Health Initiative of the Americas/PIMSA
Final Report, November 14, 2013

Project title: Study of mental health and substance abuse among indigenous migrants in Yucatán, México & Southern California

(Estudio de salud mental y abuso de sustancias entre migrantes indígenas en Yucatán y el sur de California**)**

US Co-PI Principal Investigator Name, Institution and Department: Dr. María Luisa Zúñiga, University of California, San Diego, Department of Medicine

Mexican Co-PI Principal Investigator Name, Institution and Department: Dr. Pedro Lewin Fischer, Instituto Nacional de Antropología e Historia, Centro INAH Yucatán

I. Study background and purpose: International migrants, especially the undocumented, typically experience mental health stressors related to the border-crossing experience, resettlement, family separation, language differences, and exposure to different socio-cultural norms. Although these stressors have been hypothesized to increase mental health disorders and substance use, few studies have empirically assessed these relationships, especially among indigenous migrant populations in a transnational context. The aim of this mixed methods study was to identify and understand factors associated with risk for and resilience to poor mental health (e.g., depression) and substance abuse among a binational sample of indigenous Mexican migrants.

II. Study Milestones: From January and March 2012 we successfully recruited a total of 650 participants in Tunkás, Yucatán and Southern California, U.S. (n=583 in Mexico; n=67 in Orange County and Los Angeles County), far surpassing the projected sample of 300 in Mexico. Although the sample size of individuals who were recruited in the U.S. was lower than anticipated, we were able to capture information for a total of 87 U.S. residents who included U.S. residents who were visiting Tunkás at the time of the survey.

We conducted three community-engagement sessions in Tunkás where study findings were presented in a community-friendly manner to the municipal leadership, clinic staff, and teachers at a primary school. We provide details of this community-engagement process in section IV. Community-Based Participatory Research endeavors.

The following sections provide an overview of study accomplishments, including invited presentations, publications and community information dissemination and engagement activities. Importantly, this PIMSA-funded research has led to the establishment of a strong, vibrant and long-term relationship between Co-Principal Investigators Drs. Lewin Fischer and Zúñiga and study co-investigators.

This binational study yielded a total of 9 scholarly products, including 8 manuscripts (5 of which have been accepted/in press, 2 conditionally accepted/under review).

Overview of study milestones

i. Presentations to date:

1. Pinedo M, Campos Y, Leal D, Fregoso J. with Faculty advisors: Shira M. Goldenberg S, Zúñiga, ML, and Lewin P. Invited presentation on preliminary PIMSA findings on migration and alcohol use. 7th Summer Institute on Migration and Global Health, Los Angeles. June 2012.

2. Lewin-Fischer and Zúñiga, ML. Estudio transnacional con población indígena de Yucatán, México: hallazgos preliminares (Transnational study with an indigenous population from Yucatán, México: preliminary findings). XII Foro Binacional de Políticas Públicas sobre Migración y Salud. Oaxaca, Oaxaca, México. October 2012

3. Zúñiga, ML. Understanding and Reducing Health Disparities workshop. 29th annual Latino Medical Student Association Regional Conference. UC San Diego School of Medicine. March 30, 2013.

ii. Publications/manuscripts to date:

1. Zúñiga ML, Lewin Fischer, Martínez I. Informe a la Comunidad de Tunkás en Yucatán y California: Resultados de Encuesta (Report to the Community of Tunkás in Yucatan and California: Survey Results). Community brochure produced as part of Health Initiative of the Americas/PIMSA grant. February, 2013.

2. Pinedo, M, Kang Sim, E, Espinoza, RA, Zúñiga, ML. Internal migration and correlates of substance use in a community of indigenous Maya from Yucatán, Mexico. *Field ACTions Science Reports*. February 2013, in press.

3. Allison VanVooren, D. Eastern Kang Sim, Karina Gonazalez, Ana Velez, Mirel Briceno, Wayne Cornelius (2013). Migration as a potential risk factor for obesity: a comparison of domestic and international migration. In press: Field ACTions Science Reports. (In press)

4. Espinoza R, Martínez I, Levin M, Rodriguez A, Chan T, Goldenberg S, Zúñiga ML. Cultural Perceptions and Negotiations Surrounding Sexual and Reproductive Health Among Migrant and Non-migrant Indigenous Mexican Women from Yucatán, Mexico. J Immigr Minor Health. 2013 Sep 4. [Epub ahead of print]

5. Salgado H, Haviland I, Hernandez M, Lozano D, Osoria R, Keyes D, Kang E, Zúñiga ML. Perceived Discrimination and Religiosity as Potential Mediating Factors Between Migration and Depressive Symptoms: a Transnational Study of an Indigenous Mayan Population. J Immigr Minor Health. Accepted October 27, 2013.

6. Zúñiga ML, Lewin Fischer P, Cornelius D, Cornelius W, Goldenberg S, Keyes D. A Transnational Approach to Understanding Indicators of Mental Health, Alcohol Use and Reproductive Health Among Indigenous Mexican Migrants. J Immigr Minor Health. 2013 Nov 19. [Epub ahead of print]. DOI 10.1007/s10903-013-9949-7.

7. Pinedo M, Campos Y, Leal D, Fregoso J, Goldenberg SM, Zúñiga ML. Alcohol Use Behaviors Among Indigenous Migrants: a Transnational Study on Communities of Origin and Destination. Journal of Immigrant and Minority Health. Under review, August 7, 2013.

8. Haviland I, Rocha T, Torre J, Rodríguez J, Lewin-Fischer P, Zúñiga ML. Factores laborales y redes sociales ante riesgos de salud mental y uso de sustancias entre migrantes en Yucatán y California (manuscript work in progress)

9. Kang Sim, DE, Espinoza R, Pinedo M, Zúñiga, ML. Self-perception of body image and weight status among migrants and non-migrants in a community of indigenous Maya from Yucatan, Mexico (manuscript work in progress)

III. Key Study Findings Following is a selection of study findings drawn from peer-reviewed manuscripts that were developed as part of this PIMSA study.

Alcohol and substance use behaviors looking at communities of origin and destination
Alcohol use behaviors among migrants are complex and likely influenced by many factors, including social norms and mental health. There is a research gap in understanding alcohol use behaviors among migrants with different migration experiences (e.g. domestic or international). This holds especially true among migrants who are members of indigenous communities, who may be more socially isolated than non-indigenous communities, and for whom alcohol risk behavior may be different. We applied multivariate logistic regression to explore the association between migration-related factors, including duration of longest migration trip (i.e. ≥ or < five years duration in the receiving community) and risky alcohol consumption. Principle findings indicate that <5 years time in U.S. is independently associated with at-risk alcohol consumption, but duration of domestic migration ≥5 years was independently associated with at-risk drinking. Speaking Maya appeared protective against at-risk drinking.

Discrimination and religiosity as potential mediators between migration and depressive symptoms
Migration is implicated in the deterioration of mental health and presence of emotional and psychiatric disorders. Discrimination among U.S. migrants to the U.S. has been well documented and may be implicated in poor mental health. Regular religious service attendance, on the other hand, may mitigate harmful effects of migration and discrimination, and promote resilience to poor mental health. Research is lacking on mediators of poor health outcomes among indigenous migrants. In this analysis we explored indicators of perceived discrimination and religiosity as mediators of depressive symptomology to elucidate potential areas of intervention to improve mental health among indigenous migrants. We applied path analysis to understand the relationship between migration and depressive symptoms, including potential mediating roles of perceived discrimination and religiosity. We found that among female migrants (i.e. U.S. or domestic migration experience), perceived discrimination mediates the relationship between migration and risk for depression. For men, U.S. residence is associated with perceived discrimination, but only a weak, non-significant association was indicated with depression. Importantly, our study population exhibited overall low levels of depression. Given that depressive symptomology has been well documented in other Latino populations, it is possible that our measure of depression (the CESD) may not have been culturally relevant to this population. Future work should pay close attention to the cultural relevance of standard measures such as the CESD, work that could be undertaken in a qualitative study. We believe that this study can inform subsequent research on the effects of discrimination on the health of indigenous migrants and underscores the importance of understanding how migration experience may impact men and women differently.

Cultural Perceptions and Negotiations Surrounding Sexual and Reproductive Health among Migrant and Non-Migrant Indigenous Mexican Women from Yucatán, Mexico
We conducted in-depth interviews with 31 Tunkaseña women (22 living in Tunkás and 9 living in Southern CA) to explore their access to sexual health care and perceptions related to their sexual health.

Employing the constant comparative analytic method, we identified key themes in participant study narratives. The analysis revealed that lack of power over participant sexual health, compounded by migration processes and structural barriers to accessing care, pose substantial challenges to indigenous women's sexual and reproductive health. These findings add to the scant evidence base regarding the health and social disparities experienced by indigenous women migrants and partners of migrants, highlighting how gendered power dynamics may negatively impact the sexual and reproductive health of Tunkaseña women, particularly the spouses of migrants. This paper builds upon previous findings by MMFRP researchers and others regarding the influence of migration on women's access to reproductive health care and prevention technologies, including contraception.

III. Challenges

Recruitment of study participants proved to be more challenging on the U.S. side than in Yucatán. We believe that lower responses in the U.S. may have been related to potential participant concern over and sensitivity to documentation status (theirs or a member of their family). Refusal rates were 7% and 28%, in Tunkás and Southern California, respectively. U.S.-based recruitment efforts relied largely on referrals from Tunkás participants. Due to the unbalanced sample sizes, we indicate this limitation when presenting findings comparing Tunkás participants with U.S. participants.

By virtue of well-planned community engagement meetings (described earlier), this study successfully disseminated data findings to the community in Tunkás. We did, however, face some challenges to operationalizing this. For example, at the time we returned, there had been local municipal elections and our study team was faced with introducing ourselves and getting buy-in from new Tunkaseño leadership. We also noted high turnover of teachers in one of the larger primary schools with whom we had established a relationship, and perhaps more importantly, turnover in clinic leadership and some service staff. We were able to overcome these challenges thanks to the efforts of Co-Principal Invetigator, Dr. Pedro Lewin Fischer, who before our made three trips to Tunkás prior to presentation of study findings.

Providing the community with important findings about their health comes with a responsibility of being realistic about what next steps could be, not making any promises one is not sure they can keep, and having an eye towards community-based sustainability (e.g. school parent group takes on a specific issue to work on in collaboration w/ teachers). People who are not familiar with research may question why we are merely shedding light on this information, of which they may have already been aware based on their experience, and not come with a "plan for action". The investigators have made a commitment to participating in and supporting future community-developed work plans where community members can strategize how to solve these issues themselves. This remains work in progress led by Dr. Lewin Fischer and with support from Dr. Zúñiga. Members of our research team are initiating work with community members so that they themselves can 'self-diagnose' and comment on the impact of migration on wives of migrants and the impact of migration on health among wives of migrants. The purpose of this initiative is to promote a self-determined action plan that could be sustained among community members themselves and with technical support from the investigator team.

IV. Community-Based Participatory Research endeavors

This study adhered to principles of Community-Based Participatory Research (CBPR). For example, Dr. Lewin Fischer and Dr. Zúñiga strategically planned and conducted a series of three community engagement meetings with community members and leaders in Tunkás, Yucatán (January 31-February 4, 2013). These community engagement meetings proved invaluable to validate and contextualize study

findings. They also allowed for gaining valuable insights and perspectives on study findings, and an opportunity for dialogue on the health issues raised by the study. During community meetings, we discussed study findings related to depression, substance use and women's sexual/reproductive health that in turn could be useful to inform new migrant health programs or policies. Community members were also apprised about how the information had been utilized and how it would be further disseminated. Importantly, we meticulously documented all preparations and activities related to the community meetings so that other studies may be able to adapt this process.

Dr. Zúñiga was later invited to present information on this PIMSA study and our return visit to Tunkás ("Community-engagement through Dissemination of Findings") at two research seminars at UC San Diego (Department of Pediatrics & Medicine). These academic lectures allowed for an opportunity to discuss CBPR in action, lessons learned, and the value added to our study by following CBPR principles. As a complementary activity in Mexico, study findings will be disseminated to migrant populations in Anaheim and Inglewood California in early December, 2013. In addition to dissemination of findings, these upcomoing meetings will permit strategically-important sectors of the community (clinic staff, authorities, teachers and leaders) to visualize how research findings can contribute to longer-term health education opportunities in Yucatán and California. It is anticipated that with our continued involvement, the Tunkaseño community will themselves champion some of the health issues.

VI. Lessons Learned

Timing of return visits to community for data dissemination activities should include consideration of potential competing events that may make it harder to reach the intended audience. The research study benefited from data collection activities that were realized during the annual town fiestas. However, upon our return to the town a year later to disseminate study findings, we realized that this same celebratory period made it more difficult to set up meetings with groups of community stakeholders who were also participating in town events. Our meetings were often accompanied by a background of *cohetes* (fireworks), music and church bells. This situation helped us understand how our study competed with community priorities at the time.

When researchers return to communities to provide data results, they must be prepared to adapt and promote dialogue in a variety of settings. Because we relied on the generosity of our community partners to provide space for us to present our findings and dialogue with them, the investigators found themselves needing to be very adaptable to small spaces, limited seating, etc. Spaces provided for our presentations at the school, community clinic and at the town's municipal quarters were small, cramped and facilities were not optimal for technology-driven presentations, but they were workable. Flexibility and improvisation were indispensable resources to accommodate our community partner's schedules. These technical issues may also indicate that this type of feedback activity is not part of local customs, and may indicate as well that this community is not yet in a place where they are able to recognize the importance of issues raised by their own community members.

Community presentations that use diagrams and images help to visualize findings. We learned that less text and less and shorter qualitative quotes were most effective to convey research findings. Preparation for successful sessions is critical. For example, obtaining contact information from key community members, especially those with high turnover, such as school and health center directors, will ensure that continued community dialogue is achievable.

VI. Conclusions and policy implications

Our findings on alcohol and drug use behavior indicate that for both transnational and domestic (within Mexico), destination matters for individuals in this indigenous population (Pinedo, et al., Field ACTions Science Reports, 2013). For example, domestic Mexican migrants who migrated to tourist destinations (e.g., Cancún, only 2 hours from Tunkás) were more likely to report high-risk substance using behavior than individuals who did not migrate to tourist destinations. This particular finding coincides with existing literature that environment and social context can influence substance use behavior. It is a novel finding among domestic Mexican migration studies and fertile ground for future research.

Our research on alcohol and substance use in the context of transnational and domestic indigenous migration adds new and important information to the existing body of literature. This work can inform subsequent intervention research and policies (both in the U.S. and Mexico) to reduce risky alcohol consumption and/or illicit drug use among domestic and international indigenous Mexican migrants, who may face greater marginalization in receiving communities than non-indigenous migrants.

VIII. Next steps

Dr. Lewin Fischer will travel to San Diego in December 2013 in order to participate with Dr. Zúñiga in two final dissemination presentations to community members in Anaheim and Inglewood California. These presentations will be made as a direct result of community member invitation to share study findings with migrants in the U.S.

Efforts to reach a larger sample of women with alcohol and substance use risk should be made in future research with migrant populations. As well, this study was largely quantitative and our findings could be further enriched by qualitative data, which we will propose in a subsequent study.

Based on our study findings and community dissemination work the study Co-Principal Investigators are also preparing a policy brief that will summarize key findings of our research as well as feedback that we received from the community. Once the policy brief has been completed, we will present it to the Secretary of Health in Mérida, Yucatán. Our goal is to educate policymakers about important health issues faced by migrants and their families and to promote long-term institutional support for the community of Tunkás and other regions in Yucatán. As feasible, we will make an effort to disseminate widely these findings to migrant health policy makers and stakeholders in other Mexican states with high volume of out-bound domestic and/or transnational migration. As part of our proposed ongoing efforts to maintain ties with the community, we also plan to conduct community workshops to promote self-directed assessment of community health needs and impact of migration and health on individuals and families (women, in particular). Dr. Lewin and Dr. Zúñiga have also discussed the possibility of developing a migrant health guide with community members. This guide could serve as a resource for migrants, families, as well as personnel from different institutions who work with migrants.

This study allowed us to deepen understanding of mental health and substance use among indigenous migrants. We also appreciate the critical role that the community has played in making the research relevant and of value to informing future work:

"It's not enough to come into a community and do research. The community is not about research- that's a university or academic perspective. The community is about solving problems or challenges that it's facing… The research can aid in that process, so as much as possible, we have to push beyond the research. -Zachary Rowe, member, East Side Village Health Worker Steering Committee (Meredith Minkler, Nina Wallerstein. Community-Based Participatory Research for Health. San Francisco: Jossey-Bass, 2003.)

Community feedback brochure produced for dissemination of study findigns to target communities

Objetivo del estudio
Identificar los problemas de salud provocados por la migración de los tunkaseños y contribuir a su mejoramiento.

Equipo del estudio
Maestros y alumnos del Programa de Investigación en Migración de la Universidad de California, San Diego y del Instituto Nacional de Antropología e Historia de Yucatán. Este equipo ha estudiado la migración de Tunkás desde el año de 2006. El último trabajo se realizó en 2012. Aquí presentamos los principales resultados que encontramos.

Encuesta
De enero a marzo 2012 se entrevistaron a los tunkaseños que viven en Tunkás, Yucatán y a los que viven en el sur de California, Estados Unidos.

Se realizaron más de 650 encuestas que trataron los siguientes temas:

- La migración y la salud
- Uso de sustancias (alcohol y drogas)
- Enfermedades crónicas (diabetes, hipertesión)
- Salud de la mujer

Este folleto está dirigido a todos los tunkaseños que viven en Yucatán y California, así como a las agencias que promueven la salud de los migrantes en México y los Estados Unidos.

Con agradecimiento a la comunidad de Tunkás por su apoyo

PIMSA Programa de Investigación en Migración y Salud

CCIS Center for Comparative Immigration Studies

Mayores informes:
Dr. Pedro Lewin
pedrolewin@yahoo.com.mx
Dra. María Luisa Zúñiga
mzuniga@ucsd.edu
University of California, San diego
http://gph.ucsd.edu

Informe a la comunidad de Tunkás en Yucatán y California

Resultados de la Encuesta
Febrero 2013
Tunkás, Yucatán, México

UC San Diego
Instituto Nacional de Antropología e Historia

Investigadores principales:
Dra. María Luisa Zúñiga, UC San Diego
Dr. Wayne Cornelius, UC San Diego
Dr. Pedro Lewin, INAH Yucatán

Lo que aprendimos con la participación de la comunidad en Tunkás

Resultados 1

- Edad promedio de los participantes: 40 años.
- El 33% de participantes habla la lengua maya.
- El 56% tiene experiencia migratoria, tanto dentro de México como hacia los Estados Unidos.

Problemas de salud

- La migración de los hombres puede afectar la salud sexual y reproductiva de las mujeres, incluso de las que no migran.
- Hay sobrepeso y obesidad entre la población de Tunkás, lo cual puede llevar a enfermedades crónicas como la diabetes y la hipertensión.
- El ejercicio y la buena alimentación son muy importantes para combatir estas enfermedades.

Resultados 2
La migración y la salud

La migración está relacionada con:

- Depresión, sobrepeso y mala alimentación.
- Los tunkaseños que migran a Quintana Roo tienen más riesgos de consumir más alcohol.

Acceso a servicios de salud de la mujer y la familia

- La calidad, confidencialidad y tiempo de espera en los Centros de Salud son importantes para la salud reproductiva de las mujeres migrantes y no migrantes.
- Las relaciones entre hombres y mujeres, a veces desiguales, pueden influir sobre la forma en que las mujeres se cuidan y sobre la frecuencia con la que recurren a los servicios de salud sexual y reproductiva.

Resultados 3
Los tunkaseños en California, Estados Unidos

- Los tunkaseños en los Estados Unidos están expuestos a consumos más altos de alcohol durante sus primeros años de estancia en ese país.
- El consumo de alcohol puede aumentar porque hay depresión. Estos sentimientos también pueden influir sobre el consumo riesgoso de alcohol.
- Los tunkaseños con larga experiencia migratoria en los Estados Unidos tienen más riesgo de padecer de sobrepeso y obesidad.

Fortaleza e innovación de los tunkaseños

La comunidad tunkaseña, tanto en México como en los Estados Unidos, es muy unida y mantiene lazos fuertes a través de:

- Fiestas / Reuniones organizadas
- Grupos, asociaciones y equipos deportivos
- Redes sociales como Facebook