### Healthcare-associated infections control and antimicrobial resistance restraint in China: A literature review

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**Background:** Health care-associated infections (HAIs) are one of the main factors for the increased mortality and morbidity. Meanwhile, antimicrobial resistance (AMR) is closely related to HAIs. Together they are increasingly attracting the attention of the medical field. China's population accounts for 1/5 of the world's population. It is necessary to study the status quo of HAIs and AMR in China.

**Methods:** A search of PubMed and Chinese databases, such as CNKI, WANFANG Data and VIP database etc. was conducted to identify articles in both English and Chinese from January 2000 to January 2015 according to the search strategies on the national status quo, monitoring, and disease burden of HAIs and AMR.

**Findings:** 14 of 144 articles about China's national status quo and disease burden of HAIs and AMR and all government monitoring policies are filtered for further review. The results indicate that in China the HAIs rates showed a trend of yearly decline. Regarding the use of antimicrobial drugs, domestic AMR test data show the current clinical AMR is still rising. In some hospitals, the number of HAIs caused by drug-resistant bacteria has accounted for about 30% of the number of patients with HAIs. Relevant monitoring policies have been established, including bodies, contents, means and basis, which have a significant effect on curbing the deterioration of HAIs and AMR. Moreover, in terms of the research about the disease burden of HAIs and AMR in China, there are only a few articles on the disease burden research of HAIs, and few on AMR; Current studies often focus on a single hospital and the methodology needs to be improved.

**Interpretation:** HAIs and AMR have caused serious economic losses to inpatients. More research needs to be conducted. To improve the methodology in disease burden research in China, Real World Study and Propensity Scoring Matching are recommended to be applied in future empirical studies. Moreover, the impact of insurance policy on HAIs and AMR need also to be further explored.

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**Abstract #:** *2.008_NEP*

### Factors associated with pediatric emergency room utilization in an Urban community hospital in Santiago, Dominican Republic

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**Program/Project Purpose:** In low resource settings, maximizing effective use of emergency room (ER) services is imperative. This problem is anecdotally observed in the public hospital setting in Santiago, Dominican Republic (DR). There are no studies presently published examining ER use in this pediatric population or reasons caregivers choose to utilize the pediatric ER. Financial and systemic limitations have been previously cited as important contributors to the high pediatric mortality rate in the DR.

**Structure/Method/Design:** In this cross-sectional study, a survey was administered to caregivers (e.g. mother, grandparent) of children in the ER at Hospital Especializado Juan XXIII over an eight-week period. Survey questions included perceived urgency of illness, education level, monthly income, and frequency of ER visits in the last six months. We defined low education as having no high school education and low income as earning less than 10,000 pesos per month. Logistic regression modeling was used to analyze associations with frequent ER use, defined as four or more visits within the last six months.

**Outcome & Evaluation:** A total of 117 caregivers in the pediatric ER were administered our survey. Most caregivers were female (110/117; 94%) with a median age of 28 (IQR, 24–35) years. The child's problem was reported as "extremely urgent" by 72% (76/106) of respondents, though 82% (80/97) of the children were triaged as non-urgent. In a multivariable model, children of caregivers with any high school education had 69% lower odds of having frequent ER use in the last six months (OR, 0.31; 95% CI, 0.13–0.75; p=0.009), compared to children of caregivers with no high school education, after adjusting for the income category of the caregiver.

**Going Forward:** Perceived urgency of pediatric medical problems may contribute to increased use of the ER for non-urgent medical problems. Low education level is associated with increased pediatric ER use over a six-month period. Assessing utilization of pediatric ERs in the public healthcare system in Santiago could provide a framework for targeted educational and systemic changes, supporting the ultimate goal of providing the best possible care for pediatric patients in low-resource settings.

**Funding:** Arnhold Global Health Institute at Mount Sinai.

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### Lessons learned from implementing a hospital-based trauma registry in rural Cameroon

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**Program/Project Purpose:** Over 90% of the world's injury-related deaths occur in low- and middle-income countries, yet epidemiological data of trauma in these highly impacted countries is scarce. Trauma registries, an effective tool for injury surveillance, can guide quality improvement efforts in both high- and low-resource settings. We aimed to implement a sustainable, robust trauma registry in rural Cameroon, making it the first of its kind.

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**Structure/Method/Design:** We implemented a prospective, ongoing trauma registry at Mbingo Baptist Hospital (MBH), a tertiary referral hospital located in the North-West region of rural Cameroon. In collaboration with Cameroonian surgeons, we developed a 56-item trauma form (Figure 1) that was then piloted and revised. Study personnel included one supervisor and twelve data collectors. They were English-speaking, paid a nominal fee, and trained before data collection and again one year into the study. Beginning in May 2013, information from trauma patients admitted to the surgical or orthopedic wards were recorded on paper trauma forms and later transferred to a secure electronic database. The previously validated Kampala Trauma Score II (KTSII) was calculated. Ethical approval was obtained from both home and local institutions.

**Outcome & Evaluation:** We successfully implemented a trauma registry and have collected important epidemiological data for >1,600 patients to date. Although analysis is ongoing, some key findings include: 1) motor vehicle collisions (primarily motorcycle accidents) account for the majority of traumas, 2) helmet and seatbelt use are extremely low, 3) there are significant pre-hospital delays, and 4) there are alarmingly high mortality rates among patients with mild or moderate KTSII scores. The on-site supervisor troubleshoots as needed, and the protocol director double-checks electronic records at random to ensure accurate data collection.

**Going Forward:** Moving forward, we plan to strengthen collaborations with the Cameroonian Ministry of Health to share our results and ensure sustainability of this registry. Given the overall success of this registry, a similar model of implementation can be adopted in other rural hospitals of low-resource countries after modifying for the specific circumstances of each facility.

**Funding:** Stanford Center for African Studies Summer Fellowship.

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### "They say once you get diabetes, that's the end of your life": a qualitative study with diabetes patients in Kolkata, India

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**Background:** In India, over 65 million people, 8.6% of the total population, live with diabetes.[1] In addition to robust quantitative public health and biomedical research, strong qualitative studies are needed to better understand the personal and cultural impact of diabetes in India. As a means of learning how healthcare systems might improve their response to the needs of diabetes patients, this qualitative study explores the question: "What is it like to be diabetic in West Bengal, India?"

**Methods:** The study took place in an outpatient clinic of a private hospital in Kolkata. Semi-structured key informant interviews were conducted with adult Type 2 Diabetes patients (n=17). Consenting patients were interviewed by a member of the research team in the language of their choice (Bengali, Hindi, or English). Recorded interviews were translated and transcribed into English, twice verified for accuracy, and thematically coded.

**Findings:** Patients spoke broadly about two themes, 1) the impact of diabetes on their lives and 2) barriers to care.

On impact, patients frequently discussed the mental impact of diabetes, recurrently using the word *tension* to describe both the cause *and* effect of the disease. They also discussed the reverberating effects of diabetes on familial and social lives, the disruption of food rituals, and their fear of other chronic conditions.

Regarding barriers to care, patients conveyed a blended sense of loyalty to their doctors and disappointment with their care, particularly the scarcity of clear communication and personalized guidance. Many patients expressed a lack of confidence in their ability to manage the disease, avoid complications, or access support services. Patients spoke often about financial strain related to medication, tests, and "healthy" food.

**Interpretation:** This study identifies multiple challenges experienced by diabetic patients in West Bengal, many of which can be addressed by healthcare organizations. Recommendations include: utilization of diabetes nurse educators, training medical providers to convey clear and evidence based guidance for diabetic care, creating support groups for vulnerable diabetic patients, developing a series of free classes for the newly diagnosed, and utilizing nursing students to conduct home visits.

**Funding:** Resources for the study provided by the hospital.

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### Early supplementary feeding in rural Malawi: Constraints and motivations

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**Background:** Malawi has high rates of infant mortality at 53 deaths per 1,000 live births. Breastfeeding has been found to alleviate the risks of health issues leading to mortality, and both the World Health Organization and the Malawi Ministry of Health recommend exclusive breastfeeding for newborns for at least 6 months. While most mothers believe in the health benefits of exclusive breastfeeding, early supplementary feeding in Malawi starts when the infant is around 3.7 months. Our study aimed to understand the motivations for early supplementary feeding in a cluster of villages in Ntcheu district, Malawi.

**Methods:** The research was conducted in a rural community of central Malawi. A 6-page survey was developed to assess women's breastfeeding practices. Study participants were selected based on convenience sampling in the study area, and basic demographic data were collected. De-identified data was compiled and analyzed through anthropological methods including coding and cross-coding to identify significant themes. Descriptive statistics were conducted to supplement emergent themes relating to infant nutrition, cultural norms around motherhood, and breastfeeding practices.

**Findings:** The study included 28 interviews from 21 households. The mean age of the sample was 43 years (SD 17.5). Women on average had 6 pregnancies (SD 2.7) and 4 children (SD 2.3); they fed their children an average of 4 supplementary food types (SD 3.5) from a list provided. The most common foods introduced include gripe water, medicinal herbs, formula, phala (rice porridge),