

expressed tremendous appreciation for the information provided and eagerness to learn more. Post-seminar evaluations revealed interest in additional workshops, seminars and health education materials.

**Going Forward:** Chronic disease management and baseline knowledge is very poor amongst the Armenian population. Barriers we seek to address include more training and materials for nutrition and glucose testing, future cholesterol screenings, more provider workshops and developing more partnerships with local organizations. AGHP continues to strengthen relationships with AAWC, YSMU and MOH, with plans to further its health promotion, education and outreach.

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### Understanding knowledge and attitudes about breast cancer and its treatment in Ethiopia

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**Background:** Breast cancer (BC) is an escalating health crisis in Ethiopia. The country's population of 94 million has only one cancer center and no cancer screening program or registry. A BC treatment program has been established at the Hawassa College of Medicine and Health Sciences in the Southern Region of Ethiopia to serve as a model for regional oncology centers. To further develop this program, we assessed breast health-related knowledge in female visitors (FV) and health care workers (HCW) at public primary health care sites in the city of Hawassa. Our hypothesis was that women and HCW would have limited knowledge of BC, its treatment, screening, and prevention.

**Methods:** Two questionnaires were administered at five public primary health sites in Hawassa, the capital city of about 250,000 in the Southern Region. The FV questionnaire gauged BC literacy and experience in women 18 and older. The second questionnaire surveyed HCW about BC training and knowledge. Professionals bilingual in English and Amharic provided translation. Informed consent was obtained from participants; participation was voluntary. Ethical approval was obtained from the Albert Einstein College of Medicine and the Hawassa City Administration.

**Findings:** Interviews included 207 FV and 112 HCW. FV surveys demonstrated a lack of knowledge about BC. When asked, 82 (39.6+/-6.7%) had no knowledge of breast cancer and 138 (66.7+/-6.4%) had no knowledge of treatments; additionally, 173 (83.6+/-5.0%) had never had a breast exam and 141 (68.1+/-6.3%) could not describe self-examination. Descriptions of BC offered were "wound", "killer disease", "dangerous disease", "swelling", "mass" and "ulcers". A majority of FV participants cited pain and itching as signs of BC. Amongst HCW, breast problems most reported were palpable masses, tenderness, discharge, pain, redness, swelling, itching, and mastitis. Physician responses were generally knowledgeable about breast cancer, and were proficient in describing different treatment modalities. Nurses, midwives, and health officers demonstrated less knowledge. Among 94 of them, 32 (34.0+/-9.6%) were not trained to perform a breast exam; when asked about different treatment modalities, 33 (35.1+/-9.6%) could not explain chemotherapy, 24 (25.5+/-8.8%) surgery for BC, and 40 (42.6+/-10.0%) radiation therapy.

**Interpretation:** A general paucity of attention and knowledge of BC among FV and HCW in an urban setting of southern Ethiopia was seen. Many FV and HCW recognized only advanced symptoms of BC. This limited understanding is an obstacle to diagnosis and treatment, significant for a disease where early detection and treatment are essential. The development of cancer centers must be

combined with increased awareness and knowledge among the population to enhance earlier diagnosis and treatment.

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### Digital disparity detection: using simple technologies to document worker fatalities in middle- and low-income countries

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**Program/Project Purpose:** Work-related injuries and illnesses kill more people every year than HIV/AIDS, but these fatalities often occur in international silence.<sup>1,2</sup> It is only major disasters that garner the attention of the public: the 2013 Rana Plaza collapse in Bangladesh that killed 1,138 workers or the 2014 Soma mine explosion in Turkey that killed 301 men.<sup>3,4</sup> There is no global monitoring of work-related fatalities and few middle- and low-income nations have any system in place to document them.<sup>1,2,5</sup> Global Worker Watch is student-run mapping and data visualization project that utilizes simple and inexpensive technologies to document the deaths of low-wage workers in the agriculture/forestry/fishing, construction, manufacturing and resource extraction industries around the world. This project is primarily the work of a single student and is conducted without any source of funding. Its main aims are to increase the visibility of worker deaths to consumers, encourage data sharing among advocates and to identify & stop negligent business practices that risk the lives of workers.

**Structure/Method/Design:** Global Worker Watch utilizes data from governmental and non-governmental organizations, media reports and reports from individuals. Government and non-governmental organization data is obtained through public sources and by donation. Data cleaning tools such as Open Refine are utilized to structure and process data. Media reports are obtained through monitoring of Google Alerts in Arabic, English, French, Hungarian, Italian, Portuguese, Russian and Spanish and are screened for relevancy before data is Abstracted. Additionally, individuals can submit information about worker fatalities in their country through an online Google form. Text fingerprinting tools are used to screen for and remove duplicate cases. Cases are automatically geocoded within a public spreadsheet and data visualizations are created using Tableau Public.

**Outcomes & Evaluation:** Preliminary evaluations of this project demonstrate that least one worker fatality occurring in 2014 has been documented in 92 countries, representing 46.9% of the world's nations. As of late October 2014, 1,645 events killing or injuring 4,697 low-wage workers in 92 countries had been documented. The median number of days elapsing from the time of the event to the time of documentation was 2.58 days in 2014. The names of workers were documented in 37.3% of cases, and the names of the employers were documented in 34.6% of cases, which are generally unavailable in traditional data sources of worker fatalities.

**Going Forward:** Data from multiple sources can present many challenges, including the duplication of cases and the need to screen through irrelevant information. Identifying deaths due to illness rather than injury also remains a key challenge. Increased collaboration with non-governmental organizations and the expansion of media source monitoring to more languages will produce greater coverage of worker fatalities in a greater number of countries in 2015.

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### Tackling malnutrition through peer to peer education in primary schools in rural Uganda

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**Program/Project Purpose:** With childhood malnutrition levels at 40% and stunting at 5% in SW Uganda, a 3-year project to train primary school children as peer group educators was developed with the aim of spreading nutrition information and encouraging behavioural change in school children and through them to the community.

**Structure/Method/Design:** The project goal is to strengthen nutritional practices of children in four primary schools in SW Uganda. Two rural parishes with trained Volunteer Health Teams who have successfully introduced farming of High Vitamin A Orange Sweet Potatoes and High Iron Beans were identified. Four government primary schools with a total enrolment of 1500 students were selected at random, two in each parish. A teacher at each school was identified by the head teacher as the contact person and was trained as a Peer Group Facilitator along with six volunteers from Health and Development Agency-Uganda, a local NGO. Students and teachers at each school selected 6 students from Primary 4-6 as Peer Group Educators (PGE), a total of 24. A curriculum of six sessions each on nutrition and school gardens was

prepared using interactive exercises. Monthly visits by PGF were made during school to train the PGEs at each school using interactive techniques and materials. As school staff and children gain confidence and skill in health education, all four schools are expected to develop and maintain school gardens as well as hygiene and nutrition clubs. Participating in the school garden and learning about compost use, local remedies for pests, traditional plants and soil preparation will allow children to initiate kitchen gardens at home. Use of locally available materials such as tippy taps, rice bag posters, board games, songs, stories and cards that are easy to replicate will help ensure sustainability.

**Outcomes & Evaluation:** Although only in the second year of the project, there is evidence that communities are going to continue the school gardens. Schools and local churches have donated land for gardens; parents have offered gardening assistance; VHTs assist in school gardens; and one of the schools is planning a school lunch. From 2 kg of seeds, schools produced approximately 30 kg. of high iron beans; enough to re-plant, and handfuls for children to begin gardens at home. Schools have harvested OSP and some have maintained a supply of vines between seasons, ensuring ongoing crops. An Endline evaluation in one year will provide information on numbers of kitchen gardens as well as feedback from parents, children and teachers.

**Going Forward:** Reaching all school children often and effectively with only six PGE per school remains the main challenge, while high transport costs to these remote sites limits routine training and supervisory visits.

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