

# Malawi - Impact Evaluation of Emergency Response and Post-Crash Care 2018-2021

**Sveta Milusheva, Kevin Croke, Saahil Karpe, Linda Chokotho, Wakisa Mulwafu**

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## Identification

### SURVEY ID NUMBER

MWI\_2018-2021\_ERPCCIE\_v01\_M

### TITLE

Impact Evaluation of Emergency Response and Post-Crash Care 2018-2021

### ABBREVIATION OR ACRONYM

ERPCCIE 2018-2021

### COUNTRY/ECONOMY

Name	Country code
Malawi	MWI

### STUDY TYPE

Other Household Health Survey [hh/hea]

### ABSTRACT

The Malawi Emergency Medical Services (EMS) pilot was developed by the Government of Malawi to decrease the burden of road traffic crashes and develop an emergency response along the stretch of Malawi's largest and busiest road, the M1 highway that runs between Lilongwe and Blantyre. The pilot is funded by the World Bank's Southern Africa Trade and Transportation Facilitation Program (SATTFP2) and is being implemented by the Ministry of Health. To evaluate the effectiveness of an EMS system, an impact evaluation was developed that used data collected from the trauma registries that were set up as a part of the EMS system. The microdata dataset contains trauma level data from 10 facilities with demographic information of patient, details of trauma, and patient health information for the duration of August 2018 - June 2021.

Please find additional information on the data in the article 'Implementation of a multi-center digital trauma registry: Experience in district and central hospitals in Malawi' in The International Journal of Health Planning and Management.

### KIND OF DATA

Event/transaction data [evn]

### UNIT OF ANALYSIS

Trauma event

## Version

### VERSION DESCRIPTION

v01: Edited, anonymous dataset for public distribution

### VERSION DATE

2022-04-15

## Scope

### NOTES

The aim of the trauma registry was to collect detailed data on every trauma patient arriving to the health facility in order to understand the circumstances and outcomes of their trauma. This included demographics, information on the trauma, health data collected from the patient, and outcome data from the trauma.

### KEYWORDS

Keyword
Transportation, Roads, Infrastructure

## Coverage

### GEOGRAPHIC COVERAGE

115,421 trauma events spread across all 28 districts in Malawi. For more information on geographic coverage, see Figure 7. Geographic Information on Trauma in Malawi in Section IV of the 'Trauma Incidence and Emergency Medical Services in Malawi' report.

### GEOGRAPHIC UNIT

District

### UNIVERSE

Trauma cases that presented themselves to the facilities.

## Producers and sponsors

### PRIMARY INVESTIGATORS

Name	Affiliation
Sveta Milusheva	The World Bank Group
Kevin Croke	Harvard T.H. Chan School of Public Health
Saahil Karpe	Lyft
Linda Chokotho	Department of Surgery, College of Medicine, University of Malawi
Wakisa Mulwafu	Department of Surgery, College of Medicine, University of Malawi

### PRODUCERS

Name	Affiliation	Role
Jonna Bertfelt	The World Bank Group	Field Coordinator
Meyhar Mohammed	The World Bank Group	Consultant

### FUNDING AGENCY/SPONSOR

Name	Abbreviation
Development Impact Evaluation	DIME
Global Road Safety Facility	GRSF
AO Alliance	
Research Support Budget in the Development Economics Vice-Presidency of the World Bank	RSB
UK Aid	

## Sampling

### SAMPLING PROCEDURE

The EMS pilot was implemented in two central and four district hospitals and includes provision of ambulances, central dispatch system reached by a new emergency number (118) and capacity building of medical personnel in trauma care units. It also includes the building of a trauma registry (TR) to facilitate collection of data on trauma cases, health care provision, and health outcomes.

All the elements of the EMS pilot are being rolled out in six facilities on the southern segment of the M1, linking Lilongwe and Blantyre. Out of the six facilities, one facility already had a well-functioning TR system, so the team set up a TR in five facilities. An additional five facilities were selected for the data collection in the TR as “control” or “comparison” facilities where the intervention was not rolled out, but the trauma data was collected. The five additional facilities were statistically

similar to the facilities where the roll-out is going on. The variable “treatment\_facility” can identify the facilities which were included for the pilot intervention and control. This dataset contains details of trauma cases from 10 hospitals. The sample of trauma cases are based on the trauma cases that presented themselves to the facilities.

For more information on the sampling procedure, see Section III of the 'Trauma Incidence and Emergency Medical Services in Malawi' report.

## Data collection

### DATES OF DATA COLLECTION

Start	End
2018/08/01	2021/06/30

### DATA COLLECTION MODE

Computer Assisted Personal Interview [capi]

### SUPERVISION

Weekly monitoring of the incoming trauma data was done. With the help of several different strategies, the quality of the data in the trauma registry improved over time. Improvements in data quality included an increase in monthly capture rates, completeness of important variables and improvements in correctness of data, in terms of outliers and inconsistencies. Data quality was ensured through frequent in-person and digital communication with trauma data collection teams, weekly updates and sharing of an online data dashboard showing results from ongoing data analysis, and through the activities of the team, which conducted ongoing visits and refresher trainings. Even as data quality constantly improved, ongoing supervision was key in both improving and maintaining data quality over time. Three additional activities were extremely important for quality assurance: 1) the digital nature of the data collection, 2) high frequency checks, and 3) data validation.

### DATA COLLECTION NOTES

Over the course of 35 months (August 2018–June 2021) the trauma registry collected detailed data on trauma, trauma care and outcomes from 118,013 patients. For more information on the data collection process, as well as the timeline, see Table 1. Trauma Registry Implementation and Activity Timeline in Section III of the 'Trauma Incidence and Emergency Medical Services in Malawi' report.

During the onset of the COVID-19 pandemic, data collection continued in the facilities but the number of monthly entries declined. For two facilities, Queen Elizabeth Central Hospital (QECH) and Mzuzu Central Hospital – external staff was helping with the trauma registry. In order to prevent risk of COVID spread, two clerks from these facilities stopped working after April 2020 which led to a significant drop in the number of cases collected from these facilities. Data collection stopped in two other facilities – Dedza District Hospital and QECH A&E (pediatric ward of QECH) from July 1, 2020 due to data quality issues which also led to a drop in the total number of cases. The impacts of COVID on the data collection efforts are explained in more detail in Section V of the 'Trauma Incidence and Emergency Medical Services in Malawi' report.

### DATA COLLECTORS

Name
Health facility staff, working in the facilities

## Questionnaires

### QUESTIONNAIRES

The questionnaire is provided in English and is available for download.

## Data Processing

### DATA EDITING

Cleaning of time variables, cleaning of categories based on information entered in "Other."

## Access policy

### CONTACTS

Name	Affiliation	Email
Sveta Milusheva	The World Bank Group	smilusheva@worldbank.org
Jonna Bertfelt	The World Bank Group	jbertfelt@worldbank.org

### ACCESS CONDITIONS

Licensed access

### CITATION REQUIREMENTS

Use of the dataset must be acknowledged using a citation which would include:

- the identification of the Primary Investigator
- the title of the survey (including country, acronym and year of implementation)
- the survey reference number
- the source and date of download

Example:

Sveta Milusheva (The World Bank Group), Kevin Croke (Harvard T.H. Chan School of Public Health), Saahil Karpe (Lyft), Linda Chokotho (University of Malawi) and Wakisa Mulwafu (University of Malawi). Malawi - Impact Evaluation of Emergency Response and Post-Crash Care 2018-2021. Ref: MWI\_2018-2021\_ERPCCIE\_v01\_M. Dataset downloaded from [URL] on [date].

### ACCESS AUTHORITY

Name	Affiliation	Email	URL
Development Impact Evaluation (DIME)	The World Bank Group	dime@worldbank.org	<a href="#">Link</a>
Sveta Milusheva	The World Bank Group	smilusheva@worldbank.org	

### LOCATION OF DATA COLLECTION

World Bank Microdata Library

## Disclaimer and copyrights

### DISCLAIMER

The user of the data acknowledges that the original collector of the data, the authorized distributor of the data, and the relevant funding agency bear no responsibility for use of the data or for interpretations or inferences based upon such uses.

## Metadata production

### DDI DOCUMENT ID

DDI\_MWI\_2018-2021\_ERPCCIE\_v01\_M\_WB

### PRODUCERS

Name	Abbreviation	Affiliation	Role
Development Economics Data Group	DECDG	The World Bank Group	Documentation of the study

### DATE OF METADATA PRODUCTION

2023-04-05

### DDI DOCUMENT VERSION

Version 01 (April 2023)

**Data Dictionary**

<b>Data file</b>	<b>Cases</b>	<b>Variables</b>
<b>mw_trauma_nopii.dta</b> Trauma Level Dataset	115421	89



**Data file: mw\_trauma\_nopii.dta**

Trauma Level Dataset

Cases: 115421

Variables: 89

**Variables**

ID	Name	Label	Question
V2	uid	Unique project ID	
V3	hospital	Which hospital is this?	
V4	referred	Was the patient transferred here from other facility?	
V5	gender	What is the patients gender?	
V6	education	What is the highest level of education for this patient?	
V7	homeregion	In what region does the patient reside?	
V8	homedistrict	In what district does the patient reside?	
V9	cause	What was the cause of injury?	
V10	intent	What was the intent of the trauma?	
V11	assault_by2	What was the gender of the perpetrator?	
V12	setting	In what setting did the accident happen?	
V13	fall_type	What type of fall was this?	
V14	region_trauma	In what region did the trauma happen?	
V15	district_trauma	In what district did the trauma happen?	
V16	alcohol	Was the patient under influence of alcohol or other drugs?	
V17	mode_transport_rta	What was the patient's mode of transport from crash site to first health care fa	
V18	loc_type	How can the area where the accident happened best be described?	
V19	drivepass_driving	What type of vehicle was the patient in at the time of the accident?	
V20	drivepass_hit_by	What did the patient collide with, at the time of the accident?	
V21	ped_hit_by	What was the pedestrian hit by?	
V22	cyclist_hit_by	What was the cyclist hit by/ hit?	
V23	mocyclist_hit_by	What was the motocyclist hit by /hit?	
V24	oxchart_hit_by	What was the oxcart driver or passanger hit by/ hit?	
V25	helmet	Was the patient wearing a helmet at the time of the accident?	
V26	seatbelt	Was the patient wearing a seatbelt at the time of the accident?	
V27	heart_rate_1	Heart rate day 1	
V28	temprature_1	Temperture day 1	
V29	bp_exact_1	Blood pressure day 1	
V30	resp_rate_1	Respiratory rate day 1	
V31	avpu_1	AVPU score day 1	
V32	eyes_1	GCS day 1 - eye	
V33	voice_1	GCS day 1 - voice	
V34	motor_1	GCS day 1 - motor	
V35	gcs_total_1	GCS day 1	
V36	voice_child_1	Best verbal response	
V37	motor_child_1	Best motor response	
V38	eyes_child_1	Best eye response	

ID	Name	Label	Question
V39	fracture_oc1	Is this an open or closed fracture?	
V40	injury_location1	Where is the injury located?	
V41	injury1_serious	Is this a serious injury?	
V42	pain_subjective1	Pain level day 1	
V43	casdeptoutcome	What was the patients outcome at casualty department? On the day of arrival.	
V44	patient_found	Is the patient still in the hospital?	
V45	heart_rate_2	Heart rate day 2	
V46	temperture_2	Temperture day 2	
V47	bp_exact_2	Blood pressure day 2	
V48	resp_rate_2	Respiratory rate day 2	
V49	avpu_2	AVPU score day 2	
V50	eyes_2	GCS day 2 - eye	
V51	voice_2	GCS day 2 - voice	
V52	motor_2	GCS day 2 - motor	
V53	gcs_total_2	GCS day 2	
V54	voice_child_2	Best verbal response	
V55	motor_child_2	Best motor response	
V56	eyes_child_2	Best eye response	
V57	pain_subjective2	Pain level day 2	
V58	treatment_loctaion	Which body part was treated?	
V59	treatment_loctaion_1	Head and neck injury (incl. cervical spine)	
V60	treatment_loctaion_2	Face injury (incl. facial skeleton, nose, mouth, eyes and ears)	
V61	treatment_loctaion_3	Thorax injury (incl. chest injuries to rib cage, thoracic spine and diaphragm)	
V62	treatment_loctaion_4	Abdomen injury (incl. abdominal organs and lumbar spine)	
V63	treatment_loctaion_5	Extremities injury (incl. Limbs and pelvic skeleton - sprains, fractures, dislo	
V64	treatment_loctaion_6	External injury (incl. injuries such as lacerations, contusions, burns, hypother	
V65	treatment_loctaion_7	None	
V66	treatment_loctaion_77	Unknown	
V67	treatment_loctaion_99	Other	
V68	treatment_facility	EMS Pilot facility (==1)	
V69	central	Central/District facility	
V70	mode_transport_compress	Mode of transport	
V71	age_cat	Age cateogry	
V72	year	Year of trauma	
V73	month	Month of trauma	
V74	day	Day of arrival	
V75	vitalsigns	VS missing variable	
V76	gcs_level	GCS categorical	
V77	avpu_score	AVPU score	
V78	kts_score	Kampala Trauma Score	
V79	occ_code	Occupation categorized	
V80	total_number_injuries	Total number of injuries	
V81	injury_code	Injury type	
V82	arrival_diff	Minutes time difference trauma-arrival to hospital	
V83	attend_diff	Minutes time difference arrival-attend by doctor	

ID	Name	Label	Question
V84	hour_arrival_cat	Hour of arrival	
V85	hour_trauma_cat	Hour of trauma	
V86	patient_outcome	Casualty outcome	
V87	hit_by	Hit by consolidated for all role on road	
V88	roleonroad	Role on road categorized	
V89	room_8	Room 8 entrypoint Queen elizabeth central (==1)	
V90	rtc	Tauma cause: road traffic crash (== 1)	

Total: 89



**INTENT: What was the intent of the trauma?****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115268    Invalid: 153    Minimum: 1    Maximum: 99  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Unintentional / Accidental	99760	86.5%
2	Self inflicted (patient hurt themselves deliberately)	1711	1.5%
3	Assault	13534	11.7%
77	Unknown	128	0.1%
99	Other	135	0.1%
Sysmiss		153	

**ASSAULT\_BY2: What was the gender of the perpetrator?****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 10537    Invalid: 104884    Minimum: 1    Maximum: 2  
 Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 2    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Male	8892	84.4%
2	Female	1645	15.6%
Sysmiss		104884	

**UID: Unique project ID****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115421    Invalid:  
 Type: Continuous    Width: 12    Range: -    Format: character

**HOSPITAL: Which hospital is this?****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115421    Invalid:  
 Type: Discrete    Width: 32    Range: -    Format: character

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
Balaka District Hospital		14822	12.8%
Dedza District Hospital		7317	6.3%
Dowa District Hospital		8641	7.5%
Kasungu District Hospital		11598	10%
Lisungwi Community Hospital		2966	2.6%
Mzimba District Hospital		18473	16%
Mzuzu Central Hospital		9201	8%
Ntcheu District Hospital		11978	10.4%
Queen Elizabeth Central Hospital		15489	13.4%
Rumphi District Hospital		14936	12.9%

**REFERRED: Was the patient transferred here from other facility?****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115421    Invalid:    Minimum: 0    Maximum: 1  
 Type: Discrete    Decimal: 0    Width: 1    Range: 0 - 1    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0	No	98647	85.5%
1	Yes	16774	14.5%

**GENDER: What is the patients gender?****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115403    Invalid: 18    Minimum: 1    Maximum: 2

Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 2    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Male	75741	65.6%
2	Female	39662	34.4%
Sysmiss		18	

**EDUCATION: What is the highest level of education for this patient?**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 98184    Invalid: 17237    Minimum: 1    Maximum: 99  
Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	None	4028	4.1%
2	Primary	58966	60.1%
3	Secondary	30369	30.9%
4	College / University	2955	3%
77	Unknown	1828	1.9%
99	Other	38	0%
Sysmiss		17237	

**HOMEREGION: In what region does the patient reside?**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 115421    Invalid:  
Type: Discrete    Width: 2    Range: -    Format: character**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
		18	0%

77		638	0.6%
CR		41829	36.2%
NR		42551	36.9%
SR		30385	26.3%

## HOMEDISTRICT: In what district does the patient reside?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421 Invalid:  
Type: Discrete Width: 13 Range: - Format: character

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
		656	0.6%
Balaka		11223	9.7%
Blantyre		15031	13%
Chikwawa		70	0.1%
Chiradzulu		282	0.2%
Chitipa		72	0.1%
Dedza		6592	5.7%
Dowa		8492	7.4%
Karonga		141	0.1%
Kasungu		11360	9.8%
Likoma		12	0%
Lilongwe		362	0.3%
Lilongwe City		190	0.2%
Machinga		66	0.1%
Mangochi		341	0.3%
Mchinji		41	0%
Mulanje		86	0.1%
Mwanza		41	0%
Mzimba		30309	26.3%
Neno		2780	2.4%
Nkhata Bay		647	0.6%
Nkhotakota		25	0%
Nsanje		42	0%

Ntcheu		14617	12.7%
Ntchisi		87	0.1%
Phalombe		15	0%
Rumphi		11370	9.9%
Salima		63	0.1%
Thyolo		221	0.2%
Zomba		187	0.2%

## CAUSE: What was the cause of injury?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115403    Invalid: 18    Minimum: 1    Maximum: 99  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1	Road Traffic Accident (RTA)	17827	15.4%
2	Fall	61365	53.2%
3	Blunt trauma	14561	12.6%
4	Stab / Cut (penetrating wound)	10216	8.9%
5	Gunshot	0	0%
6	Blast	0	0%
7	Burn	0	0%
8	Drowning	0	0%
9	Bite	7419	6.4%
10	Lightning	0	0%
11	Foreign body	0	0%
77	Unknown	0	0%
99	Other	4015	3.5%
Sysmiss		18	

## SETTING: In what setting did the accident happen?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115268    Invalid: 153    Minimum: 1    Maximum: 99  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	On the Road	23658	20.5%
2	At Work	6200	5.4%
3	At Home	67472	58.5%
4	In school	4124	3.6%
5	During Leisure / sport	6982	6.1%
6	Public space (in- or outside)	6396	5.5%
77	Unknown	103	0.1%
99	Other	333	0.3%
Sysmiss		153	

### FALL\_TYPE: What type of fall was this?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 57017 Invalid: 58404 Minimum: 1 Maximum: 4  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 4 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	Walking/running	45603	80%
2	Height	10951	19.2%
3	Unknown	29	0.1%
4	Other	434	0.8%
Sysmiss		58404	

### REGION\_TRAUMA: In what region did the trauma happen?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 115421 Invalid:  
 Type: Discrete Width: 2 Range: - Format: character

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
		156	0.1%
77		624	0.5%
CR		42036	36.4%
NR		42423	36.8%
SR		30182	26.1%

### DISTRICT\_TRAUMA: In what district did the trauma happen?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 115421 Invalid:  
 Type: Discrete Width: 13 Range: - Format: character

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
		780	0.7%
Balaka		11436	9.9%
Blantyre		14943	12.9%
Chikwawa		56	0%
Chiradzulu		207	0.2%
Chitipa		40	0%
Dedza		6621	5.7%
Dowa		8548	7.4%
Karonga		100	0.1%
Kasungu		11474	9.9%
Likoma		5	0%
Lilongwe		135	0.1%
Lilongwe City		21	0%
Machinga		42	0%
Mangochi		302	0.3%
Mchinji		9	0%
Mulanje		54	0%
Mwanza		33	0%

Mzimba		30225	26.2%
Neno		2822	2.4%
Nkhata Bay		634	0.5%
Nkhotakota		22	0%
Nsanje		32	0%
Ntcheu		15119	13.1%
Ntchisi		70	0.1%
Phalombe		13	0%
Rumphi		11419	9.9%
Salima		17	0%
Thyolo		170	0.1%
Zomba		72	0.1%

## ALCOHOL: Was the patient under influence of alcohol or other drugs?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115268 Invalid: 153 Minimum: 0 Maximum: 77  
 Type: Discrete Decimal: 0 Width: 2 Range: 0 - 77 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	No	109585	95.1%
1	Yes (Confirmed)	4151	3.6%
2	Suspected	1411	1.2%
77	Unknown	121	0.1%
Sysmiss		153	

## MODE\_TRANSPORT\_RT: What was the patient's mode of transport from crash site to first health care fa

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 2774 Invalid: 112647 Minimum: 0 Maximum: 99  
 Type: Discrete Decimal: 0 Width: 2 Range: 0 - 99 Format: Numeric

### Questions and instructions

## CATEGORIES

Value	Category	Cases	
0	Minibus (Public Transport)	267	9.6%
1	Bus	18	0.6%
2	Motorcycle	581	20.9%
3	Bicycle	519	18.7%
4	Private Vehicle	605	21.8%
5	Ambulance	142	5.1%
6	Walked	131	4.7%
7	Commercial Vehicle (incl. Taxi)	323	11.6%
8	Police	44	1.6%
9	Lorry	100	3.6%
10	Oxcart	33	1.2%
77	Unknown	8	0.3%
99	Other	3	0.1%
Sysmiss		112647	

**LOC\_TYPE: How can the area where the accident happened best be described?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 17685 Invalid: 97736 Minimum: 1 Maximum: 88  
 Type: Discrete Decimal: 0 Width: 2 Range: 1 - 88 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Rural	10684	60.4%
2	Urban	5092	28.8%
3	Semi Urban	1857	10.5%
77	Unknown	36	0.2%
88	Don't know	16	0.1%
Sysmiss		97736	

**DRIVEPASS\_DRIVING: What type of vehicle was the patient in at the time of the accident?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 4186 Invalid: 111235 Minimum: 1 Maximum: 99

Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	1780	42.5%
2	Public transit vehicle (minibus/ Taxi)	1549	37%
3	Truck or other Commercial vehicle	688	16.4%
4	Long distance bus	121	2.9%
77	Unknown	17	0.4%
99	Other	31	0.7%
Sysmiss		111235	

**DRIVEPASS\_HIT\_BY: What did the patient collide with, at the time of the accident?**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 4186    Invalid: 111235    Minimum: 1    Maximum: 99  
Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	893	21.3%
2	Public transit vehicle	614	14.7%
3	Truck or other Commercial vehicle	426	10.2%
4	Bicycle	50	1.2%
5	Motorbike	86	2.1%
7	A non-moving object (e.g. a tree)	111	2.7%
11	Nothing, this was a single vehicle crash due to vehicle failure	1321	31.6%
12	Nothing, this a single vehicle crash due to external factors such as bad road, b	605	14.5%
77	Unknown	29	0.7%
99	Other	51	1.2%
Sysmiss		111235	

**PED\_HIT\_BY: What was the pedestrian hit by?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 3830 Invalid: 111591 Minimum: 1 Maximum: 99  
 Type: Discrete Decimal: 0 Width: 2 Range: 1 - 99 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	1344	35.1%
2	Public transit vehicle	818	21.4%
3	Truck or other Commercial vehicle	263	6.9%
4	Bicycle	565	14.8%
5	Motorbike	745	19.5%
8	Ox cart	26	0.7%
77	Unknown	23	0.6%
99	Other	40	1%
6	Missing (roleonroad - pedestrian)	6	0.2%
Sysmiss		111591	

**CYCLIST\_HIT\_BY: What was the cyclist hit by/ hit?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 3529 Invalid: 111892 Minimum: 1 Maximum: 99  
 Type: Discrete Decimal: 0 Width: 2 Range: 1 - 99 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	279	7.9%
2	Public transit vehicle	190	5.4%
3	Truck or other Commercial vehicle	128	3.6%
4	Bicycle	650	18.4%
5	Motorbike	333	9.4%
7	A non-moving object (e.g. a tree)	69	2%
8	An animal	49	1.4%
9	Oxcart	16	0.5%
11	Nothing, this was a single bicycle crash due to bicycle failure	1430	40.5%
12	Nothing, this a single bicycle crash due to external factors such as bad road, b	353	10%

77	Unknown	7	0.2%
99	Other	25	0.7%
Sysmiss		111892	

## MOCYCLIST\_HIT\_BY: What was the motocyclist hit by /hit?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3123 Invalid: 112298 Minimum: 1 Maximum: 99  
 Type: Discrete Decimal: 0 Width: 2 Range: 1 - 99 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	339	10.9%
2	Public transit vehicle	208	6.7%
3	Truck or other Commercial vehicle	124	4%
4	Bicycle	210	6.7%
5	Motorbike	774	24.8%
7	A non-moving object (e.g. a tree)	162	5.2%
11	Nothing, this was a single vehicle crash due to vehicle failure	697	22.3%
12	Nothing, this a single vehicle crash due to external factors such as bad road, b	422	13.5%
77	Unknown	41	1.3%
99	Other	146	4.7%
Sysmiss		112298	

## OXCHART\_HIT\_BY: What was the oxcart driver or passanger hit by/ hit?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 302 Invalid: 115119 Minimum: 1 Maximum: 99  
 Type: Discrete Decimal: 0 Width: 2 Range: 1 - 99 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1	Private vehicle (motorized)	16	5.3%
2	Public transit vehicle	31	10.3%

3	Truck or other Commercial vehicle	12	4%
4	Bicycle	1	0.3%
5	Motorbike	4	1.3%
7	A non-moving object (e.g. a tree)	25	8.3%
11	Nothing, this was a single vehicle crash due to vehicle failure	71	23.5%
12	Nothing, this a single vehicle crash due to external factors such as bad road, b	99	32.8%
77	Unknown	15	5%
99	Other	28	9.3%
Sysmiss		115119	

### HELMET: Was the patient wearing a helmet at the time of the accident?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 7235 Invalid: 108186 Minimum: 0 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
0	No	5757	79.6%
1	Yes	1347	18.6%
2	Don't know / Unknown	131	1.8%
Sysmiss		108186	

### SEATBELT: Was the patient wearing a seatbelt at the time of the accident?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 5225 Invalid: 110196 Minimum: 0 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
0	No	4136	79.2%
1	Yes	873	16.7%
2	Don't know / Unknown	216	4.1%

Sysmiss

110196

**HEART\_RATE\_1: Heart rate day 1****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 102319 Invalid: 13102 Minimum: 2 Maximum: 198  
 Type: Continuous Decimal: 0 Width: 3 Range: 2 - 198 Format: Numeric

**TEMPRATURE\_1: Temperture day 1****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 108190 Invalid: 7231 Minimum: 0.769999980926514 Maximum: 135  
 Type: Continuous Decimal: 1 Width: 5 Range: 0.769999980926514 - 135 Format: Numeric

**BP\_EXACT\_1: Blood pressure day 1****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 91125 Invalid: 24296 Minimum: 4 Maximum: 232  
 Type: Continuous Decimal: 0 Width: 3 Range: 4 - 232 Format: Numeric

**RESP\_RATE\_1: Respiratory rate day 1****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 109441 Invalid: 5980 Minimum: 1 Maximum: 136  
 Type: Continuous Decimal: 0 Width: 3 Range: 1 - 136 Format: Numeric

**AVPU\_1: AVPU score day 1****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115223 Invalid: 198 Minimum: 1 Maximum: 4  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 4 Format: Numeric

**Questions and instructions**

CATEGORIES

Value	Category	Cases	
1	Unresponsive	141	0.1%
2	Responds to pain	2839	2.5%
3	Responds to voice	1642	1.4%
4	Alert	110601	96%
Sysmiss		198	

## EYES\_1: GCS day 1 - eye

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 100124 Invalid: 15297 Minimum: -77 Maximum: 4  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 4 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
-77		86	0.1%
1		184	0.2%
2		4027	4%
3		862	0.9%
4		94965	94.8%
Sysmiss		15297	

## VOICE\_1: GCS day 1 - voice

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 100124 Invalid: 15297 Minimum: -77 Maximum: 5  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 5 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
-77		85	0.1%
1		174	0.2%
2		1611	1.6%
3		2357	2.4%

4		1638	1.6%
5		94259	94.1%
Sysmiss		15297	

### MOTOR\_1: GCS day 1 - motor

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 100124 Invalid: 15297 Minimum: -77 Maximum: 6  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 6 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
-77		85	0.1%
1		285	0.3%
2		1729	1.7%
3		736	0.7%
4		1737	1.7%
5		2605	2.6%
6		92947	92.8%
Sysmiss		15297	

### GCS\_TOTAL\_1: GCS day 1

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 100124 Invalid: 15297 Minimum: -231 Maximum: 15  
 Type: Discrete Decimal: 0 Width: 4 Range: -231 - 15 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
-231		84	0.1%
-151		1	0%
-68		1	0%
-66		1	0%
3		64	0.1%

4		29	0%
5		180	0.2%
6		854	0.9%
7		1091	1.1%
8		322	0.3%
9		1379	1.4%
10		216	0.2%
11		209	0.2%
12		398	0.4%
13		1137	1.1%
14		2761	2.8%
15		91397	91.3%
Sysmiss		15297	

## VOICE\_CHILD\_1: Best verbal response

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 13550 Invalid: 101871 Minimum: -77 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 2 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
-77		100	0.7%
0		644	4.8%
1		828	6.1%
2		11978	88.4%
Sysmiss		101871	

## MOTOR\_CHILD\_1: Best motor response

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 13550 Invalid: 101871 Minimum: -77 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 2 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
-77		105	0.8%
0		429	3.2%
1		1403	10.4%
2		11613	85.7%
Sysmiss		101871	

### EYES\_CHILD\_1: Best eye response

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 13550 Invalid: 101871 Minimum: -77 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
-77		109	0.8%
0		559	4.1%
1		12882	95.1%
Sysmiss		101871	

### FRACTURE\_OC1: Is this an open or closed fracture?

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 36677 Invalid: 78744 Minimum: 1 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 2 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	Open fracture	891	2.4%
2	Closed fracture	35786	97.6%
Sysmiss		78744	

**INJURY\_LOCATION1: Where is the injury located?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 115241    Invalid: 180    Minimum: 1    Maximum: 99  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Head and neck injury (incl. cervical spine)	6975	6.1%
2	Face injury (incl. facial skeleton, nose, mouth, eyes and ears)	8161	7.1%
3	Thorax injury (incl. chest injuries to rib cage, thoracic spine and diaphragm)	2707	2.3%
4	Abdomen injury (incl. abdominal organs and lumbar spine)	1420	1.2%
5	Extremities injury (incl. Limbs and pelvic skeleton - sprains, fractures, disloc	87932	76.3%
6	External injury (incl. injuries such as lacerations, contusions, burns, hypother	7138	6.2%
77	Unknown	84	0.1%
99	Other	824	0.7%
Sysmiss		180	

**INJURY1\_SERIOUS: Is this a serious injury?**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 115421    Invalid:    Minimum: 0    Maximum: 1  
 Type: Discrete    Decimal: 0    Width: 1    Range: 0 - 1    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0	No	107132	92.8%
1	Yes	8289	7.2%

**PAIN\_SUBJECTIVE1: Pain level day 1**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 114948    Invalid: 473    Minimum: 1    Maximum: 5  
 Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 5    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	None	313	0.3%
2	Mild	51224	44.6%
3	Moderate	57077	49.7%
4	Severe	6066	5.3%
5	Extreme	268	0.2%
Sysmiss		473	

**CASDEPTOUTCOME: What was the patients outcome at casualty department? On the day of arrival.**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 115376    Invalid: 45    Minimum: 1    Maximum: 99  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 99    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Treated and sent home	107297	93%
2	Admitted to hospital ward	7335	6.4%
3	Taken to operating theatre	110	0.1%
4	Taken to intensive care /High Dependency Unit	42	0%
5	Died (in casualty department)	95	0.1%
6	Referred to another hospital	432	0.4%
7	Dead on arrival	0	0%
8	Quarantined	1	0%
99	Other	64	0.1%
Sysmiss		45	

**PATIENT\_FOUND: Is the patient still in the hospital?**

Data file: mw\_trauma\_nopii.dta

## Overview

Valid: 6388 Invalid: 109033 Minimum: 0 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0	No	2587	40.5%
1	Yes	3755	58.8%
2	Don't know / Unknown	46	0.7%
Sysmiss		109033	

### HEART\_RATE\_2: Heart rate day 2

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: -77 Maximum: 166  
 Type: Continuous Decimal: 0 Width: 3 Range: -77 - 166 Format: Numeric

### TEMPRATURE\_2: Temperture day 2

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: -77 Maximum: 136.199996948242  
 Type: Continuous Decimal: 1 Width: 5 Range: -77 - 136.199996948242 Format: Numeric

### BP\_EXACT\_2: Blood pressure day 2

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: -77 Maximum: 243  
 Type: Continuous Decimal: 0 Width: 3 Range: -77 - 243 Format: Numeric

### RESP\_RATE\_2: Respiratory rate day 2

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: -77 Maximum: 120  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 120 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
-77		172	4.6%
12		28	0.7%
13		6	0.2%
14		48	1.3%
15		31	0.8%
16		390	10.4%
17		149	4%
18		758	20.2%
19		241	6.4%
20		1072	28.5%
21		82	2.2%
22		269	7.2%
23		42	1.1%
24		193	5.1%
25		29	0.8%
26		47	1.3%
27		17	0.5%
28		88	2.3%
29		10	0.3%
30		25	0.7%
31		2	0.1%
32		14	0.4%
34		4	0.1%
35		7	0.2%
36		3	0.1%
37		2	0.1%
38		1	0%
39		1	0%
40		4	0.1%
41		1	0%
46		3	0.1%
48		1	0%
49		1	0%
52		1	0%
61		1	0%

64		2	0.1%
69		1	0%
77		1	0%
79		1	0%
80		1	0%
86		1	0%
88		2	0.1%
89		1	0%
90		1	0%
120		1	0%
Sysmiss		111666	

## AVPU\_2: AVPU score day 2

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3696 Invalid: 111725 Minimum: 1 Maximum: 4  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 4 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1	Unresponsive	4	0.1%
2	Responds to pain	144	3.9%
3	Responds to voice	55	1.5%
4	Alert	3493	94.5%
Sysmiss		111725	

## EYES\_2: GCS day 2 - eye

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3286 Invalid: 112135 Minimum: -77 Maximum: 4  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 4 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
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-77		1	0%
1		4	0.1%
2		31	0.9%
3		50	1.5%
4		3200	97.4%
Sysmiss		112135	

## VOICE\_2: GCS day 2 - voice

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3286 Invalid: 112135 Minimum: 1 Maximum: 5  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 5 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1		6	0.2%
2		16	0.5%
3		19	0.6%
4		62	1.9%
5		3183	96.9%
Sysmiss		112135	

## MOTOR\_2: GCS day 2 - motor

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3286 Invalid: 112135 Minimum: 1 Maximum: 6  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 6 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1		13	0.4%
2		4	0.1%
3		7	0.2%
4		17	0.5%

5		62	1.9%
6		3183	96.9%
Sysmiss		112135	

## GCS\_TOTAL\_2: GCS day 2

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 1 Invalid: 115420 Minimum: -77 Maximum: -77  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - -77 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
-77		1	100%
Sysmiss		115420	

## VOICE\_CHILD\_2: Best verbal response

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 424 Invalid: 114997 Minimum: -77 Maximum: 2  
 Type: Discrete Decimal: 0 Width: 3 Range: -77 - 2 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
-77		1	0.2%
0		2	0.5%
1		10	2.4%
2		411	96.9%
Sysmiss		114997	

## MOTOR\_CHILD\_2: Best motor response

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 424 Invalid: 114997 Minimum: -77 Maximum: 2

Type: Discrete    Decimal: 0    Width: 3    Range: -77 - 2    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
-77		1	0.2%
0		1	0.2%
1		14	3.3%
2		408	96.2%
Sysmiss		114997	

**EYES\_CHILD\_2: Best eye response**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 424    Invalid: 114997    Minimum: -77    Maximum: 1  
Type: Discrete    Decimal: 0    Width: 3    Range: -77 - 1    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
-77		1	0.2%
0		2	0.5%
1		421	99.3%
Sysmiss		114997	

**PAIN\_SUBJECTIVE2: Pain level day 2**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 3745    Invalid: 111676    Minimum: 1    Maximum: 5  
Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 5    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	None	15	0.4%
2	Mild	1308	34.9%

3	Moderate	1933	51.6%
4	Severe	485	13%
5	Extreme	4	0.1%
Sysmiss		111676	

## TREATMENT\_LOCTAION: Which body part was treated?

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421 Invalid:  
Type: Discrete Width: 9 Range: - Format: character

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
		111969	97%
1		358	0.3%
1 2		13	0%
1 2 3		1	0%
1 2 3 4 5		1	0%
1 2 5		5	0%
1 2 6		1	0%
1 3		4	0%
1 3 5		3	0%
1 3 6		1	0%
1 4		4	0%
1 5		24	0%
1 6		15	0%
2		169	0.1%
2 3		1	0%
2 3 5		1	0%
2 3 99		1	0%
2 4		2	0%
2 4 5		1	0%
2 5		20	0%
2 5 6		2	0%
2 6		4	0%
3		132	0.1%

3 4		3	0%
3 4 5		1	0%
3 5		4	0%
3 5 6		2	0%
3 6		2	0%
4		115	0.1%
4 5		6	0%
4 6		2	0%
5		2294	2%
5 6		28	0%
5 7		1	0%
5 99		1	0%
6		159	0.1%
6 99		1	0%
7		56	0%
77		1	0%
99		13	0%

### TREATMENT\_LOCTAION\_1: Head and neck injury (incl. cervical spine)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

#### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0		3325	88.5%
1		430	11.5%
Sysmiss		111666	

### TREATMENT\_LOCTAION\_2: Face injury (incl. facial skeleton, nose, mouth, eyes and ears)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0		3533	94.1%
1		222	5.9%
Sysmiss		111666	

### TREATMENT\_LOCTAION\_3: Thorax injury (incl. chest injuries to rib cage, thoracic spine and diaphragm)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0		3598	95.8%
1		157	4.2%
Sysmiss		111666	

### TREATMENT\_LOCTAION\_4: Abdomen injury (incl. abdominal organs and lumbar spine)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0		3620	96.4%
1		135	3.6%
Sysmiss		111666	

**TREATMENT\_LOCTAION\_5: Extremities injury (incl. Limbs and pelvic skeleton - sprains, fractures, dislo****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0		1361	36.2%
1		2394	63.8%
Sysmiss		111666	

**TREATMENT\_LOCTAION\_6: External injury (incl. injuries such as lacerations, contusions, burns, hypother****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0		3538	94.2%
1		217	5.8%
Sysmiss		111666	

**TREATMENT\_LOCTAION\_7: None****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0		3698	98.5%
1		57	1.5%
Sysmiss		111666	

## TREATMENT\_LOCTAION\_77: Unknown

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0		3754	100%
1		1	0%
Sysmiss		111666	

## TREATMENT\_LOCTAION\_99: Other

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 3755 Invalid: 111666 Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0		3739	99.6%
1		16	0.4%
Sysmiss		111666	

## TREATMENT\_FACILITY: EMS Pilot facility (==1)

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421 Invalid:

Type: Discrete Width: 18 Range: - Format: character

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
Control		62849	54.5%
EMS Pilot Facility		52572	45.5%

## CENTRAL: Central/District facility

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421 Invalid:  
Type: Discrete Width: 8 Range: - Format: character

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
Central		24690	21.4%
District		90731	78.6%

## MODE\_TRANSPORT\_COMPRESS: Mode of transport

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115293 Invalid: 128 Minimum: 1 Maximum: 4  
Type: Discrete Decimal: 0 Width: 1 Range: 1 - 4 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	Public Transport	47704	41.4%
2	Private Transport	43496	37.7%
3	Walking	20456	17.7%
4	Ambulance	3637	3.2%
Sysmiss		128	

**AGE\_CAT: Age category****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115421    Invalid:  
 Type: Discrete    Width: 31    Range: -    Format: character

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
Child (8-15 years)		18421	16%
Early Working Age (15-24 years)		26286	22.8%
Elderly (55 + years)		7430	6.4%
Infant (0-7 years)		20355	17.6%
Prime Working Age (25-54 years)		42929	37.2%

**YEAR: Year of trauma****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115421    Invalid:    Minimum: 2014    Maximum: 2021  
 Type: Discrete    Decimal: 0    Width: 4    Range: 2014 - 2021    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
2014		1	0%
2017		1	0%
2018		12714	11%
2019		49409	42.8%
2020		39119	33.9%
2021		14177	12.3%

**MONTH: Month of trauma****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115404    Invalid: 17    Minimum: 1    Maximum: 35  
 Type: Discrete    Decimal: 0    Width: 2    Range: 1 - 35    Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	August'18	1515	1.3%
2	Sept'18	2517	2.2%
3	Oct'18	2579	2.2%
4	Nov'18	2898	2.5%
5	Dec'18	3205	2.8%
6	Jan'19	3271	2.8%
7	Feb'19	3205	2.8%
8	Mar'19	3813	3.3%
9	Apr'19	3720	3.2%
10	May'19	4076	3.5%
11	Jun'19	4138	3.6%
12	Jul'19	4334	3.8%
13	Aug'19	4382	3.8%
14	Sep'19	4056	3.5%
15	Oct'19	4824	4.2%
16	Nov'19	4816	4.2%
17	Dec'19	4774	4.1%
18	Jan'20	4494	3.9%
19	Feb'20	3798	3.3%
20	Mar'20	4161	3.6%
21	Apr'20	2646	2.3%
22	May'20	3092	2.7%
23	June'20	3076	2.7%
24	July'20	2768	2.4%
25	Aug'20	2747	2.4%
26	Sep'20	2890	2.5%
27	Oct'20	3020	2.6%
28	Nov'20	3276	2.8%
29	Dec'20	3151	2.7%
30	Jan'21	2383	2.1%
31	Feb'21	2123	1.8%
32	Mar'21	2544	2.2%
33	Apr'21	2567	2.2%
34	May'21	2419	2.1%
35	Jun'21	2126	1.8%

Sysmiss		17	
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## DAY: Day of arrival

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421    Invalid:    Minimum: 1    Maximum: 7  
 Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 7    Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
1	Monday	22927	19.9%
2	Tuesday	19217	16.6%
3	Wednesday	18078	15.7%
4	Thursday	18650	16.2%
5	Friday	18909	16.4%
6	Saturday	10248	8.9%
7	Sunday	7392	6.4%

## VITALSIGNS: VS missing variable

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115421    Invalid:    Minimum: 0    Maximum: 1  
 Type: Discrete    Decimal: 0    Width: 1    Range: 0 - 1    Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	At least 1 VS missing	25122	21.8%
1	VS entred	90299	78.2%

## GCS\_LEVEL: GCS categorical

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 100037    Invalid: 15384    Minimum: 1    Maximum: 3

Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 3    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	GCS between 0 and 5	273	0.3%
2	GCS between 6 and 10	3862	3.9%
3	GCS between 11 and 15	95902	95.9%
Sysmiss		15384	

**AVPU\_SCORE: AVPU score**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 115223    Invalid: 198    Minimum: 1    Maximum: 4  
Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 4    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1		141	0.1%
2		2839	2.5%
3		1642	1.4%
4		110601	96%
Sysmiss		198	

**KTS\_SCORE: Kampala Trauma Score**

Data file: mw\_trauma\_nopii.dta

**Overview**Valid: 115223    Invalid: 198    Minimum: 6    Maximum: 16  
Type: Discrete    Decimal: 0    Width: 2    Range: 6 - 16    Format: Numeric**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
6		3	0%
7		19	0%

8		47	0%
9		135	0.1%
10		264	0.2%
11		845	0.7%
12		5590	4.9%
13		7345	6.4%
14		3911	3.4%
15		23174	20.1%
16		73890	64.1%
Sysmiss		198	

### OCC\_CODE: Occupation categorized

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 74138 Invalid: 41283 Minimum: 0 Maximum: 5  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 5 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
0	Unemployed	12679	17.1%
1	Agriculture/manual labor	33856	45.7%
2	Business/Professional/technical worker	14133	19.1%
3	Skilled manual labor	0	0%
4	Student	11238	15.2%
5	Unknown/ other	2232	3%
Sysmiss		41283	

### TOTAL\_NUMBER\_INJURIES: Total number of injuries

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 115421 Invalid: Minimum: 0 Maximum: 3  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 3 Format: Numeric

#### Questions and instructions

##### CATEGORIES

Value	Category	Cases	
0		583	0.5%
1		99044	85.8%
2		8048	7%
3		7746	6.7%

## INJURY\_CODE: Injury type

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 114506 Invalid: 915 Minimum: 0 Maximum: 6  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 6 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	Contusion	3617	3.2%
1	Laceration	11334	9.9%
2	Bite/stab/abrasion/burn	10767	9.4%
3	Fracture	36677	32%
5	Soft-tissue injury	46868	40.9%
6	Other	5243	4.6%
Sysmiss		915	

## ARRIVAL\_DIFF: Minutes time difference trauma-arrival to hospital

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115402 Invalid: 19 Minimum: -2103365 Maximum: 3244050  
 Type: Continuous Decimal: 0 Width: 8 Range: -2103365 - 3244050 Format: Numeric

## ATTEND\_DIFF: Minutes time difference arrival-attend by doctor

Data file: mw\_trauma\_nopii.dta

### Overview

Valid: 115234 Invalid: 187 Minimum: -2103757 Maximum: 2103855  
 Type: Continuous Decimal: 0 Width: 8 Range: -2103757 - 2103855 Format: Numeric

**HOURL\_ARRIVAL\_CAT: Hour of arrival****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115403    Invalid: 18    Minimum: 1    Maximum: 6  
 Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 6    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	00:00-03:00 hrs	1651	1.4%
2	04:00-07:00 hrs	15859	13.7%
3	08:00-11:00 hrs	53464	46.3%
4	12:00-15:00 hrs	23962	20.8%
5	16:00-19:00 hrs	14191	12.3%
6	20:00-23:00 hrs	6276	5.4%
Sysmiss		18	

**HOURL\_TRAUMA\_CAT: Hour of trauma****Data file:** mw\_trauma\_nopii.dta**Overview**

Valid: 115402    Invalid: 19    Minimum: 1    Maximum: 6  
 Type: Discrete    Decimal: 0    Width: 1    Range: 1 - 6    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	00:00-03:00 hrs	2660	2.3%
2	04:00-07:00 hrs	16209	14%
3	08:00-11:00 hrs	29128	25.2%
4	12:00-15:00 hrs	28027	24.3%
5	16:00-19:00 hrs	32440	28.1%
6	20:00-23:00 hrs	6938	6%
Sysmiss		19	

**PATIENT\_OUTCOME: Casualty outcome****Data file:** mw\_trauma\_nopii.dta

**Overview**

Valid: 115376 Invalid: 45 Minimum: 1 Maximum: 5  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 5 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Treated and sent home	107297	93%
2	Hospitalized	7487	6.5%
3	Died	95	0.1%
4	Referred	432	0.4%
5	Other	65	0.1%
Sysmiss		45	

**HIT\_BY: Hit by consolidated for all role on road**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 14703 Invalid: 100718 Minimum: 1 Maximum: 7  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 7 Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Private vehicle/ truck	3824	26%
2	Public vehicle	1861	12.7%
3	Bicycle	1476	10%
4	Motorcycle	1942	13.2%
5	Non-moving object	367	2.5%
6	Nothing	4828	32.8%
7	Other	405	2.8%
Sysmiss		100718	

**ROLEONROAD: Role on road categorized**

Data file: mw\_trauma\_nopii.dta

**Overview**

Valid: 17799 Invalid: 97622 Minimum: 1 Maximum: 5  
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 5 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	Driver/passenger	5225	29.4%
2	Pedestrian	3831	21.5%
3	Cyclist	5019	28.2%
4	Motorcyclist	3231	18.2%
5	Other	493	2.8%
Sysmiss		97622	

### ROOM\_8: Room 8 entryptpoint Queen elizabeth central (==1)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 115421 Invalid: Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0	Other	105554	91.5%
1	Room 8 Queen Elizabeth Central Hospital	9867	8.5%

### RTC: Tauma cause: road traffic crash (== 1)

Data file: mw\_trauma\_nopii.dta

#### Overview

Valid: 115421 Invalid: Minimum: 0 Maximum: 1  
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0		97594	84.6%
1		17827	15.4%

# Documentation

## Questionnaires

### Impact Evaluation of Emergency Response and Post-Crash Care 2018-2021 - Survey Instrument

Title Impact Evaluation of Emergency Response and Post-Crash Care 2018-2021 - Survey Instrument  
 Country Malawi  
 Filename [https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186213/mw\\_tr\\_survey.xlsx](https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186213/mw_tr_survey.xlsx)

## Reports

### Trauma Incidence and Emergency Medical Services in Malawi

Title Trauma Incidence and Emergency Medical Services in Malawi  
 Author(s) Sveta Milusheva, Saahil Karpe, Kevin Croke, Linda Chokotho, Wakisa Mulwafu, Jonna Bertfelt, Meyhar Mohammed  
 Date 2021  
 Country Malawi  
 Contributor(s) This work is a product of contributions by staff of The World Bank.  
 Description This report shares data insights and makes recommendations based on the findings from the Trauma Registry (TR) data. The Malawi TR was operational in 10 district and central hospitals in Malawi for 35 months (August 2018–June 2021) and collected data on 118,013 patients. It provides detailed data on patient demographics, trauma causes, care, medical outcomes, and road traffic injuries.  
 Abstract This report shares the results from the analysis of the epidemiology of trauma in adults, including trauma care, trauma outcomes and trauma related to RTCs, in Malawi. It also covers insights about how to effectively run a digital trauma registry in a low-resource setting, including challenges and lessons learned. Lastly, the report also shares learning insights from the implementation of the EMS pilot.  
 Table of contents  
 Section 1: Introduction  
 Section 2: Background  
 Section 3: Trauma Registry Data Collection Process  
 Section 4: Analysis of the Trauma Registry Data  
 Section 5: Challenges and Actions for Successful Trauma Registry Implementation  
 Section 6: EMS Pilot, Challenges and Lessons Learned  
 Section 7: Discussion, Policy Relevance and Recommendations  
 Filename [https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186214/16012\\_wb\\_dime\\_malawi\\_ems\\_web.pdf](https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186214/16012_wb_dime_malawi_ems_web.pdf)

## Technical documents

### Data Description

Title Data Description  
 Date 2022-03  
 Country Malawi  
 Description This document provides information on the Malawi EMS research study, as well as the Trauma Registry data collection process.  
 Filename [https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186215/data\\_description.pdf](https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186215/data_description.pdf)

### Supplemental Data Description

Title Supplemental Data Description  
 Country Malawi  
 Description This document is a supplemental data description file that includes variable names and descriptions.

Filename [https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186216/mw\\_trauma\\_describe.csv](https://microdatalibqa.worldbank.org/index.php/catalog/15303/download/186216/mw_trauma_describe.csv)

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