Transferring Knowledge into Action: Examining the Impact of a Rural-Indian Adolescent Girls Program at the Individual, Familial, and Community Level

Abstract:

The Comprehensive Rural Health Project in Jamkhed, India, uses the evidence-based Jamkhed Model to solve public health issues using communities' existing resources and values. The Adolescent Girls Program is a program in the Jamkhed Model that teaches girls valuable health and social justice lessons to be agents of change in their communities. While AGPs play a pivotal role in their communities, resource restraints inhibit CRHP from conducting research on the impact of AGP graduates on their communities'. Furthermore, there are gaps in the literature regarding the impact of AGP graduates on their communities. Building on existing relationships between Elon and CRHP, this project will investigate how knowledge gained by AGP graduates diffuses into their communities. By conducting interviews with AGP graduates in collaboration with the CRHP Research team, we will describe what knowledge graduates gain from the program and how that knowledge influences AGP participants, their families, and their communities.

Personal Statement:

When I was 13, my interest in public health was sparked by the 2011 movie Contagion. Inspired by the race against time the film's epidemiologists faced to find patient-zero, I began to investigate an academic path that would allow me to become an epidemiologist. Thus, I discovered the field of public health.

Through public health courses at Elon, I realized that public health encompasses much more than stopping the spread of infectious pathogens and learned the value of prevention and community development in addressing the challenges of disease. My first exposure to health disparities was a service trip to the Pine Ridge Native-American Reservation during my senior year of high school. Leaving my predominantly upper-middle class, white, Boston suburb and experiencing Pine Ridge allowed me to see how centuries of mistreatment and neglect burden communities and limits opportunity. In Pine Ridge, Tuberculosis rates are 800% higher than the US norm, the poverty rate is 53%, and teen suicide rates are 150% greater than the US average (Re-member, 2019). This manifestation on the reservation were disheartening, since the US government has the resources and responsibility to promote community health in Pine Ridge, instead providing little. This inspired me to pursue policy making and equitable solutions addressing health disparities that meet the needs of vulnerable and underrepresented communities.

In Pine Ridge, we partnered with Re-member, an organization that worked with the reservation for decades successfully implementing toilets, wheelchair ramps, and other infrastructural necessities. Re-member's dialogue with community leaders and investment in community relationships ensured that needs were addressed, ultimately avoiding "toxic charity." I learned that successful interventions are rooted in the pillars of trust, community engagement, relationship building, and sustainable development. Fascinated by the success of this innovative approach, I knew I wanted to engage in similar experiences in the future.

While pursuing my public health major, academics took on an additional focus my first year at Elon. I decided to take the India and South Asia course, to fulfill Advanced Studies credit. Dr. Kirk's passion for Indian politics and society, infused into every lecture and assignment, inspired my intellectual curiosity. I was intrigued by the intersections of religion, politics, and economics of India, which ceased being merely another developing nation and became an enigma of democracy that has managed the challenges of development and security against insurmountable odds. I decided my academic interests would take me to India, thinking that my research would focus on the controversial Bharatiya Janata Party, thus declaring an Asian regional focus for my International and Global Studies major. More deeply interested in India, I drifted away from public health.

Traveling to India for the Public Health Practicum reignited my passion for community health. At the Comprehensive Rural Health Project (CRHP) in rural India, I saw how education and trust empowers community members to achieve incredible things with limited resources. The Jamkhed Model, a successful public health intervention in rural villages, allowed me to realize the interconnection of my passions. This sustainable community development blended all my interests. I began to dream, could I conduct research, investigate public health practices/interventions, consider political influences, in the nation I am fascinated with, India?

After meeting with the Director of CRHP, I learned that engaging in research with CRHP was not only possible, but welcomed, allowing me to develop beneficial research and advance the local and international public health community. The Lumen scholarship would allow me to pursue my public health research without financial or logistical restraints, benefiting me, providing a needed service to the CRHP community, and strengthening their partnership with Elon: allies in sustainable community development and empowerment.

Project Description

Focus

Founded in 1970, the Comprehensive Rural Health Project (CRHP), an Indian-based nongovernmental organization (NGO), works to improve public health outcomes in villages of the rural Jamkhed Block through empowerment and community mobilization. Utilizing a comprehensive approach to community-based primary healthcare, the Jamkhed Model, CRHP systematically collaborates with communities to assess and analyze public health problems then develop sustainable solutions to improve health outcomes (CRHP, 2014). The Jamkhed Model includes a Village Health Worker (VHW), Farmer's Clubs, Women's Self-Help Group, Adolescent Girls and Boys Groups, a Mobile Health Team, environmental programs, education and training, and secondary health care. The Jamkhed Model, an evidence-based intervention, involves village members in addressing the root causes (ie. poverty, women's status, the caste system) of their health problems. Seeing positive health outcomes, villages become more self-reliant, becoming facilitators for change and encouraging others to implement the model.

In January 2019, during my three-week public health practicum at CRHP, I saw the Jamkhed Model in action while visiting CRHP project villages and non-project villages. In project villages, VHWs told stories of being ostracized by their communities because of the caste system, arranged marriages as early as three years old, and ultimately, defying death. We also learned about the Farmer's Clubs and Women's Self Health groups and how, alongside their VHW, they worked to ease the burden of infectious disease and breakdown deeply rooted caste, religious, and gender biases within their villages, thanks to CRHP's training. Clearly, the implementation of the Jamkhed Model, community mobilization, and the value of empowerment, broke down centuries-old systems of oppression, improving health for all.

One aspect of the Model of personal interest was the Adolescent Girls Program (AGP), which focused on sharing health knowledge, improving personal development and selfesteem, and providing skills to advocate for gender equity. AGPs are critically important as girls, particularly in rural India, are discriminated against and viewed as a burden on the family and society from conception through adulthood, often falling victim to sex-selective abortions, infanticide, physical neglect, and honor killings (Pant, 1995). Indian culture dictates that girls are raised to be married and then leave their homes to live with the husband and in-laws, leading parents to view resources spent on girls' education and health as resources wasted. The AGPs challenge cultural beliefs by teaching girls' vital knowledge about their own health, the health of their families, and the health of their communities.

CRHP's Adolescent Girls Program, facilitated by a CRHP Training Coordinator and VHW, is a six-month long program for unmarried, project village girls, ages 12 to 18 (CRHP, 2014). The curriculum of each AGP is tailored to the needs of each village and addresses a wide array of health topics (puberty, nutrition, sexual health, environmental health,

communicable and non-communicable diseases, etc.). Additionally, the curriculum focuses on gender equality, value of education, delayed marriage, empowerment, and self-esteem. Adolescents are unlikely to learn about these important health and social issues in everyday village life or in school (CRHP, 2014). Teaching girls to stand up for themselves, providing tools to take control of the health and well-being of their families and themselves leads to long-term, sustainable change. As knowledge and skills improve, infant and maternal mortality decrease and overall physical, mental, economic, environmental and social health outcomes improve. The AGPs, along with other components of the Jamkhed Model, have empowered girls and women in CRHP project villages, and have provided them with the skills to advocate for gender equity and social change.

During the Practicum experience, we also visited several "Non-Project Villages," villages that are not working directly with CRHP and thus, have not implemented the Jamkhed Model. I was perplexed by what I saw, as it appeared as though many elements of the Jamkhed Model existed and had greatly influenced the health network of non-project villages. Villagers proudly explained that casteism and religious sectarianism had virtually been eliminated from their villages and that the Indian national government recognized their villages for eliminating alcoholism and maintaining peace, similarly to many of the project villages.

What I learned, from conversing with members of the non-project village, was that by way of arranged marriage and the cultural tradition of wives moving into the household of their husband, wives from CRHP project villages often brought with them successful pieces of the Jamkhed Model to non-project villages. Wives helped establish Women's Self-Help groups, encouraged development of Young Farmers Clubs, and helped design and build soakpits in their new husband/in-laws' community. Furthermore, these women brought the knowledge of available government schemes to fund toilets and support other progressive, social, or equitable interventions. Despite all of this, there were still elements of the Jamkhed Model missing (VHW, Adolescent Programs, CRHP's training and support network) in their non-project villages. Regardless, it appeared these women from CRHP project villages became agents of change for non-project villages, having brought with them the knowledge and skills they learned from CRHP and the Adolescent Girls Program.

Seeing the perceived success of non-project villages, despite not partnering with CRHP, led me to question what was influencing the physical and social improvements in these villages. While CRHP has extensively researched and monitored the Jamkhed Model within project villages, financial and resource constraints have prevented extensive comparative research of project and non-project village. With my background in political science and public health, I believe I could begin to address this significant research gap. Furthermore, there is limited research/literature regarding Adolescent Girls Programs in low and low-middle income countries globally.

Public health scholars have analyzed different approaches to adolescent girl programs in the developing world and found that they are generally effective in teaching girls' relevant health and social knowledge. Studies of adolescent girl-based interventions in South Africa (Forbes-Biggs & Maartens, 2012), Bangladesh (Nawaz & Ahmed, 2009), and Ethiopia (Erulkar & Tamrat, 2014) have all shown varying degrees of success and shortcomings between different interventions. Research reveals girls' awareness of social issues (ie. HIV/AIDS, dowry, early marriage) generally increased after completing adolescent development programs (Forbes-Biggs & Maartens, 2012; Nawaz & Ahmed, 2009; Erulkar & Tamrat, 2014). Programs implemented with parallel options for adolescent boys or married adolescent girls' husbands, also proved effective at increasing the use of family planning and shared household work (Erulkar & Tamrat, 2014).

Research on adolescent girl programs in South Asia, specifically, has been conducted. The Ashta No Kai project, in Shirur, Maharashtra, aimed to increase girls' access to education in rural communities. Their findings indicated bicycle banks, adolescent girls' clubs, and women's centers were effective at increasing school participation, income-generating activity participation, and delayed marriage (Modi, 2017). A similar intervention in rural Bangladesh found that although Adolescent Development Programs succeeded in raising the girls' awareness on social issues such as HIV/AIDS, dowry, early marriage, and drug addiction, many of the girls who finished the program had a low willingness to act on these issues (Nawaz & Ahmed, 2009). For example, they found that girls' recognized the evils brought on by the dowry tradition, but also acknowledged that they would likely continue the practice because it's not illegal in Bangladesh (Nawaz & Ahmed, 2009). In a similar study, CRHP found that AGP graduates could successfully identify: that violence against women is a consequence of dowry, an intrauterine device as a contraceptive method, and correct methods of HIV transmission (Dempsey, Anandaraja, Premkumar, & Arole, 2015). The researchers focused primarily on HIV and contraception, just two topics covered in the AGP curriculum, and failed to investigate the transfer of knowledge into action. CRHP acknowledged that further research is needed to comprehensively investigate the AGP program and long-term impacts on social, economic and cultural factors as girls mature. If awarded the Lumen Prize, I will research some of these perceived long-term AGP impacts and provide CRHP and local villages with vital data to support the proliferation of the Jamkhed Model, access funding, and garner governmental support.

Scholarly Process

The driving philosophy behind the question, hypothesis, and data collection for this project is the Community-Based Participatory Research (CBPR) framework. CBPR is a research model that emphasizes engaging community members as partners in study design, collaborative discourse, and intervention development in order to mitigate power dynamics between researchers and communities being researched, providing communities with the research they need about the issues they identify as most prevalent (Belone et. al. 2014). Ethnographic, semi-structured interviews with graduates from the AGPs will be conducted by the CRHP research team. This study will focus on documenting the impact of AGP graduates in both project and on non-project villages. Several indicators (decision to delay marriage, space-out pregnancies, resist the dowry practice, and participation in community organizations) will be documented throughout each interview, to assess the extent the AGP impacts different levels of the community. The CRHP team will transcribe the interviews in English for coding using the qualitative data analysis program Nvivo. Proposed Products

- Detailed paper on the results of the proposed project
- Impact-report briefing to CRHP, other key stakeholders
- Research presentations (ie. SURF, NCUR, WLEC, ICSD)
- Peer-review manuscripts for Journal of Global Health, Journal of South Asian Studies, etc.

Feasibility

Feasibility statement:

During January 2019, I completed my PHS practicum at CRHP. This experience certainly enhanced my understanding of CRHP and exposed me to rural Indian culture in Jamkhed. Since 2009, Elon University has built a strong, mutually beneficial partnership with CRHP through the 2012 Periclean Scholars program and Professor Amanda Tapler's PHS 381: Public Health Practicum course. Professor Tapler also serves as a CRHP Faculty Fellow, connecting the two institutions and assisting CRHP with research and international outreach endeavors. As a result of this reciprocal partnership, Professor Tapler mentored the first Elon undergraduate research project at CRHP, conducted by 2017 Lumen Scholar, Bonnie Bloxom.

I am grateful for the partnership between CRHP and Elon as it has afforded me the opportunity to meet the Director of CRHP, Mr. Ravi Arole, and the opportunity to engage in a community-based participatory research project with CRHP. During the January 2019 Public Health Practicum, Mr. Arole helped to provide context and depth to our learning and he articulated the progress seen in health outcomes over the last few decades as a result of the evidence-based Jamkhed Model. He also noted aspects of the Jamkhed Model that needed further research, one aspect in particular, was the Adolescent Girls Program. I was particularly interested in CRHP's research needs and thus, engaged in multiple conversations with Mr. Arole which led us to discussing a potential research partnership. Mr. Arole has explicitly pledged his support for my research project, for it will benefit CRHP and the Adolescent Girls Program. Furthermore, it will benefit me, as a young public health researcher looking for a future in sustainable development and global health. CRHP simply does not have the financial resources to conduct an impact study on the long-term outcomes of the Adolescent Girls Program. This research opportunity, established by a strong global partnership and a high ethical standard for international research addresses several of the United Nations Sustainable Development Goals (SDGs), mainly Goal 17. This SDG focuses on strengthening global partnerships for sustainable development (UN 2019).

Building upon Elon's partnerships with CRHP by providing a much-needed resource, community-based participatory research, will ultimately benefit the Adolescent Girls intervention program and provide support for CRHP's Jamkhed Model. Furthermore, a research project such as this will create opportunities for future Elon students to pursue unique opportunities, to become truly global citizens, and to engage in research that benefits both CRHP and Elon. Bonnie Bloxom, 2017 Lumen Scholar, did exactly this for me, she paved the way for future undergraduate research with CRHP. Bonnie's research on blood pressure disparities between CHRP project and non-project villages helped strengthen Elon's research relationship with CRHP. As a result of her research, CRHP created a research team which includes social workers, Village Health Workers, Mobile

Health Team members, and Mr. Arole. This newly formed research team is excited about the opportunity to partner with Elon on another project near and dear to their hearts. They welcome the opportunity to collaborate with me, Professor Tapler, and future Elon PHS students.

While conducting research in a foreign country with distinct cultural, linguistic, and religious differences than my own poses potentially significant limitations, many of the potential limitations that would arise by doing ethnographic research in rural India are mitigated by Elon's long-standing partnership with CRHP. Furthermore, I also have built a research relationship with Bonnie Bloxom through the South Asian Research Group at Elon (SARGE). I have been a member of SARGE since September of 2018 and have participated in discussions about the process and challenges of conducting research in South Asia. Dr. Brian Pennington and Dr. Amy Allocco's ethnographic research projects in North and South India have given me foresight about the many potential challenges and strategies related to the qualitative research process. The SARGE community (faculty and student researchers) currently provides me encouragement and will provide support throughout this research project.

The proposed research project with CRHP will be ethnographic and thus highly qualitative in nature. Members of CRHP's new research team (VHWs, Social Workers and Mobile Health Team Members), who have close ties with women in each village, will to conduct loose-structured ethnographic interviews with graduates of the Adolescent Girls Program (research participants). They will be compensated, as research investigators, with funding from the Lumen Prize. The interview dialogue, will be developed in collaboration with the CRHP research team. It is important to note that, in the spirit of communitybased participatory research and cultural humility, I will completely remove myself from the primary data collection process. As a white, American male, with no Hindi or Marathi language skills, it would be highly unethical and impractical for me to accompany interviewers into the homes of graduates of the Adolescent Girls Program. The power dynamics accompanied by the presence of a foreign male researcher would generate biased or inauthentic responses. My role in the research process will come in the form of research project development, secondary data analysis, analyzing and coding the translated versions of the interviews. Additionally, I will provide CRHP with a full report of the research findings at the individual, familial, and community level.

Throughout my tenure at Elon, I have spent considerable time developing my qualitative research skills in various public courses and Honors Fellows seminar courses. In my Public Health Research Methods (PHS 202) course during the Fall Semester of my sophomore year I advanced my quantitative and qualitative research skills through a semester-long group research proposal, which was recognized by Dr. Jennifer Kimbrough as an exemplary project. My research project is currently being used as a model for the Spring 2019 semester Research Methods course. Furthermore, I gained a deep understanding of the social determinants of health, cultural humility, and CBPR through my Introduction to Public Health (PHS 201) course during the first semester of my firstyear at Elon. I am currently learning to hone those skills for an international application in my Global Health (PHS 302) course with my research mentor. In my Honors, second-year, interdisciplinary seminar last fall, Press Politics of the Cold War (HNR 246), I applied the knowledge I was concurrently learning in PHS 202 to code historic newspaper articles, allowing me to practice qualitative coding before applying it to a long-term thesis project. Additionally, I am enrolling in PHS 301: Introduction to Epidemiology, next semester which will help me refine my research skills. All of these experiences will adequately prepare me for this research endeavor with CRHP.

Elon prides itself on its emphasis on students becoming global citizens. Supporting a Lumen Project that is rooted in community-based participation, global public health, cultural relativity and respect for values and customs would be an excellent example of Elon's commitment to diversity, inclusion and global engagement.

Budget:

India January 2020

- Flight from BOS-EWR (if traveling with Elon practicum course): \$140 (twice)= \$280
- Flight from EWR-BOM: \$1,000 (twice)= \$2,000
- \$75/day to stay at CRHP (17 days)= \$1,275
- Compensation for VHW: \$5/Day= \$85
- Compensation for MHT: \$8/Day= \$136
- Transportation to and from villages: \$10/trip= ~\$70
- •Total: \$3,846

India Summer 2020

- Flight from BOS-EWR (if traveling with Elon practicum course): \$140 (twice)= \$280
- Flight from EWR-BOM: \$1,000 (twice)= \$2,000
- \$75/day to stay at CRHP (7-9 weeks): \$3,675 (7 weeks) \$4,725 (9 Weeks)
- Compensation for VHW: \$5/Day, 6 days/week= \$210-\$270
- Compensation for MHT: \$8/Day, 6 days/week= \$336-\$432
- Transportation to and from villages: \$10/trip= \$250
- •Total: \$8,000

Conferences

NCUR National Conference for Undergraduate Research: California State University, Long Beach, April 2021

- Roundtrip: RDU-LAX: \$700
- Hotel 3 nights: \$450
- Conference Fees: 185
- •Total: \$1,335

International Conference on Sustainable Development, Columbia University, September 2020

- •Roundtrip: RDU-JFK: \$400
- •Hotel 3 nights: \$600
- •Total: \$1,000

Tomorrow People Organization Rural Development Conference, Bangkok, Thailand, July 2021

- •Roundtrip: BOS-BKK: \$1,000
- •Hotel 3 nights: \$100
- •Conference Registration fees: \$370
- •Total: \$1,470

Posters for 3 conferences (\$60 each): •Total: \$180

Miscellaneous Analysis Software •Nvivo 12 Pro Qualitative Analysis technology, total: \$114

Tuition •\$1,013.75 per a semester for 4 semesters •Total: \$4,055

Grand Total: \$20,000

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Feasibility Cont.

	Proposed Experiences	Proposed Product (s)
First Summer Term	Summer internship with the Sri Lankan NGO Sarvodaya in Colombo, Sri Lanka Begin assembling pieces of annotated bibliography and literature review	40 annotated bibliography divided into subtopics about community health workers, AGPs, female empowerment, South Asian cultural norms, sustainable development, and CBRP Outline and preliminary draft
		of a literature review
First Fall Term	Study abroad in Copenhagen Enroll in Intro to Epidemiology Finish Honors project proposal Seek IRB approval Draft preliminary questions over Winter Break to workshop with CRHP research team	Attain IRB approval Finish and get Honors Fellows research proposal approved Draft list of potential interview questions to refine with CRHP research team
First Winter Term	Enroll in 2 credit hours of HNR 498 Travel to CRHP with the PHS 381 course Refine a list of questions for the CRHP research team to use in semi-structured interviews with AGP Graduates Identify potential interview subjects and their locations Complete one test-interview	A refined template of questions in English, Hindi, and Marathi for the CRHP Research team to use in future interviews A database/reference list of potential research participants and their residence's to streamline the interview process in the future Notes from test-interview feedback

	with a subject to make sure all variables are accounted for	
First Spring Term	Enroll in 2 credit hours of HNR 498	Coordinate digitally with the CRHP research team about summer interviews
	Present current progress and future goals at the SARGE Symposium at SURF	Finalize logistics of summer research at CRHP
	Submit abstract to the ICSD at Columbia University in September	
	Look into potential MPH programs and post-graduate opportunities	
Second Summer Term	Travel to CRHP for 7-9 weeks to collect and code data from interviews with AGP	Recorded, translated, and transcribed interviews
	graduates	Qualitative coding of influences of AGPs on
	Begin drafting conference abstracts	graduates based on interview data
	Begin drafting "findings" section for journal manuscripts	Drafts of conference abstracts
Second Fall Term	Enroll in 2 credit hours of HNR 498	Final draft of abstracts for conferences
	Present current progress at Honors Fellows Presentations of Progress in October	All interviews transcribed and coded
	Attend and Present at ICSD	Working draft of Honors thesis and journal
	Apply to Positions in the Peace Corps	manuscripts Poster presentation for
	Apply to the CRHP Post- Graduate Fellowship Program	conferences

	Look into and apply to internships with the United Nations Apply to the US State Department's Critical Language Scholarship Programs in India	
Second Winter Term	Disseminate working draft of paper to faculty and other experts for critical feedback	Revised Honors thesis and journal manuscripts
Second Spring Term	Enroll in 2 credit hours of HNR 498 Present at the SARGE	Final draft of Honors thesis Final draft and submission of journal manuscripts journals
	Symposium at SURF	Completed impact report
	Attend and Present at NCUR	deliverable, given to CRHP and relevant stakeholders
	Attend and Present at RDC in the Summer	