgical intervention is the treatment of choice but in most developing countries the number of children with cataracts being brought to hospital for surgery has been few in number, considerably less than the burden of disease in the community. Furthermore, long delay in presentation is a major deterrent to improved visual outcome and compromises the future quality of life of children and their families. The main objective of this qualitative study was to provide a better understanding of surgical delay in the care of children with congenital or developmental cataracts.

Methods

We conducted 117 semi-structured interviews with parents or guardians of children admitted for cataract surgery at a tertiary hospital in northern Tanzania.

Results

We identified several factors influencing the treatment-seeking behaviors of parents and guardians, including gender relations within the household, local health beliefs about cataracts and cataract surgery and the ability of health care professionals in primary and secondary care settings to adequately inform parents and guardians about cataracts and cataract surgery.

Conclusions

Practical, short and medium term avenues must be explored to reduce delays of presentation. Public education, training of health workers and counseling efforts in the communities may be necessary to enable children to access services in a timely fashion.

Climate Change Impacts and Adaptations: Implications for Diet and Health

Sonia Wesche¹, Brandon Kyikavichik², Pam Tobin¹, Laurie Chan¹

¹B.C. Leadership Chair for Aboriginal Environmental Health, University of Northern British Columbia, Prince George, BC, wesche@unbc.ca

²Heritage Branch, Vuntut Gwitchin Government, Old Crow, Yukon, bkyikavichik@vgfn.net

For Indigenous groups in northern Canada, the predictable availability of and access to traditional (country) food is being challenged by changing environmental and social conditions, with implications for human health and wellbeing. The consumption of traditional food provides important nutrients, vitamins and minerals, and offsets the intake of saturated fats, sucrose and excess carbohydrates often found in store-bought alternatives. Furthermore, the harvesting, preparation and consumption of traditional food is linked to the continuity of Aboriginal identity, culture and social cohesion, important elements of wellbeing.

Recent work suggests that climate change is influencing components of traditional food security in the Arctic. Impacts include changes in the distribution, community structure, population abundance, and behaviour of animal and plant species, as well as human access to harvesting areas. In addition, economic constraints in remote Indigenous communities often limit both harvesting capacity and the ability to access substitute foods through market purchase. Food security considerations are particularly applicable to the remote, fly-in community of Old Crow, Yukon.

The Vuntut Gwitchin First Nation is collaborating with University of Northern British Columbia researchers to develop a better understanding of key environmental and social variables influencing the availability, accessibility and quality of principal traditional food resources, and to jointly develop a community adaptation plan. This is one component of a broader, interdisciplinary study of environmental change being undertaken as part of International Polar Year (2007-09).



**University
of Victoria**

Centre for Aboriginal
Health Research

Centre for Aboriginal Health Research

University of Victoria
PO Box 1700 STN CSC
Victoria, BC Canada
V8W 2Y2

Phone: 250-853-3115

Fax: 250-472-5450

Website: <http://cahr.uvic.ca>