Figure S1 Data extraction tool

Date of data collection: D D / M M / Y Y Y Y

Data enumerator code: ☐☐

Data collection point:

□ Police station: (Specify name) _____

□ Health facility: (Specify name) _____

Level of facility:

1- National referral

2- Regional referral

3- District Hospitals

4- Health Center IV

5-Health Center III

6- Health Center II

□ Mortuary: (Specify name) _____

□ Insurance Firm: (Specify) _____

□ Other (Specify) _____

District: _____ (Drop down list)

Form 1: Crash-level

C1	**Crash identifier:**	☐☐☐ ▪ ☐☐☐☐ **District Code - Crash Code**
C2	**Date of traffic crash**	D D / M M / YYYY
C3	**Day of week for traffic crash**	
C4	**Time of traffic crash (24hrs)**	H H : M M (24hr)
LOCATION OF TRAFFIC CRASH		
C5	**District**	
C6	**Sub-county**	
C7	**Village (LC I)**	

C8	**Proximity of crash to town (Township)**	**1. Within Town** 2. **Outside town**
C9	**Enter name of Town/Nearest Town**	_____
C10	**Distance from nearest town**	_ _ _ _ _ KM
C11	**Name of road where the crash occurred**	_____
C12	**Type of road where crash occurred**	1. Murram road 2. Tarmac road 99. Unknown
C13	**Road surface**	1. Wet 2. Dry 99. Unknown
C14	**Road condition**	1. In good (or normal) Repair 2. In bad repair 99. Unknown
C15	**Class of roadway where the crash occurred**	1. Highway 2. Urban road, two way 3. Urban road, one way 4. Road outside a built-up area 5. Restricted road 6. Other 99. Unknown
C16	**Spot where crash happened**	1. Round about 2. Road junction 3. Walkway 4. designated pedestrian crossing (e.g. Zebra crossing, bridge) 5. Open road stretch 6. Other 99. Unknown
C17	**Crash type**	1. Crash with pedestrian 2. Crash with a Motorcycle 3. Crash with parked vehicle 4. Crash with fixed obstacle e.g. tree, post, fence, etc. 5. Crash with Non-fixed obstacle 6. Crash with animal 7. Single vehicle crash/non-collision 8. Crash with two or more vehicles 9. Other
C18	**Number of vehicles involved (If 8 selected above)**	_____
VEHICLE INFORMATION		
Vehicle_id	**Vehicle number**	__ __ (Numeric)
C19	**What type of Vehicle was this?**	1. Motor cars 2. Motorcycle 3. Pedal cycle (e.g Bicycle) 4. Dual Purpose vehicle (e,g Double cabins) 5. Light omnibus (e.g Taxi) 6. Medium Omnibus (e,g Coaster) 7. Heavy Omnibus (e.g Bus)

		8. Light goods vehicle (e.g. Pick up) 9. Medium goods (e.g. Canter, Dyna, etc.) 10. Heavy goods vehicle (e.g. Lorries) 11. Tankers and Trailers 12. Engineering plant (e.g. Earth movers) 13. Tractors 14. Other 99. Unknown
C20	**What was the vehicle doing before the crash occurred?**	1. Reversing 2. Parked 3. Entering or leaving a parking position 4. Slowing or stopping 5. Taking off 6. Waiting to turn 7. Turning 8. Changing lane 9. Avoidance manoeuvre 10. Overtaking vehicle 11. Straight forward normal driving 12. Other 99. Unknown
C21	**Severity of crash**	1. Fatal (at least one death) 2. Serious (at least one person needed hospital care) 3. Minor (property damage, not injuries requiring hospital) 99. Unknown
C22	**How many people were injured?**	_____
C23	**How many people died at the crash site?**	_____
C24	**Health facility where victims were taken**	1. Govt Hospital 2. Health center 3. Private Hospital / Clinic 4. Other 99. Unknown
C25	**Name of health facility to which victims were taken**	_____
C26	**District in which the health facility is found.**	_____(Drop down list)
FACTORS ASSOCIATED WITH THE ROAD TRAFFIC CRASH		
F1	**Weather conditions**	1. Cloudy/mist 2. Clear 3. Light rain 4. Heavy rain 5. Flooding 6. Strong wind 7. Other weather condition 99. Unknown weather condition
F2	**Lighting conditions**	1. Daylight 2. Darkness-no street lights

		3. Darkness-with street lights on 4. Darkness-with poor street light 5. Twilight (Dusk /Dawn) 99. Unknown

Muni KM, *et al. Inj Prev* 2021; 27:208–214. doi: 10.1136/injuryprev-2020-043654

Date of data collection: D D / M M / Y Y Y Y

Data enumerator code: ☐☐

□ Police station: (Specify name) _____

□ Health facility: (Specify name) _____

Level of facility:

1- National referral

2- Regional referral

3- District Hospitals

4- Health Center IV

5-Health Center III

6- Health Center II

□ Mortuary: (Specify name) _____

□ Insurance Firm: (Specify) _____

□ Other (Specify) _____

District: _____ (Drop down list)

Form 2: Individual level

P1	**Unique identifier**	Crash identifier /Individual number_____
P2	**Date of traffic crash**	D D/ M M/ YYYY
P3	**Age in completed years of the injured**	_____[numeric] (Enter 999 if unknown)
P4	**Sex of the injured**	1. Male 2. Female 99. Unknown
P5	**Type of road user injured**	1. Pedestrian 2. Driver 3. Motorcyclist 4. Pedal cyclist 5. Passenger on motorcycle 6. Passenger in a private car 7. Passenger in commercial minibus or equivalent 8. Passenger in a bus 9. Passenger in heavy vehicle 10. Passenger on pick-up truck 11. Other (specify)

		99. Unknown
P6	**If pedestrian, type of activity before crash occurred**	1. Crossing road 2. Walking/ Standing/ Running on the road 3. Walking/ Standing/ Running by the road side 4. Vending 5. Playing on the road side 6. Other (Specify) 99. Unknown
P7	**If Driver/motorcyclist, did they possess a driving permit**	1. Yes, Full License not expired 2. Yes, Learners Permit 3. Yes, Expired License 4. No 99. Unknown
P8	**If driver, motorcyclist, which of these factors was suspected of them?** (Check all that apply)	1. Substance Use 2. Alcohol use 3. Fatigue 4. Long hours driving 5. Cellphone use 6. None 7. Other
P9	**Tested for alcohol**	1. Yes 2. No 99. Unknown
P10	**Tested for other substance use**	1. Yes 2. No 99. Unknown
P11	**Personal protection measures used**	1. Helmet 2. Seat belt 3. Reflector material 4. None 5. Not Applicable (No restraint could be used for type of vehicle e.g. tractor) 6. Others 99. Unknown
P12	**Taken to health care facility**	1. Yes 2. No 99. Unknown
P13	**Hospital / health facility where taken**	_____[name of hospital] (Enter unknown if applicable)
P14	**Pre-hospital care given**	1. First aid by Police 2. First aid by other agency 3. First aid by lay by-stander 4. None 99. Unknown
P15	**Transport to hospital**	1. Ambulance – Police

		2. Ambulance - other 3. Police patrol vehicle 4. Private car 5. Taxi 6. Bodaboda 7. Other (Specify) 99. Unknown
P16	**Length of stay in hospital**	1. _____ [in days] 999. Unknown
P17	**Needed emergency operation on admission**	1. Yes 2. No 3. Unknown
P18	**Injury severity**	1. Mild injuries 2. Moderate injuries 3. Severe injuries
P19	**Outcome**	1. Died 2. Discharged 3. Undetermined 4. Referred to other health facility 99. Unknown
P20	**If died specify date of death**	D D/ M M/ Y Y Y Y (99/99/9999 if Unknown)

Table S1 Distribution of individual injuries by additional characteristics

Characteristic	Non-fatal injuries	Fatal injuries	Total
	n=51519	n=7558	n=59077
		n (%)	
Data Source			
Police	15262(29.6)	5144(68.1)	20406(34.5)
Hospital	36245(70.4)	921(12.2)	37166(62.9)
Mortuary	-	1493(19.7)	1505(2.5)
Police region			
Aswa	1614(3.1)	184(2.4)	1798(3.0)
Busoga East	4636(9.0)	832(11)	5468(9.3)
Elgon	3021(5.9)	347(4.6)	3368(5.7)
Greater Masaka	3164(6.1)	614(8.1)	3778(6.4)
Kampala Metropolitan-East	6742(13.1)	1677(22.2)	8419(14.3)
Kampala Metropolitan-North	1124(2.2)	378(5.0)	1502(2.5)
Kampala Metropolitan-South	1192(2.3)	94(1.2)	1286(2.2)
Katonga	2039(4.0)	504(6.7)	2543(4.3)
Kigezi	2338(4.5)	373(4.9)	2711(4.6)
Mt. Moroto	6331(12.3)	293(3.9)	6624(11.2)
North Kyoga	1399(2.7)	361(4.8)	1760(3.0)
North West Nile	3068(6.0)	238(3.1)	3306(5.6)
Rwenzori	3705(7.2)	355(4.7)	4060(6.9)
Rwizi	7028(13.6)	752(9.9)	7780(13.2)
Savannah	1239(2.4)	287(3.8)	1526(2.6)
West Nile	2879(5.6)	271(3.6)	3150(5.3)
Road user			
Pedal Cyclist	1544(3.0)	305(4.0)	1849(3.1)
Passenger(vehicle)	3789(7.4)	621(8.2)	4410(7.5)
Motorcyclist	8762(17.0)	1357(18.0)	10119(17.1)
Passenger(motorcycle)	5328(10.3)	698(9.2)	6026(10.2)
Pedestrian	8388(16.3)	2455(32.5)	10843(18.4)
Driver	2004(3.9)	261(3.5)	2265(3.8)
Other	316(0.6)	50(0.7)	366(0.6)
Missing	21389(41.5)	1811(24)	23200(39.3)
Pre-hospital care given			
Received first aid	1408(2.7)	551(7.3)	1959(3.3)
Did not receive first aid	6381(12.4)	2909(38.5)	9290(15.7)
Missing	43731(84.9)	4098(54.2)	47829(81.0)
Transport used to the health facility			
Police ambulance	395(0.8)	407(5.4)	802(1.4)
Other ambulance	98(0.2)	11(0.1)	110(0.2)

Police patrol vehicle	1819(3.5)	1183(15.7)	3002(5.1)
Private car	1861(3.6)	180(2.4)	2041(3.5)
Taxi	173(0.3)	16(0.2)	189(0.3)
Boda-boda	1272(2.5)	106(1.4)	1378(2.3)
Other means	137(0.3)	26(0.3)	163(0.3)
Missing	45765(88.8)	5629(74.5)	51394(87.0)

Table S2 Individual-level fatal crash data by data source (unweighted)

	Police	Health facility	Mortuary	Total
Total	1069	335	598	2002

Muni KM, *et al. Inj Prev* 2021; 27:208–214. doi: 10.1136/injuryprev-2020-043654

Additional details S1 (on data systems)

The Ministry of Health's Health Management Information System (HMIS) is an integrated reporting system that collects information on a routine basis to monitor the Health Sector. It provides data collection tools for capturing patient level data, which is aggregated into summary reports for submission to the next level. The flow of HMIS information is from the lowest level, which is the community, to the health unit, health sub-district, district and finally to the National Health Databank /Resource Centre of the Ministry of Health.

Patient-specific data are collected from various points during the patient's health facility visit, and at each point, a different data source contains the relevant information. These include the Out-Patient Department (OPD) register, In-patient register, case notes (also called the patient's in-hospital file), and discharge register. Different numbers may be assigned at various points, and in particular, the out-patient and in-patient numbers differ. Data are initially captured on paper, and digitization begins when summaries are made from the paper registers. HMIS data are aggregated at the health facility.

In 2016, the only variables recorded for injuries were the patient's sex, age (whether before 5 years, or 5 and above), and whether the injury was due to a road traffic crash, gender-based violence, or some other cause. In order to collect the information necessary for this study therefore, registers were used to find the patients' inpatient numbers, and their case files were retrieved where possible. For patients that were never admitted, or those whose case files could not be retrieved, only the information available in the OPD register was used. Where road traffic was not mentioned specifically, even if the rest of the information on the case file suggested the cause to be the road, these cases were not included. There were no forms at health facilities requiring the external cause of an injury (e.g. road traffic or fall) to be recorded. The amount and type of information recorded about the injuries therefore varied depending on what the health worker seeing the patient thought was important.

Additional details S2 (on weighting approach)

Since a multi-stage cluster sampling approach was used to select the study sites, we accounted for this design in the analysis by weighting the data. The selection of the police regions and police stations formed the basis for assigning the weights. As described in the sampling section, 16 out of the 27 police regions in the country were selected in the first sampling stage, and then 2 police stations and 2 health facilities were selected from within each sampled police region in the second sampling stage, after which all available records on traffic crashes at the selected police stations, health facilities, and mortuaries were abstracted. The weights assigned in the crash-level analysis were calculated as the inverse of the product of the probabilities of selecting the police region, and the probability of selecting a police station within the police region. (Reference: https://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/meetings/prevalence_survey/psws_probability_prop_size_bierrenbach.pdf)

We applied the same weights to the individual-level data as described in the crash-level data section. This is because all the available records of individual injuries at a given police station, health facility or mortuary were extracted, implying that the probability of extraction was essentially one (100%). Heath facilities and mortuaries were assigned weights based on the selection probability of the police region within which they are located and the nearest police station in the sample.

Muni KM, *et al. Inj Prev* 2021; 27:208–214. doi: 10.1136/injuryprev-2020-043654