living in the same commune as the hospital (HR, 1.89, 95% CI, 1.54-2.33; $P < 0.001$). Hospital site, earlier year of ART start, spending less time enrolled in HIV care prior to ART initiation, receiving a nonstandard ART regimen, lacking counseling prior to ART initiation, and higher body mass index were also associated with attrition risk.

Summary/Conclusion: The findings suggest quality improvement interventions at the two hospitals, including enhanced retention support and transportation subsidies for patients accessing care from remote areas; counseling for all patients prior to ART initiation; timely outreach to patients who miss ART pick-ups; "bridging services" for patients transferring care to alternative facilities; routine screening for anticipated interruptions in future ART pick-ups; and medical case review for patients placed on nonstandard ART regimens.

Using data from the iSanté electronic data system to analyze ART attrition provided valuable insights on potential areas for quality improvement at the two hospitals studied. The findings are also relevant for policymaking on decentralization of ART services in Haiti.

Building integrated clinical and operational capacity to reduce maternal and neonatal mortality at Ridge Regional Hospital at Accra, Ghana

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Background: We describe a 5-year effort to transform Ridge Regional Hospital's obstetric department into a Center of Excellence that enables it to serve as a resource for other hospitals in the region. The initiative's key strategy to ensure long-term technical competency in Ghana is to institute and disseminate advanced obstetrics and newborn care practices at selected regional and other hospitals in several regions in Ghana.

Structure/Method/Design: Our approach consists of a blend of clinical capacity-building activities and organizational change management and leadership activities needed to sustain best practices. We present results from the first phase of an interdisciplinary quality improvement program building leadership, clinical and operational capacity at a flagship referral hospital in Accra with over 11,000 annual births.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Over 5 years, a series of 97 clinical and operational improvements resulted in a decrease of 23% and 52% in maternal mortality and institutional stillbirths respectively, and an estimated 224 maternal deaths were averted. One resource improvement activity focused on renovating and equipping a maternity operating theater and resulted in a 25% decrease in wait time for emergency cesarean delivery, reduced admissions to the neonatal intensive care unit (13% vs. 20%), and increased neonatal discharge within 7 days (61% vs. 22%).

Summary/Conclusion: Interventions that are needed at various levels of a health system to prevent maternal and neonatal mortality are well known and have been documented as part of the WHO IMPAC guidelines. However, interventions alone will not result in high-quality sustainable outcomes unless they are accompanied by a systematic implementation methodology that is sensitive to the local context. This paper demonstrates a practical application of how implementation science can be used to addresses not only clinical barriers but also operational and organizational barriers to change.

Where do we start? A baseline assessment for establishing health promoting schools in rural China

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Background: Health promoting schools (HPS) are a health prevention model recommended by the WHO to improve children's health through classroom teaching, environmental improvement, extracurricular activities, and family workshops. Pilot studies in China have been efficacious but no data exist in rural communities.

Structure/Method/Design: Cross-sectional study. The 2009 Global School-Based Student Health Survey was administered to 100 randomly selected, grade 4 to 6 students from two rural schools in Guizhou, China. Survey results were compared to published data from urban Beijing by percentiles. Qualitative data from open-ended interviews conducted among five students, four teachers, and five parents, were reviewed by two researchers and grouped by themes.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): The mean age of the 100 surveyed students was 12.4. The following table highlights the most disparate results comparing answers from the urban vs. rural students.

Table.

	% of students	
	Urban (n = 2,348)	Rural (n = 100)
Had hang-over, felt sick, got into trouble as a result of alcohol	4.8	14.3
Used drugs ≥1x	0.9	4
Overweight	18.6	6.2
Never or rarely washed their hands before eating in 30 d	3	11.7
Never or rarely washed their hands after using the toilet during in 30 d	3.3	17
Felt lonely most of the time or always in 12 mo	6.9	12.1
Ever seriously considered attempting suicide in 12 mo	14.3	8.33
Have no close friends	7.2	14
Missed classes without permission on ≥1 d in 30 d	4.6	17.2
Reported that most students at school were never or rarely kind and helpful in 30 d	19.4	45.5
Whose guardians never or rarely really knew what they were doing with their free time in 30 d	32.9	49
Used any tobacco products other than cigarettes ≥1 d in 30 d	1.9	4
Were in a physical fight ≥ 1x in 12 mo	15.8	28
Were seriously injured ≥1x in 12 mo	16.4	44.4

Urban
(n=2,348)
Rural (n=100)
had hang-over, felt sick, got into trouble as a result of alcohol
4.8
14.3

7 out of the 9 (78%) adults and all children interviewed were supportive of the idea of HPS. 8 out of the 9 adults (89%) are ready to participate in HPS. The most recurrent themes are nutrition, hygiene, mental health, and family relationships.

Summary/Conclusion: This is the first study that assessed needs for HPS in underserved rural China. Rural students exhibited more health risk behaviors compared to urban students. Adults and children welcomed the idea of HPS. HPS can be piloted in underserved areas of rural China and, if shown to be effective, can help improve children's health in similar areas worldwide.

Implementation of an asthma treatment program for children in a remote community of Honduras

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Background: The disproportionate prevalence of asthma morbidity and mortality in Latin America has been documented in several studies. Latin America has a significantly increased prevalence of asthma/wheeze compared to other regions of the world, and only 2.6% of children with asthma meet criteria for control. The Global Initiative for Asthma (GINA) guidelines provide treatment recommendations for management of asthma worldwide, but Latin America falls short of goals established by GINA. Inhaled corticosteroids are recommended for all patients with persistent asthma, but only 6% of patients in Latin America are prescribed inhaled corticosteroids. Although inhaled corticosteroids are on the World Health Organization's Essential Medication List and the Honduras National Formulary, the availability and pricing of these medications is not standard. This hinders treatment, especially in remote, rural villages of low-income countries, such as Honduras.

The purpose of this project is to develop a sustainable, culturally sensitive protocol consistent with guideline recommendations that allows for appropriate diagnosis, education, treatment, and follow-up of asthma in a remote community of Honduras. The primary outcome is change in asthma control. Secondary outcomes include adherence to guideline recommendations, program costs, and satisfaction.

Structure/Method/Design: Protocols for diagnosis, treatment, medications refills, and asthma exacerbations are being developed. Children, up to age 16, from San José, Honduras, will be screened for asthma, and all children diagnosed with asthma will be eligible. Participation in the program includes a formal asthma education session, free medications and supplies, and structured monitoring and follow-up. Medications will be prescribed based on asthma severity. All patients with persistent asthma will be prescribed as needed inhaled albuterol. Inhaled corticosteroids will be prescribed for patients with moderate persistent asthma (beclomethasone 100 mcg twice daily) and severe persistent asthma (beclomethasone 200 mcg twice daily). Monthly assessments and medication refills will be performed by a community health worker. An asthma action plan will be provided to patients with moderate and severe persistent asthma, and the community health worker will be trained to follow an exacerbation protocol for assessment and treatment of exacerbations. Asthma control will be assessed based on patient report of symptoms, Asthma Control Test scores, need for oral corticosteroids, and peak flow readings. Program records will be reviewed to determine adherence to protocols and program costs. Surveys will be used to assess satisfaction.

The project is ongoing. Preliminary results will be presented at the conference.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Shoulder-to-Shoulder Pittsburgh, a nonprofit organization, supports a permanent clinic in San José and sends medical brigades biannually.

Summary/Conclusion: Program pilots have revealed need for an asthma treatment program. Moreover, community acceptance for the program is high. The largest challenge has been cost-effective medication/supply procurement.

Providing chemotherapy in severely resource-limited settings

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Background: Cancer is rapidly emerging as a major source of morbidity and mortality in countries with limited resources and infrastructure. Ethiopia has only three oncologists and one oncology unit for a population of 80 million. A breast cancer center was recently established at the Hawassa College of Medicine and Health Sciences (HCMHS) as a satellite unit to the only existing source of cancer care at Addis Ababa University (AAU). With growing interest to treat cancer globally, safe protocols for the provision of chemotherapy are essential. Our group analyzed current safety practices at HCMHS to ascertain the current level of resources and potential restrictions for safety and patient care.

Structure/Method/Design: We observed the chemotherapy protocols at the Oncology Department at Jacobi Medical Center (JMC), Bronx, NY. Subsequently, we observed the current practices at HCMHS for 4 weeks. We worked closely with the physicians and nurses at HCMHS to gain an understanding of their current protocols and the limitations they face. We divided the protocols for handling chemotherapy into four categories: storage, preparation, administration, and disposal.

Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract): Desta Ataro, Tezazu Tekle, and Areta Bunare at the Hawassa College of Medicine and Health Sciences (HCMHS).

Summary/Conclusion: Due to a lack of pharmacists, nurses prepare chemotherapy at the patient's bedside. The unit has no ventilated cabinet for preparation of chemotherapy and lacks a reliable electricity source. There are a limited number of syringes, and IV tubing systems are rudimentary. The same nurse both prepares and administers the chemotherapy to all patients. Nurses use gowns, goggles, surgical masks and non-chemotherapy-approved gloves while preparing and administering the drugs. All of the chemotherapy agents are stored in a pharmacy located outside of the oncology unit. Due to lack of reliable electricity, some medications may not have constant refrigeration. Currently there is no protocol for proper and safe disposal. Excess medication is often flushed down toilets or sinks. There is a cardboard safety box designated for sharp material; a separate disposal container is reserved for instruments that may have trace substances. The final disposal of this material is by incineration.

By observing the current practices of a new oncology unit in HCMHS, we made strides in understanding the limitations of providing chemotherapy in developing countries. There are currently no established international guidelines for storing, mixing, administering, and disposing of chemotherapy in resource-poor settings. It is necessary to establish protocols to provide chemotherapy in a manner that is safe for both patients and staff. Incorporating clinical oncology