

Assessing the burden of Trauma in KZN Province using routine data

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Introduction

- * Major burden of disease due to injury
- * Lack of routine health systems data
- * National Injury Mortality Surveillance System
- * Small proportion of burden of trauma on health system



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The Injury Pyramid



Source: <http://www.ibiblio.org/vincentweb/slides/slidesB/slide46.gif>



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Collection of trauma data on DHIS

- * District Health Information System
- * Adopted as the official South African routine health information system in 2000
- * National and Provincial Indicator Sets
- * Addition of data elements (indicators) governed at National and Provincial level (DHMIS Policy)
- * Data collected at all public health facilities



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Advantages and disadvantages of DHIS

Advantages	Disadvantages
1. Routine data collection system covering Hospital, PHC, EMS, EHS, Survey data, Core Standards and measures of quality of care	1. Lack of governance and standardisation of the DHIS
2. In 2011 the DHIS contained data representing 1.4 billion patient encounters worldwide	2. Stand alone programme allowing for unwanted variances in data at different levels
3. Indicator driven programme used for planning and budgeting.	3. Unable to work optimally with high volumes of data
4. Allows for daily, monthly and quarterly data capturing.	4. Requires human resource, IT and financial support to work efficiently.



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Collection of trauma data on DHIS

- * Data elements developed – [Tool](#)
 - * User friendly
 - * Clarity of data definitions
 - * Utility of data
- * Training provided to FIOs in 2012
- * Severity of trauma measured using EMS classification (colour codes)
- * No data from private sector



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Results

- * Organized as follows:
 - * Pre-hospital trauma load (ambulance responses)
 - * Hospital emergency room visits for trauma
 - * Hospital trauma admissions
- * Results presented for 2013/2014 financial year
- * Results presented for province and per level of hospital care



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Pre-hospital trauma load

- * **509,109 EMS call outs for trauma cases:**
- * **Blue:** 3,098 (0.6%)
- * **Green:** 313,364 (62%)
- * **Red:** 39,498 (8%)
- * **Yellow:** 153,149 (30%)



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Pre-hospital trauma load

	District hospital	Regional hospital	Provincial tertiary hospital	National central hospital	Total
Transport by emergency services	224 520 (44.6%)	264 109 (52.4%)	11 103 (2.2%)	3 593 (0.7%)	503 325



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Emergency room visits for trauma

- * 197,219 emergency room visits for trauma
- * Ratio of intentional to non-intentional injury is 45: 55



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Cause of trauma	Number of cases	Percentage of emergency room visits due to trauma*
Assault with blunt object	47,349	24 %
Stab	38,376	19 %
Gunshot	3,562	2%
MVA (occupant)	29,679	15%
MVA (pedestrian)	13,126	7%
Non-intentional injury	65,127	33 %



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Admissions due to trauma

- * 18,716 admissions to public sector hospitals for trauma
- * 2.4% of all admissions in the province
- * Rate of admission was 172.8 per 100,000 population
- * 1,045 inpatient deaths due to trauma in the same period
- * 2.5% of all inpatient deaths.



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Admissions due to trauma per level of hospital

	District hospital	Regional hospital	Provincial tertiary hospital	National central hospital	Total (100%)
Number (%) of admissions	5645 (30.2%)	10,335 (55.2%)	1,074 (5.7%)	1,662 (8.9%)	18716

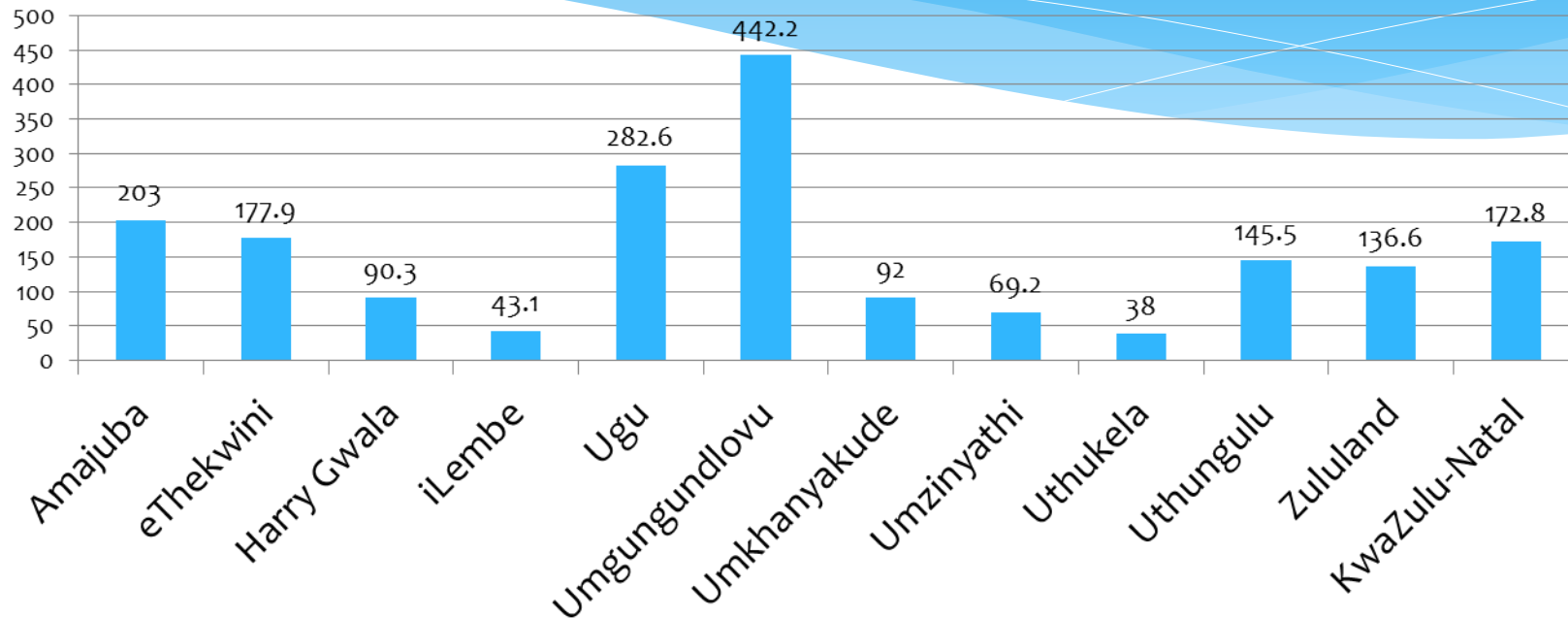


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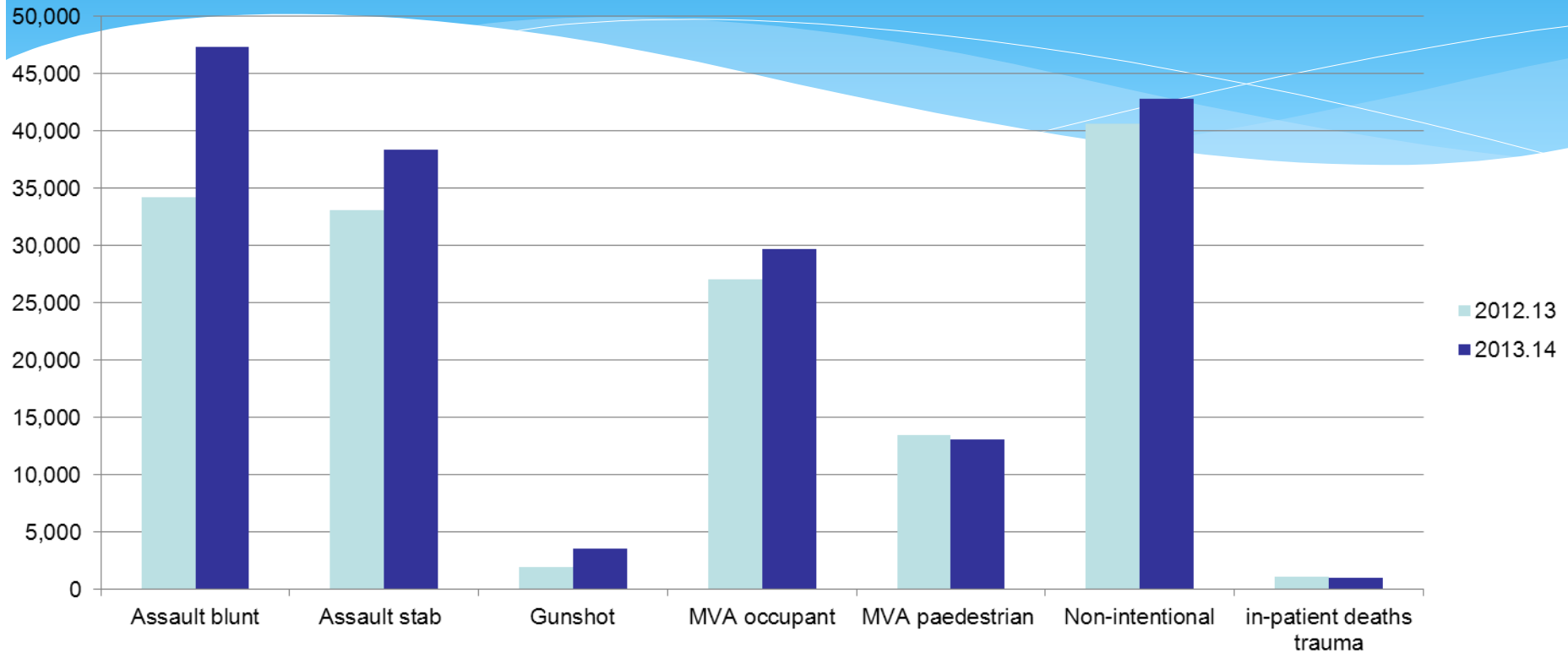
Rate of trauma admissions per district



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Trends in trauma admissions from 2012/13 to 2013/14 financial years



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Discussion

- * DHIS useful tool for collection of trauma data
- * Challenges experienced
- * “Malignant epidemic” (Muckart 1991)
- * Demands a coordinated systematic public health response
- * Part of response is comprehensive registry that allows tracking of phenomenon



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Discussion

- * Between 1983 and 1988, trauma admissions at KEH increased from fifty per cent of all emergencies to sixty percent
- * Gunshot wounds of the torso increased by over 300% and vascular trauma by 340 new cases per year (Muckart 1991)
- * Gunshots much smaller proportion of current trauma load
- * Estimated trauma caseload for KZN of 160,000 cases (Hardcastle et al 2013)
- * Distribution of trauma admissions and visits primarily on district and regional hospitals
- * Systems need to be improved to better equip these hospitals for trauma (Clarke et al 2008, Clarke 2013).



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Thank you!

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