Haverford University Professor Kaye Edwards spoke to the Working Group about her efforts to reduce the mortality rate of cervical cancer in Nicaragua. Edwards was originally trained in developmental biology in the same lab as Susan Strome (Professor of Molecular, Cellular and Developmental Biology at UCSC) at University of Colorado, Boulder. As she progressed in her academic career, Edwards became increasingly interested in pursuing her interests in health and social justice. While many advancements in basic research promise to eventually advance medical treatment, there is often less attention given to how those treatments will be taken up in the world, and whether or not they will be available and feasible for those in need. Edwards has been working with local groups to prevent, detect, and treat cervical cancer, which has a very high mortality rate in Nicaragua.

Cervical cancer has a very strong link to Human papillomavirus (HPV), but as Edwards explained, there are many other biosocial risk factors that play a role in determining who will ultimately develop cancer. Many now believe that cervical cancer is best prevented through vaccines, but this must happen before women (and increasingly, men as well) are sexually active. Secondary prevention requires the identification and elimination of pre-cancerous legions. In wealthier nations, this is often done with pap smears and extraction with LEEP, but these techniques require multiple office visits and trained physicians. See-and-treat with acetic acid (vinegar) and cryotherapy is a low cost option that requires only one office visit and less equipment. Tertiary prevention of cervical cancer mortality includes surgical ablation, radiotherapy, and/or chemotherapy, which is inaccessible to most women in Nicaragua. This model of preventing, detecting, and treating cervical cancer is effective, but it is also highly individualistic.

Rather than looking only at the individual, Edwards reminds us that we need to consider an eco-social model of health that takes into consideration the relationships, community and society that each woman is a part of. When Edwards first went to Nicaragua, she met Maria Elena Bonilla, the founder and director of Centro de Mujeres Acahualinca, a clinic that started with grassroots efforts in a low-income neighborhood of Managua. During that visit, Edwards learned that the men in the community had not been particularly concerned with women’s mortality rates. It made her realize that even community-led projects might silence a number of voices. When she returned to the US, she tried to help them gain access to free-of-cost vaccines for HPV, but encountered multiple roadblocks. She learned, yet again, that there are a number of structural hurdles in place.

Edwards realized that the grassroots level of organization is useful for understanding what the community wants and needs, as well as cultivating trust and respect. At the same time, grassroots clinics struggle to gain access to adequate funding, space, training, pharmaceutical supplies and technology. Instead of taking a charity approach to assisting grassroots efforts, she advocates solidarity. For Edwards, being in solidarity means working with these women for a common goal, rather than simply trying to help. With her final slide, Edwards asked the working group “What could you do with your talents, expertise, skill sets, professional and personal networks, and capacity to learn, to prevent premature suffering and undue deaths?”
The first questions after the break were about the efficacy of the vaccine and how it might be distributed more effectively. While there are several suggestions for how it might be administered to more young women, Edwards reminds us that because cervical cancer is such a slowly progressing disease, and because the HPV vaccine could only prevent approximately 70% of incidences of cervical cancer, there still needs to be a commitment to detection and treatment of precancerous lesions and cancer. There are also a number of social factors that need to be mitigated, such as stress-induced immunosuppression and early sexual activity. Vaccination could have a tremendous impact, but it needs to be incorporated in a broader program of care and education.

Luz asked if there might be other factors that are causing the extraordinarily high mortality rate for cervical cancers in Nicaragua. Edwards reiterated that HPV is a necessary but not sufficient factor for cervical cancer. She had already mentioned several social factors that play a large role, such as early pregnancies and poor nutrition, among others, but there might be environmental factors as well, such as pesticides. Part of the challenge of fighting cervical cancer in Nicaragua is that there are very limited databases for tracking this kind of information.

Jenny mentioned that this touches on one of the issues that Science & Justice has been discussing this year. If cancer is thought of as being caused by a virus, then it is a single-cause illness that can have a single cure. Also, if a virus causes it, it is possible to ignore complicated environmental or social factors. Edwards agreed, and added that most health initiatives take the nation-state as the unit of analysis, which ends up obscuring other factors that regions might share. This has tremendous implications for determining responsibility. If cancer is seen as an infectious disease, then it is an issue belonging to the individual, to that women’s reproductive health, rather than an issue mired in complex environmental and biosocial factors. With this, a student from Strome’s lab spoke up, pointing out that she and her colleagues focus on the virus because they are trained in molecular biology, not social science or politics. Edwards agreed that the molecular biologists should be focusing on the virus, because that is the best use of their training, but that they should have more opportunities to share that expertise with others working in fields that might also be important for treating a complex issue like cervical cancer mortality. It is exactly that kind of broad-based knowledge and openness to collaboration that Edwards has been working to cultivate in her students at Haverford.