

**Aiming for Prevention in the Pacific:**

**The health  
consequences of  
tribal gun  
violence in Papua  
New Guinea**

**Andrew Winnington  
6<sup>th</sup> year medical student  
University of Otago  
IPPNW (New Zealand)**

**Aiming for**



**Prevention**



**Huli tribesman  
Southern Highlands Province  
Papua New Guinea**

# Introduction

- **Developed PNG project** at IPPNW  
17th World Congress **Helsinki 2006.**
- Conducted **hospital-based research**  
on injuries and death from firearms Nov  
2007.
- **Develop interventions** to target  
groups at high risk IPPNW World

# **Public Health Approach**

- **Easy and less bureaucratic access to restricted data.**
- **Quantitative research provides civil society with credible evidence in support of intervention.**
- **Aids in measuring success or failure of programs e.g. martial law.**
- **Qualitative research provides strong**

# Aims of talk

1. Outline a **method** for *action-oriented research* to aim to **prevent gun violence.**
2. **Present data** from an international pilot project on firearms injuries in

# Method

- 1. Identify a problem**
- 2. IPPNW, NGO & Government support**
- 3. Obtain funding and ethical approval**
- 4. Data collection**



# **Papua New Guinea**

- **139 out of 177 countries**

**Human Development Report 2006**

- **Chronically affected by armed violence with the potential to destabilise peace and security in the Pacific**

**Small Arm Survey 2006**



**Southern Highlands Province firearms are more likely to be used in homicide...**



**... than a similar gun in Ecuador, Jamaica, Colombia or South Africa.**

# Method

## 1. Identify a problem

**Firearm injuries in  
Southern Highlands, PNG**

## 2. IPPNW, NGO and Government support

## 3. Obtain funding and ethical approval

# Method

**1. Identify a problem**

**2. IPPNW, NGO & Government support**

**3. Obtain funding and ethical approval**

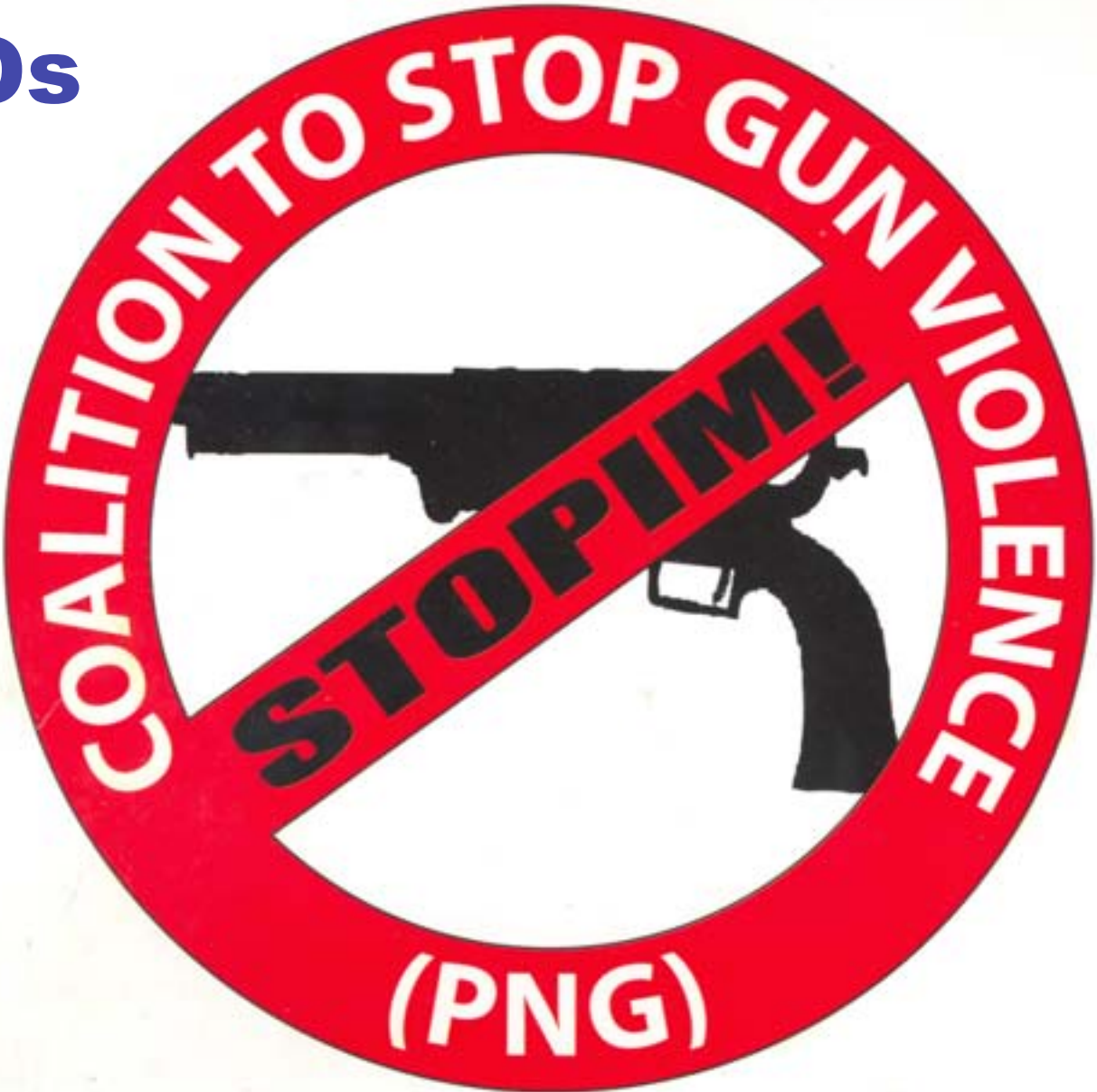
**4. Data collection**



**“More injury research needs to be done to quantify the human toll & design appropriate interventions”**

**Maria Valenti, IPPNW's Aiming for Prevention director 10 March 2007**

**NGOs**





# University of Papua New Guinea



## **Medical Society of Papua New Guinea**



### **University of Papua New Guinea**

#### **PROFESSOR MATHIAS SAPURI**

*Executive Dean - School of Medicine & Health Sciences  
President - Medical Society of Papua New Guinea*

**P.O.Box 1774, BOROKO, NCD, Papua New Guinea**

**Tel: (675) 3253340: Fax: 3250809 or 6838495 (mobile)  
Tel/Fax: 3230066 (ah): Email: [sapuri@daltron.com.pg](mailto:sapuri@daltron.com.pg)  
[mathias.sapuri@upng.ac.pg](mailto:mathias.sapuri@upng.ac.pg)**



**National Research Institute of PNG**



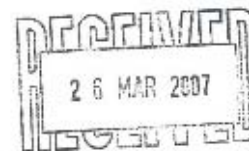
**Mr Martin Pat**  
**Provincial Government**

**Co-ordinator of Southern Highlands Anti-Gun Alliance (funding pending)**



# Method

- 1. Identify a problem**
- 2. IPPNW, NGO & Government support**
- 3. Obtain funding and ethical approval**
- 4. Data collection**



DEPARTMENT OF HEALTH  
Office of the Secretary for Health

P.O.Box 807,  
WAIGANI,  
National Capital District, Papua New Guinea

Phone: 301 3601, 301 3634  
Fax: 301 3604  
Email: healthsec@health.gov.pg

Date: 21<sup>st</sup> March, 2007  
File No: 1-2-5

Dr Thomas Webster  
Director  
National Research Institute  
P.O Box 5854  
**BOROKO**  
National Capital District

**Ethics approval  
via Minister of Health support**

Dear Dr Webster,

**SUBJECT : PROPOSED RESEARCH BY DR ANDREW WINNINGTON  
AND TEAM INTO INJURY/DEATH FROM WEAPONS  
IN SOUTHERN HIGHLANDS PROVINCE**

A letter dated 14<sup>th</sup> March regarding the abovementioned subject was address to me by your James Robins. As matter of protocol I would like to see such matters channelled through your Office to mine in the future.

The proposed research will be of paramount interest and importance to the Government through our respective agencies.

I have no objection to this research and look forward to meeting the team.

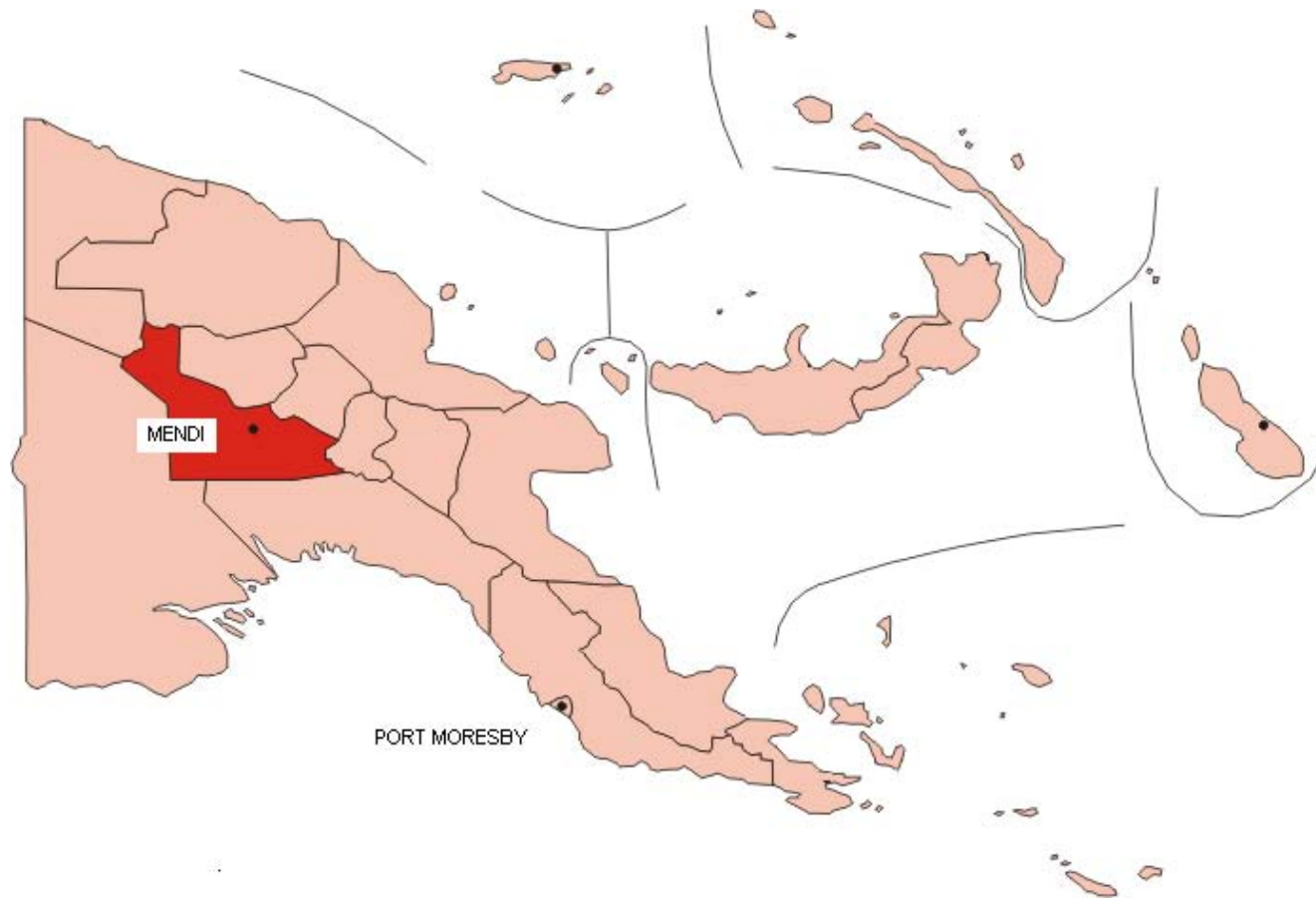
Yours sincerely,

**DR NICHOLAS MANN, CMS**  
Acting Secretary

# Method

- 1. Identify a problem**
- 2. IPPNW, NGO & Government support**
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# Southern Highlands Province



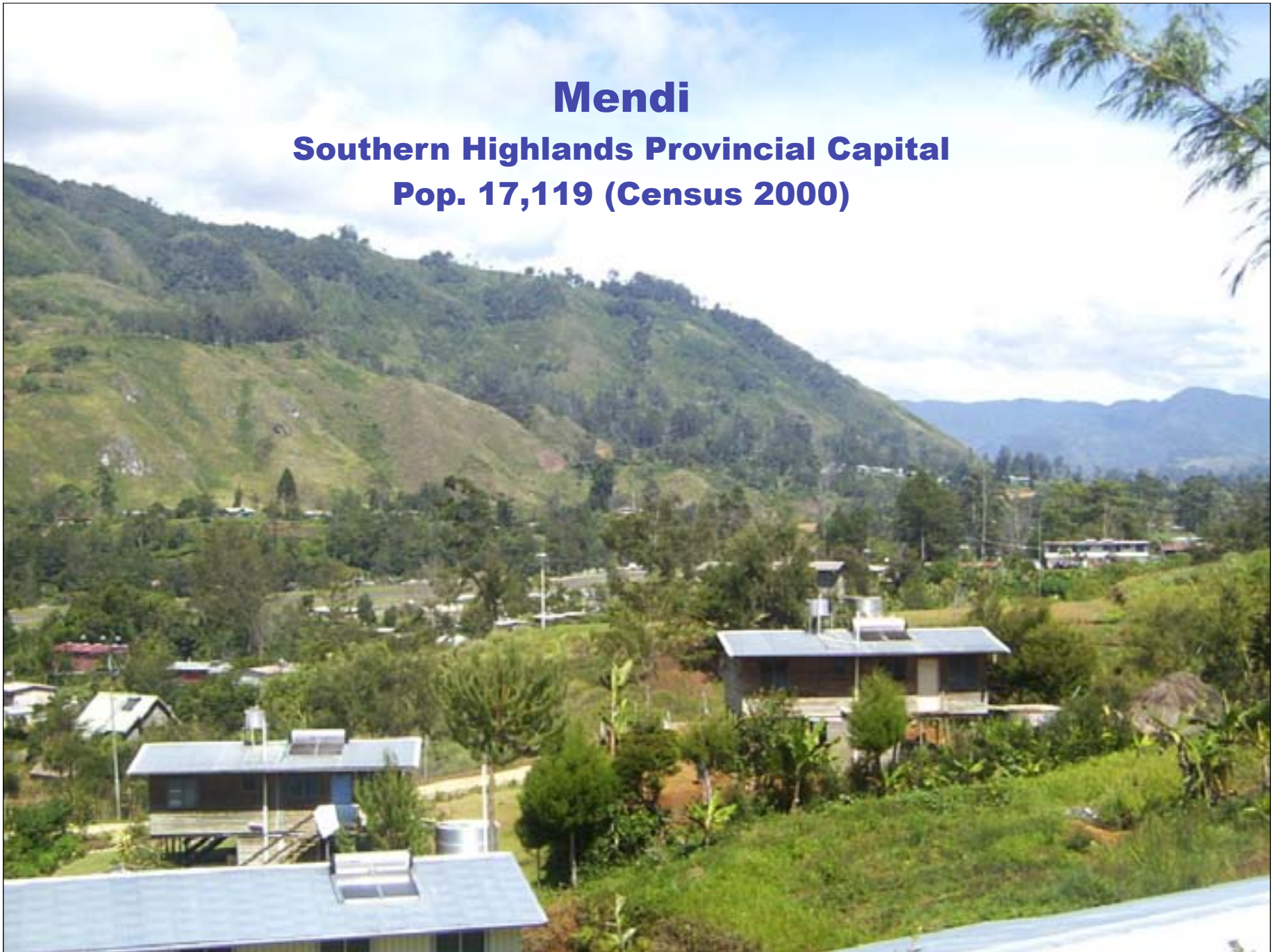
**Southern Highlands, PNG**



# **Mendi**

**Southern Highlands Provincial Capital**

**Pop. 17,119 (Census 2000)**







**Mendi street scene**







**Accommodation - Sisters of St. Francis mission**



**Sister Claire – Franciscan Sisters of Mary**

# MENDI GENERAL HOSPITAL

## VISITING HOURS

MON TO FRI - Morning: 11:00 AM - 1:00 PM  
- Evening: 4:00 PM - 6:00 PM

SAT & SUN - 0:00 AM - 5:00 PM

## Mendi General Hospital



**Mendi General Hospital records officer**









**Patient admitted to Mendi Hospital surgical ward  
Shotgun wound to head 10 Nov. 2007**



# Tribesmen attack cops

**November 12 2007, The National newspaper.**

By ANDREW ALPHONSE

**SIX policemen were attacked and taken hostages by heavily armed tribesmen in a weekend of high drama in Nipa in the Southern Highlands province.**

However, local leaders successfully negotiated the release of the six Mendi-based mobile squad 10 members after an hour in captivity last Friday, minus their high-powered rifles and armoury.

Reinforcements led by Deputy Highlands mobile group commander Insp Samson Kua into Nipa the next day to negotiate the surrender of their six colleagues, gear and an Oil Search Ltd's vehicle the six had travelled on, erupted into a heavy firefight with local tribesmen.

One tribesmen was reportedly killed in the exchange of fire and one high powered police issue rifle was retrieved.

# **Data collection**

- 1. Outpatient attendances**
- 2. Inpatient admissions**
- 3. Surgical ward admissions**
- 4. Patient files**

**Mendi Public Hospital outpatients clinic**



# Summary of the outpatient

**Total number of outpatient attendances**

**300,893**

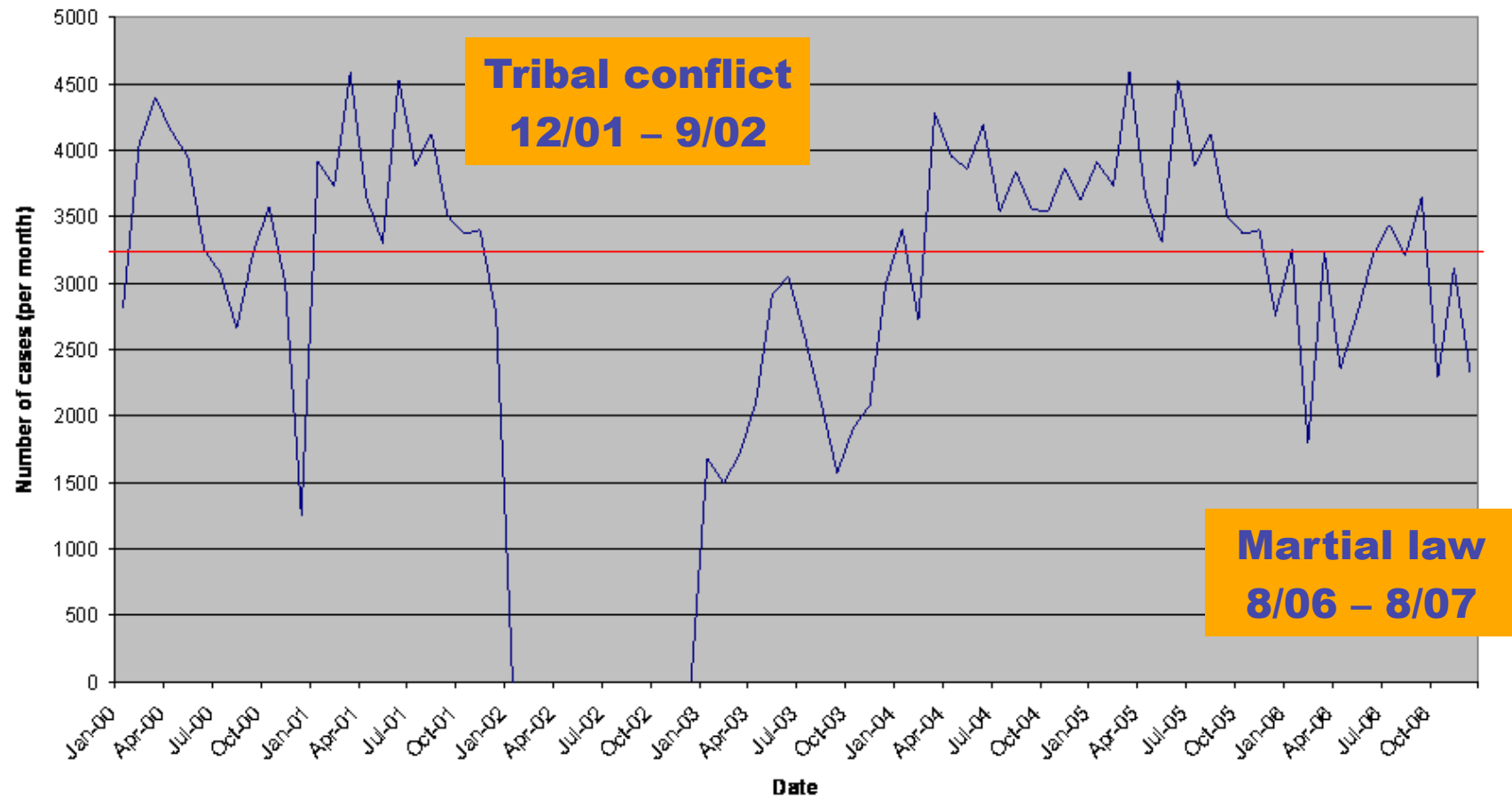
**Mean number of monthly attendances**

**4179 (n = 92)**

**Percentage injury attendances**

**8%**

# Total new attendances per month at Mendi Hospital outpatient clinic 2000-2006







**200 metres from Mendi Hospital  
scene of running tribal gun battles  
December 2001- September 2002**

**The health consequences of tribal gun violence:**  
**Disruption to public hospital  
services due to tribal conflict**

**54,800**

**outpatients unattended**

**4380**

**untreated injuries**

# **Data collection**

**1. Outpatient attendances**

**2. Inpatient admissions**

**3. Surgical ward admissions**

**4. Patient files**

**Data collection during black outs**



# **Summary of inpatient admissions Mendi Hospital 2000-2007**

**Total number of outpatient attendances**

**26,823**

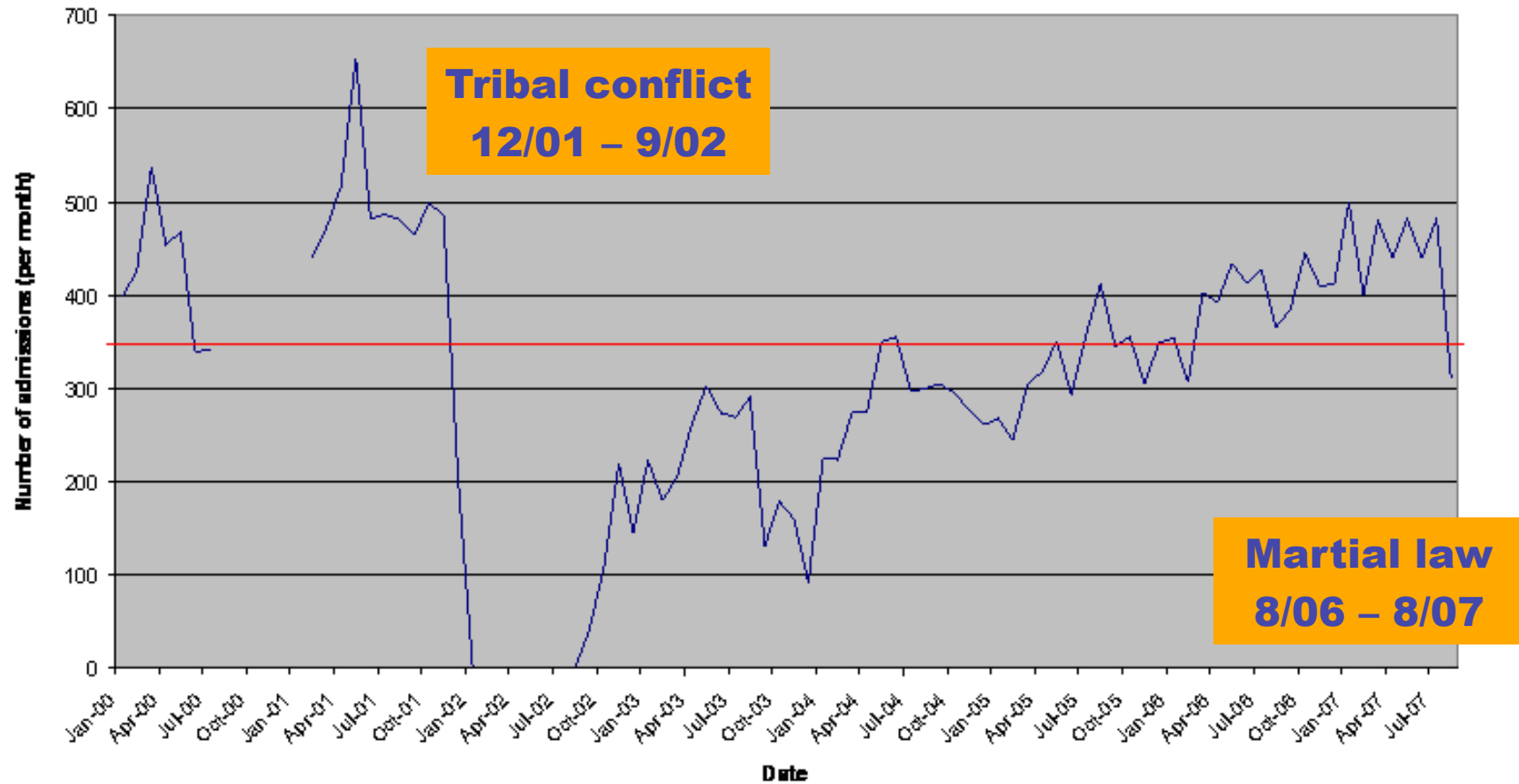
**Mean number of monthly attendances**

**348 (n = 77)**

**Percentage injury admissions**

**9%**

# Total admissions per month Mendi Hospital 2000-2007



# **Summary of injury admissions Mendi Hospital 2000-2007**

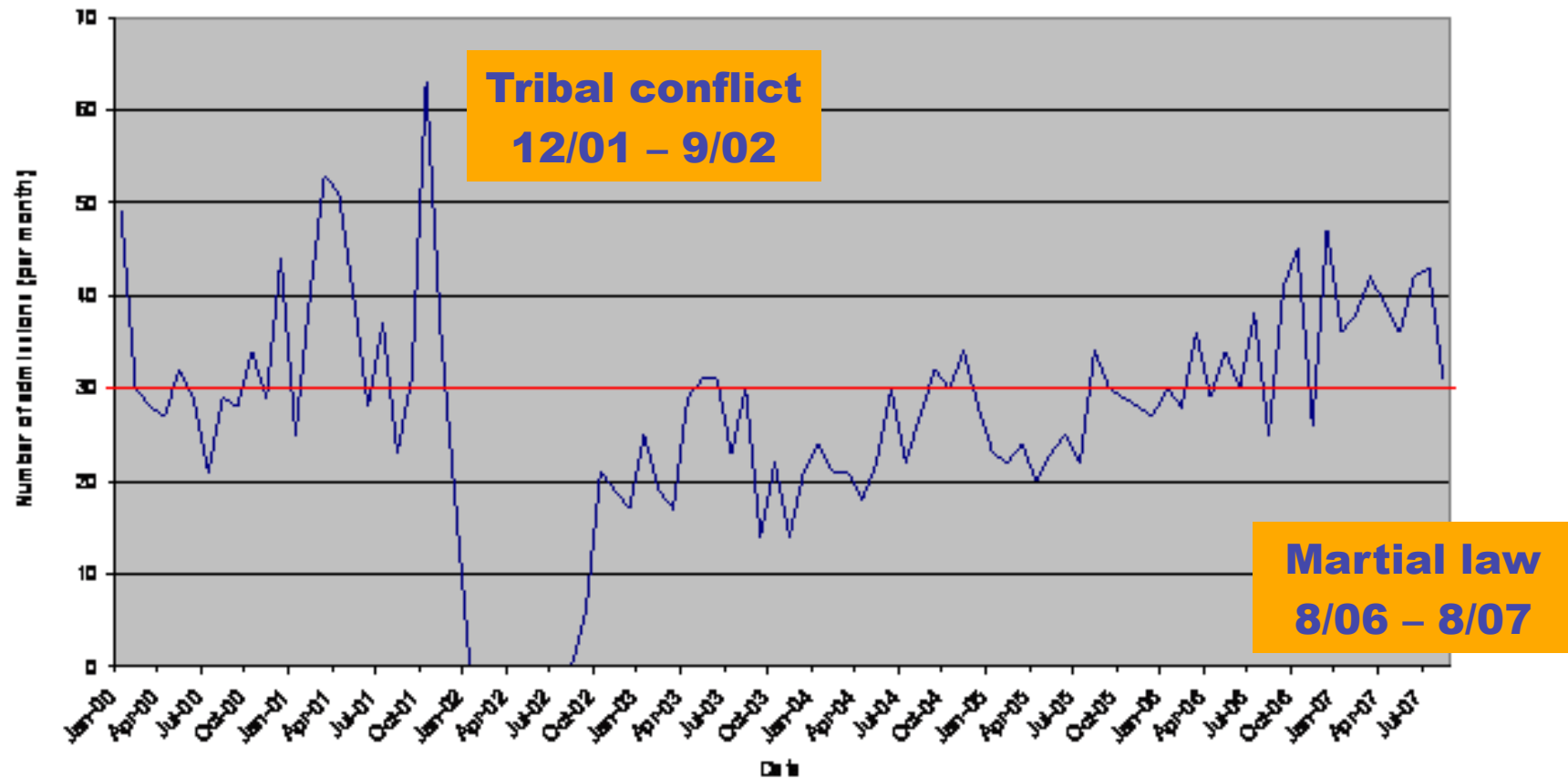
**Total number of injury attendances**

**2,496**

**Mean number of injury attendances per month**

**30 (n = 77)**

# Total injury admissions per month Mendi Hospital 2000-2007





**The health consequences of tribal gun violence:**

**Disruption to public hospital  
services due to tribal conflict**

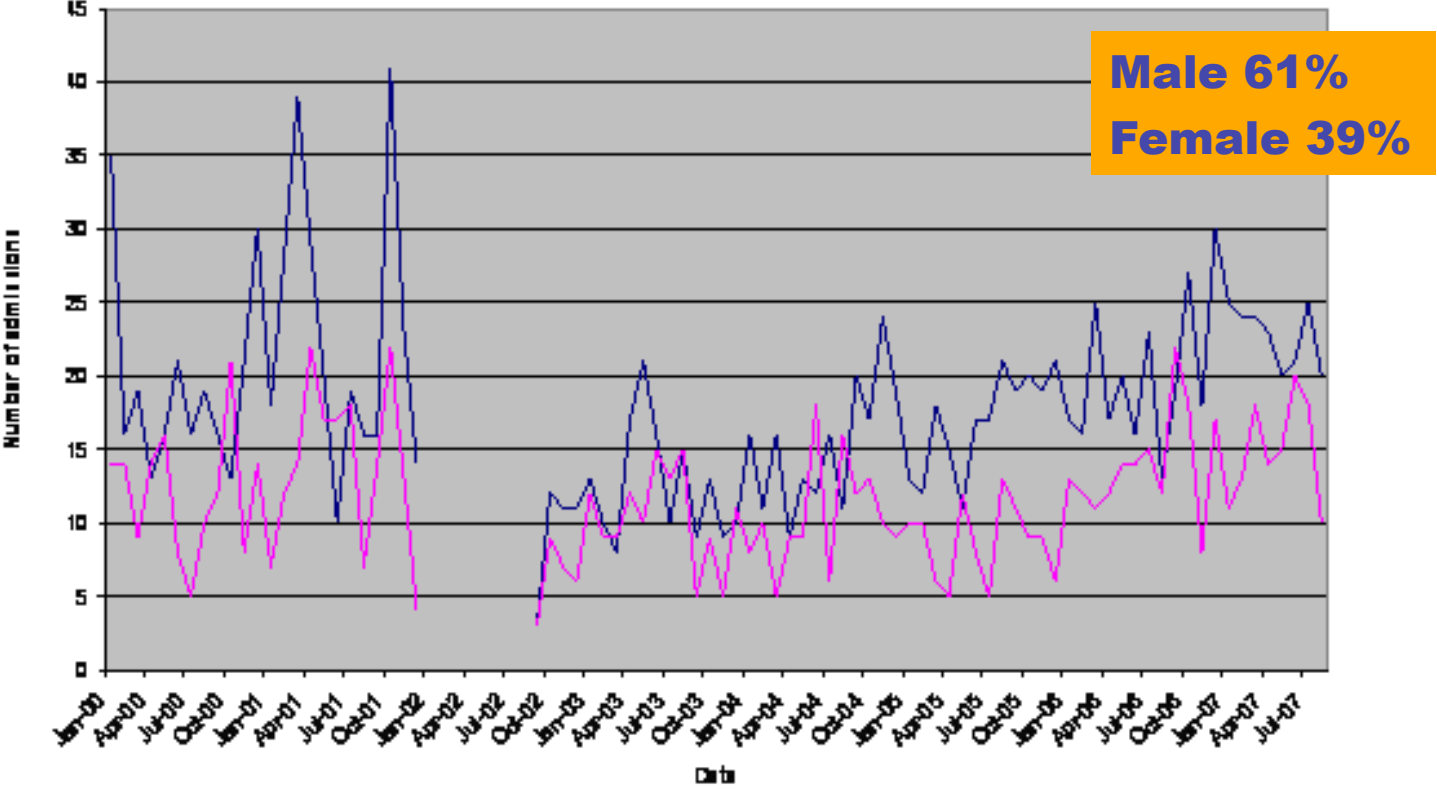
**10,380**

**Unadmitted patients**

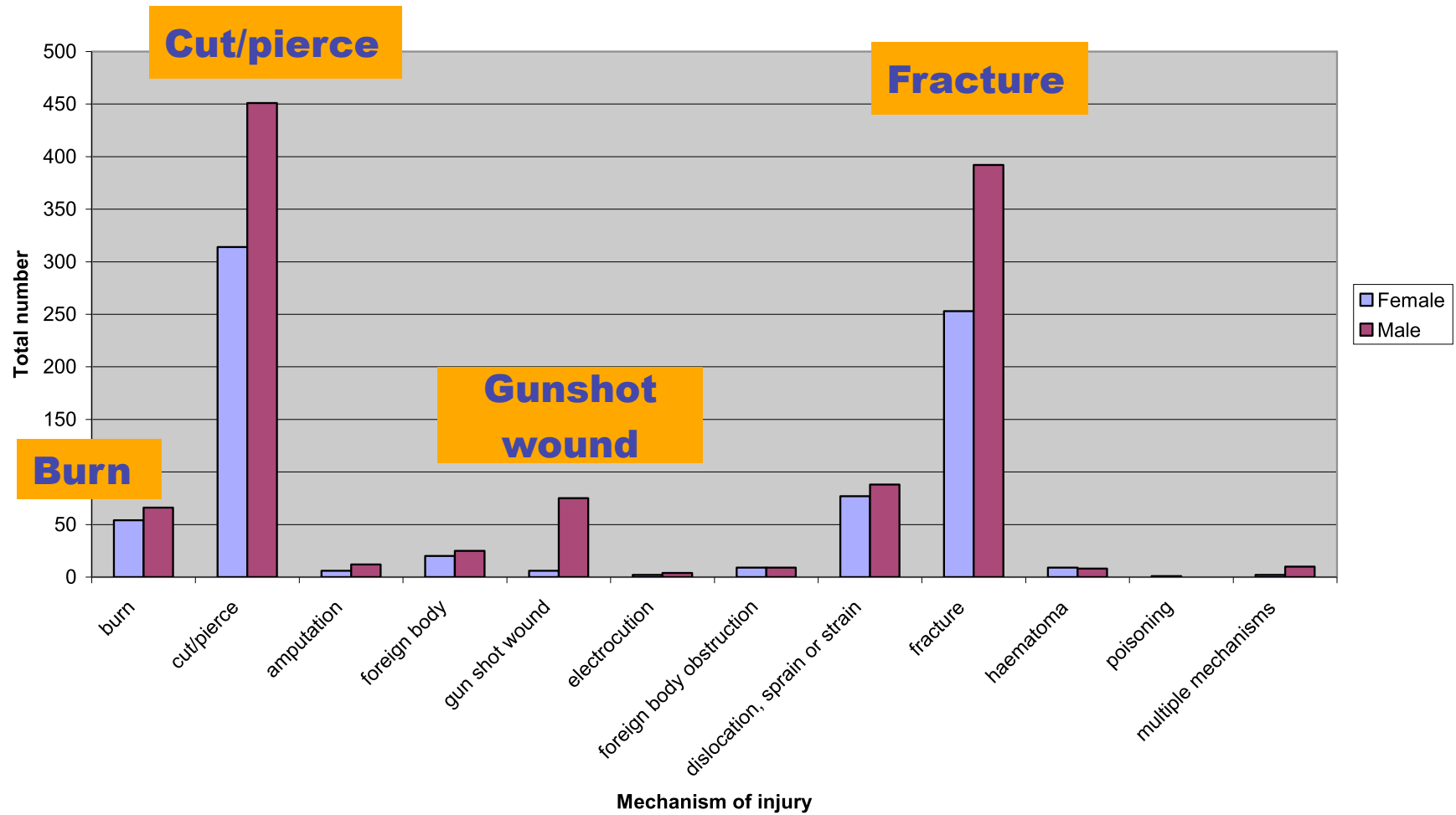
**935**

**Unattended injuries**

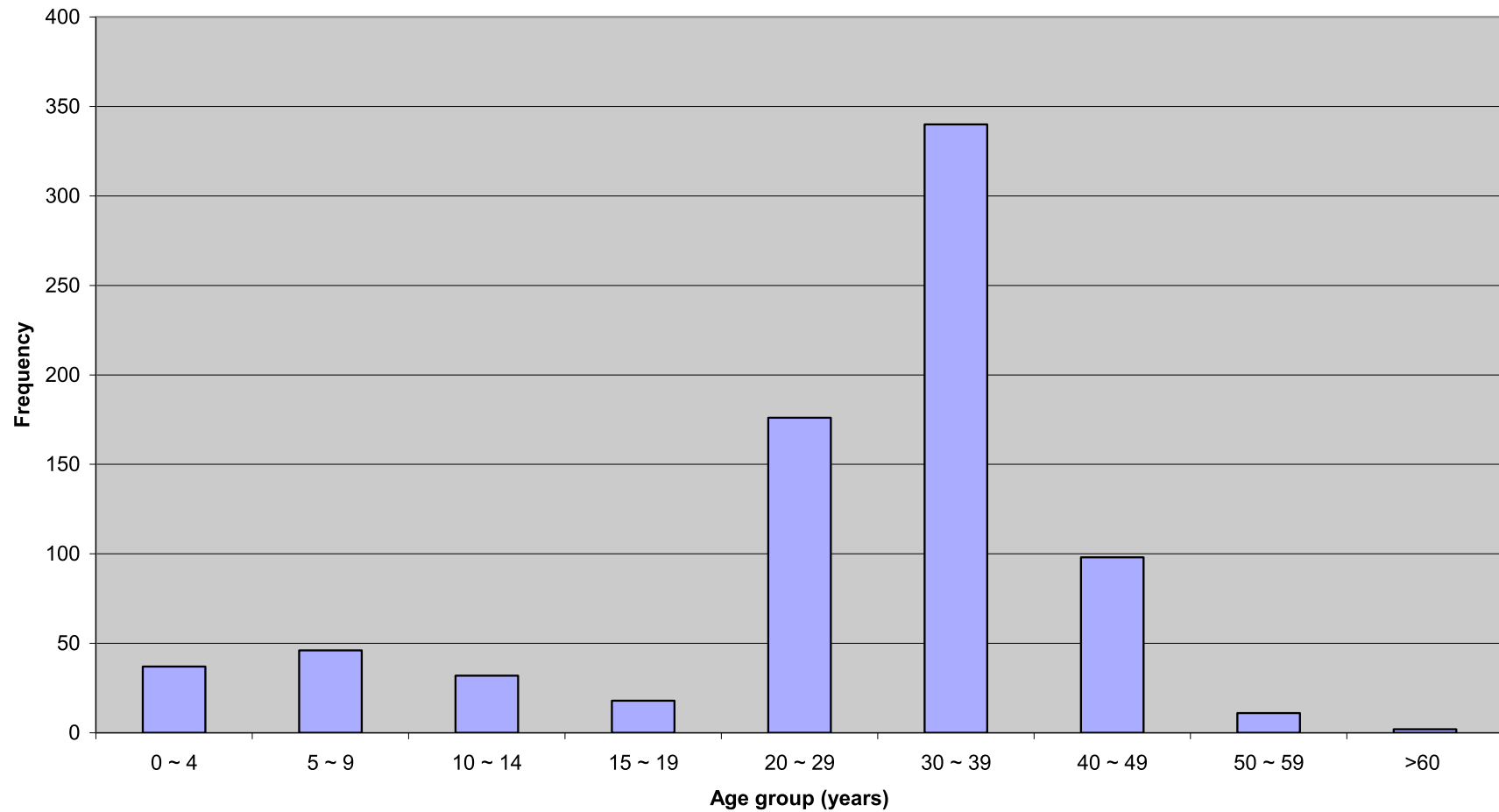
# Demographics of injury admissions to Mendi Hospital 2000-2007



# Nature of injury admissions to Mendi Hospital 2000-2007

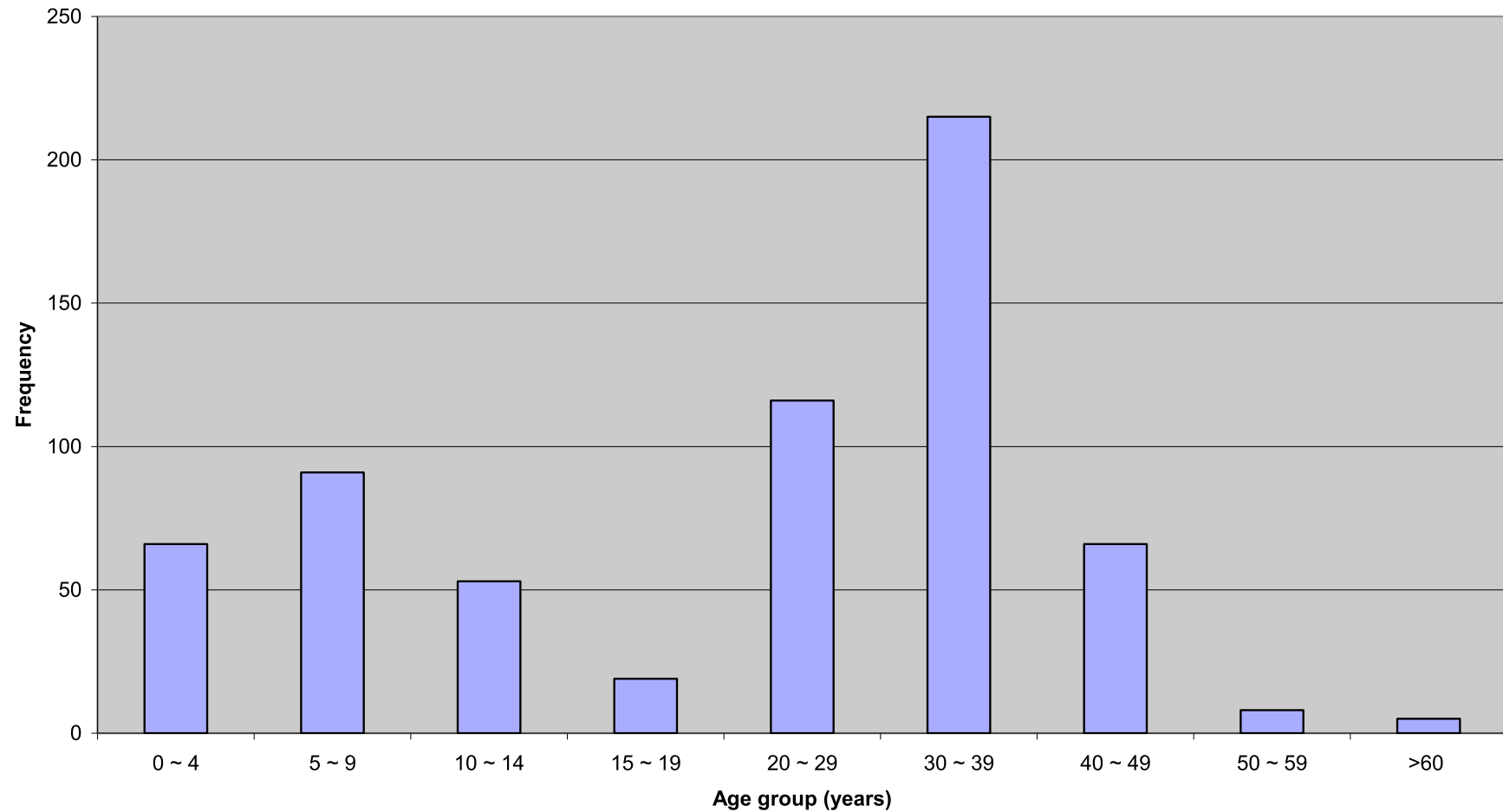


# Age of **cut/pierce injury** admissions to Mendi Hospital 2000-2007



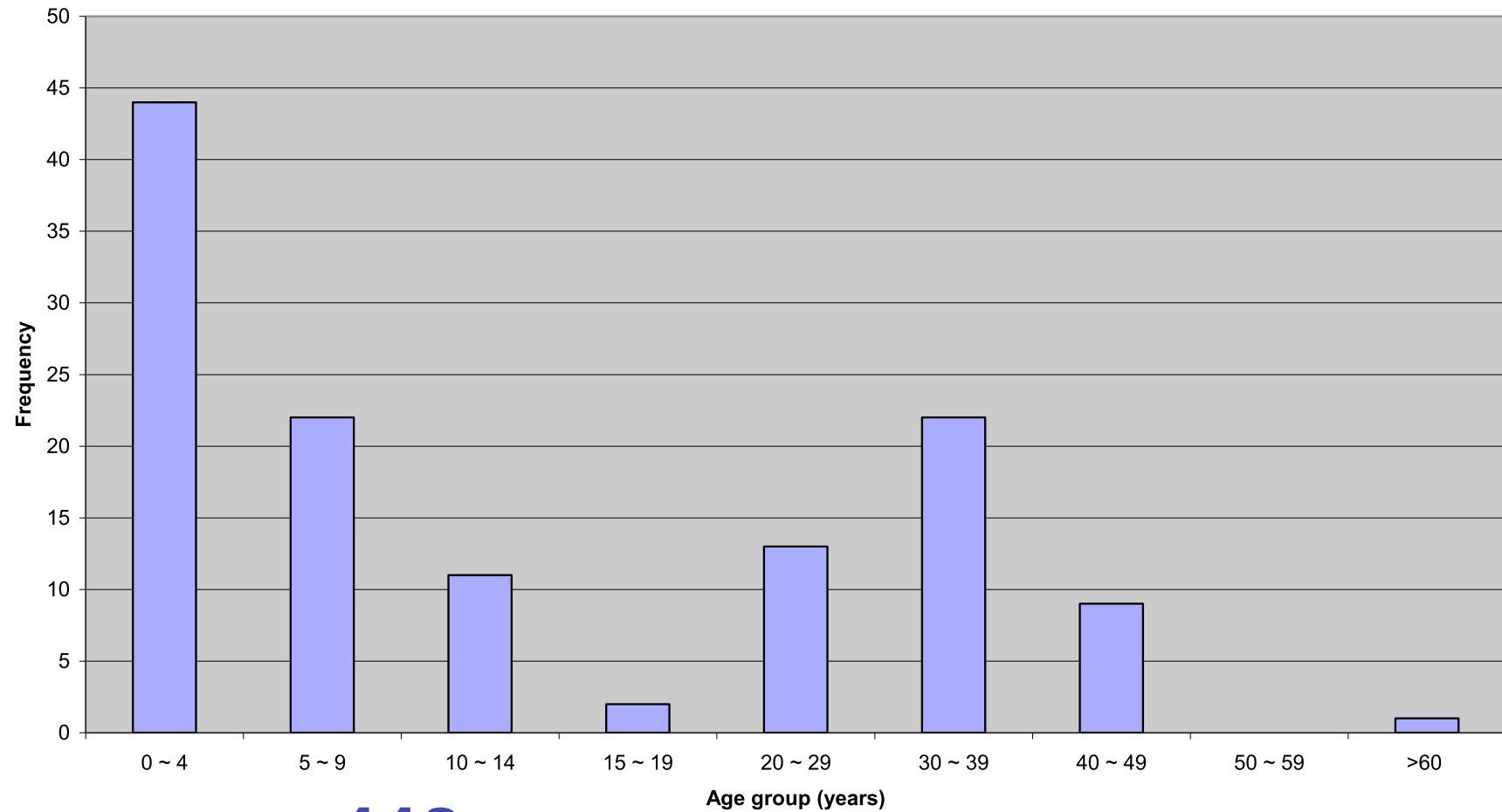
**n = 765**

# Age of **fracture injury** admissions to Mendi Hospital 2000-2007



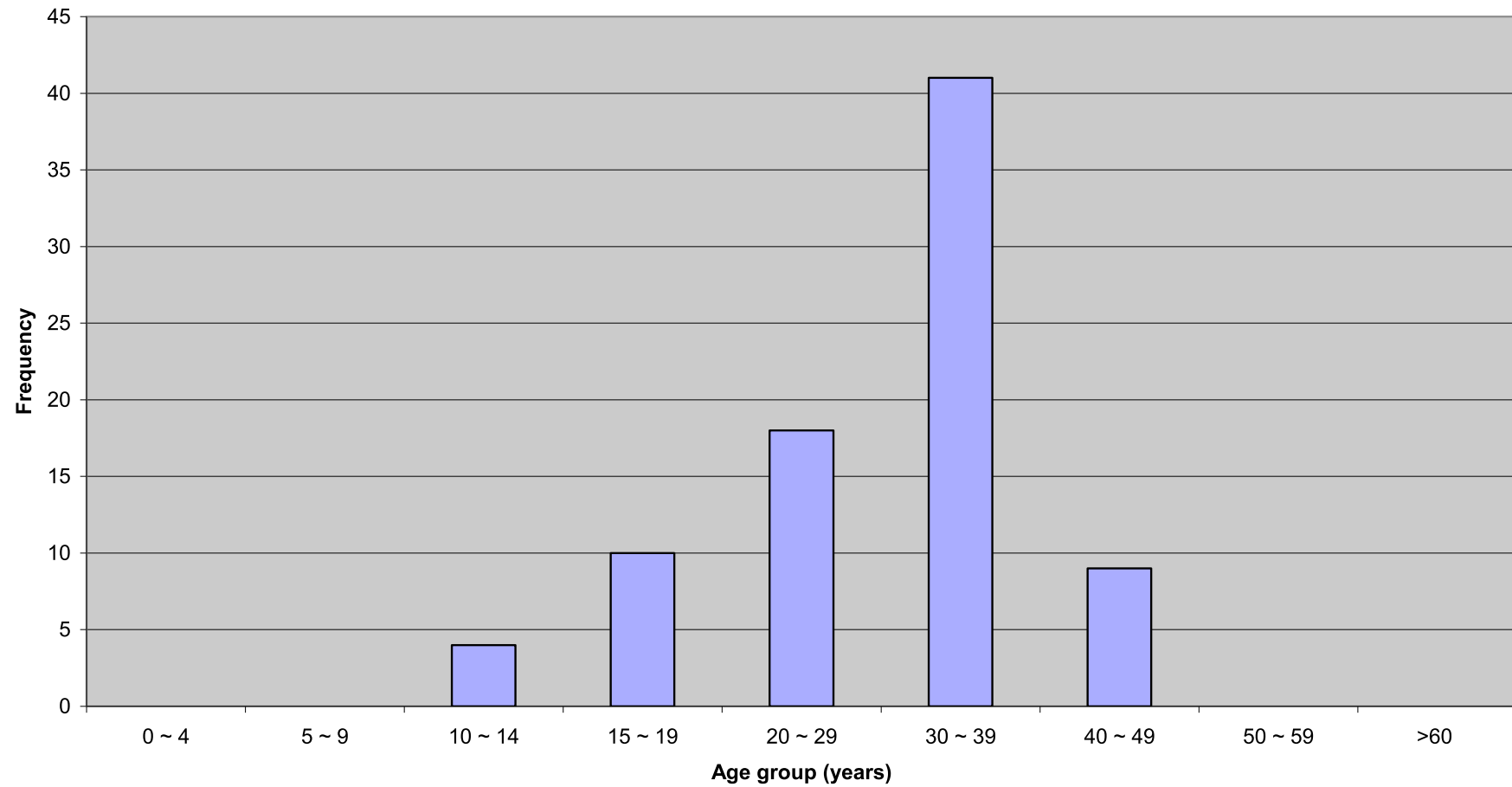
**n = 645**

# Age of **burn injury** admissions to Mendi Hospital 2000-2007



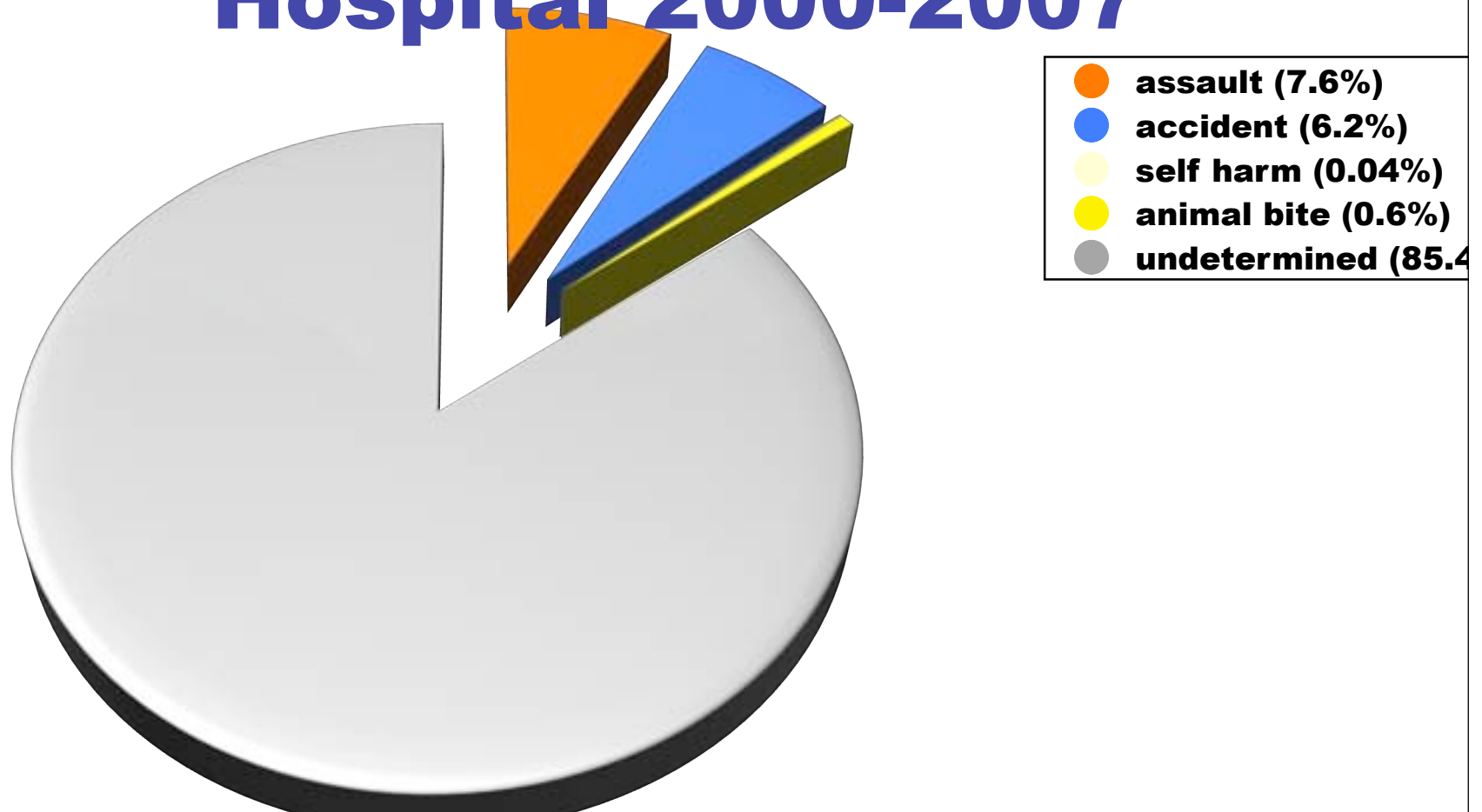
**n = 119**

# Age of **firearm injury** admissions to Mendi Hospital 2000-2007



**n = 81**

# Intent of injury of admissions to Mendi Public Hospital 2000-2007





**The health consequences of gun violence:**  
**Firearm injuries**

**Total number of gunshot wound admissions**

**81**

**Percentage of total injury admissions**

**3.3%**

**Demographics of firearm injury admissions**

**93% male**

**7% female**

**62% > 30 yrs**

**The health consequences of gun violence:**  
**Gunshot wound injuries**

**Proportion of intentional injuries**

**43%**

**Proportion of accidents**

**1.3%**

**Deaths at Mendi Hospital 2000-07**

**2**

# **Data collection**

- 1. Outpatient attendances**
- 2. Injury admissions**
- 3. Surgical ward admissions**
- 4. Patient files**

## **Surgical Ward - Mendi General Hospital**



**Surgical ward admissions register**

ADMISSION BOOK  
MDI HOSPITAL  
YEAR 2000  
16-06-2000 - 23-06-2000

ADMISSION BOOK NO 01-1-2000  
MENBI PUBLIC HOSPITAL  
PRIVATE WARD BAYS MENBI.  
01-01-2000 - 14-06-2000

2000

The image shows an open admission register with multiple columns of handwritten data. The columns are organized into several sections, likely representing different patient attributes and medical details. The handwriting is in blue ink on a light-colored paper. The register is placed on a wooden surface.

## Average time in surgical ward for treatment of injuries

**1. Fire burn** ○ ○ **23.3 days** (n=61) \*

**2. Gunshot wound** ○ **14.5 days** (n=49)

**3. Amputation** ○ ○ **13.4 days** (n=9)

**4. Human bite** ○ ○ **12.8 days** (n=6)

**5. Axe** ∞ ○ ○ **11.3 days** (n=50)

**6. Fracture** ○ ○ ○ **10.8 days**

(n=290)

**7. Bush knife** ○ ○ **9.9 days** (n= 18)

**8. Knife** ○ ○ ○ ○ **8 days** (n=166)

**9. Arrow** ○ ○ ○ ○ **7 days** (n=12)

**10. Spear** ○ ○ ○ ○ **6.4 days** (n = 16)

**The health consequences of gun violence:**  
**Health burden of gunshot wounds**

**Percentage firearm admissions**

**4.2%**

**Average time in surgical ward**

**2 weeks**

**Annual cost of treating gun injuries\***

**US\$6.9m**

\* Mathius Sapuri. President of PNG Medical Society. 1 May 2007



# **Data collection**

- 1. Outpatient attendances**
- 2. Injury admissions**
- 3. Surgical ward admissions**
- 4. Patient files**

**Patient records**



# **Summary of patient files Mendi Hospital 2000-2007**

**Total number**

**103**

**Gunshot wounds**

**49**

**Cut/pierce wounds**

**53**

# **Intent of injury**

**gunshot wounds**

**92% intentional**

**arrow wounds**

**100% intentional**

**spear wounds**

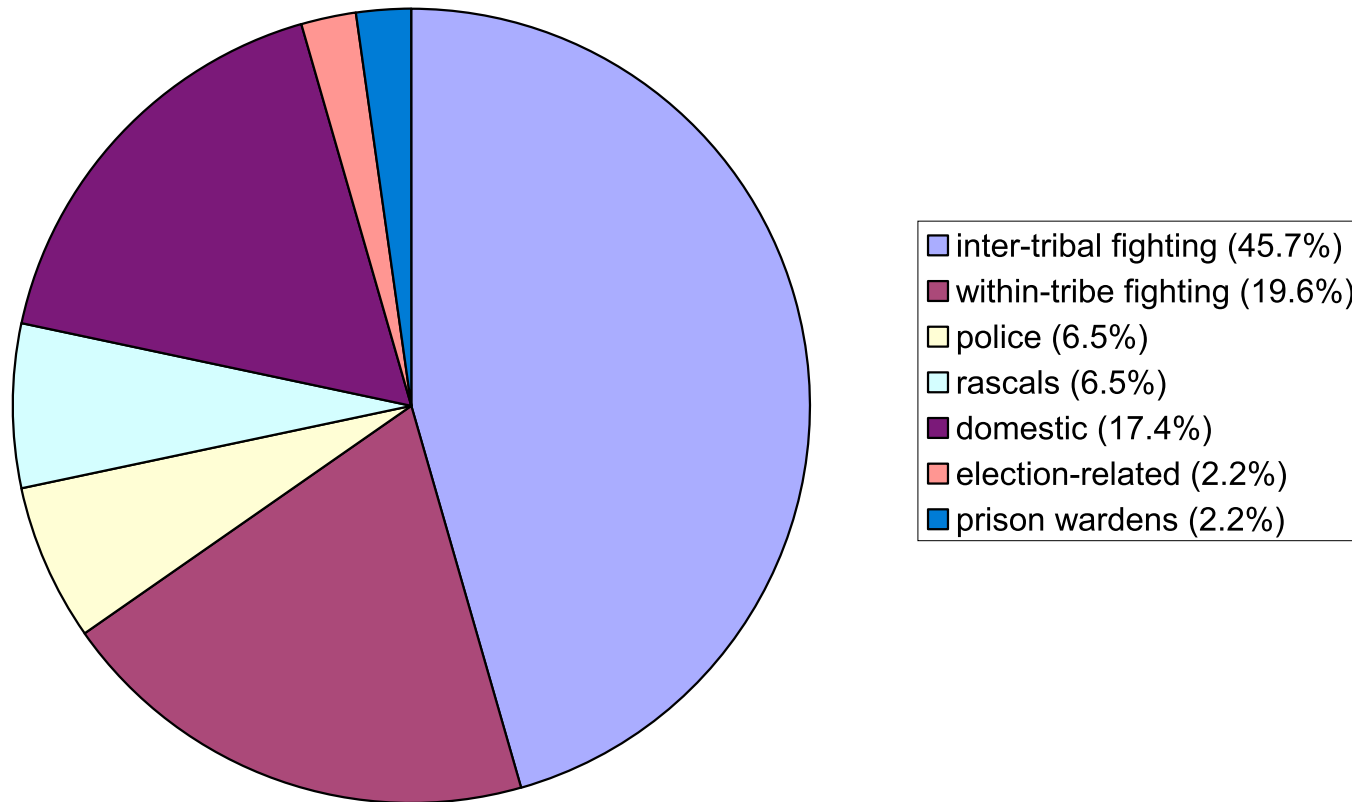
**91% intentional**

**knife wounds**

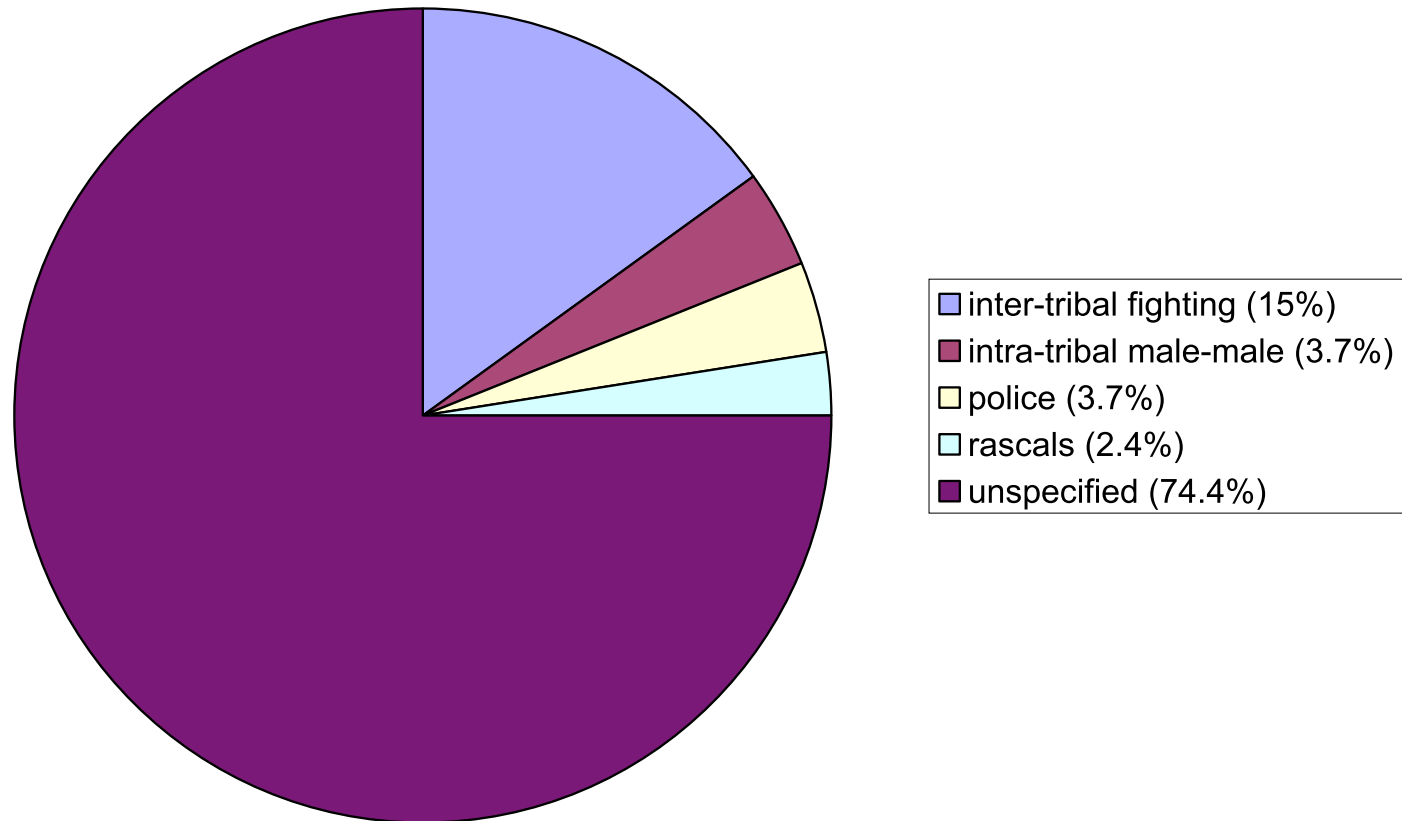
**62% intentional**

**15% accidental**

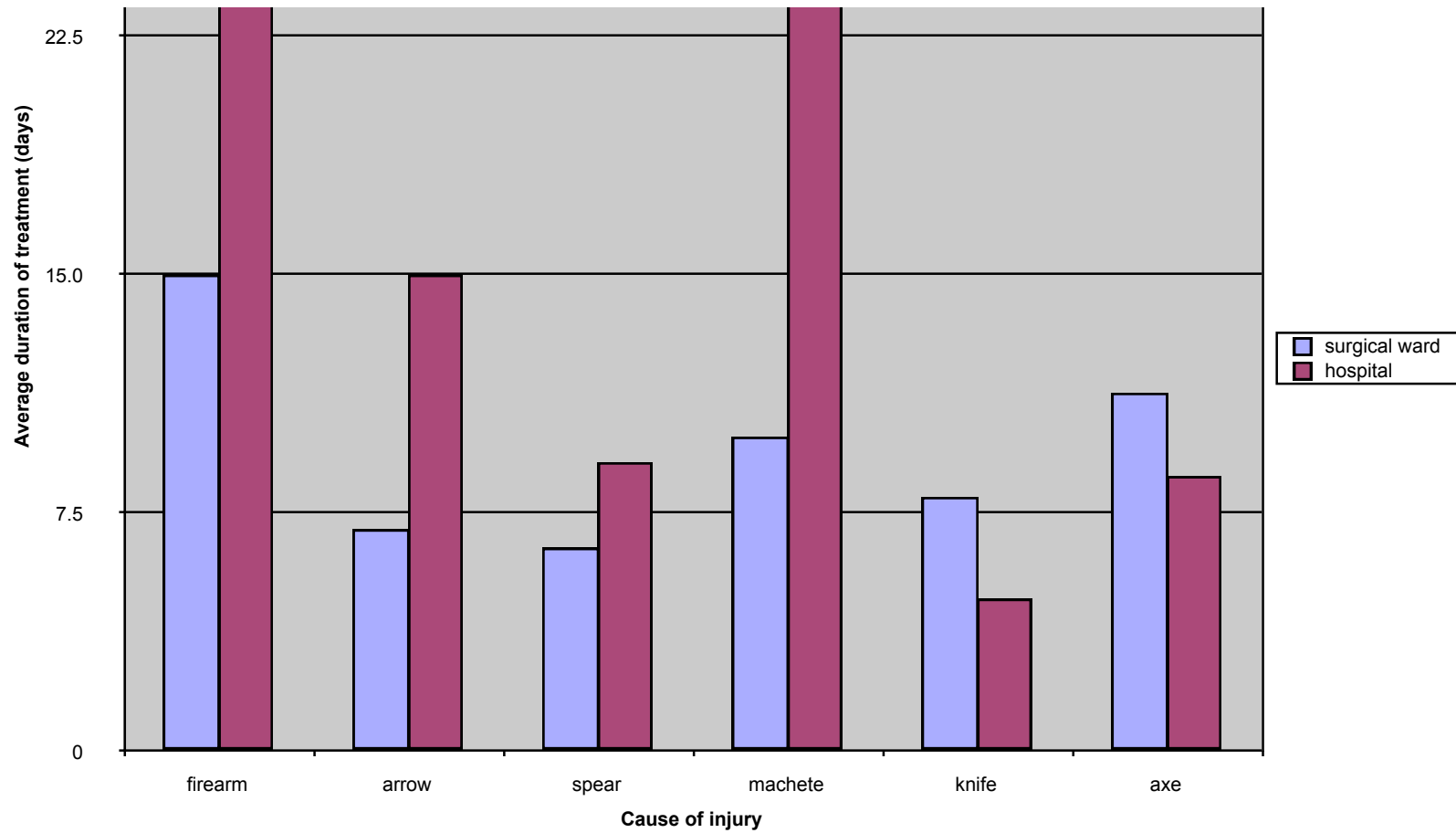
# Cause of intentional injuries



# Cause of gun injuries



# Treatment duration (days in hospital)



**The health consequences of gun violence:**  
**Health burden of gunshot wounds**

**Average time in hospital**

**24 days**

**Most specified cause**

**tribal fighting**

**Weapon use**

**41% shotgun injuries**



# **Conclusions**

## **Method for**

- **Retrospective audits are a very informative and fast**
- **Letters of support from NGOs and Government assists with funding**
- **Ethics approval via Minister of Health**

# Method

## **Quantifies:**

- **Demographics of firearm injuries**
- **Health burden of gunshot wounds**
- **Disruption to public hospital services due to conflict**

# Health consequences of

- **Gun violence is predominantly adult males shot by shotguns during tribal conflicts.**
- **Police responsible for as many shootings as criminals.**
- **Gunshot wound on average 24 days in hospital with 2 weeks in surgical ward.**
- **55,000 unattended outpatients and 10,400 untreated inpatients.**

# **Future work**

## **Design intervention to reduce gun violence in PNG:**

- Increased efforts to restrict gun imports**
- Increased efforts to decrease theft of guns from police/military**
- Gun buy-back schemes**
- Conflict resolution mechanisms (for inter-tribal disputes)**

**Contact me if want to be**

**[apwinnington@gmail.com](mailto:apwinnington@gmail.com)**

# Acknowledgements

**Dr Nick Wilson**

IPPNW NZ

**Dr Nolpi Tawang**

Mendi General Hospital

**James Robins**

National Research Institute

**Peace and Disarmament Education Trust**

**Centre for International Development**