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A pilot orthopedic trauma registry in Ugandan district hospitals



Dan K. Kisitu, MD,^a Lauren E. Eyler, MPH,^b I. Kajja, MD,^c G. Waiswa, MD,^c
T. Beyeza, MD,^d Isabelle Feldhaus, MS,^b Catherine Juillard, MD, MPH,^b
and Rochelle A. Dicker, MD^{b,*}

^aDepartment of Surgery, Mbarara University of Science and Technology, Mbarara, Uganda

^bCenter for Global Surgical Studies, Department of Surgery, San Francisco General Hospital, University of California—San Francisco, San Francisco, California

^cDepartment of Orthopaedics, Makerere University College of Health Sciences, Kampala, Uganda

^dDepartment of Orthopedic Surgery, Mulago National Referral and Teaching Hospital, Kampala, Uganda

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ABSTRACT

Background: Musculoskeletal injuries are a major public health problem in low-income countries like Uganda. Patterns of musculoskeletal injuries presenting to district hospitals are unknown. Our pilot orthopedic trauma registry establishes a framework for broader district hospital injury surveillance.

Materials and methods: We interviewed and examined patients presenting to Mityana, Entebbe, and Nakaseke hospitals with musculoskeletal injuries from October 2013 to January 2014. We compared patient and Demographic and Health Survey population demographics and determined predictors of delayed presentation for care.

Results: Men, adults, and individuals with postsecondary education were more common among patients than in the Demographic and Health Survey population. Common causes included road traffic injuries (48.5%) and falls (25.1%). Closed, simple fractures comprised 70% of injuries. Compared to the self-employed, subsistence farmers (odds ratio [OR] = 2.99, 95% confidence interval [CI] = 1.15–7.91), motorcycle taxi drivers (OR = 10.50, 95% CI = 1.92–64.57), and preschool children (OR = 4.24, 95% CI = 1.05–17.39) were significantly more likely to be delayed to care after adjustment for covariates. Subsistence farmers were more likely than other occupations to seek care from traditional bonesetters (23% versus 7%, $P = 0.001$). All patients who visited bonesetters were delayed to hospital care.

Conclusions: Policies for trauma systems strengthening must address the needs of underserved groups and involve all stakeholders, including bonesetters. Research should address reasons for delayed care among subsistence farmers, motorcycle taxi drivers, and preschool children. Injury surveillance at district hospitals facilitates evidence-based resource allocation and should continue in the form of an Ugandan national trauma registry.

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* Corresponding author. Center for Global Surgical Studies, San Francisco General Hospital, University Of California—San Francisco, Box 0807, San Francisco, CA 94143-0807, USA. Tel.: +1 415-206-8814; fax: +1 415-205-5484.

E-mail address: rochelle.dicker@ucsf.edu (R.A. Dicker).

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Introduction

Musculoskeletal injury is a growing but neglected public health problem that disproportionately affects low-income and middle-income countries (LMICs). Incidence rates of extremity injuries are 2–5 times as high in LMICs as in high-income countries [1]. Orthopedic injuries contribute significantly to the chronic burden of injury. For example, a population-based Ghanaian study found that extremity injuries accounted for 78% of all disabilities caused by traumatic injury [2]. Despite the large burden of musculoskeletal injuries, injury prevention and trauma systems development were not included in the Millennium Development Goals. The amount of resources devoted to trauma care is not commensurate with the magnitude of the problem [1,3].

Uganda exemplifies this trend. Road traffic injuries (RTI) have been documented as the leading cause of musculoskeletal injuries [4,5], 10th leading cause of disability-adjusted life years (DALYs), and the cause of DALYs that increased most in Uganda from 1990–2010 [6]. However, the Uganda Health Sector Strategic and Investment Plan does not address injury. The discrepancy between injury burden and prioritization demonstrates the need for a

greater focus on musculoskeletal injury in public health agendas.

Efforts to address the burden of injury will require context-specific data to inform evidence-based policies. Previous Ugandan studies have focused on higher level hospitals [5,7–9], whereas data about orthopedic injuries at district hospitals are lacking. Because patterns of injury vary in different settings [3,10], the trends observed in such studies may not generalize to the district hospital context.

The Ugandan district hospital is the primary government-run health facility delivering essential care to the general population [4]. Orthopedic officers, who are paramedical providers trained in nonoperative management of simple orthopedic conditions, are the primary district hospital musculoskeletal care providers. District hospitals suffer from shortages of equipment, supplies, and personnel, as well as a poorly facilitated referral system [4]. Improved district hospital data could allow strategic allocation of scarce resources for injury care and prevention and could inform referral patterns and trauma systems development. In this pilot musculoskeletal injury registry, we aim to demonstrate the utility of district hospital data for orthopedic needs assessment and to establish a framework for broader injury surveillance systems at district hospitals.

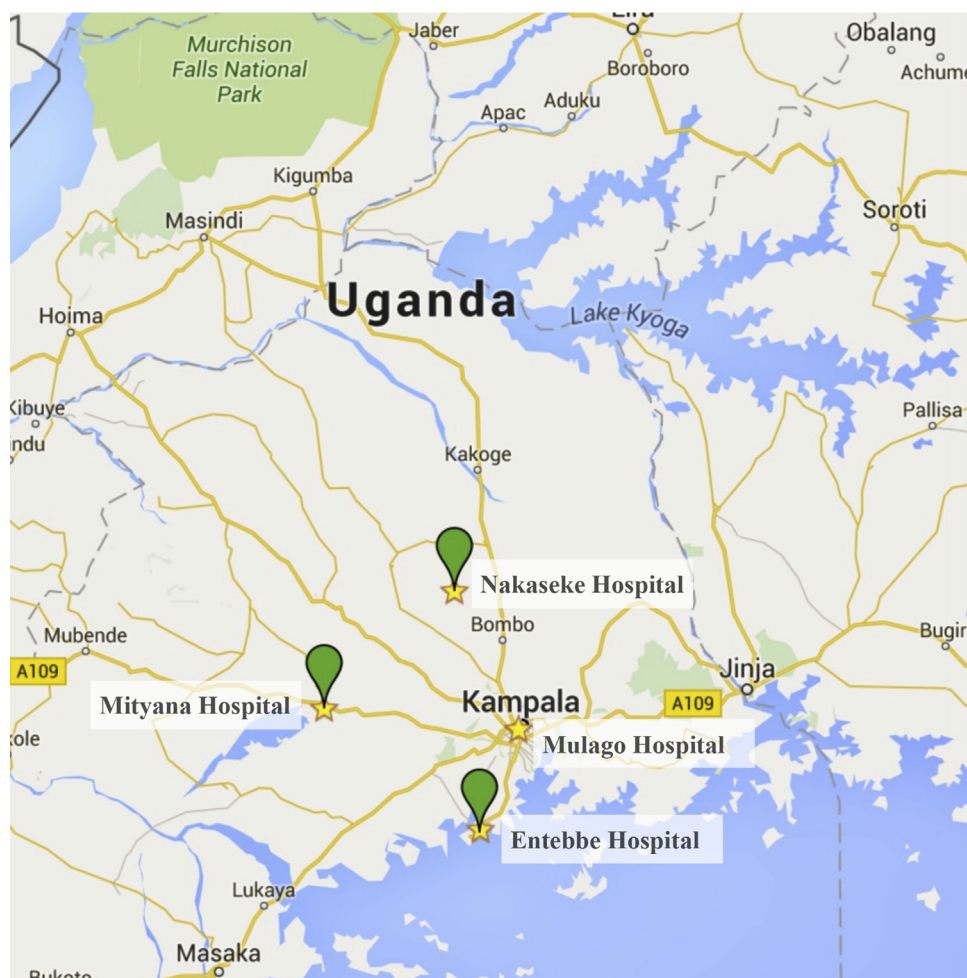


Fig. 1 – Map of study hospitals. *Source: Google Maps. (Color version of figure is available online.)

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