

Appendix 3 - "AFEM-CC Quality Indicator Near Match" Data													
Title	First Author	Year Published	Country	Location of EC	Study Objective	Year(s) of data collection	N	Sub-Population	Intervention	Qualifiers of QI Stat	QI	QI pre-intervention	QI post-intervention
Blood glucose checked in patients with change in mental status: % of patients with documented change in mental status who have blood glucose (BG) checked													
Assessment of documented adherence to critical actions in paediatric emergency care at a district-level public hospital in South Africa	Berends	2021	South Africa	District hospital, Khayelitsha Hospital in Cape Town, South Africa, Pediatric ED	"Describe the documented adherence to critical actions in paediatric emergency care"	2017-2019	388	Pediatrics (<13yoa)		% of patients in whom glucose was checked (or dextrose administered if unable to check)	79.20%		
Medical evaluation abnormalities in acute psychotic patients seen at the emergency department of Muhimbili national hospital in Dar es Salaam, Tanzania	Yusuf	2013	Tanzania	National Referral, Muhimbili National Hospital, Dar es Salaam	"Investigated the yield of physical examination and laboratory testing among patients presenting with acute psychosis"	Unavailable	252	-	-	Glucose checked at "any point during EC"	82%		
Emergency centre investigation of first-onset seizures in adults in the Western Cape, South Africa	Smith	2013	South Africa	6 EDs two tertiary centres and four district hospitals, Western Cape Province, South Africa	"Review which investigations were performed on adults presenting with first-onset seizures"	2011	309	Adult (>13yoa)	-	Glucose checked at "any point during EC"	91.20%		
Oxygen for patients with hypoxia - % of patients with SaO2 <92% who had supplemental oxygen given													
Assessment of documented adherence to critical actions in paediatric emergency care at a district-level public hospital in South Africa	Berends	2021	South Africa	District hospital, Khayelitsha Hospital in Cape Town, South Africa, Pediatric ED	"Describe the documented adherence to critical actions in paediatric emergency care"	2017-2019	388	Pediatric (<13yoa)	-	% of patients "Give oxygen when indicated" for respiratory distress"	100.00%		
Respiratory compromise in children presenting to an urban emergency department of a tertiary hospital in Tanzania: a descriptive cohort study.	Muhanuzi	2019	Tanzania	Muhimbili National Hospital is a tertiary hospital located in Dar es Salaam	"Describe the clinical epidemiology, management and outcomes of paediatric patients with respiratory compromise"	2017	165	Pediatric (1mth-18yoa)	-	% of patients with respiratory distress that receives oxygen	86.70%		
Hypoxaemia in hospitalised children in the emergency unit of a resource-poor setting	Kuti	2015	Nigeria	Ahmad Sani Yariman Bakura Specialist Hospital (ASYBSH), Gusau, Northwest Nigeria	"Determine the prevalence and determinants of hypoxaemia among children admitted to the emergency unit"	2017	202	Pediatric (1 mth-15 yoa)	-	% of patients with O2 <90% that received O2	96%		

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The effect of airway management in traumatic brain injury at Kilimanjaro Christian Medical Center, Moshi, Tanzania	Kiwango	2014	Tanzania	District hospital, Kilimanjaro Christian Medical Center, Moshi	"Describe the current presentation and airway management practices in TBI patients to create a clinical practice guideline for a limited-resource setting to improve outcomes"	2013	371	-	-	% of patients with O2 <92% that received O2	36.40%		
Corticosteroid treatment given for asthma patients: % of patients with documentation of asthma who receive corticosteroid treatment													
Evaluating acute asthma management at Red Cross Children's Hospital, South Africa	Shirani	2018	South Africa	Tertiary, Red Cross Children's Hospital, Pediatric ED	"Reevaluate the presentation and management of children with Acute Severe Asthma at our facility"	2013	95	Pediatric (<13yoa)	-	% of patients that received systemic steroids immediately	83%		
Asthma and pneumonia among under-fives with acute respiratory symptoms in Uganda: Is asthma underdiagnosed?	Nantanda	2013	Uganda	National Referral Hospital, Mulago, Kampala Uganda, Pediatric ED	"Determine the magnitude of asthma and pneumonia among children less than five years of age with cough and/or difficulty breathing, based on stringent clinical criteria. We also describe the treatment for children with acute respiratory symptoms"	2012	614	Pediatric (<5 yoa)	-	% of patients identified as having "asthma syndrome" and "prescribed systemic steroids"	43.10%		
Bronchodilator treatment give for asthma patients: % of patients with documentation of asthma who receive bronchodilator treatment													
Evaluating acute asthma management at Red Cross Children's Hospital, South Africa	Shirani	2018	South Africa	Tertiary, Red Cross Children's Hospital, Pediatric ED	"Reevaluate the presentation and management of children with Acute Severe Asthma at our facility"	2013	95	Pediatric (<13yoa)	-	% of patients that received systemic steroids immediately	100%	100%	
Asthma and pneumonia among under-fives with acute respiratory symptoms in Uganda: Is asthma underdiagnosed?	Nantanda	2013	Uganda	National Referral Hospital, Mulago, Kampala Uganda, Pediatric ED	"Determine the magnitude of asthma and pneumonia among children less than five years of age with cough and/or difficulty breathing, based on stringent clinical criteria. We also describe the treatment for children with acute respiratory symptoms"	2012	614	Pediatric (<5 yoa)	-	% of patients identified as having "asthma syndrome" and "prescribed bronchodilators"	88%		
Analgesia given to patients reporting pain: % of patients with documentation of pain who receive pain medications													
Assessment of documented adherence to critical actions in paediatric emergency care at a district-level public hospital in South Africa	Berends	2021	South Africa	District hospital, Khayelitsha Hospital in Cape Town, South Africa, Pediatric ED	"Describe the documented adherence to critical actions in paediatric emergency care"	2017-2019	388	Pediatric (<13yoa)	-	% of patients that "received any pain medication in the ED"	86%		
Severity of trauma pain and treatment modalities in children attending emergency care facility in a tertiary hospital-preliminary report	Oluwaniyi	2020	Nigeria	Tertiary, University College Hospital, Ibadan, Oyo State, South-West Nigeria	"Identifying the different causes of trauma pain in children presenting to the emergency department in this environment, assess this pain; using certain pain tools to determine the severity and identify the different treatment modalities applied in this environment, if any, and determine their effectiveness in lowering pain."	2016-2017	13	Pediatric (2-15 yoa)	-	% of patients that "received any pain medication in the ED"	92.30%		

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Traumatic musculoskeletal outcomes pre- and post-development of a Rwandan emergency medicine training program	Mattson	2019	Rwanda	Tertiary, The University Teaching Hospital- Kigali, Kigali, Rwanda	"1) to understand the epidemiology of MSI fractures in Rwanda; and 2) to evaluate the progress of the country's first EM residency program in treating MSI-related injuries by assessing ED mortality rates, length of stay, and complication rates."	Pre: 2012-2013, Post: 2015-2016	691	-	Implementation of an Emergency Medicine Training Program	% of patients that "received analgesics"	52.20%		
Pain management among adult patients with fractures of long bones at Muhimbili Orthopaedic Institute in Dar es Salaam, Tanzania	Haonga	2011	Tanzania	Regional trauma center, ED in Muhimbili Orthopaedic Institute in Dar es Salaam	To assess pain management among adult patients with fractures of long bones at Muhimbili Orthopaedic Institute in Dar es Salaam, Tanzania	2008	250	Adults (18-60 yoa)		% of patients reporting severe pain that received any pain medication in the ED	53.00%		
Long bone splinting for patients presenting with extremity fracture - % of patients with extremity fracture who are splinted													
Pain management among adult patients with fractures of long bones at Muhimbili Orthopaedic Institute in Dar es Salaam, Tanzania	Haonga	2011	Tanzania	Regional trauma center, ED at Muhimbili Orthopaedic Institute, Dar es Salaam	"To assess pain management among adult patients with fractures of long bone"	2008	250	Adult (18-60 yoa)		Splinted before or while in ED (before: 37.2%, in ED 68.8%)	100%		
Recording of initial complete vital signs: % of patient encounters with recording of initial completed vital signs (VS)													
Completeness of medical records of trauma patients admitted to the emergency unit of a university hospital, upper Egypt	Mohammed	2021	Egypt	Tertiary, Beni-Suef University Hospital, Upper Egypt	"Investigate the medical records of admitted trauma patients for the completeness of several pre-identified variables in order to evaluate the adequacy of the current medical record as a basis for the development of future trauma registries in hospitals in Upper Egypt."	2016	557	-	-	% of patients with "complete vital signs & GCS"	55%		
Assessment of the patients' outcomes after implementation of South African Triage Scale in emergency department, Egypt	Elbaih	2021	Egypt	Suez Canal University Hospital (SCHUH), Ismailia	"Assess the patients' outcomes after the implementation of SATS in ED at SCUH, in terms of the LOS and the mortality rates in ED"	Unavailable	345	-	Implementation of SATS	% of patients with "vital signs obtained in triage" (pre- & post-SATS)		RR 4.3%, HR 22.6%, Temp 27.8%	100%
Assessment of documented adherence to critical actions in paediatric emergency care at a district-level public hospital in South Africa	Berends	2021	South Africa	District hospital, Khayelitsha Hospital in Cape Town, South Africa, Pediatric ED	"Describe the documented adherence to critical actions in paediatric emergency care"	2017-2019	388	Pediatric (<13 yoa)	-	% of patients with vital signs documented	SpO2 - 99%, RR - 100%, HR - 100%, BP - 42%, temp 98%		

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Development and pilot implementation of a standardised trauma documentation form to inform a national trauma registry in a low-resource setting: lessons from Tanzania	Sawe	2020	Tanzania	5 regional referral hospitals in Tanzania (Morogoro, Arusha, Mwananyama, Coastal and Tanga)	"describe the development, structure, implementation and impact of a context appropriate standardised trauma form based on the adaptation of the WHO Data Set for Injury (DSI), for clinical documentation and use in a national trauma registry."	2018-2019	9,914, pre: 2891, pilot: 721, post: 6302	-	Created trauma form which is used for clinical documentation and data collection, conducted train the trainer and on-site training in documentation, 1 month pilot with interview on form and challenges to implementation	% of patients with vital signs documented. (Pre duplicate data with: "Trauma care and capture rate of variables of World Health Organisation data set for injury at regional hospitals in Tanzania: first steps to a national trauma registry, Post 7-month implementation phase)		HR: 24.5%, SBP: 18.7%, RR: 18%, SpO2: 13.1%	HR: 95.8%, SBP: 97.1%, RR: 99.7%, SpO2: 98.5%
Transfusion, mortality and hemoglobin level: Associations among emergency department patients in Kigali, Rwanda	Moretti	2020	Rwanda	University Teaching Hospital of Kigali	"Evaluate the association of packed red blood cell (PRBC) transfusion with mortality outcomes across hemoglobin levels amongst emergency center (EC) patients"	2013-2016	1116	Adult (>15yoa)	-	% of patients with vital signs documented	HR 38.3%, SBP 38.2%, RR 38.8%, SpO2 36.2%		
Developing a trauma registry in a middle-income country - Botswana	Motsumi	2020	Botswana	1 tertiary and 1 secondary hospital, Princess Marina Hospital and Scottish Livingstone Hospital, Garbrone	"Develop and pilot test a trauma registry prototype at a secondary and a tertiary level hospital"	2017-2018	414	-	1. Describes step in design of the registry (review of currently available models, integration of currently available data collection ex police forms from scene local consultation) 2. Trauma data variables collected 3. data management	% of patients with vital signs "documented during primary survey"		SHL: RR 100%, SO2 73.8%, HR 92% BP 89%, Temp 40%; PMH RR 91%, SO2 92%, HR 97% BP 90%, Temp 39%	SHL: RR 93%, SO2 89%, HR 95% BP 91%, Temp 14%; PMH RR 96%, SO2 93%, HR 97% BP 90%, Temp 71%
Trauma burden, patient demographics and care-process in major hospitals in Tanzania: A needs assessment for improving healthcare resource management	Mwanri	2020	Tanzania	National and 2 regional referral hospitals all with EC	"Assess: the in-hospital trauma-burden, major injury processes of care; and the trauma death burden."	2018	480	-	-	% of patients with vital signs documented	SpO2 - 97%, RR - 69%, HR - 72%, BP - 75%,		
Mixed methods process evaluation of pilot implementation of the African Federation for Emergency Medicine trauma data project protocol in Ethiopia	Laytin	2019	Ethiopia	Quaternary referral, Tikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia	"Identify early successes and challenges of the implementation of the African Federation for Emergency Medicine (AFEM) developed the AFEM Trauma Data Project (AFEM-TDP) and to develop strategies for site-specific protocol adaptation"		174 trauma registry forms, 13 interviews	-	-	% of patients with "vital signs recorded at the time of arrival"	SBP 77%, HR 86%		
Key findings from a prospective trauma registry at a regional hospital in Southwest Cameroon	Chichom-Mefire	2017	Cameroon	Regional referral, Limbe Regional Hospital, Limbe	"Aims to characterize trauma as seen at the emergency department (ED) of Limbe Regional Hospital (LRH) and assess the completeness of data obtained by a trauma registry"	2008-2013	5,617	-	Implementation of a trauma registry	% of vital signs recorded in administrative records (pre) and trauma records (post)		BP: 13%, RR: 2%	BP: 71%, RR: 26%

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An evaluation of the use of the South African Triage Scale in an urban district hospital in Durban, South Africa	Soogun	2017	South Africa	District hospital, Durban	"Evaluate the use of the SATS in a busy urban district hospital"	2016	346	-	-	% of patients with recorded triage vital signs		RR 99.4% HR 99.1% BP 99.4 Temp 98.8	
A quality improvement study of the emergency centre triage in a tertiary teaching hospital in northern Ethiopia	Abdelwahab	2017	Ethiopia	Large teaching hospital, Ayder Comprehensive Specialized Hospital, Tigray Region, northern Ethiopia	"Evaluate the implementation of nurse-led emergency triage (SATS)"	2015	107	Adult (>18yoa)	-	% of patients with vital signs documented	HR 98%, BP 93%, Temp 87%, RR 83%		
Medical evaluation abnormalities in acute psychotic patients seen at the emergency department of Muhimbili national hospital in Dar es Salaam, Tanzania	Yusuf	2013	Tanzania	National Referral, Muhimbili National Hospital, Dar es Salaam	"Investigated the yield of physical examination and laboratory testing among patients presenting with acute psychosis"	Unavailable	252	-	-	% of patients with "complete vital signs at any point during EC"	88%		
Hospital-based injury data from level III institution in Cameroon: Retrospective analysis of the present registration system	Chichom Mefire	2013	Cameroon	Regional referral, Limbe Regional Hospital, Limbe	Assess "available administrative data from the emergency ward logs in a 200-bed regional hospital in Cameroon with respect to completeness and suitability to serve as an injury surveillance tool. The data available are also used to explore an overview of the epidemiological profile of injury in this institution"	2007-2008	1713	Adult (>15 years)	-	% of patients with vital signs documented	BP 13%, HR 7%, RR 2%		
Recording of demographics and chief complaint: % of charts with recording of chief complaint and demographics													
Developing a trauma registry in a middle-income country - Botswana	Motsumi	2020	Botswana	1 tertiary and 1 secondary hospital, Princess Marina Hospital and Scottish Livingstone Hospital, Garbrone	"Develop and pilot test a trauma registry prototype at a secondary and a tertiary level hospital"	2017-2018	414	-	1. Describes step in design of the registry (review of currently available models, integration of currently available data collection ex police forms from scene local consultation) 2. Trauma data variables collected 3. data management	% of patients with "documented demographics and registration information" & % of patients with "documented mode of injury"		Demographics 95.9%; mode of injury SLH 94.5% PMH 96.1%	Demographics 94.3%; mode of injury SLH 96.1% PMH 95.7%

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Development and pilot implementation of a standardised trauma documentation form to inform a national trauma registry in a low-resource setting: lessons from Tanzania	Sawe	2020	Tanzania	5 regional referral hospitals in Tanzania (Morogoro, Arusha, Mwananyamala, Coastal and Tanga)	"Describe the development, structure, implementation and impact of a context appropriate standardised trauma form based on the adaptation of the WHO Data Set for Injury (DSI), for clinical documentation and use in a national trauma registry."	2018-2019	9,914, pre: 2891, pilot: 721, post: 6302	-	Created trauma form which is used for clinical documentation and data collection, conducted train the trainer and on-site training in documentation, 1 month pilot with interview on form and challenges to implementation	% of patients with variables documented (Post 7-months following implementation phase)		Name: 99.3%, Age:82%, Gender: 69.7%, Address: 83.8%, Geographic location of injury: 14.1% Mechanism of injury: 45%	Name:100%, Age: 97.3%, Gender: 99.3%, Address 95.4%, Geographic location of injury: 94.5% Mechanism of Injury: 95.5%
Mixed methods process evaluation of pilot implementation of the African Federation for Emergency Medicine trauma data project protocol in Ethiopia	Laytin	2019	Ethiopia	Quaternary referral, Ikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia	"Identify early successes and challenges of the implementation of the African Federation for Emergency Medicine (AFEM) developed the AFEM Trauma Data Project (AFEM-TDP) and to develop strategies for site-specific protocol adaptation"		174 trauma registry forms, 13 interviews	-	-	% of patients with variables documented	age - 96%, sex 99%, injury mechanism 60%		
The Malawi trauma score: A model for predicting trauma-associated mortality in a resource-poor setting	Gallaher	2019	Malawi	Tertiary referral hospital, Kamuzu Central Hospital (KCH), Lilongwe, Malawi	"Sought to describe injury severity in an accurate and reproducible manner by developing a scoring system that would require only a history and physical exam, while also predicting trauma-associated mortality. This score would have potential as a foundation for rapid triage tools at regional and tertiary trauma centers throughout the region and allow for risk-stratification of our patient populations"	2011-2014	62,354	Adult	-	% of patients with variables documented	Demographics: 100%, Mechanism of injury: 99.8%, Location of injury: 93.7%		
Key findings from a prospective trauma registry at a regional hospital in Southwest Cameroon	Chichom-Mefire	2017	Cameroon	Regional referral, Limbe Regional Hospital, Limbe	"Aims to characterize trauma as seen at the emergency department (ED) of Limbe Regional Hospital (LRH) and assess the completeness of data obtained by a trauma registry"	2008-2013	5,617	-	-	% of patients with variables documented	gender: 99.3%, age: 98%, mechanism: 99.3%		
Epidemiology of injuries, outcomes, and hospital resource utilisation at a tertiary teaching hospital in Lusaka, Zambia	Seidenberg	2014	Zambia	Tertiary, University Teaching Hospital (UTH), Lusaka	"To develop a hospital-based trauma registry in an urban hospital in Lusaka, Zambia to assess patterns of injury, transport methods and duration, injury severity, outcomes and hospital resource utilisation."	2011-2012	3425	-	-	% of patients with variables documented	sex: 99.7%, age: 94%, mechanism: 96.6%		
Injury registration in a developing country. A study based on patients' records from four hospitals in Dar es Salaam, Tanzania	Mutasingwa	2001	Tanzania	4 largest tertiary hospitals Dar es Salaam, 2 government and 2 private	"evaluate available hospital records for the purpose of describing the epidemiology of injuries among inpatients in four hospitals in Dar es Salaam, Tanzania."	1998	1089	-	-	% of patients with variables documented	gender: 100%, age: 96.4%, mechanism: 76.2%		
Demographics Only													

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The burden of trauma at a district hospital in the Western Cape Province of South Africa	Zaidi	2019	South Africa	District hospital, Wesfleur Hospital, Western Cape Province	"Describe the burden of trauma at district hospitals by analysing trauma patients at a prototypical district hospital emergency centre."	2015	565	-	-	% of patients with variables documented	sex: 99.2%, age: 98.1%		
A quality improvement study of the emergency centre triage in a tertiary teaching hospital in northern Ethiopia	Abdelwahab	2017	Ethiopia	Large teaching hospital, Ayder Comprehensive Specialized Hospital, Tigray Region, northern Ethiopia	"Evaluate the implementation of nurse-led emergency triage (SATS)"	2015	107	Adult (>18yoa)	-	% of patients with documentation of demographics	95%		
Chief complaint/mode of injury only													
Trauma burden, patient demographics and care-process in major hospitals in Tanzania: A needs assessment for improving healthcare resource management	Mwandri	2020	Tanzania	National and 2 regional referral hospitals all with EC	"Assess: the in-hospital trauma-burden, major injury processes of care; and the trauma death burden."	2018	480	-	-	% documentation of mode of injury	86%		
Evaluation of a modified South African Triage Score as a predictor of patient disposition at a tertiary hospital in Rwanda	Uwamahoro	2020	Rwanda	Tertiary, The University Teaching Hospital of Kigali (UTH-K), Kigali	"Evaluate the utility of the mSATS tool at UTH-K"	2015-2016	1438	Adult (>15 yoa)	-	% documentation of mode of injury	>99%		
Documentation of diagnosis: % of patients with documented diagnosis													
Developing a trauma registry in a middle-income country - Botswana	Motsumi	2020	Botswana	1 tertiary and 1 secondary hospital, Princess Marina Hospital and Scottish Livingstone Hospital, Garbrone	"Develop and pilot test a trauma registry prototype at a secondary and a tertiary level hospital"	2017-2018	414	Trauma	1. Describes step in design of the registry (review of currently available models, integration of currently available data collection ex police forms from scene local consultation) 2. Trauma data variables collected 3. data management	% of patients with recorded "Final diagnosis"	SLH 98.5% PMH 99.3%	SLH 99.3% PMH 96.4%	
Documentation of disposition: % of patients with documented disposition													

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Primary survey performed for all trauma patients: % of patients with chief complaint of trauma with documented primary survey: No additional adjacent studies													
Developing a trauma registry in a middle-income country - Botswana	Motsumi	2020	Botswana	1 tertiary and 1 secondary hospital, Princess Marina Hospital and Scottish Livingstone Hospital, Garbrone	"Develop and pilot test a trauma registry prototype at a secondary and a tertiary level hospital"	2017-2018	414	Trauma	1. Describes step in design of the registry (review of currently available models, integration of currently available data collection ex police forms from scene local consultation) 2. Trauma data variables collected 3. data management	% of patients with "primary survey documented"	66.50%		
Trauma burden, patient demographics and care-process in major hospitals in Tanzania: A needs assessment for improving healthcare resource management	Mwandri	2020	Tanzania	National and 2 regional referral all with EC	"Assess burden, patient demography, causes of injury, trauma mortality and the care-process"	2018	480	-	-	% documentation of components of primary survey	Airway and Breathing: 33%, Circulation: 60%, Disability: 20%		
Initial assessment for all patients - % of patients receiving an initial assessment: No additional adjacent studies													
Assessment of documented adherence to critical actions in paediatric emergency care at a district-level public hospital in South Africa	Berends	2021	South Africa	District hospital, Khayelitsha Hospital in Cape Town, South Africa, Pediatric ED	"Describe the documented adherence to critical actions in paediatric emergency care"	2017-2019	388	Pediatric (<13yos)	-	% documentation of components of initial assessment	Breathing: 100%, O2 Saturation: 98.7%, Pulse: 100%, Capillary refill: 35.3%, Exposure: 33.7%		
Mortality from trauma: % of patients with trauma-related chief complaint who die within 24 hours of EU presentation													
Mortality related to acute illness and injury in rural Uganda: Task shifting to improve outcomes	Chamberlain	2015	Uganda	Rural district hospital, Karoli Lwanga (Nyakibale) Hospital, Rukungiri District	"Describe the results of using midlevel providers as independent emergency practitioners in a rural area of a low- or middle- income country... evaluate the outcomes of patients who were treated primarily by ECPs rather than physicians."	2010-2012	10,105	-	-	72-hr mortality	1.20%		

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Analysis of prospective trauma registry data in Francophone Africa: a pilot study from Cameroon	Juillard	2014	Cameroon	Tertiary, The Central Hospital of Yaoundé, Yaoundé	"Aims were: (1) to pilot a data collection system designed to describe patterns of injury and emergency clinical trauma care using a prospective data collection system; and (2) assess the pilot trauma registry performance respective to prior experience using administrative retrospective data from the same setting"	Unavailable	2,855	-	-	Death recorded as "disposition from ED"	1.02%		
Epidemiology of trauma deaths	Solagberu	2003	Nigeria	University, University of Ilorin Teaching Hospital, Ilorin	"Highlight the pattern and distribution of trauma deaths in a Nigerian teaching hospital in order to enhance trauma research, improve treatment strategies and prevent trauma deaths"	1999-2001	2913	-	-	"deaths in the A&E"	4.40%		
Pattern and outcome of postneonatal pediatric emergencies in Nnamdi Azikiwe University Teaching Hospital, Nnewi, South East Nigeria	Ndukwu	2015	Nigeria	University, Nnamdi Azikiwe University Teaching Hospital, Nnewi	"Determine morbidity and mortality patterns, and identify factors influencing poor outcome of the disease in children seen in the emergency room"	2012-2014	1964	Pediatric (<18yoa)	-	"died in the ED"	5.10%		
Trauma registry in Tikur Anbessa Hospital, Addis Ababa, Ethiopia	Taye	2003	Ethiopia	University, Tikur Anbessa Hospital, Addis Ababa	"study the causes of injuries using a simplified hospital trauma registry initially developed in Uganda" based on the WHO minimum data set and adopted and refined by Injury Prevention Initiative For Africa (IPIFA). This is used to initiate hospital based trauma registry"	1999	3822	-	-	ED mortality	0.52%		
Understanding patterns of injury in Kenya: Analysis of a trauma registry data from a National Referral Hospital	Botchey	2017	Kenya	National Referral, Kenyatta National Hospital,	"Develop and implement a prospective trauma registry at the largest trauma hospital in Kenya, the Kenyatta National Hospital, and to understand the nature of injuries presenting to the hospital, their treatment and care, and their outcomes"	2014-2015	8701	-	-	ED mortality	0.90%		
Injury factors associated with discharge status from emergency room at two major trauma hospitals in The Gambia, Africa	Sanyang	2017	The Gambia	2 National referral hospitals, Edward Francis Small Teaching Hospital, Serrekunda General Hospital	"Identified predictors of discharge status and disability at discharge among patients who seek emergency room treatment"	2014	1961	-	-	ED mortality	0.90%		

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Evaluation of trauma patients admitted to the emergency department of in Mogadishu Training and Research Hospital, Somalia: Cross Sectional study of 1106 patients	Demirel	2019	Somalia	Mogadishu Somalia Turkish Training and Research Hospital	"Aimed to retrospectively classify trauma patients referred to the emergency department of Mogadishu Somalia Turkish Training and Research Hospital (MSTERH) from a demographic and epidemiological perspective, identify the needs and deficiencies of our emergency department and improve the service quality in our hospital while contributing to the literature"	2017-2018	1106	-	-	ED mortality	1.30%		
The burden of trauma at a district hospital in the Western Cape Province of South Africa	Zaidi	2019	South Africa	District hospital, Wesfleur Hospital, Western Cape Province	"Describe the burden of trauma at district hospitals by analysing trauma patients at a prototypical district hospital emergency centre."	2015	565	-	-	ED mortality	0.50%		
Trauma at a Nigerian teaching hospital: pattern and documentation of presentation	Thanni	2006	Nigeria	Tertiary teaching hospital, Olabisi Onabanjo University Teaching Hospital, Sagamu	"Identify the characteristics of injuries and determining the efficiency of documentation of patients' records"	2003	1078	-	-	ED mortality	2%		
The burden of road traffic injuries in an emergency department in Addis Ababa, Ethiopia	Getachew	2016	Ethiopia	Tertiary referral, Zewditu Memorial Hospital (ZMH), Addis Ababa	"Document the proportion, trend, characteristics and outcomes of road traffic injury (RTI) related ED admissions (>15 years) between 2014 and 2015."	2014-2015	522	Adult (>15yoa)	-	ED mortality	1%		
Epidemiology of injuries, outcomes, and hospital resource utilisation at a tertiary teaching hospital in Lusaka, Zambia	Seidenberg	2014	Zambia	Tertiary, University Teaching Hospital (UTH), Lusaka, Zambia	"To develop a hospital-based trauma registry in an urban hospital in Lusaka, Zambia to assess patterns of injury, transport methods and duration, injury severity, outcomes and hospital resource utilisation."	2011-2012	3425	-	-	In-patient mortality	3%		
Potential benefits of triage for the trauma patient in a Kenyan emergency department	Lampi	2018	Kenya	Referral, Moi Teaching and Referral Hospital (MTRH) in Eldoret	"Investigate how a lack of formal triage system impacts timely intervention and mortality in a sub-Saharan referral hospital"		700	Adult (>14yo)	-	In-patient mortality	1.80%		

Appendix 3 - "AFEM-CC Quality Indicator Near Match" Data													
Title	First Author	Year Published	Country	Location of EC	Study Objective	Year(s) of data collection	N	Sub-Population	Intervention	Qualifiers of QI Stat	QI	QI pre-intervention	QI post-intervention
Retrospective review of the patient cases at a major trauma center in Nairobi, Kenya and implications for emergency care development	Saleeby	2019	Kenya	Tertiary referral, Kenyatta National Hospital (KNH). KNH is the largest public tertiary referral centre in Kenya, Nairobi	"Provide a comprehensive description of the emergency centre at Kenya's largest public tertiary care hospital."		23,941	-	-	In-hospital mortality	6.60%		
The burden of trauma presenting to the government referral hospital in Freetown, Sierra Leone: An observational study	Bundu	2019	Sierra Leone	Tertiary referral centre, Connaught Hospital, Freetown	"Assess the volume of trauma presenting to the national referral hospital in order to focus resources, direct training and lobby for improved preventive measures"	2016	340	-	-	In-patient mortality (Pediatric only, adult data not available)	23%		
The Malawi trauma score: A model for predicting trauma-associated mortality in a resource-poor setting	Gallaher	2019	Malawi	Tertiary referral hospital, Kamuzu Central Hospital (KCH), Lilongwe, Malawi	"Sought to describe injury severity in an accurate and reproducible manner by developing a scoring system that would require only a history and physical exam, while also predicting trauma-associated mortality. This score would have potential as a foundation for rapid triage tools at regional and tertiary trauma centers throughout the region and allow for risk-stratification of our patient populations"	2011-2014	62,354	Adult	-	In-patient mortality	2%		
Patterns and outcomes of paediatric trauma at a tertiary teaching hospital in Kenya	Ndung'u	2019	Kenya	Tertiary, Aga Khan University Hospital, Nairobi	"Establish the profile and outcomes of admitted paediatric trauma cases at the Aga Khan University Hospital, Nairobi"	2016	218	Pediatric (<15yoa)	-	In-patient mortality	2%		
Epidemiology of injuries presenting to the national hospital in Kampala, Uganda: implications for research and policy	Hsia	2010	Uganda	National Referral, Mulago, Kampala	"To estimate the epidemiology of the injury seen in patients presenting to the government hospital in Kampala, the capital city of Uganda."	2004-2005	3,750	-	-	In-patient mortality	2%		
Demographics and predictors of mortality in children undergoing resuscitation at Khayelitsha Hospital, Western Cape, South Africa.	Richards	2018	South Africa	Public hospital, Khayelitsha Hospital (KH), Khayelitsha	"Describe characteristics of children under the age of 12 who required resuscitation upon presentation to KH, determine predictors of mortality, and compare paediatric volume to specialist physician presence in the unit."	2014-2015	317	Pediatric (<12yoa)	-	In-hospital mortality (patients requiring "resuscitation" only)	6.25%		

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Evaluation of trauma patient presentations and outcomes at a ugandan regional referral hospital	Schriger	2016	Uganda	Regional referral center, Mbarara Regional Referral Hospital, Mbarara	"Prospectively characterize the demographics, mechanisms of injury, diagnoses, and outcomes among trauma patients presenting to Mbarara Regional Referral Hospital (MRRH) prior to planned trauma training interventions"	Unknown	497	-	-	In-hospital mortality	7.00%		
Mortality from lower respiratory tract infection (adult): % of adult patients with diagnosis of LRTI who die within 24 hours of EU presentation													
Medical mortality in the Accident and Emergency Unit of the University of Port Harcourt Teaching Hospital	Onwuchekwa	2008	Nigeria	University, University of Port Harcourt Teaching Hospital	"Highlight the causes of mortality, age and sex distribution of the deaths and the duration of admission before death among medical cases in the accident and emergency unit"	2005	5304	Adult (>16yoa)	-	72 hour mortality	1.30%		
Mortality related to acute illness and injury in rural Uganda: Task shifting to improve outcomes	Chamberlain	2015	Uganda	Rural district hospital, Karoli Lwanga (Nyakibale) Hospital, Rukungiri District	"Describe the results of using midlevel providers as independent emergency practitioners in a rural area of a low- or middle- income country... evaluate the outcomes of patients who were treated primarily by ECPs rather than physicians."	2010-2012	10,105	-	-	72 hour mortality	3.30%		
Mortality from lower respiratory tract infection (child): % of patients <5years with diagnosis of LRTI who die within 24hours of EU presentation													
Under 5 year of age only													
Mortality related to acute illness and injury in rural Uganda: Task shifting to improve outcomes	Chamberlain	2015	Uganda	Rural district hospital, Karoli Lwanga (Nyakibale) Hospital, Rukungiri District	"Describe the results of using midlevel providers as independent emergency practitioners in a rural area of a low- or middle- income country... evaluate the outcomes of patients who were treated primarily by ECPs rather than physicians."	2010-2012	10,105	-	-	72-hr mortality (U5)	4.10%		
Morbidity and mortality pattern of childhood illnesses seen at the children emergency unit of federal medical center, Asaba, Nigeria	Ezeonwu	2014	Nigeria	Tertiary hospital, Federal Medical Center in Asaba	"Determine the pattern of morbidity and mortality of children seen at the children emergency room of a tertiary hospital"	2007-2011	3890	Pediatric (<15yoa)	-	In-patient mortality (U5)	2.20%		
Majority under 5 year of age													
Pattern of admissions to the pediatric emergency unit of Tikur Anbessa Hospital in Addis Ababa, Ethiopia (2012-2013 G.C)	Ambaye	2016	Ethiopia	University, Tikur Anbessa Hospital, Addis Ababa	"Describe the disease pattern of patients admitted in the pediatric emergency unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia and identify the main causes of admissions and deaths"	2012-2013	1,796	Pediatric (<15 yoa)	-	"died in the ED" (Pediatrics <15 yoa, 74% U5)	5.40%		

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Title	First Author	Year Published	Country	Location of EC	Study Objective	Year(s) of data collection	N	Sub-Population	Intervention	Qualifiers of QI Stat	QI	QI pre-intervention	QI post-intervention
Analysis of admissions to the pediatric emergency ward of Tikur Anbessa Hospital in Addis Ababa, Ethiopia	Muluneh	2007	Ethiopia	University, Tikur Anbessa Hospital, Addis Ababa	"Analyze the characteristics of patients admitted under pediatric emergency ward of Tikur Anbessa Hospital and identify important causes of admissions and deaths."	2002-2003	1,459	Pediatric (unclear age range)	-	"died in the ED" (Pediatrics, 76% U5)	15.60%		
Bacteremic Community-Acquired Pneumonia in Ethiopian Children: Etiology, Antibiotic Resistance, Risk Factors, and Clinical Outcome	Negash	2019	Ethiopia	2 large hospitals (Tikur Anbessa Specialized Hospital (TASH) and the Yekatit 12 Hospital), Addis Ababa	"Determine the magnitude, etiology, and risk factors of bacteremic CAP in Ethiopian children and the role of S. pneumoniae in causing bacteremic pneumococcal CAP in children 5 years after the introduction of PCV10 in Ethiopia"	2016-2017	549	Pediatric (<15yoa)	-	In-patient mortality (Pediatrics, <15yoa, 97.4% of patients U5)	2.37%		
Pediatrics all ages													
Morbidity and mortality of childhood illnesses at the emergency paediatric unit of the University of Benin Teaching Hospital, Benin City	Abhulimhen-Iyoha	2012	Benin	University, University of Benin Teaching Hospital, Benin City	"Describe the pattern of morbidity and mortality as seen at the Emergency Paediatric Unit of the University of Benin Teaching Hospital, Benin City"	2009-2010	10,044	Pediatric (>29days - <16yof)	-	ED disposition of "died" (Pediatrics, <16yof)	1.90%		
Pattern and Outcome of Admissions in the Children's Emergency Room of the University of Nigeria Teaching Hospital, Enugu	Ibeziako	2002	Nigeria	Tertiary, University of Nigeria Teaching Hospital (UNTH) Enugu, Enugu	?	1992-1996	10,267	-	-	ED disposition of "died" (unclear age range)	5.10%		
Pattern and outcome of postneonatal pediatric emergencies in Nnamdi Azikiwe University Teaching Hospital, Nnewi, South East Nigeria	Ndukwu	2015	Nigeria	University, Nnamdi Azikiwe University Teaching Hospital, Nnewi	"Determine morbidity and mortality patterns, and identify factors influencing poor outcome of the disease in children seen in the emergency room"	2012-2014	1964	Pediatric (unclear age range)	-	"Died in the ED" (<18 yoa)	6.80%		
Burden and spectrum of paediatric respiratory diseases at a referral hospital in North-Central Nigeria - A five year review	Ibraheem	2020	Nigeria	University, University of Ilorin Teaching Hospital, Ilorin, Nigeria	"Identify the burden, spectrum and outcome of respiratory diseases in hospitalized children at University of Ilorin Teaching Hospital, North-Central Nigeria"	2013-2017	1,939	-	-	In-hospital mortality (Pediatric, unclear age range)	8.30%		
Demographics and predictors of mortality in children undergoing resuscitation at Khayelitsha Hospital, Western Cape, South Africa	Richards	2018	South Africa	Public hospital, Khayelitsha Hospital (KH), Khayelitsha	"Describe characteristics of children under the age of 12 who required resuscitation upon presentation to KH, determine predictors of mortality, and compare paediatric volume to specialist physician presence in the unit."	2014-2015	317	Pediatric (<12yof)	-	In-hospital mortality (Pediatrics, <12yof, only patients requiring resuscitation)	8.60%		

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Title	First Author	Year Published	Country	Location of EC	Study Objective	Year(s) of data collection	N	Sub-Population	Intervention	Qualifiers of QI Stat	QI	QI pre-intervention	QI post-intervention
Mortality from asthma: % of patients with diagnosis of asthma who die within 24hours of EU presentation													
Pattern and outcome of postneonatal pediatric emergencies in Nnamdi Azikiwe University Teaching Hospital, Nnewi, South East Nigeria	Ndukwu	2015	Nigeria	University, Nnamdi Azikiwe University Teaching Hospital, Nnewi	"Determine morbidity and mortality patterns, and identify factors influencing poor outcome of the disease in children seen in the emergency room"	2012-2014	1964	Pediatric (<18yoa)	-	"Died in the ED"	0.00%		
Acute asthma in a children's emergency room: a clinical audit and management guideline proposal	Okoromah	2006	Nigeria	Tertiary University, Lagos Teaching Hospital, Lagos	"Clinical audit aimed at evaluating emergency management of acute asthma as well as proposing for use as management protocol; with the view of improving quality of care"	2000-2002	30	Pediatric (<13yoa)	-	"Outcome of ED admission - died" (Pediatrics <13yoa)	3%		
Burden and spectrum of paediatric respiratory diseases at a referral hospital in North-Central Nigeria - A five year review	Ibraheem	2020	Nigeria	University, University of Ilorin Teaching Hospital, Ilorin, Nigeria	"Identify the burden, spectrum and outcome of respiratory diseases in hospitalized children at University of Ilorin Teaching Hospital, North-Central Nigeria"	2013-2017	1,939	-	-	In-hospital mortality	0.00%		