

# BURNS AND ITS PREVENTION IN CAPE TOWN

Ashley van Niekerk  
Safety and Peace Promotion  
Research Unit  
28 February 2013



South African Medical Research Council

BUILDING A HEALTHY NATION THROUGH RESEARCH



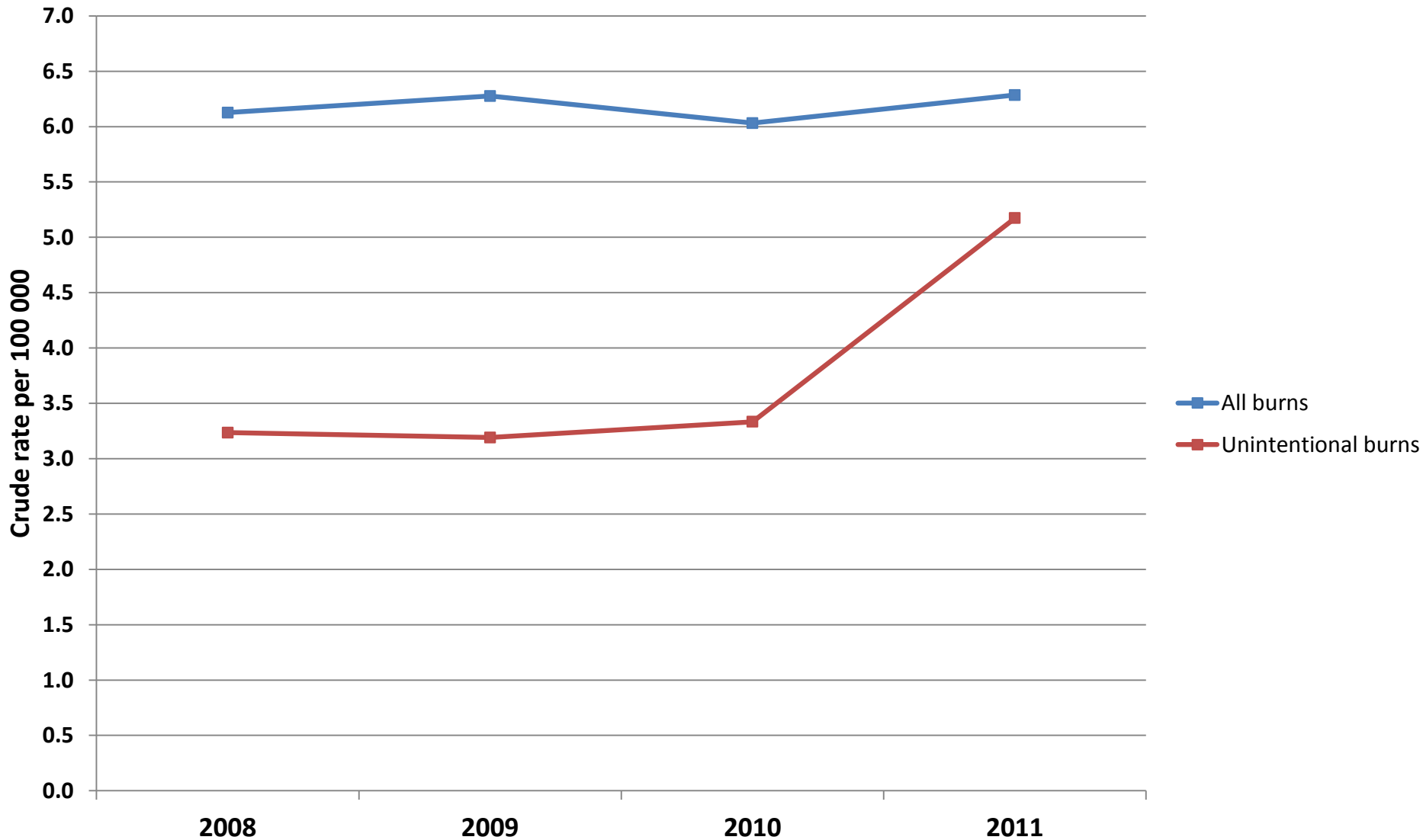
# Science of Burn Prevention

## Internationally and in South Africa

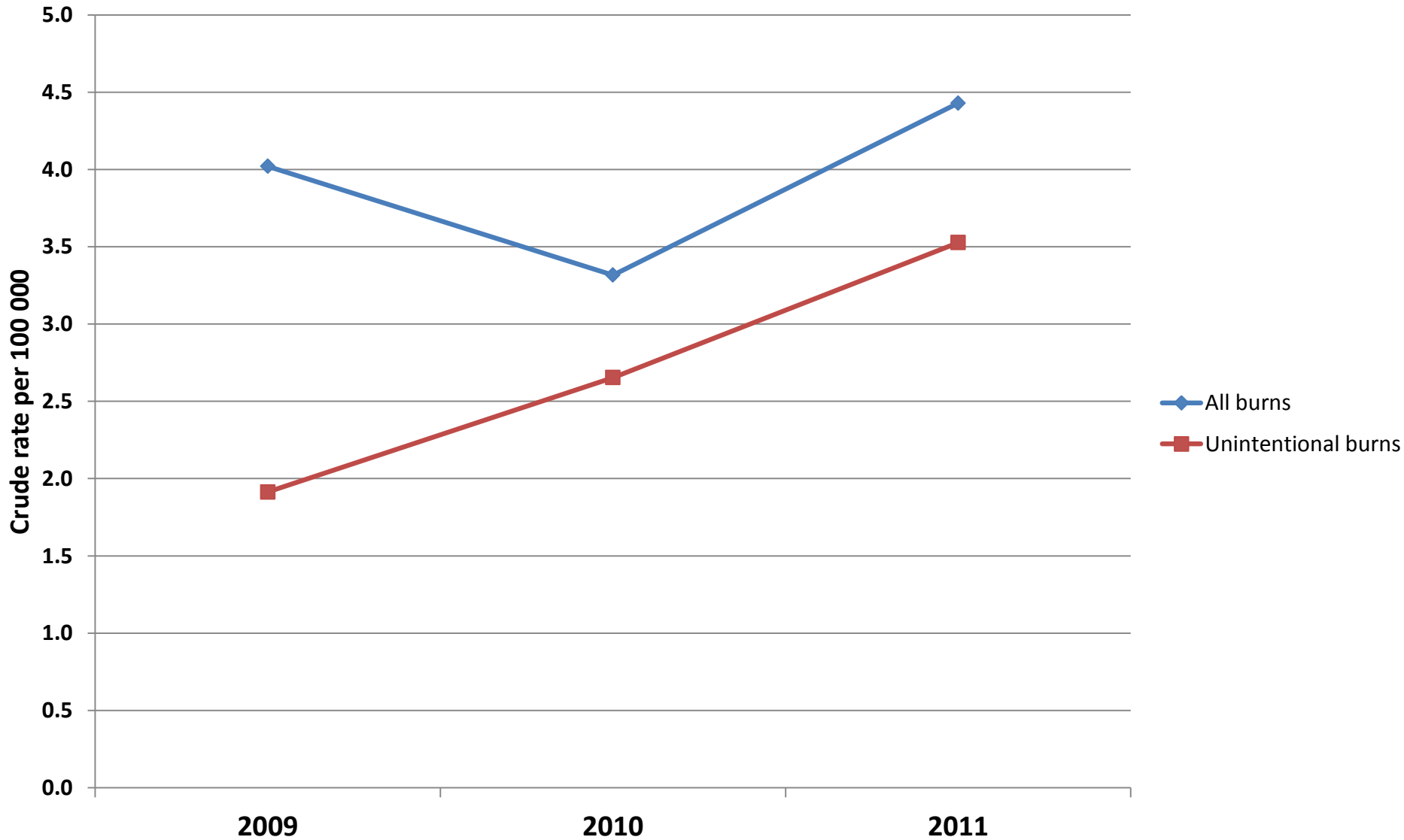
- Overwhelming evidence that burns are environmentally conditioned and preventable.
- Prevention focus on blend of environmental modifications, parental education, and product redesign and safety.
- More effective prevention programmes multi-pronged.
- Include active and passive measures, incorporate combinations of product modification, enforcement and educational strategy types, and target specific risk factors or patterns.
- Small number of evaluations.
- Limited burn prevention research in South Africa.



# Gauteng Burn Fatalities



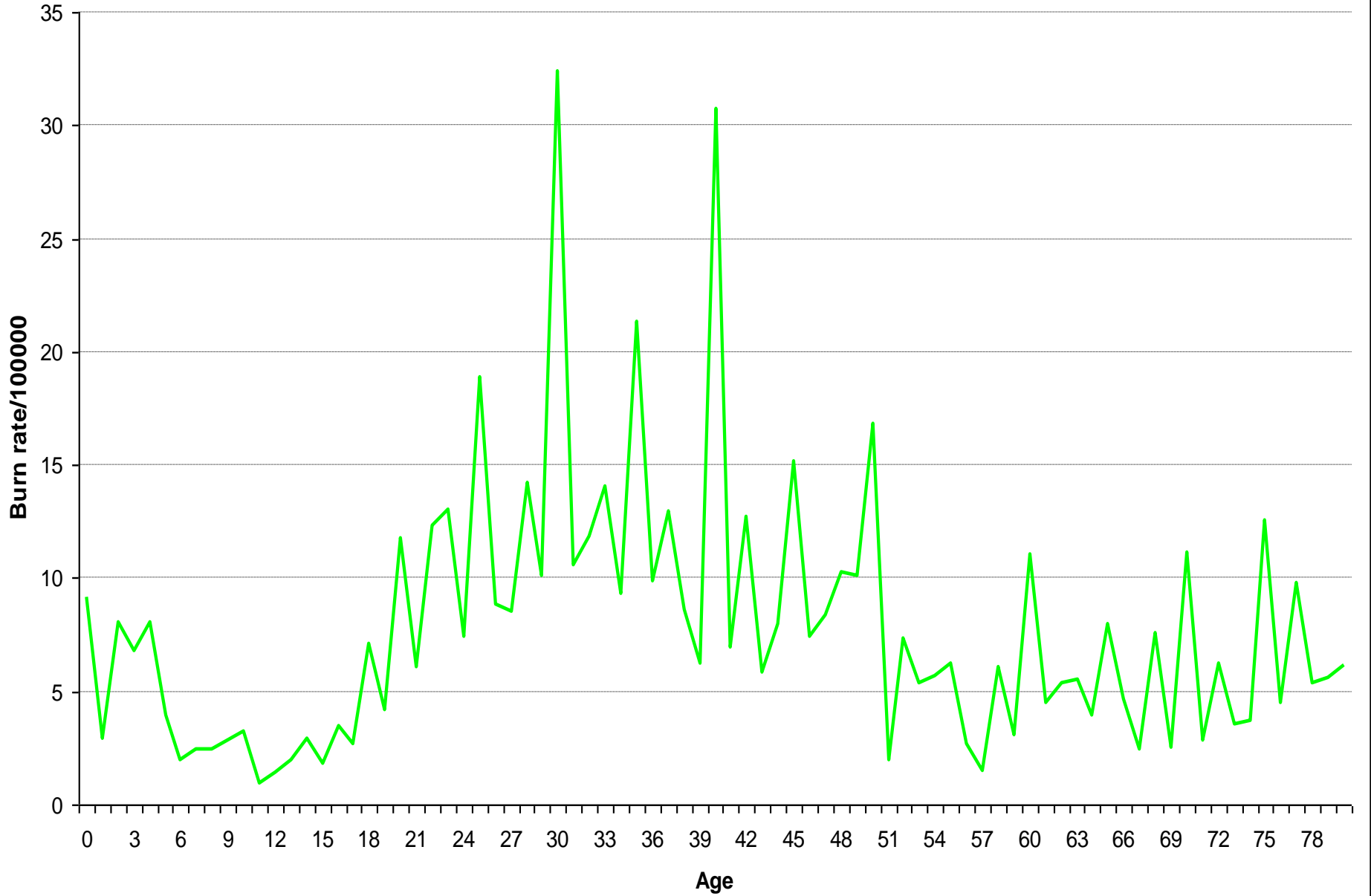
# Mpumalanga Burn Fatalities



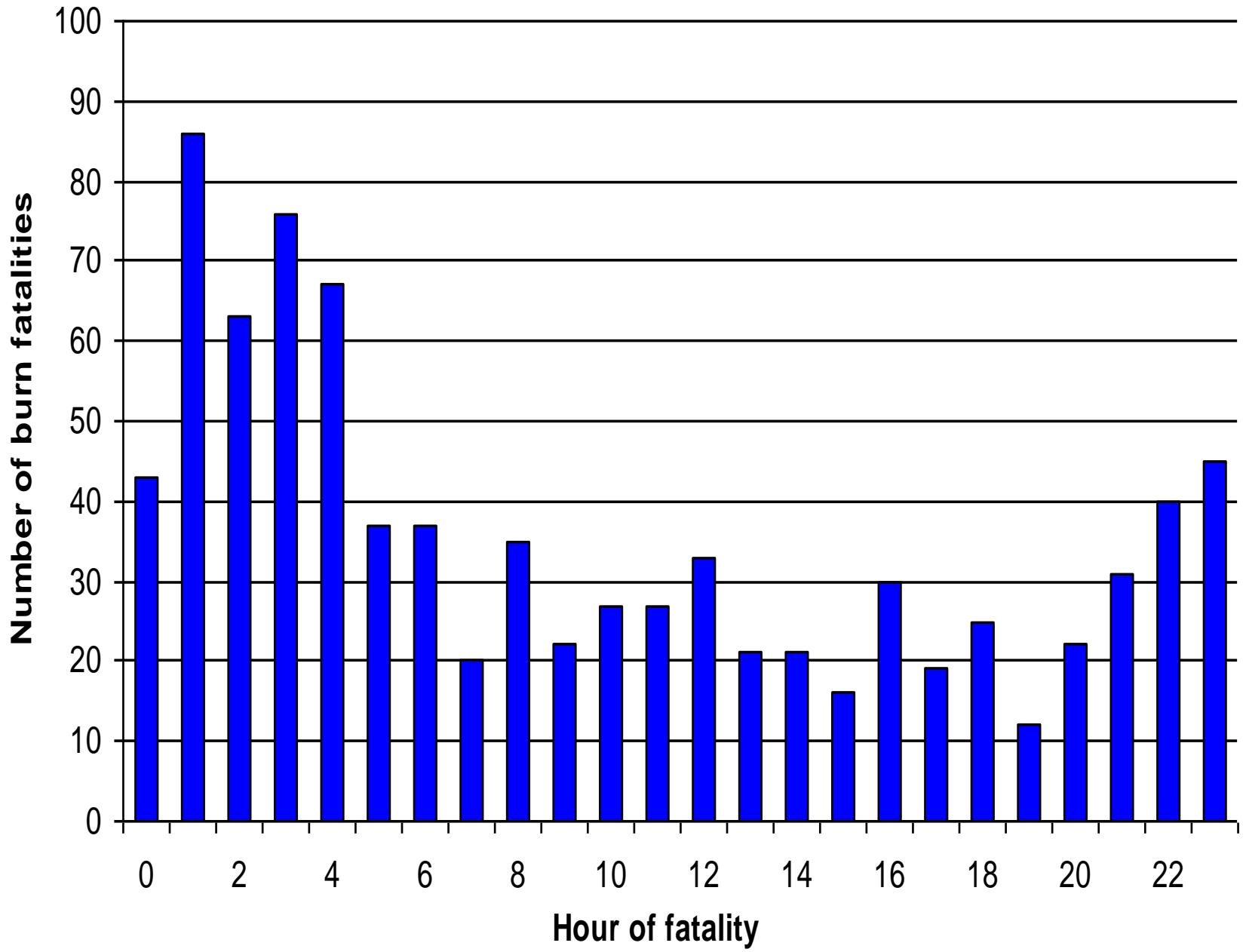
# Cape Town

- Alderman JP Smith at the Winter Wise Safety Awareness Campaign in Atlantis:
- City of Cape Town mortality rate has reduced: 7.9% per 100 000 in 2009, to 4.3% in 2010.
- “A steady decrease in the number of informal dwelling units that were destroyed as a result of fires in informal settlements – from 8 864 destroyed in 2005 to 3 009 in 2010”.
- “The number of fatalities due to fires in informal structures, however, remains unchanged and is cause for concern,” said Alderman Smith.

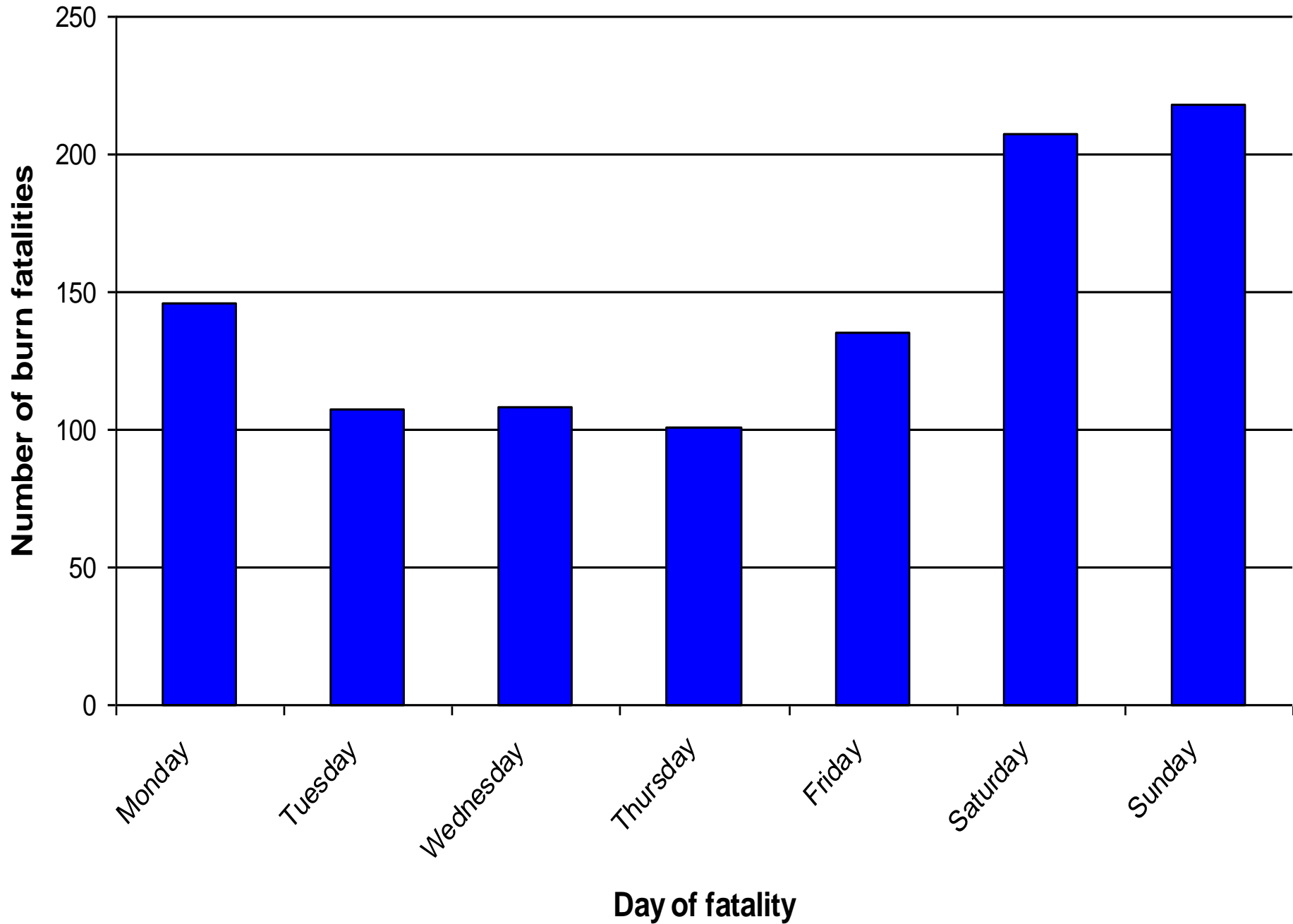




Age group (years)	Burn Rate	Male Rate	Female Rate	Population group		
				Black	Coloured	White & Asian
<b>Children</b>						
<b>0-2</b>	5.9	6.7	5.1	7.7	4.2	-
<b>3-6</b>	4.7	4.8	4.6	5.3	4.1	-
<b>7-12</b>	2.2	3.0	1.5	2.9	1.6	-
<b>13-15</b>	2.2	3.4	0.9	2.5	1.9	-
<b>Total</b>	3.6	4.3	2.9	4.4	2.8	-
<b>All Ages</b>						
<b>0-15</b>	3.6	4.3	2.9	4.4	2.8	
<b>16-24</b>	7.4	9.6	5.2	9.8	4.7	0.3
<b>25-38</b>	12.8	19.0	6.6	17.6	7.3	0.9
<b>39-50</b>	10.9	15.5	6.3	11.2	9.5	1.1
<b>51+</b>	5.2	6.4	4.1	3.8	5.4	1.6
<b>Total</b>	7.9	10.9	4.9	9.6	5.6	0.9







# Circumstances of Burn Mortality

- Most cases reported in the early hours of the morning or during the late evening hours
- Beginning of the working week and over the weekends
- In November and December, coinciding with the end-of year vacation period; July and August, the Cape Town winter (and a vacation period for schools); and in March, also a vacation period
- In spring (2.4/100 000 p-y) and winter (2.3/100 000 p-y); cold temperatures and high winds
- Alcohol intoxication for majority adults with alcohol blood levels tested (52.6% of cases aged 16+ years)

# Shifting Focus to Adult Males

- In contrast to other studies and regions showing preponderance of burns during childhood (in LMICs and certain HICs) or amongst elderly populations (in HICs) as well as concentration of flame deaths amongst adult females in South-East Asia/India region and parts of the Mediterranean
- Deaths occur in early hours of the morning or during the late evening hours; intoxicated drinkers least easy to mobilise in terms of rapidly spreading house fires
- Use of high risk heating equipment, such as kerosene or open flame heaters result in more rapid and devastating conflagrations
- Greater exposure for males observed for Cape Town exacerbated by
  - Detrimental living conditions (which adult males share with other segments of the population)
  - Life style (where alcohol and smoking is common) and
  - Poor socioeconomic status (reflected in a population group bias)
- More needs to be known about the living conditions and arrangements of men in this age range.

# Shifting Focus...

- Increase in migration to the city in the 1990s, considerable numbers of single migrant workers entering South African cities, many live in single male households.
- Single males prone to risky drinking, particularly over weekends and during vacations; in this study at mid-year and at the end of year
- Limited injury control initiatives that target this population
- Few specialised burns units, a lack of trained personnel, persisting difficulties with emergency response teams accessing more marginalised parts of cities



Towards a Coordinated Provincial  
Fire Safe Action Plan:  
Lessons from the Integrated  
Strategic Framework for Injury  
and Violence Prevention in South  
Africa

# STRATEGIC FRAMEWORK FOR THE PREVENTION OF INJURY IN SOUTH AFRICA

## VISION

A safe and peaceful South Africa, conducive to physical, mental and social well-being

## PURPOSE

To promote injury prevention and safety through focused actions that reduce injuries by targeting:

1. Priority cross-cutting risk factors
2. Risks specific to the different injury priorities
3. Supportive institutional and organisational environments

## KEY ACTION AREAS

(1)  
Reduce injuries by targeting priority cross cutting risk factors

(2)  
Reduce risks specific to the different injury priorities

(3)  
Facilitate supportive institutional and organisational environments

### (1)

**PRIORITY CROSS CUTTING RISK FACTORS**

#### Objective 1

Promote selected poverty alleviation measures targeting groups at risk for injuries

#### Objective 2

Promote selected health, road and residential infrastructure and services to reduce the risks for injuries and contain injury severity

#### Objective 3

Facilitate equitable gender relationships and norms

#### Objective 4

Reduce alcohol and drug abuse

### (2)

**RISKS SPECIFIC TO THE DIFFERENT INJURY PRIORITIES**

#### Objective 5

Facilitate comprehensive measures to prevent violence-related injuries and contain associated severity

#### Objective 6

Facilitate comprehensive measures to reduce road traffic-related injuries and associated severity

#### Objective 7

Facilitate comprehensive measures to reduce suicide-related injuries and associated severity

#### Objective 8

Facilitate comprehensive measures to prevent and reduce the severity of injuries arising from falls, burns, poisonings and water related incidents

### (3)

**SUPPORTIVE INSTITUTIONAL AND ORGANISATIONAL ENVIRONMENTS**

#### Objective 9

Promote effective leadership across lead agencies

#### Objective 10

Promote intersectoral collaboration within government and with civil society

#### Objective 11

Facilitate the collection and use of empirical information for planning, implementation and evaluation

#### Objective 12

Promote effective and equitable resource allocation and utilisation for the implementation of evidence-led interventions

# Objective 8: Facilitate comprehensive measures to prevent and reduce the severity of injuries arising from falls, burns, poisonings and water related incidents

Burns					
Extent	Key Upstream Factors	Downstream Factors	SA Strategies	Gaps	Recommended Service Delivery Priorities
<ul style="list-style-type: none"> <li>• 4000 deaths</li> <li>• 1300 children</li> </ul>	<ul style="list-style-type: none"> <li>• Low socio-economic status</li> <li>• House layout and materials</li> </ul>	<ul style="list-style-type: none"> <li>• Use of paraffin home equipment</li> <li>• Alcohol</li> <li>• Inadequate child supervision</li> </ul>	<ul style="list-style-type: none"> <li>• Paraffin stove legislation</li> <li>• Banning of fireworks</li> <li>• Electrification</li> </ul>	<ul style="list-style-type: none"> <li>• Safe specifications for Housing Policy</li> <li>• Hot water cylinder specifications</li> <li>• Child garment policy</li> <li>• M&amp;E of current interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Paraffin stove distribution/enforcement</li> <li>• Safe Housing Policy</li> <li>• Child clothing standards</li> <li>• M&amp;E of existing initiatives</li> </ul>

# Objective 1: Promote selected poverty alleviation measures targeting groups at risk for injuries

Extent and evidence of contribution to injury	Co-occurring Factors	SA Strategies	Key Recommendations	Recommended Service Delivery Priorities
<ul style="list-style-type: none"> <li>• 25,7% of population unemployed</li> <li>• Richest 10% earn 40 times more than poorest 50%</li> <li>• 22% below the R283/month poverty line</li> <li>• Highest burns, traffic and violent injuries in poor settings</li> </ul>	<ul style="list-style-type: none"> <li>• Underdeveloped infrastructure</li> <li>• Poor housing conditions, overcrowding</li> <li>• Unemployment</li> </ul>	<ul style="list-style-type: none"> <li>• Expanded Public Works Programme</li> <li>• Men at the Side of the Road Initiative</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritise targeted job creation, target those most vulnerable to injury</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce targeted skills development and employment strategy for priority unemployed groups</li> <li>• Sustainable work opportunities and assistance to vulnerable households, e.g. unemployed single parent households</li> </ul>



## Objective 2: Promote selected health, road and residential infrastructure and services to reduce the risks for injuries and contain injury severity

Extent and evidence of contribution to injury	Co-occurring Factors	SA Strategies	Gaps	Recommended Service Delivery Priorities
<ul style="list-style-type: none"> <li>Communities with the most impoverished housing, roads and community structures suffer most injuries</li> <li>Trauma care, with few exceptions, poorly planned, coordinated and resourced</li> <li>Indications of significant 'preventable' mortality</li> </ul>	<ul style="list-style-type: none"> <li>Uneven distribution of resources and skills</li> <li>Low rates of public medical practitioner and hospital beds in highest injury areas</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen sub-district health management teams capacity for service delivery</li> </ul>	<ul style="list-style-type: none"> <li>Increase resources, infrastructure and services that promote safety</li> <li>Enhance clinical and referral protocols</li> <li>Monitor and evaluate impact of interventions</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing prioritisation of affordable electrification in high injury areas</li> <li>Dedicated pathways for most vulnerable road-users</li> <li>Improve EMS access to high injury areas</li> </ul>

# Objective 4: Reduce alcohol and drug abuse

Extent and evidence of contribution to injury	Co-occurring Factors	SA Strategies	Gaps	Recommended Service Delivery Priorities
<ul style="list-style-type: none"> <li>• 2010/2011: increase of 10.2% in drug related crime</li> <li>• 2010/2011: increase of 4.5% in driving under influence of alcohol or drugs</li> <li>• Strong correlation with injury</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty</li> <li>• Unemployment</li> <li>• Widespread trauma: 75% of South Africans experience at least one traumatic event in lifetime</li> </ul>	<ul style="list-style-type: none"> <li>• Prevention of and Treatment for Substance Abuse Act</li> <li>• Strategic Framework on Crime and Drugs for Southern Africa, 2003</li> <li>• National Drug Master Plan, 1999</li> <li>• Road Traffic Safety Management Plan for 2015</li> <li>• Various Programmes, e.g. Arrive Alive</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen and enforce legislation and policy</li> <li>• Strengthen mental health and rehabilitation services</li> </ul>	<ul style="list-style-type: none"> <li>• Harmonise legislation and policy: Implement Second Biennial Substance Abuse Summit Resolutions, 2011 (DSD)</li> <li>• Strengthen community-based mental health and after care services, prioritise in high alcohol/drug use settings.</li> </ul>

20 December 2011, Alderman J.P. Smith, the City's Mayoral Committee Member for Safety and Security

“The City of Cape Town has reached the point where, in order to effectively combat the scourge of fires, other measures must be taken over and above investing in the Fire and Rescue Services.”

Thank You  
Questions and Discussion

Contact Details:  
[ashley.vanniekerk@mrc.ac.za](mailto:ashley.vanniekerk@mrc.ac.za)