Department of Paediatrics and Adolescent Medicine
Li Ka Shing Faculty of Medicine, The University of Hong Kong

HKU Releases Children Injury Research Report of 18 Districts in Hong Kong

Press Conference

April 26, 2017

LI KA SHING FACULTY OF MEDICINE
THE UNIVERSITY OF HONG KONG
香 港 大 學 李 嘉 誠 醫 學 院

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Speakers

Dr Patrick Ip
Clinical Associate Professor
Department of Paediatrics and Adolescent Medicine
Li Ka Shing Faculty of Medicine, HKU

Dr Chow Chun-bong
Honorary Clinical Professor
Department of Paediatrics and Adolescent Medicine
Li Ka Shing Faculty of Medicine, HKU

Mr Wilfred Wong Hing-sang
Honorary Tutor
Department of Paediatrics and Adolescent Medicine
Li Ka Shing Faculty of Medicine, HKU

PRESS CONFERENCE RUNDOWN

- Research objectives and overview
- Research results
  - Hong Kong children's injury situation
  - By district children's injury situation
  - Accidental injury: Fall
  - Intentional injury: Abuse
- Recommendations

RESEARCH OBJECTIVES

Investigate the **incidence and trends** of children seeking A&E services due to injury

Explore the **difference between districts** and in relations to socioeconomic indicators

Summarise and quantify injury pattern of 18 districts and distribute to District Councils for preventive measure implementation

Dig into **specific injury type** and its trend for the design of special preventive measures

RESEARCH OVERVIEW

- **Research Period:** 2001 – 2012 (12 years)
- **No. of research cases:** 742,552
- **Research subjects:** 0-19 children received Accident and Emergency (A&E) services under Hospital Authority (HA) due to injury

DATA COLLECTION METHOD

- There are 3 main datasets:

1. **Population data** (collect from Census Department)
2. **Social indicators** (collect from Census Department)
    i. Household size
    ii. Median household income
    iii. Tenure of accommodation
    iv. Labor force participation
3. **A&E attendance** (collect from Hospital Authority Patient Database – CDARS system)

CLINICAL DATA ANALYSIS & REPORTING SYSTEM (CDARS)

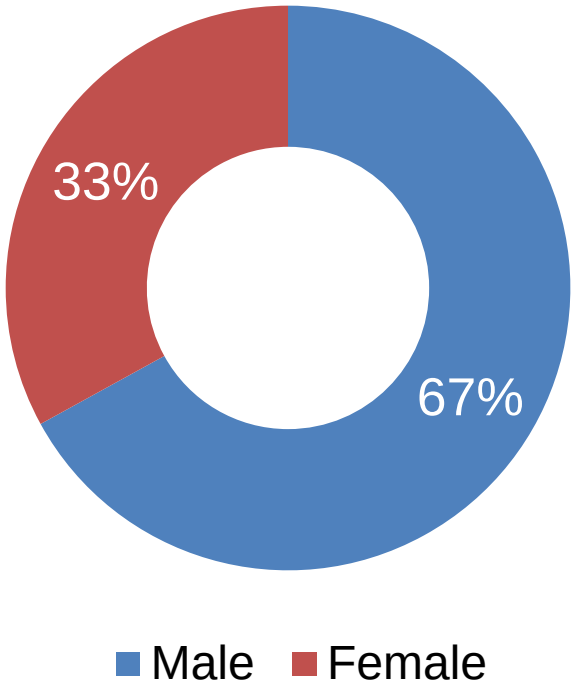
- A tool developed by Hospital Authority (HA) to help users retrieving clinical information captured by other HA IT systems
- A retrospective decision supportive system to support:
  - Clinical Auditing
  - Data analysis and reporting
  - Research
- The injury type, gender and age of the subject, living district and outcome had been retrieved from CDARS for analysis

HONG KONG & BY DISTRICT CHILD INJURY SITUATION

HK CHILD INJURY SITUATION 2001-2012

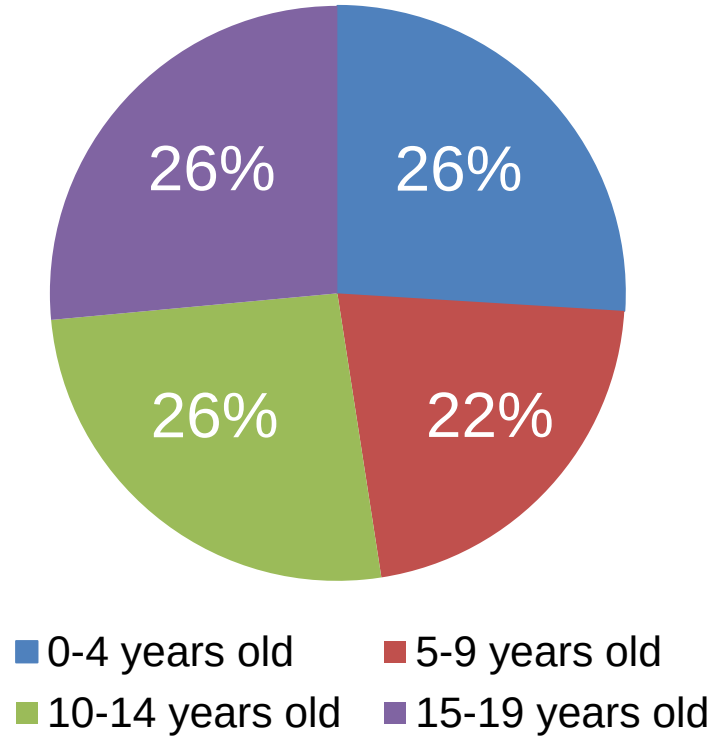
INJURY CASES AT A&E – SEX & AGE DISTRIBUTION

Sex



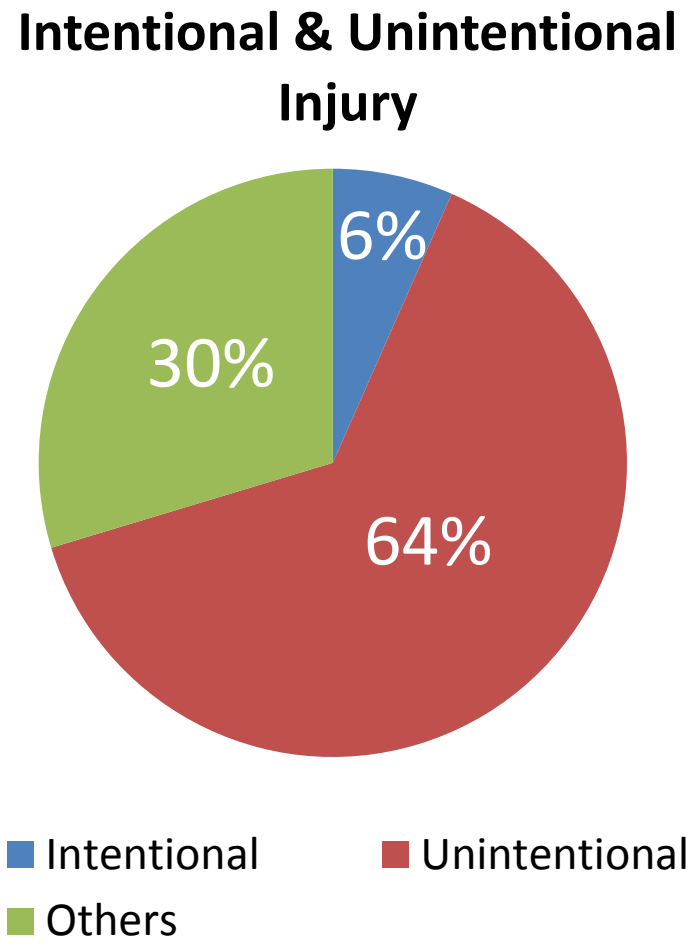
Male injury rate **doubled** that of female's.

Age



HK CHILD INJURY SITUATION 2001-2012

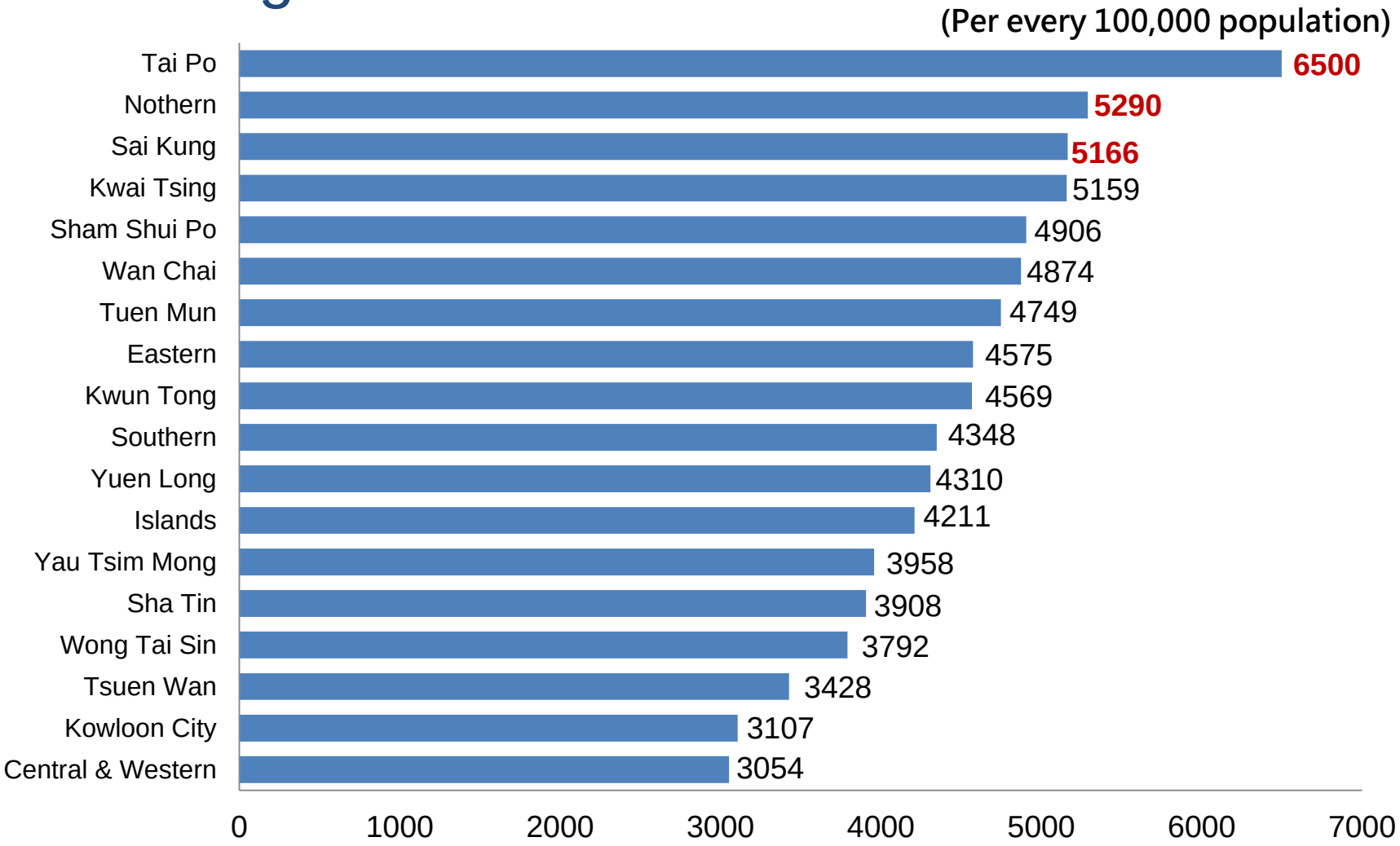
RANKING OF INTENTIONAL & UNINTENTIONAL INJURY



	Injury Type	Category
1.	Domestic	Unintentional
2.	Sports	Unintentional
3.	Common assault	Intentional
4.	Traffic accident	Unintentional
5.	Industrial	Unintentional
6.	Self-harm	Intentional
7.	Abuse	Intentional
8.	Indecent Assault	Intentional

HK CHILD INJURY SITUATION 2001-2012

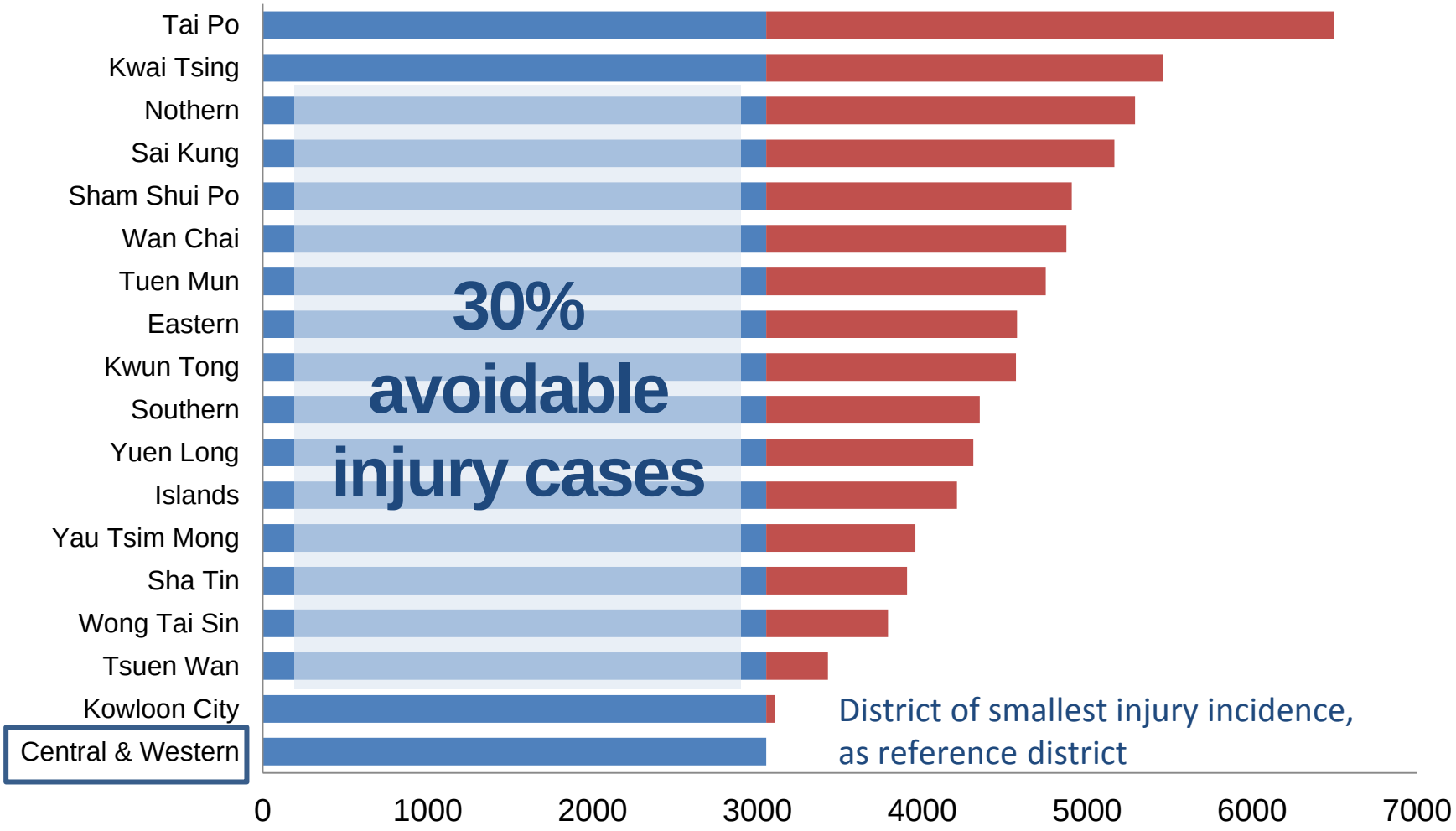
Highest injury incidence: Tai Po District, Kwai Tsing District & Northern District



HK CHILD INJURY SITUATION 2001-2012

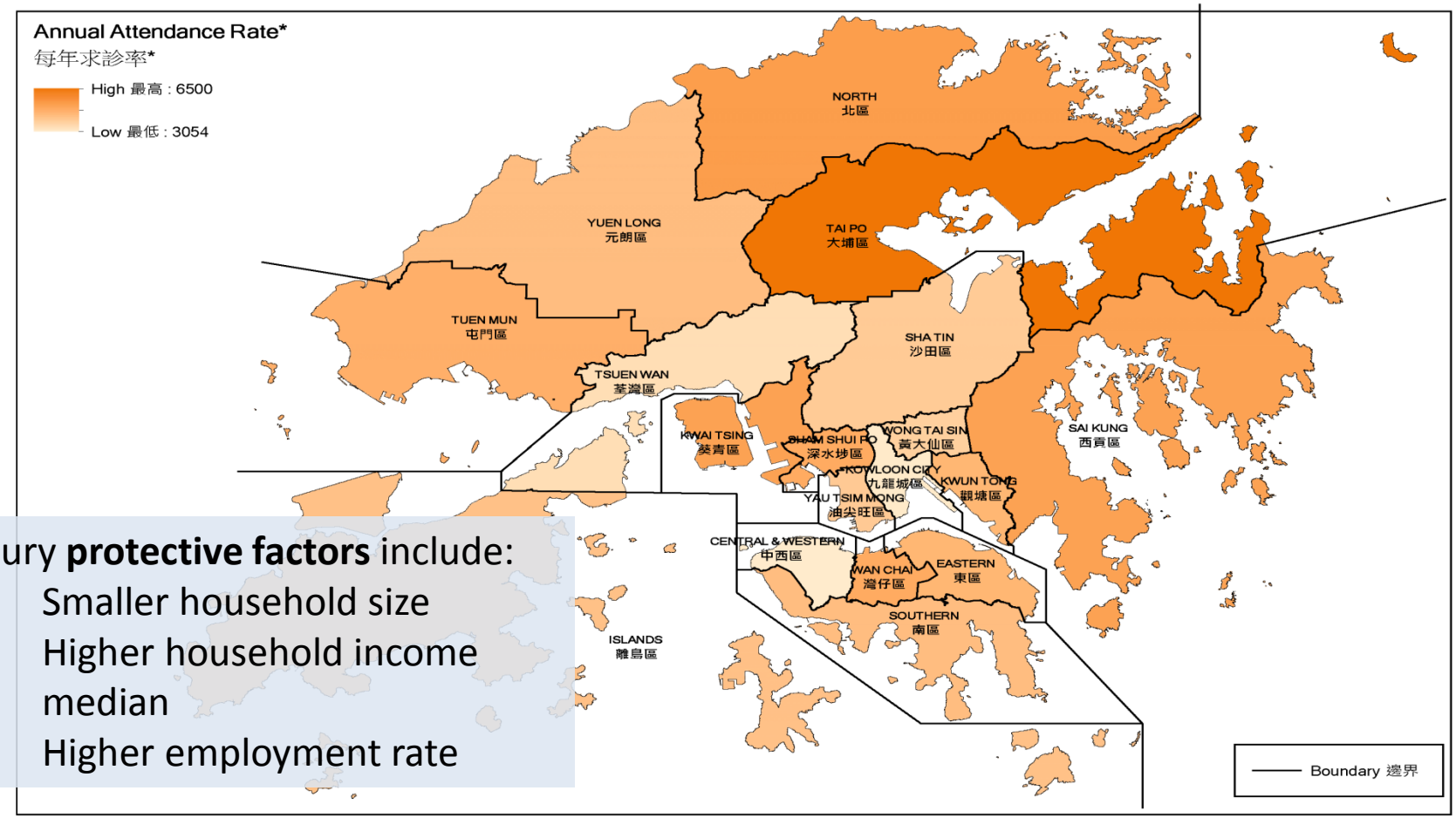
30% of injuries are avoidable, equivalent to HK$13.6M annually

Avoidable injury：The remainder if all districts reach minimal injury rate



BY DISTRICT CHILD INJURY SITUATION 2001-2012

High socioeconomic districts have lower risks of injury



Injury **protective factors** include:

1. Smaller household size
2. Higher household income median
3. Higher employment rate

Annual Injury AED Attendance Rates among Children 0-19 Years Old, by District, Hong Kong, 2001-2012
2001-2012年香港按區議會分區0-19歲兒童每年損到症室求診率
*Annual Injury AED Attendance Rate per 100,000 Population 每年每十萬人損傷急症室求診率

Data Source: CDARS, Hospital Authority
資料來源：醫院管理局臨床資料系統

BY DISTRICT CHILD INJURY SITUATION 2001-2012

ANNUAL CHILD INJURY RATE RANKING (FOR EVERY 100,000 POPULATION)

District \ Injury Type	All Injury	Common assault	Indecent assault	Abuse	Self-harm	Traffic accidents	Industrial accidents	Domestic accidents	Sport injury
Tai Po	1	1	10	14	3	1	1	3	1
Northern	2	2	13	11	9	2	4	8	5
Sai Kung	3	9	5	10	6	9	8	5	2
Kwai Tsing	4	4	9	3	15	8	2	2	3
Sham Shui Po	5	6	6	5	10	15	5	1	7
Wan Chai	6	15	11	8	17	5	16	6	4
Tuen Mun	7	5	4	2	13	4	3	16	11
Eastern	8	10	12	9	5	13	13	7	6
Kwun Tong	9	7	2	15	12	14	9	10	9
Southern	10	13	14	4	7	6	10	4	8
Yeun Long	11	3	3	1	14	3	6	17	13
Islands	12	12	8	6	11	17	11	9	10
Yau Tsim Mong	13	11	16	13	2	12	12	11	16
Sha Tin	14	14	17	18	1	7	14	18	14
Wong Tai Sin	15	8	1	7	4	10	7	14	12
Tsuen Wan	16	17	18	16	18	18	15	12	15
Kowloon City	17	16	7	12	8	11	17	15	18
Central & Western	18	18	15	17	16	16	18	13	17

BY DISTRICT CHILD INJURY SITUATION 2001-2012

TAI PO DISTRICT: INTENTIONAL INJURY RANKING & TREND

	Intentional Injury			
2001-2012	1	10	14	3
2001-2004	1	7	16	3
2005-2008	1	9	7	2
2009-2012	2	18	17	10
	Common assault	Indecent assault	Abuse	Self-harm

- **Injury of significant improvement:** Indecent assault, self-harm
- **Injury needing further improvement:** Common assault

BY DISTRICT CHILD INJURY SITUATION 2001-2012

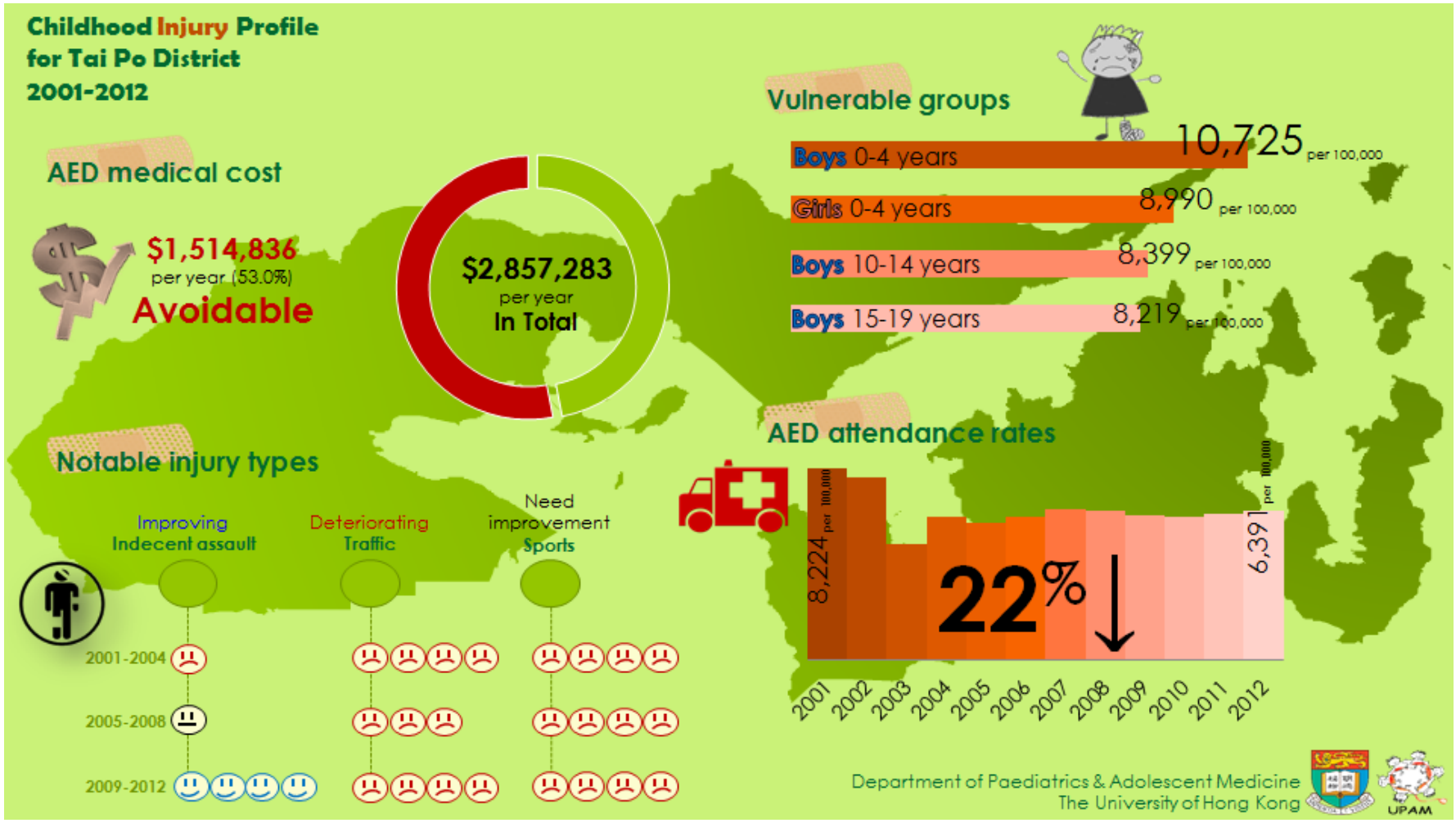
TAI PO DISTRICT: INTENTIONAL INJURY RANKING & TREND

	Unintentional injury			
	Traffic accident	Industrial accident	Domestic accident	Sport injury
2001-2012	1	1	3	1
2001-2004	2	1	3	1
2005-2008	4	1	4	1
2009-2012	1	2	5	1

- Unintentional injury situation is more serious than intentional ones in Tai Po
- **Improved injury:** Domestic & Industrial accident
- **Worsened injury:** Traffic accident

BY DISTRICT CHILD INJURY SITUATION 2001-2012

Child injury pattern by district, for District Councils to follow-up and facilitate understanding of children and the public

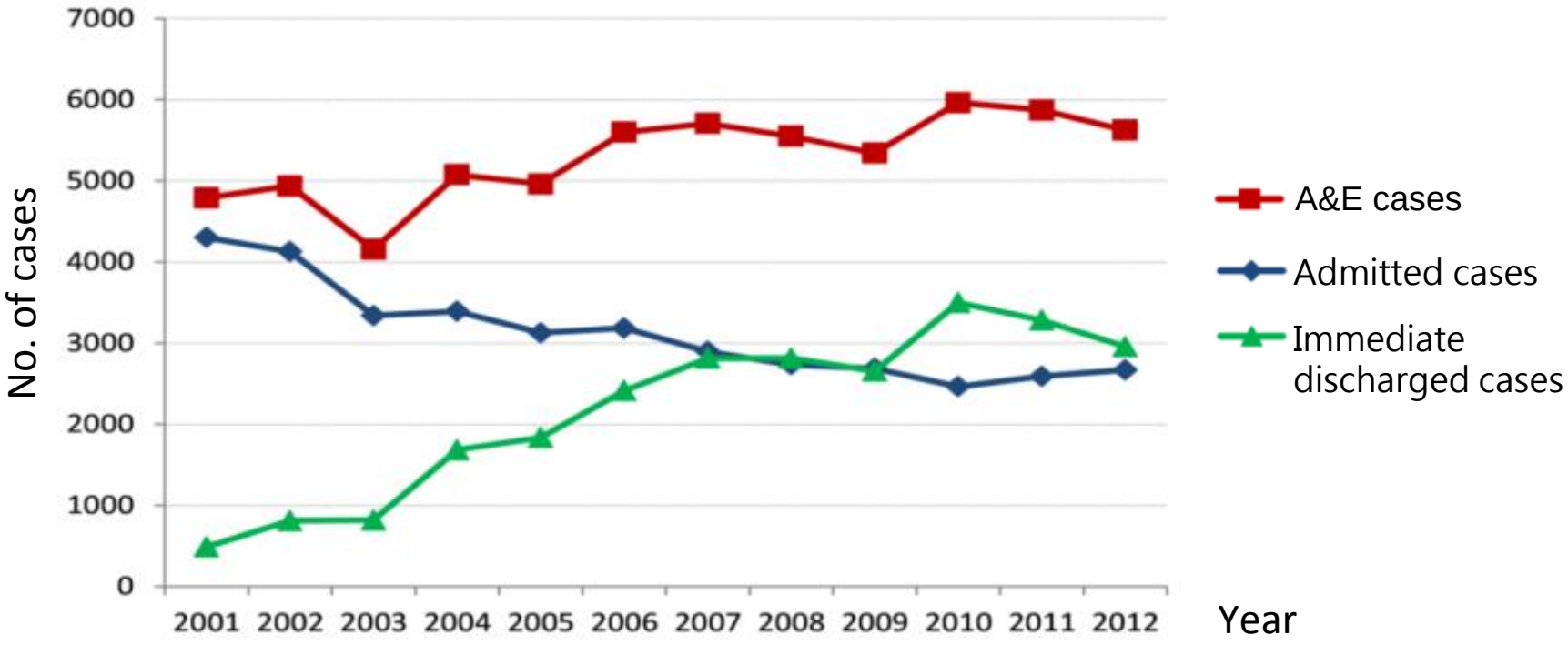


SPECIFIC INJURY TYPES:
FALL (UNINTENTIONAL INJURY)
ABUSE (INTENTIONAL INJURY)

FALL (UNINTENTIONAL INJURY)

Children's fall cases have an increasing trend

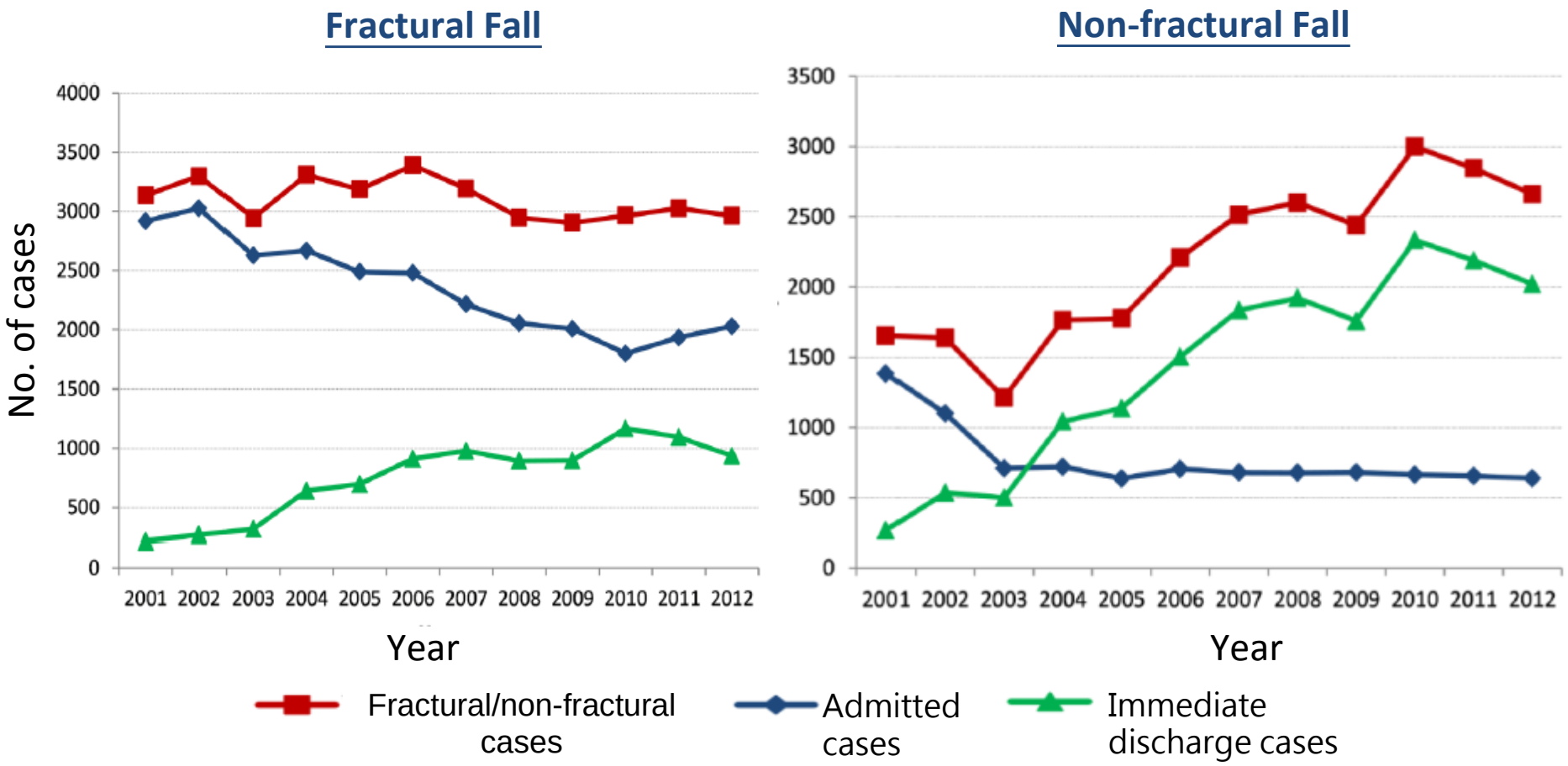
- On average, there are around **5,300 annual cases** using A&E services due to fall
- The increasing trend may due to parents and caregivers are more aware of injury situations and willing to seek medical assistance.



FALL (UNINTENTIONAL INJURY)

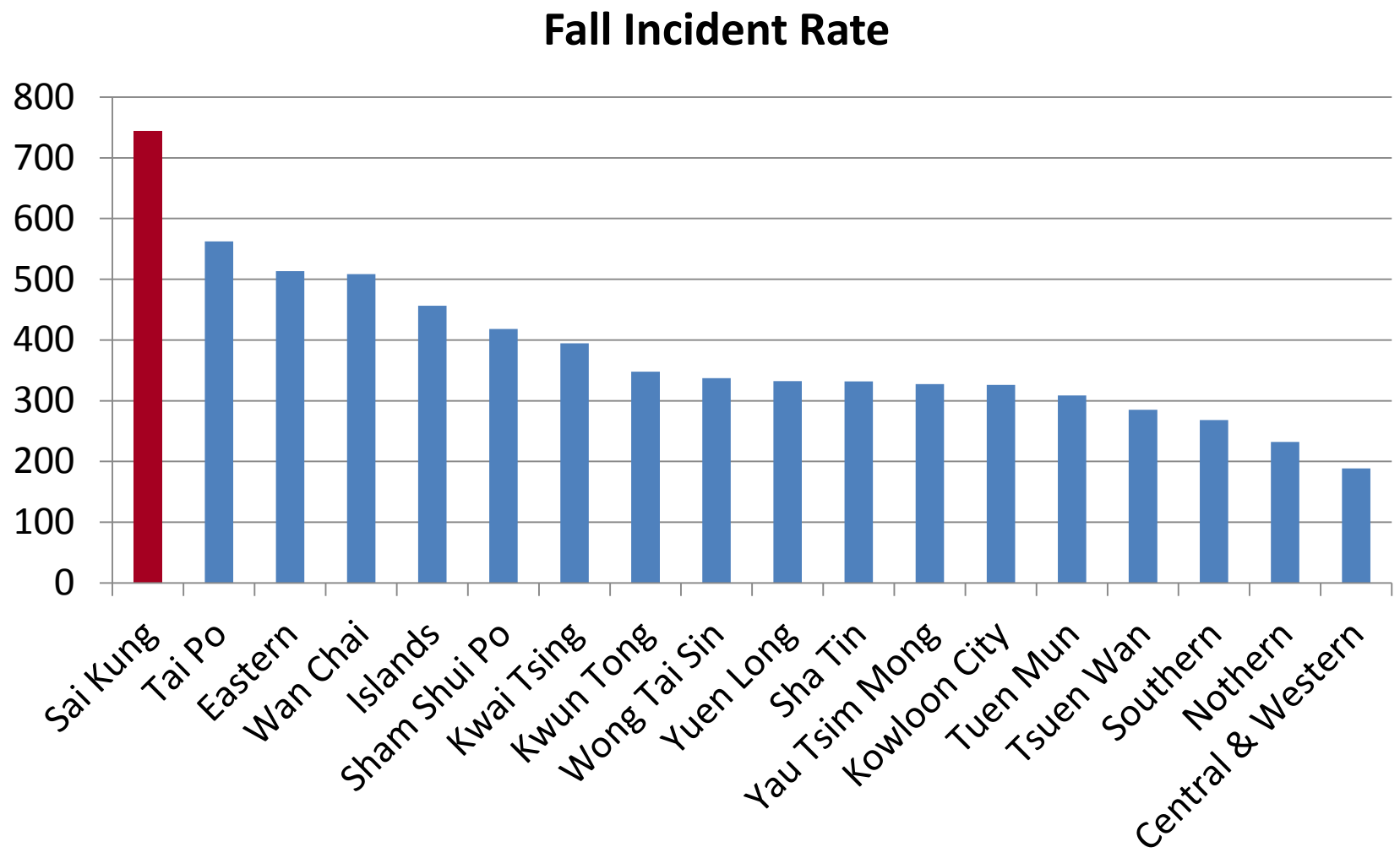
Increase of children's fall cases are contributed from non-fractural falls

- Both fractural and non-fractural falls increased



FALL (UNINTENTIONAL INJURY)

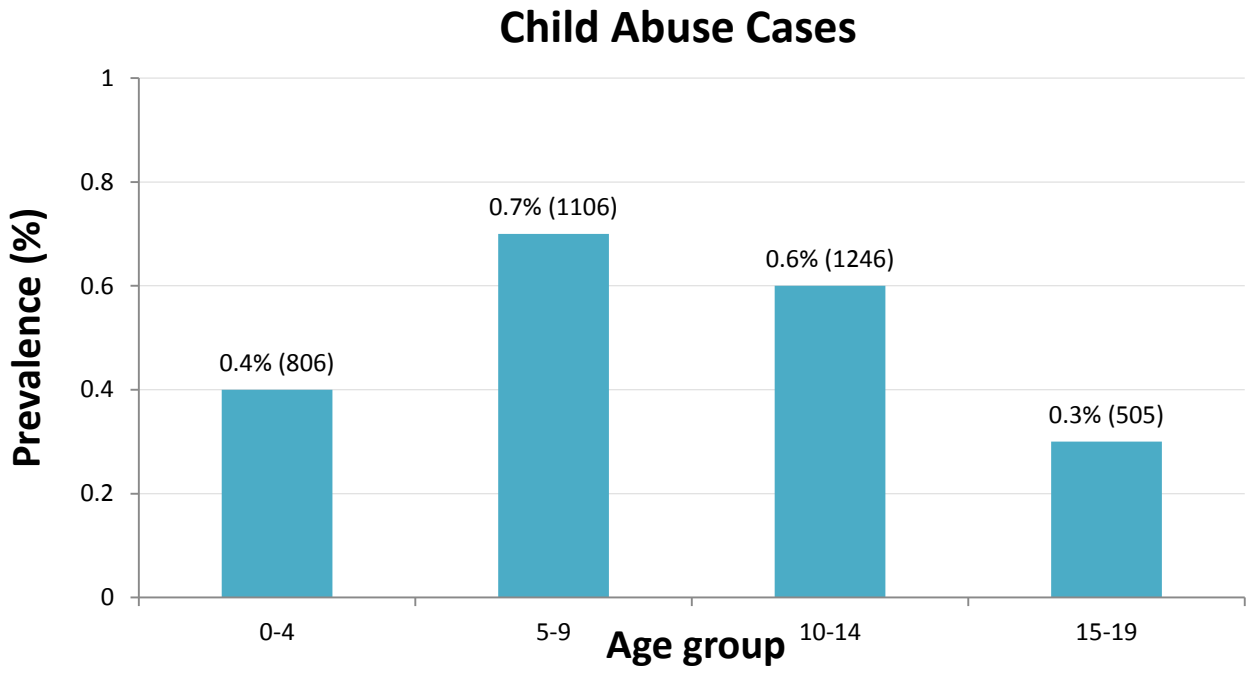
Sai Kung District exhibits the highest fall incidence rate



ABUSE (INTENTIONAL INJURY)

5-9 years olds are at risk group

- There are around 3,700 abuse cases attended A&E departments annually, representing 0.5% of overall injury cases
- 10-14 years old group has the highest number of cases. But 5-9 years old is the at risk group according to the prevalence rate

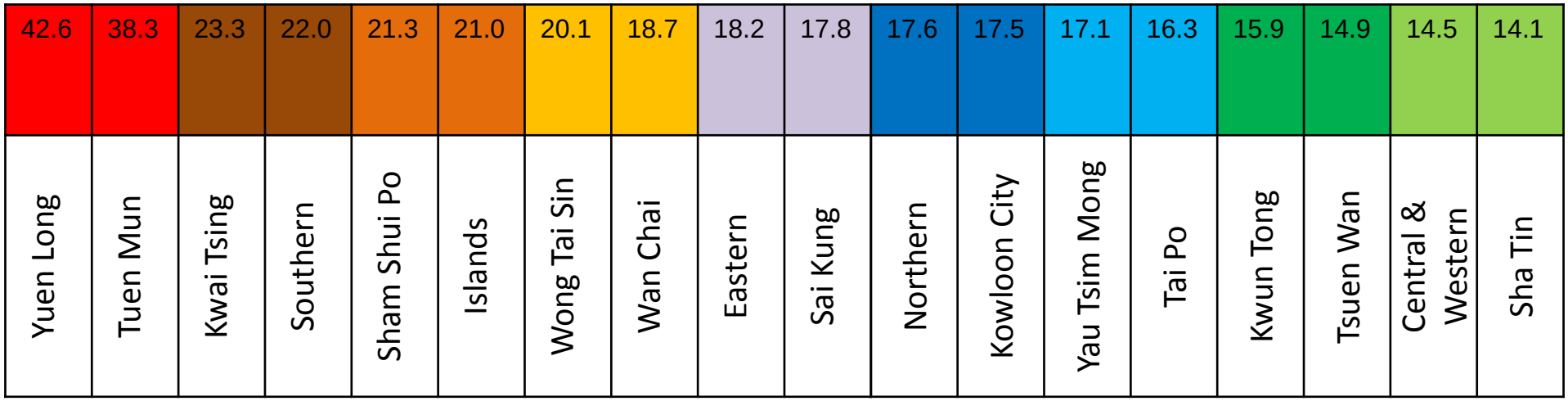


ABUSE (INTENTIONAL INJURY)

Yuen Long District has the highest attendance rate due to abuse

- Yuen Long District (42.6) reported double cases compared to Sham Shui Po (5th, 21.3) and 4-fold that of Sha Tin (14.1), which has the least abuse attendance rate.

(Per 100,000 population)



Abuse cases A&E attendance ranking by district

RECOMMENDATION ON CHILD INJURY SITUATION

RECOMMENDATION ON CHILD INJURY SITUATION

Establish **injury surveillance** to effectively monitor injury situation for effective resource allocation.

District Councils should review child injury situation in respective districts to support interventions on reducing child injury

Set up **multidisciplinary committee**, including medical professionals, social workers, educators , police, engineers, etc, for holistic advice for injury cases and situations

RECOMMENDATION ON CHILD INJURY SITUATION

Improve injury-related database by connecting with other official databases, including traffic statistics of the Hong Kong Police Force & Transportation Department, child abuse data from Social Welfare Department and occupational injury database of Labour Department.

Open the Hospital Authority's database for easier and more effective access by researchers so as to provide ground research for policies.

Establish child central database in a long run to consolidate child-related information for resource planning and usage on child-related issues.

CONCLUSION

CONCLUSION

- Injury is the **major cause** of child mortality and morbidity
- Injury is **costly**
- **30-50%** of injury cases are **preventable**
- Marked **geographical difference in injury patterns** exists between districts
- Local injury data should be used in designing effective **intervention at local and district level**

Q & A

APPENDIX

INJURY PATTERN BY DISTRICT

- Central & Western
- Eastern
- Islands
- Kowloon City
- Kwai Tsing
- Kwun Tong
- Northern
- Sai Kung
- Sha Tin
- Sham Shui Po
- Southern
- Tai Po
- Tsuen Wan
- Tuen Mun
- Wan Chai
- Wong Tai Sin
- Yau Tsim Mong
- Yuen Long

Childhood Injury Profile for Central and Western District 2001-2012

BACK

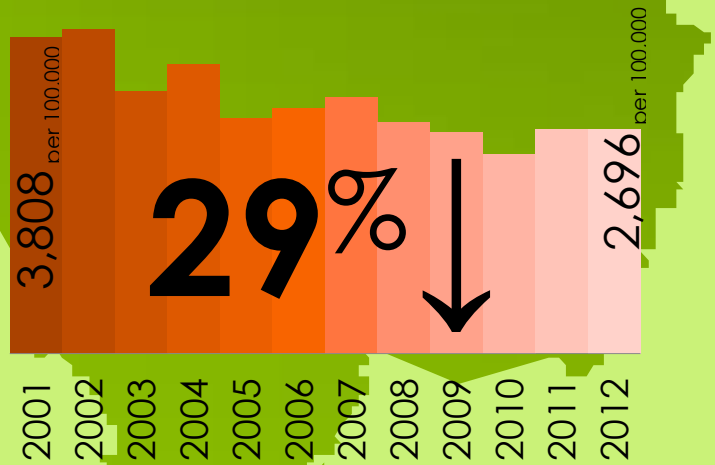
A&E medical cost

$948,733
per year
In Total

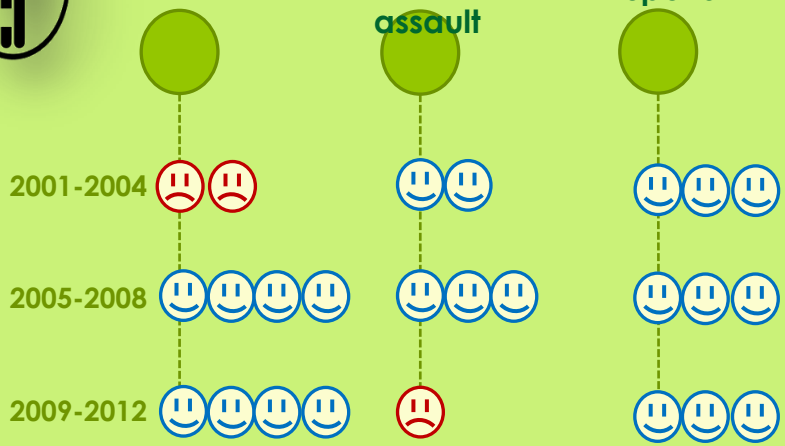
Vulnerable groups

- **Boys** 0-4 years — 4,257 per 100,000
- **Boys** 5-9 years — 4,187 per 100,000
- **Boys** 15-19 years — 3,549 per 100,000
- **Girls** 0-4 years — 3,529 per 100,000

A&E attendance rates



Notable injury types



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Childhood Injury Profile for Eastern District 2001-2012

BACK

A&E medical cost

$1,137,071
per year (33.2%)
Avoidable

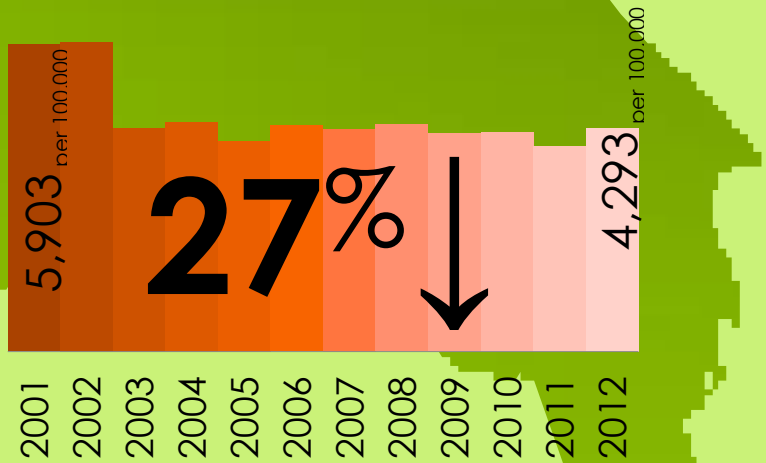
Vulnerable groups

- **Boys** 0-4 years — 7,242 per 100,000
- **Boys** 10-14 years — 5,986 per 100,000
- **Boys** 15-19 years — 5,485 per 100,000
- **Boys** 5-9 years — 5,436 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Self-harm	Domestic	Sports
2001-2004	😟😟😟	😐	😟
2005-2008	🙂🙂	☹️☹️	☹️☹️☹️
2009-2012	🙂🙂🙂	☹️☹️☹️	☹️

A&E attendance rates



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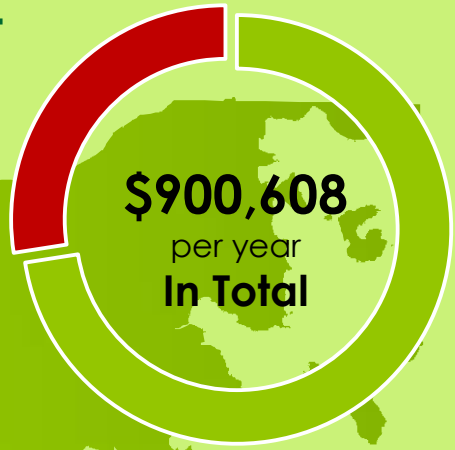
Childhood Injury Profile for Islands District 2001-2012

BACK

A&E medical cost

$247,460
per year (27.5%)
Avoidable

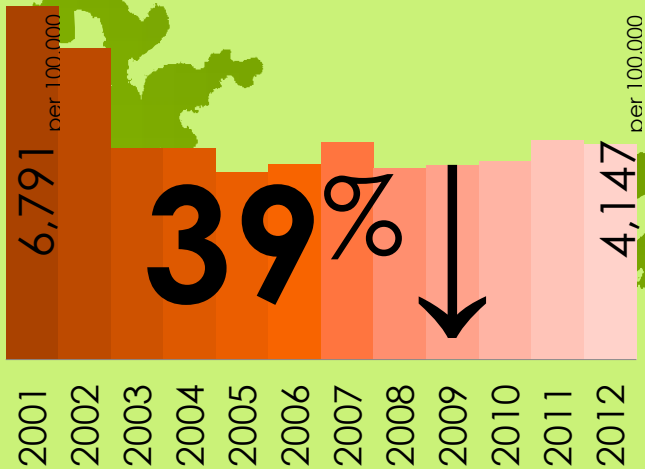


Vulnerable groups

- **Boys** 0-4 years — 6,324 per 100,000
- **Boys** 10-14 years — 5,540 per 100,000
- **Boys** 5-9 years — 5,404 per 100,000
- **Boys** 15-19 years — 5,194 per 100,000

Notable injury types

A&E attendance rates



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Childhood Injury Profile for Kowloon City District 2001-2012

BACK

A&E medical cost

$24,898
per year (1.7%)
Avoidable

$1,452,675
per year
In Total

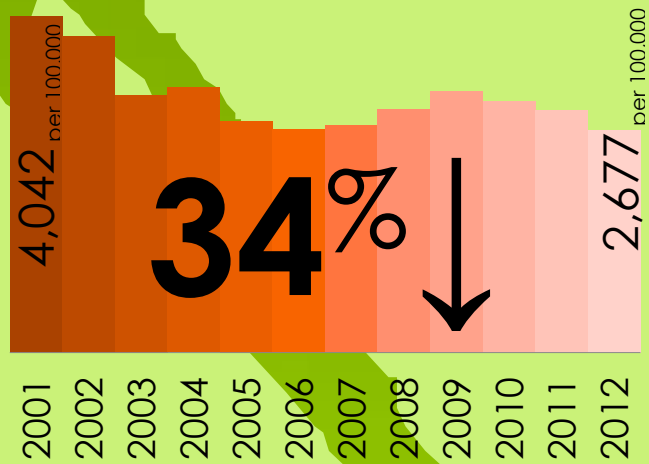
Vulnerable groups

Boys 0-4 years	5,206 per 100,000
Girls 0-4 years	3,991 per 100,000
Boys 10-14 years	3,918 per 100,000
Boys 5-9 years	3,897 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Traffic	Indecent assault	Self-harm
2001-2004	😐	☹	😐
2005-2008	😐	😐	😐
2009-2012	😐😐	☹☹☹☹	☹

A&E attendance rates



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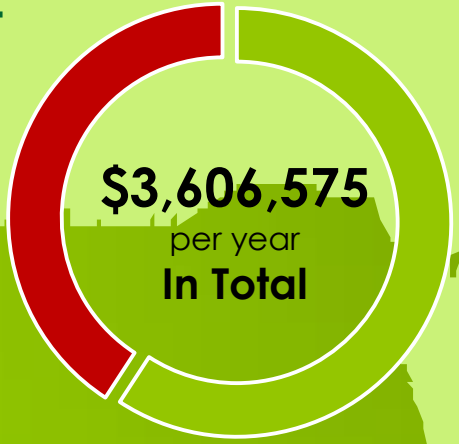
Childhood Injury Profile for Kwai Tsing District 2001-2012

BACK

A&E medical cost

$1,471,475
per year (40.8%)
Avoidable

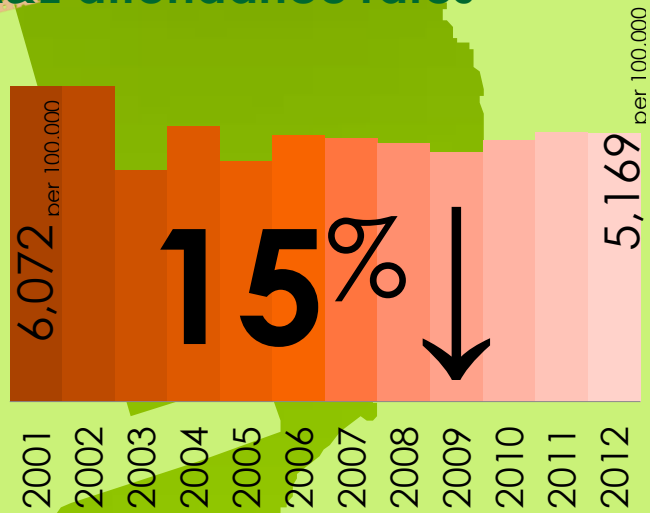


Vulnerable groups

- **Boys** 0-4 years — 9,238 per 100,000
- **Girls** 0-4 years — 7,164 per 100,000
- **Boys** 10-14 years — 6,438 per 100,000
- **Boys** 5-9 years — 6,221 per 100,000

Notable injury types

A&E attendance rates



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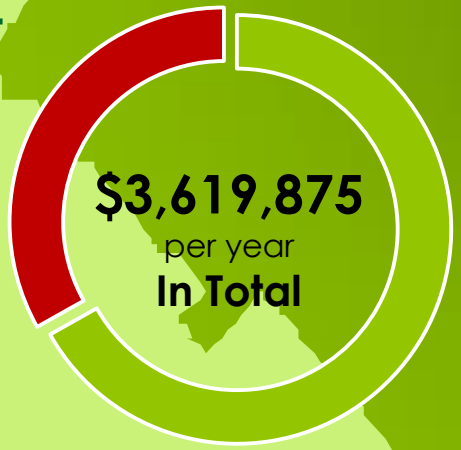
Childhood Injury Profile for Kwun Tong District 2001-2012

BACK

A&E medical cost

$1,200,288
per year (33.2%)
Avoidable

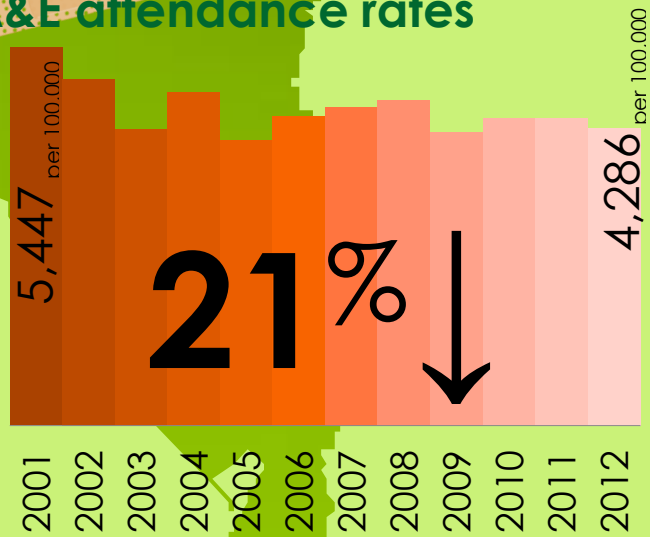


Vulnerable groups

Boys 0-4 years	8,399	per 100,000
Girls 0-4 years	6,228	per 100,000
Boys 10-14 years	5,598	per 100,000
Boys 5-9 years	5,541	per 100,000

Notable injury types

A&E attendance rates



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Childhood Injury Profile for North District 2001-2012

BACK

A&E medical cost

$1,062,218
per year (42.3%)
Avoidable

$2,513,408
per year
In Total

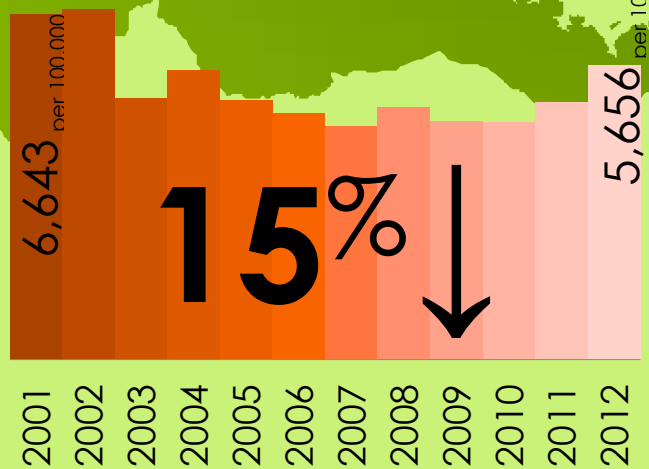
Vulnerable groups

- **Boys** 0-4 years — 9,454 per 100,000
- **Girls** 0-4 years — 7,269 per 100,000
- **Boys** 10-14 years — 6,754 per 100,000
- **Boys** 15-19 years — 6,409 per 100,000

Notable injury types

Improving	Deteriorating	Need improvement
Child abuse	Sports	Traffic
2001-2004		
2005-2008		
2009-2012		

A&E attendance rates



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Childhood Injury Profile for Sai Kung District 2001-2012

BACK

A&E medical cost

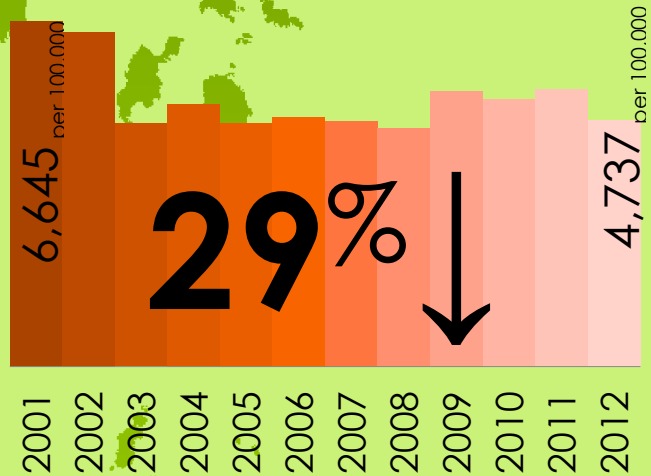
$1,294,241
per year (40.9%)
Avoidable

$3,165,750
per year
In Total

Vulnerable groups

- **Boys** 0-4 years — 8,422 per 100,000
- **Boys** 10-14 years — 6,722 per 100,000
- **Girls** 0-4 years — 6,467 per 100,000
- **Boys** 15-19 years — 6,192 per 100,000

A&E attendance rates



Notable injury types

	Improving	Deteriorating	Need improvement
	Child abuse	Domestic	Sports
2001-2004	☹☹	☹☹	☹☹☹☹
2005-2008	☺	😐	☹☹
2009-2012	☺	☹☹☹☹	☹☹☹☹

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Childhood Injury Profile for Sha Tin District 2001-2012

BACK

A&E medical cost

$729,017 per year (21.8%) **Avoidable**

$3,336,667 per year **In Total**

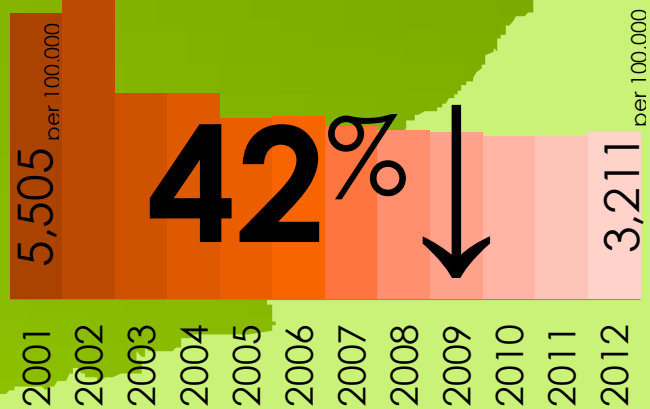
Vulnerable groups

- **Boys** 0-4 years: 6,534 per 100,000
- **Girls** 0-4 years: 5,365 per 100,000
- **Boys** 10-14 years: 4,885 per 100,000
- **Boys** 15-19 years: 4,672 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Self-harm	Indecent assault	Traffic
2001-2004	☹☹☹☹	☺☺☺☺	☹
2005-2008	☹☹☹☹	☺☺	☺
2009-2012	😐	☹☹	☺

A&E attendance rates



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Childhood Injury Profile for Sham Shui Po District 2001-2012

BACK

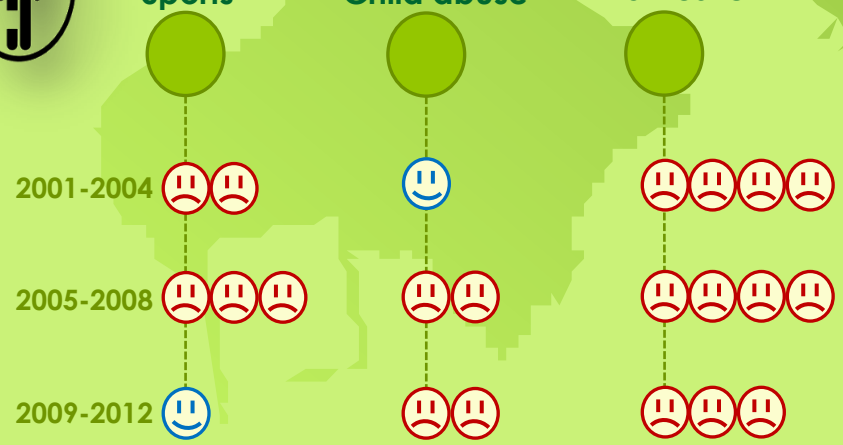
A&E medical cost

$864,341
per year (37.8%)
Avoidable

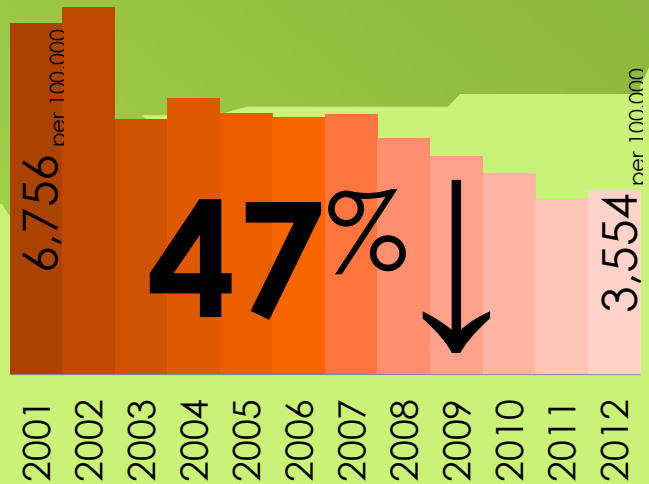
Vulnerable groups

- **Boys** 0-4 years — 8,980 per 100,000
- **Girls** 0-4 years — 6,985 per 100,000
- **Boys** 5-9 years — 6,309 per 100,000
- **Boys** 10-14 years — 5,977 per 100,000

Notable injury types



A&E attendance rates



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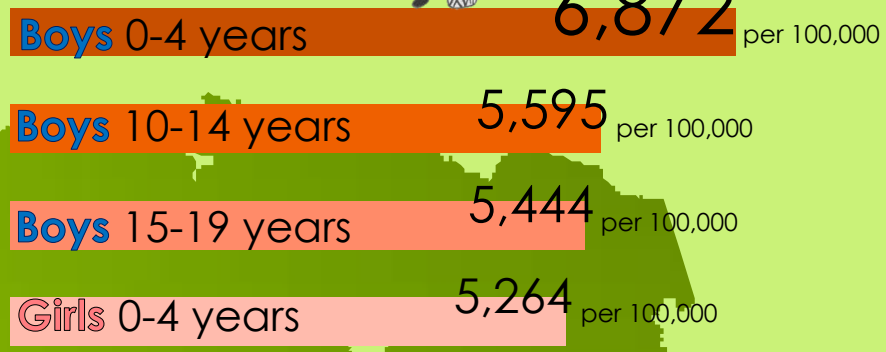
Childhood Injury Profile for Southern District 2001-2012

BACK

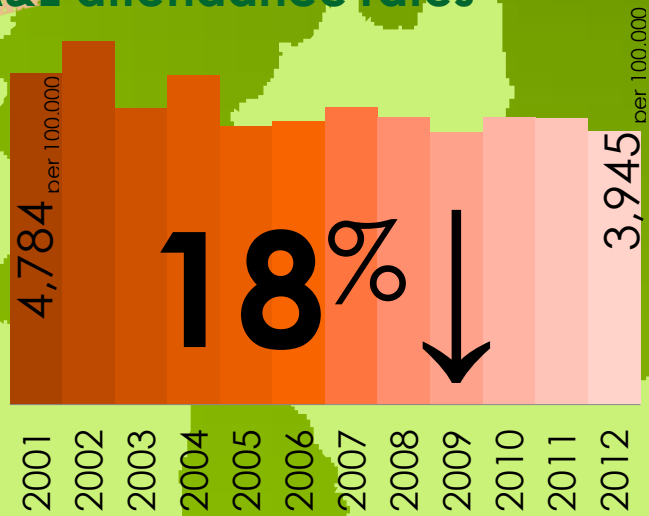
A&E medical cost

$474,010
per year (29.7%)
Avoidable

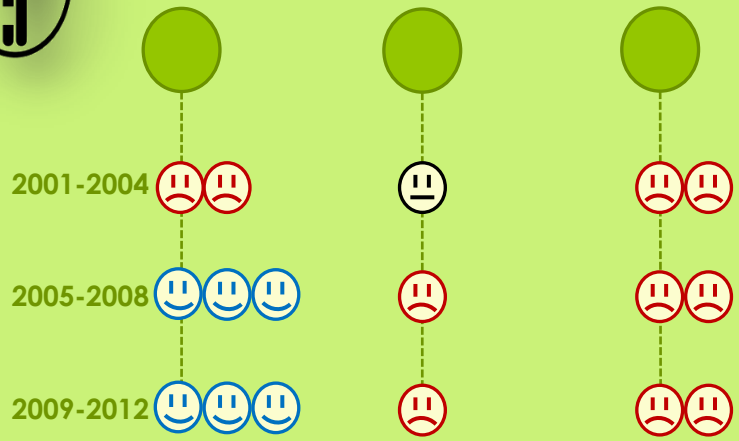
Vulnerable groups



A&E attendance rates



Notable injury types



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Childhood Injury Profile for Tai Po District 2001-2012

BACK

A&E medical cost

$1,514,836 per year (53.0%) **Avoidable**

$2,857,283 per year **In Total**

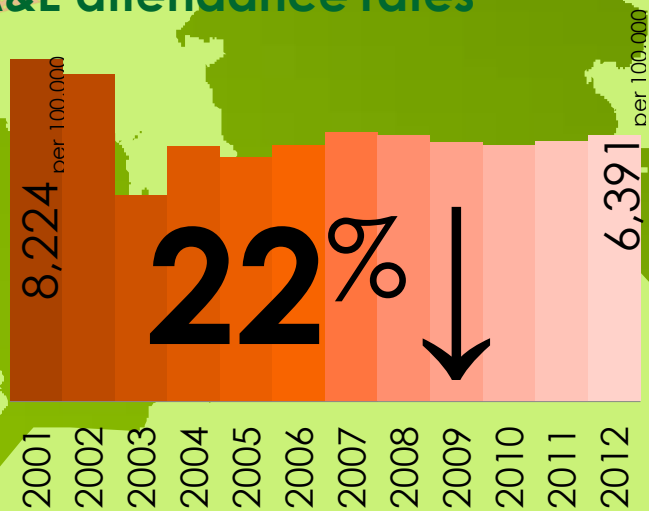
Vulnerable groups

- **Boys** 0-4 years: 10,725 per 100,000
- **Girls** 0-4 years: 8,990 per 100,000
- **Boys** 10-14 years: 8,399 per 100,000
- **Boys** 15-19 years: 8,219 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Indecent assault	Traffic	Sports
2001-2004	☹	☹☹☹☹	☹☹☹☹
2005-2008	😐	☹☹☹	☹☹☹☹
2009-2012	🙂🙂🙂🙂	☹☹☹☹	☹☹☹☹

A&E attendance rates



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Childhood Injury Profile for Tsuen Wan District 2001-2012

BACK

A&E medical cost

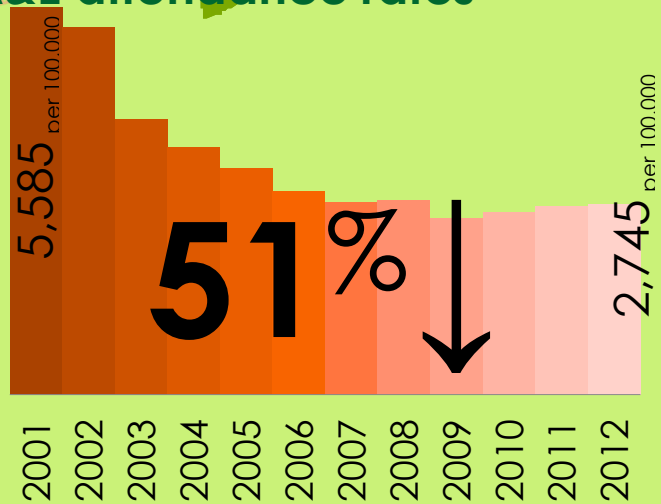
$150,897
per year (10.9%)
Avoidable

Vulnerable groups

- **Boys** 0-4 years — 5,933 per 100,000
- **Girls** 0-4 years — 4,614 per 100,000
- **Boys** 10-14 years — 4,078 per 100,000
- **Boys** 5-9 years — 3,892 per 100,000

Notable injury types

A&E attendance rates



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Childhood Injury Profile for Tuen Mun District 2001-2012

BACK

A&E medical cost

$1,264,317
per year (35.7%)
Avoidable

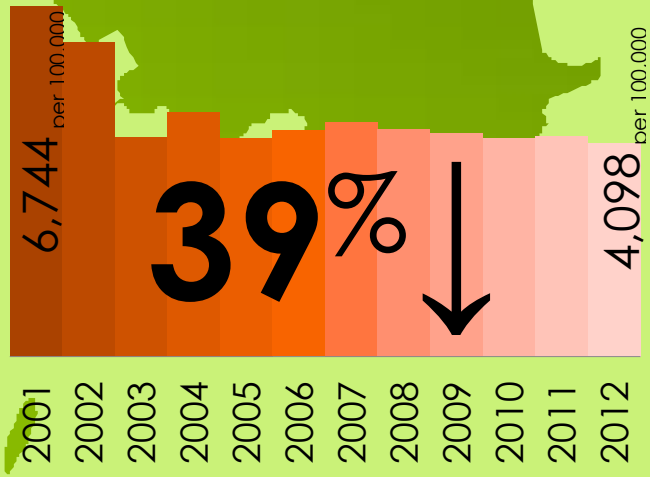
Vulnerable groups

- **Boys** 0-4 years — 8,430 per 100,000
- **Girls** 0-4 years — 6,440 per 100,000
- **Boys** 10-14 years — 6,074 per 100,000
- **Boys** 5-9 years — 5,679 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Sports	**Self-harm**	**Child abuse**
2001-2004	😐	😊😊😊	☹☹☹☹
2005-2008	😐	☹	☹☹☹☹
2009-2012	🙂	☹☹☹	☹☹☹☹

A&E attendance rates



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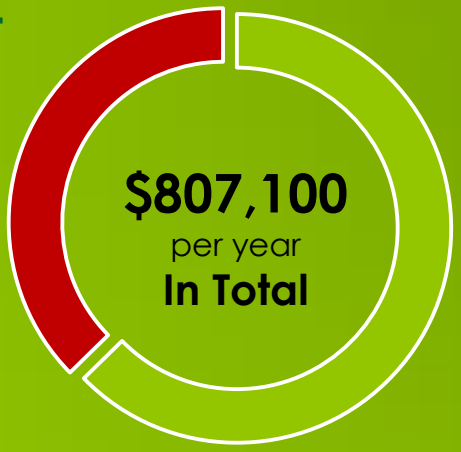
Childhood Injury Profile for Wan Chai District 2001-2012

BACK

A&E medical cost

$301,351
per year (37.3%)
Avoidable



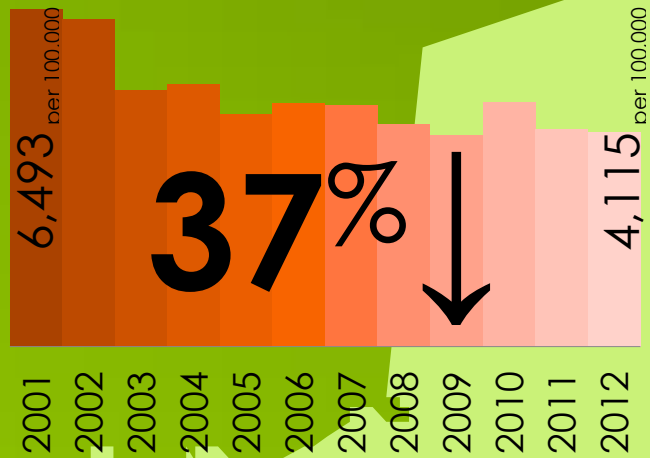
Vulnerable groups

- **Boys** 10-14 years — 6,772 per 100,000
- **Boys** 0-4 years — 5,994 per 100,000
- **Boys** 5-9 years — 5,695 per 100,000
- **Boys** 15-19 years — 5,448 per 100,000

Notable injury types

Improving	Deteriorating	Need improvement
Domestic	Indecent assault	Traffic
2001-2004		
2005-2008		
2009-2012		

A&E attendance rates



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Childhood Injury Profile for Wong Tai Sin District 2001-2012

BACK

A&E medical cost

$418,493 per year (19.5%)
Avoidable

$2,151,450 per year
In Total

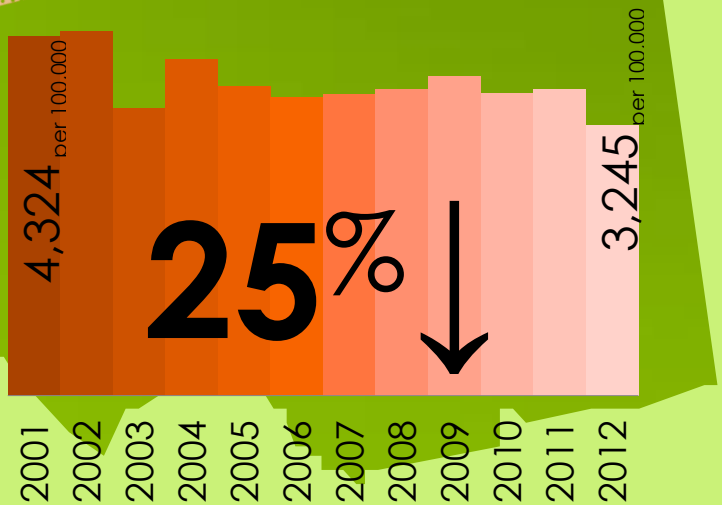
Vulnerable groups

- **Boys** 0-4 years: 6,959 per 100,000
- **Girls** 0-4 years: 5,031 per 100,000
- **Boys** 10-14 years: 4,694 per 100,000
- **Boys** 15-19 years: 4,637 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Indecent assault	Child abuse	Common assault
2001-2004	☹☹☹☹	☺☺☺☺	☹
2005-2008	☹☹	☹☹	☹
2009-2012	☹☹	☹☹☹	☹☹

A&E attendance rates



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Childhood Injury Profile for Yau Tsim Mong District 2001-2012

BACK

A&E medical cost

$320,878
per year (22.8%)
Avoidable

$1,404,783
per year
In Total

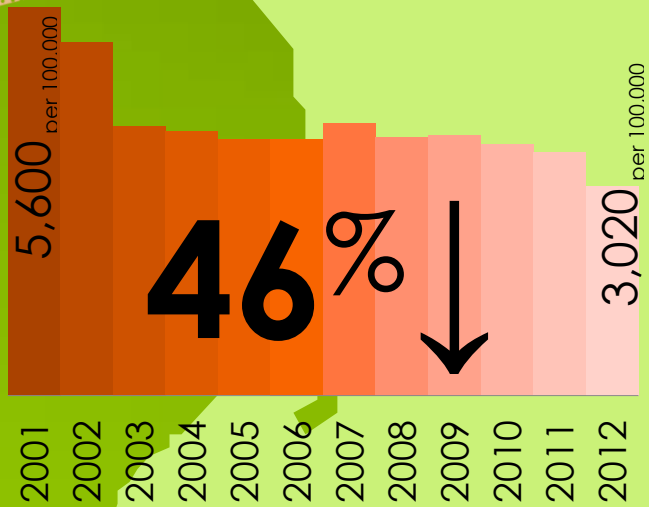
Vulnerable groups

- **Boys** 0-4 years — 6,588 per 100,000
- **Girls** 0-4 years — 5,149 per 100,000
- **Boys** 5-9 years — 4,972 per 100,000
- **Boys** 10-14 years — 4,624 per 100,000

Notable injury types

	Improving	Deteriorating	Need improvement
	Traffic	**Industrial**	**Self-harm**
2001-2004	😐	🙂	☹☹☹☹
2005-2008	🙂🙂	🙂🙂	☹☹
2009-2012	🙂🙂	😐	☹☹☹☹

A&E attendance rates



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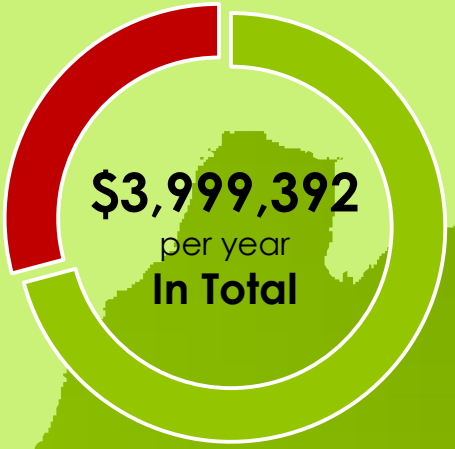
Childhood Injury Profile for Yuen Long District 2001-2012

BACK

A&E medical cost

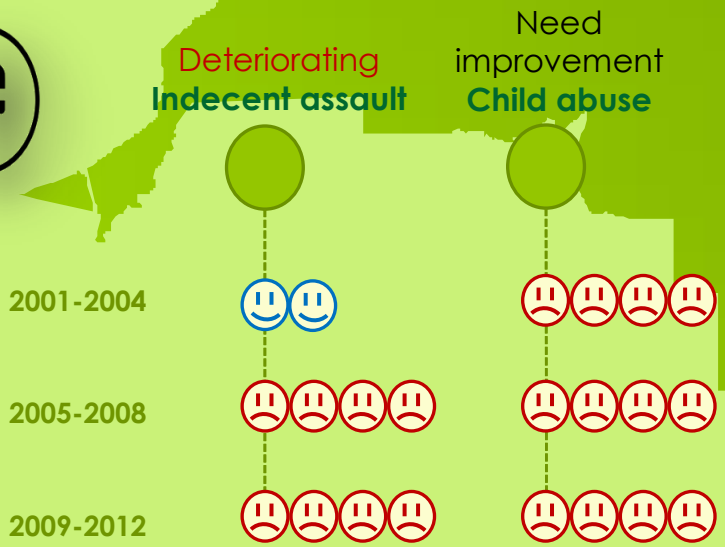
$1,165,575 per year (29.1%) **Avoidable**



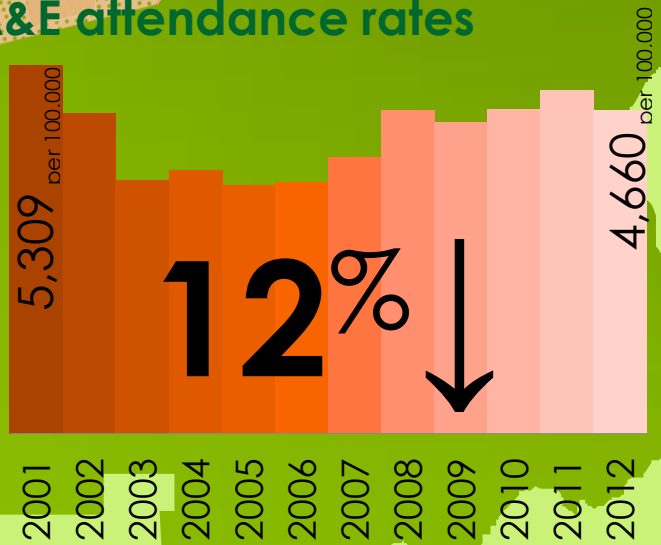
Vulnerable groups

- **Boys** 0-4 years: 7,975 per 100,000
- **Girls** 0-4 years: 6,274 per 100,000
- **Boys** 10-14 years: 5,256 per 100,000
- **Boys** 15-19 years: 5,140 per 100,000

Notable injury types



A&E attendance rates



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