The health consequences of tribal gun violence in Papua New Guinea

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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

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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
Ms Vavine Gabi
Coalition Stop Gun Violence PNG representative
Global People’s Consultation on Arms Trade Treaty
New York October 2007
University of Papua New Guinea
Medical Society of Papua New Guinea

University of Papua New Guinea

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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
Date: 21st March, 2007
File No: 1-2-3

Dr Thomas Webster
Director
National Research Institute
P.O. Box 2854
BOROKO
National Capital District

Dear Dr Webster,

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

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

Ethics approval
via Minister of Health support
Method

1. Identify a problem

2. IPPNW, NGO & Government support

3. Obtain funding and ethical approval

4. Data collection
Southern Highlands, PNG
Mendi
Southern Highlands Provincial Capital
Pop. 17,119 (Census 2000)
Accommodation - Sisters of St. Francis mission
MENDI GENERAL HOSPITAL
VISITING HOURS
MON TO FRI - Morning: 11:00 AM - 1:00 PM
Evening: 4:00 PM - 6:00 PM
SAT & SUN - 10:00 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
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
Outpatient Data

- Accidents and injuries as a proportion of total monthly attendance.

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

- Martial law: 8/06 – 8/07
- Tribal conflict: 12/01 – 9/02
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

Tribal conflict
12/01 – 9/02

Martial law
8/06 – 8/07
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

- Tribal conflict 12/01 – 9/02
- Martial law 8/06 – 8/07
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

Male 61%
Female 39%
Nature of injury admissions to Mendi Hospital 2000-2007

- **Burn**
- **Cut/pierce**
- **Fracture**
- **Gunshot wound**

Bar chart showing the total number of cases for each category.
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

- assault (7.6%)
- accident (6.2%)
- self harm (0.04%)
- animal bite (0.6%)
- undetermined (85.4%)
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
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
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

- inter-tribal fighting (45.7%)
- within-tribe fighting (19.6%)
- police (6.5%)
- rascals (6.5%)
- domestic (17.4%)
- election-related (2.2%)
- prison wardens (2.2%)
Cause of gun injuries

- Inter-tribal fighting (15%)
- Intra-tribal male-male (3.7%)
- Police (3.7%)
- Rascals (2.4%)
- Unspecified (74.4%)
Treatment duration (days in hospital)

Average duration of treatment (days)

Cause of injury
- firearm
- arrow
- spear
- machete
- knife
- axe

Average duration of treatment (days):
- Surgical ward
- 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
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