



INJURY SURVEILLANCE THAILAND 1995-2011

CONTENTS

- **History of Injury surveillance(IS)**
- **Component of surveillance system**
- **Data utilization**
- **Factors of the achievement**

BACKGROUND ON THE ESTABLISHMENT OF INJURY SURVEILLANCE

- * Road Traffic Injury have been one the important causes of death since 1969**
- *Major policy of MOPH in 1991 on injury prevention and control**
- *In 1992 ,The Epidemiology Division in charging of developing the model and standards for epidemiological operations**

Steps in the project for establishment of injury surveillance

- Review related literature, study data systems**
- Draft up a model of injury surveillance at provincial level.**
- Held a workshop at Khonkaen hospital for injury experts and examine the guidelines ,structure**
- The draft forms and manual were tried out in 5 model hospitals and improve**
- Software for microcomputer was developed and adjusted after the trial.**

Steps in the project for establishment of injury Surveillance

- **Training curricula were developed for each group of personal whom were assigned function on the system.**
- **Large 5 general hospitals were selected to be the model hospitals and prepared the personnel by organizing the workshops for executives and trained the opearating teams**
- **Pilot tested a full scale of the provincial injury surveillance system started from Jan. 1,1995**

Steps in the project for establishment of injury surveillance

- Bureau of Epidemiology and 4 regional epidemiological centers supervised the model hospitals 1-3 months after data collection started.**
- Analyzed data and prepared reports to distribute the information to executives of the hospitals.**
- Evaluated the surveillance system after 6 months and 12 months of data collection**

Purposes:

- **To establish a database for assessing the quality of acute care and interfacility transfer provided to the injured by hospitals at the provincial level**
- **To develop an injury surveillance system that would facilitate injury prevention and control at both local and national levels.**

Reporting Criteria

All severely injured cases

Who have been injured within **7 days**,

By any of the following

External causes (V01 – Y36)

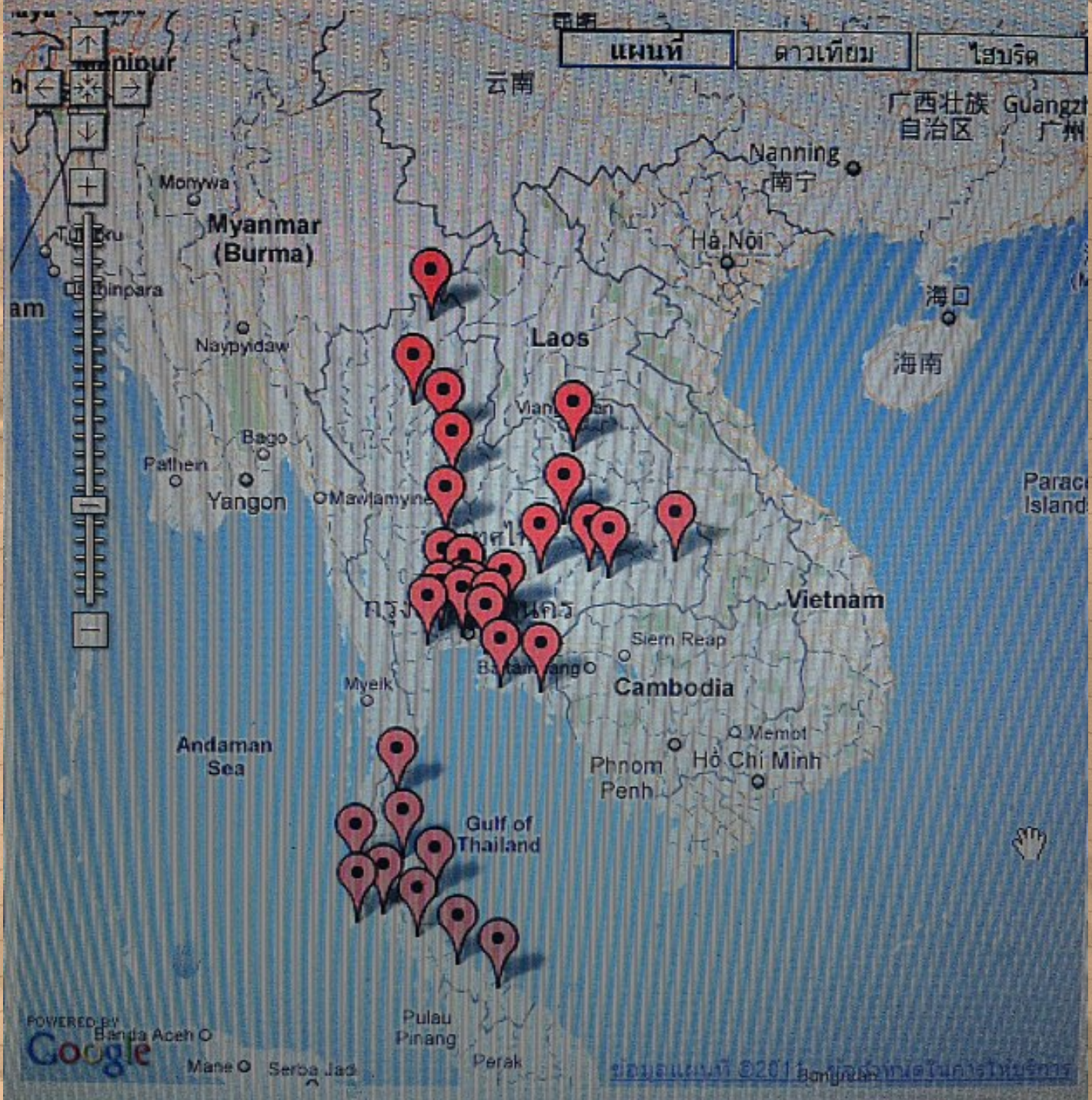
Presented **within 7 days after occurrence**,

at emergency rooms of the hospitals

include DBA, died in the ER.

Severely injured case

- **Observed**
- **Admitted**
- **Dead before arrival**
- **Dead at ER**
- **Dead at Ward**



Categories and their definitions

**Use ICD-10 (Chapter 20) as frame
work and define**

**chapter 20 to classify external
cause of injury**

**chapter 19 to classify diagnosis
and for severity : use BR, AIS 85
(plan for AIS 2005)**

External causes

- Unintentional injuries
- Intentional self-harm
- Assault
- Event of undermined Intent
- Legal Intervention and Operations
of Wars

1. Unintentional injuries

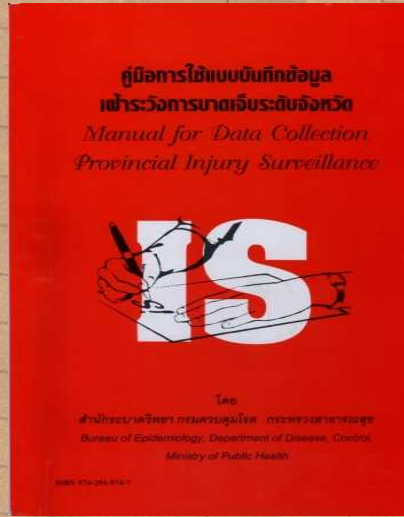
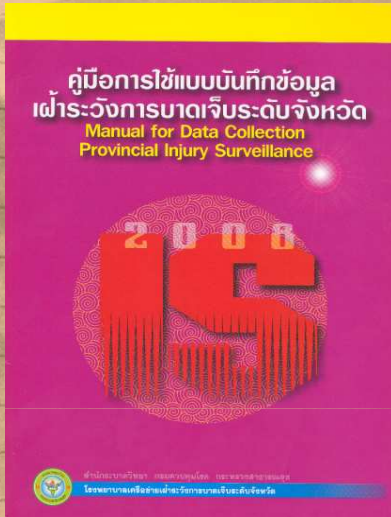
1.1 Transport Accidents (V01-V99)

- **Land Transport accidents**
- **Air and space transport accidents**
- **Water transport accidents**
- **Air and space transport accidents**

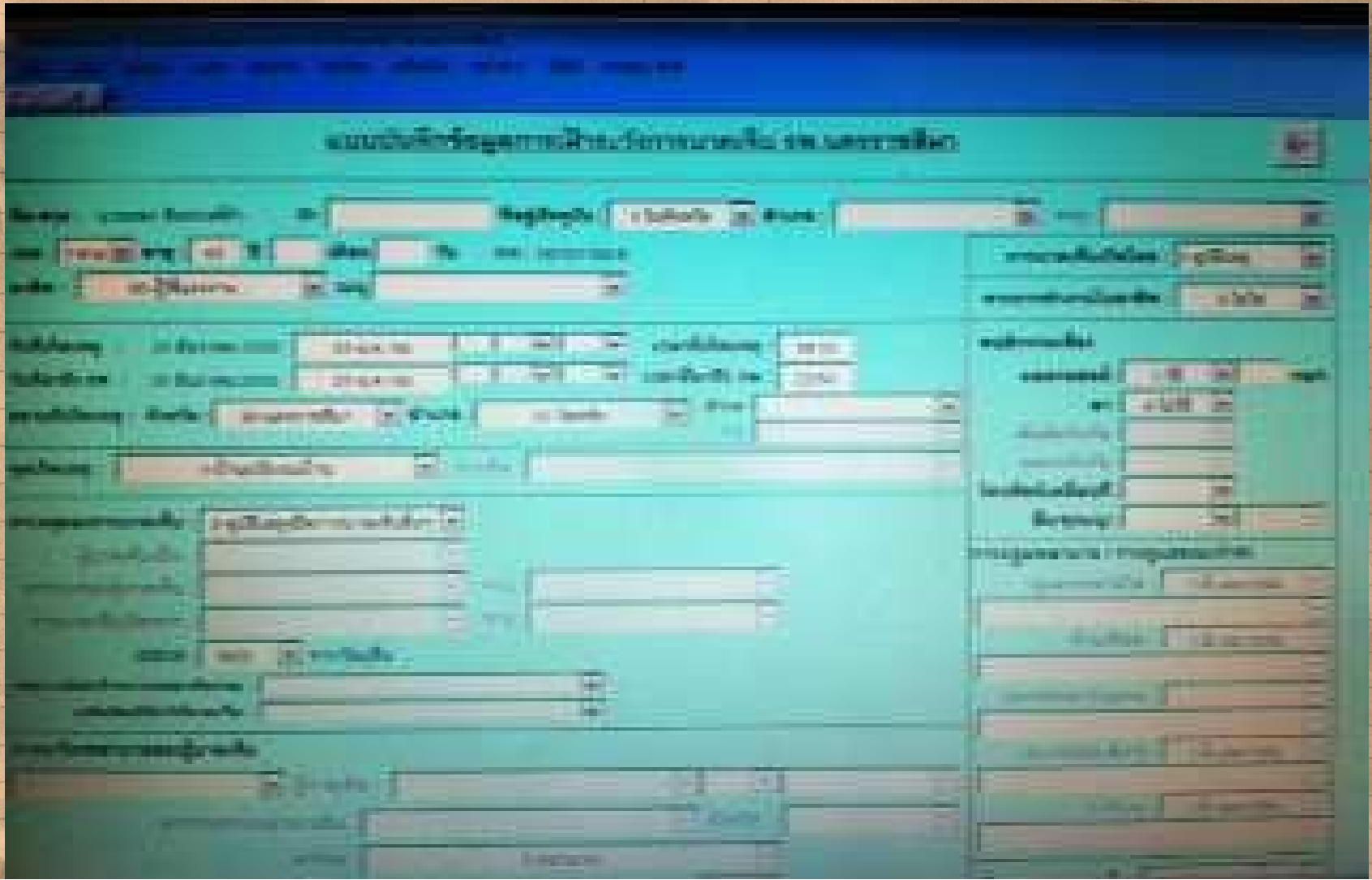
1.2 Other External Causes of Unintentional Injuries(W00-X59)

- **Falls**
- **Exposure to inanimate mechanical forces**
- **Exposure to animate mechanical forces**
- **Accidental drowning and submersion**
- **Other accidental threats to breathing**
- **Exposure to electric current, radiation and extreme ambient air temperature and pressure**
- **Exposure to smoke, fire and flames**
- **Contact with heat and hot substances**
- **Contact with venomous animals and plants**
- **Exposure to forces of nature**
- **Accidental poisoning by and exposure to noxious substances**
- **Overexertion, travel and privation**

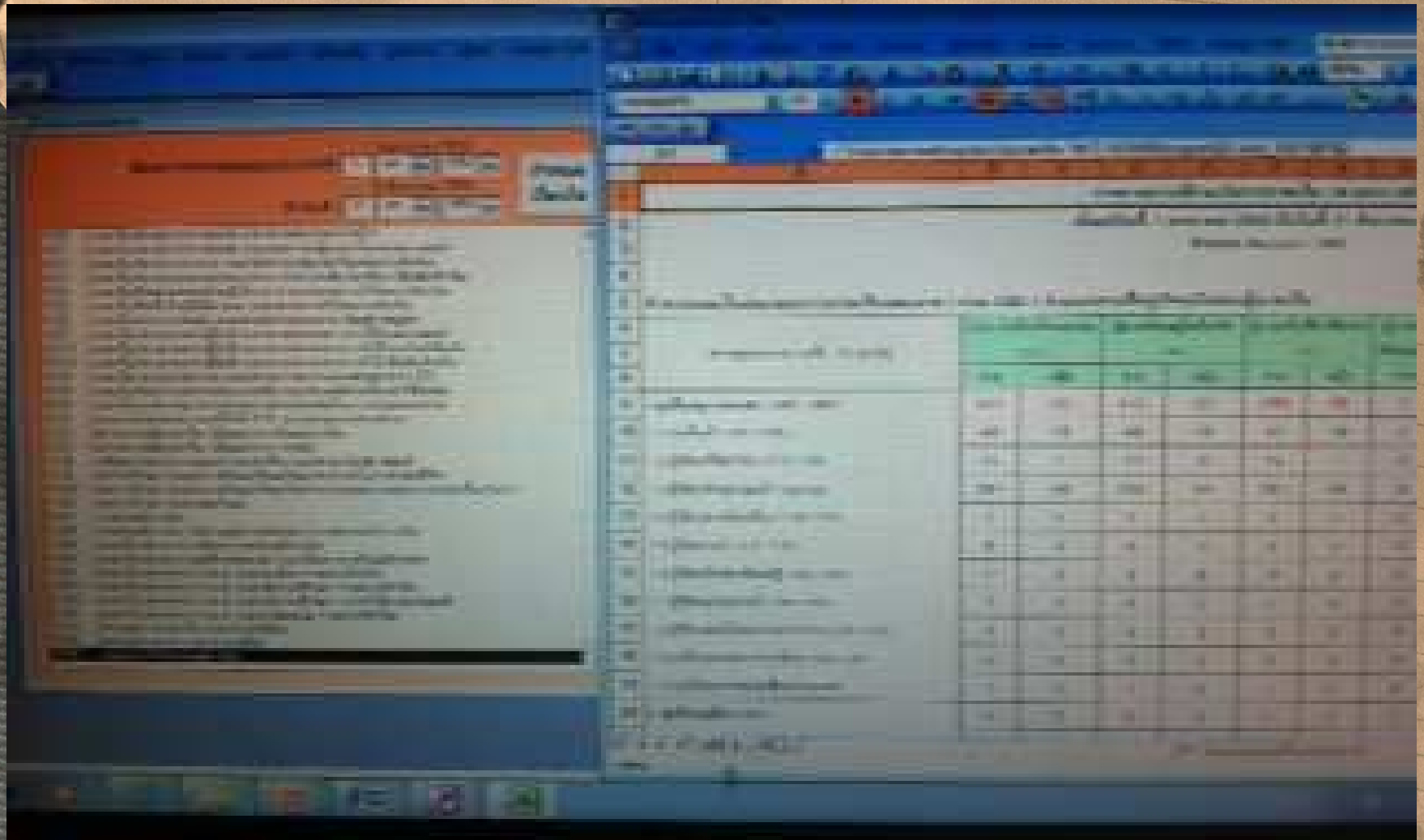
Tools



Program IS win , IS win –alcohol (windows access 2003)



Program IS win , IS win –alcohol (windows access 2003)



IS Checking - [เมนูหลัก]


ตรวจสอบ ข้อมูล รายงาน อรรถประโยชน์ เลิกงาน

พิมพ์คำถามเพื่อขอความช่วยเหลือ


IS Checking

สำนักกระบวนวิชา


23/2/2553 17:12:28 Lastupdate:1.9.2552




ตรวจสอบ
ความ
ผิดพลาด
ของ IS




ตรวจสอบ
ข้อมูล
ซ้ำของ IS




ดูข้อมูล
IS
ทั้งหมด



รายงาน



รับ-ส่งข้อมูล



รับข้อมูล IS.DBF
(รุ่น Dos)
เข้า ISWIN
โดย Copy IS.DBF
มาใช้ที่ C:\ISchecking



เลิกงาน

[Downloads Program Update IS Checking](#)

มุมมองฟอร์ม NUM

start | for poster - Micro... | หน้าจอโปรแกรม I... | Elements (F:) | ISchecking | ISchecking : ฐานชี... | เมนูหลัก | EN | 17:12

<http://www.ismis.wedev4u.com/>



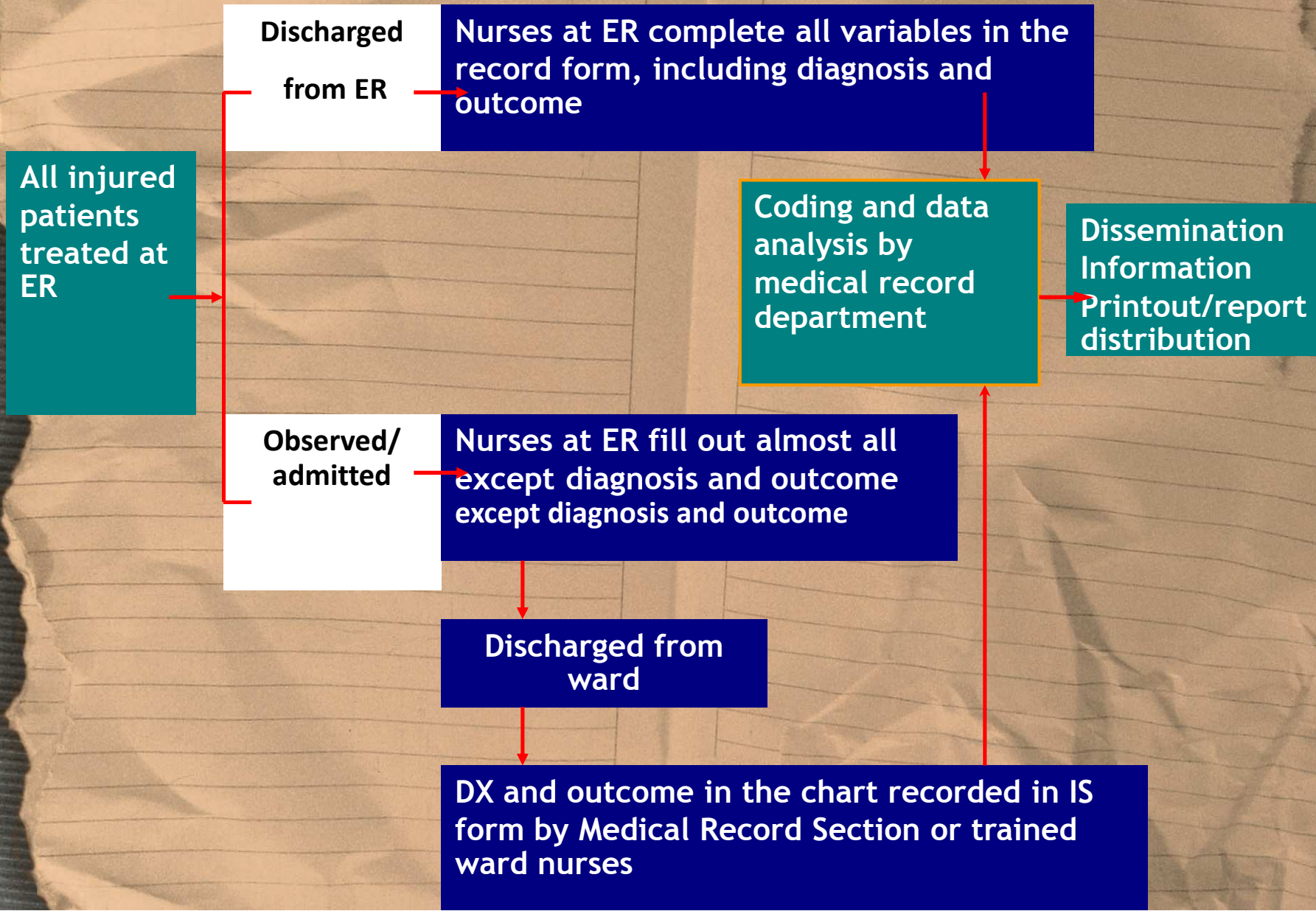
ระบบสารสนเทศการเฝ้าระวังการบาดเจ็บ Injury Surveillance Information System (ISIS)

โรงพยาบาลในระบบมี ๒๕๖ โรงพยาบาลเฝ้าระวังบาดเจ็บ (IS sentinel sites)

- เมนูหลัก
- ☐ เฝ้าระวัง
 - ☐ ภูมิภาคเฝ้าระวังเสียชีวิต
 - ☐ ภาคเหนือเสียชีวิต จำนวนเขต
 - ☐ ภาคเหนือเสียชีวิต จำนวน รพ.
 - ☐ ภาคเหนือเสียชีวิต จำนวนที่อยู่ที่
 - ☐ จำนวน รพ.
 - ☐ เสียชีวิต จำนวนใน จำนวน
 - ☐ รพ.
 - ☐ เสียชีวิต จำนวนสถานที
 - ☐ จำนวน รพ.
 - ☐ ภาคเหนือเสียชีวิต จำนวนการ
 - ☐ ตั้งแยกกองสออส จำนวน รพ.
 - ☐ ภาคเหนือเสียชีวิต จำนวนการ
 - ☐ ตั้งแยกกองสออส จำนวนพาทน
 - ☐ ภาคเหนือเสียชีวิต จำนวนตั้ง
 - ☐ แยกกองสออสและไปสวทพ
 - ☐ จำนวนที่ออย
 - ☐ ภาคเหนือไปสวทพ จำนวน
 - ☐ ผู้ป่วย/ผู้โดยสาร จำนวน รพ.
 - ☐ เสียชีวิตในสวทพ
 - ☐ จำนวนผู้ขับ/ผู้โดยสาร
 - ☐ จำนวน รพ.
 - ☐ ภาคเหนือ จำนวนในสวทพ/
 - ☐ ไปสวทพ จำนวน
 - ☐ จำนวนใน จำนวนเขต
 - ☐ ภาคเหนือ จำนวนในสวท
 - ☐ จำนวน/ผู้ใช้โทรศัพท์มือถือ
 - ☐ จำนวน รพ.
 - ☐ การจัดการพาทน
 - ☐ การดูแลพาทน
 - ☐ การจัดการเมื่อออกจากพาทน
 - ☐ จำนวนพาทน รพ.



Flow of data



Data analysis officer ,Report Writers, and the users of the IS information

- ✓ **Medical Record Librarian**
- ✓ **Statistician/ ER head nurse**
- ✓ **Emergency Practitioner**
- ✓ **Provincial Health officer**
- ✓ **Executive both hospital and provincial health office**
- ✓ **Governor**
- ✓ **Road safety Thai Organization under Thai Health Foundation**

Frequency of Report Dissemination

- Automated reports

**Provincial level: every 1-3 month
according to agreements between the
hospitals and the provincial Public
Health Office**

- Writing Reports

National level: at least 6 reports a year



กระทรวงสาธารณสุข
WESR
 Weekly Epidemiological Surveillance Report

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หน้าแรก

Weekly report 27 April 2014

จำนวนผู้เสียชีวิต
 จำนวนผู้ป่วย

- หน้าแรก
- เกี่ยวกับ WESR
- ติดต่อเรา
- ค้นหา
- หน้าแรก
- เกี่ยวกับ WESR
- ติดต่อเรา
- ค้นหา

ข่าวประชาสัมพันธ์

ข่าวประชาสัมพันธ์

- กระทรวงสาธารณสุข เตือนประชาชนระวังโรคไข้หวัดใหญ่
- กรมควบคุมโรค เตือนประชาชนระวังโรคไข้หวัดใหญ่
- กรมควบคุมโรค เตือนประชาชนระวังโรคไข้หวัดใหญ่
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ข่าวประชาสัมพันธ์

ข่าวประชาสัมพันธ์

IS Recording form

7 part (77 var.)

1. Demographic data
2. Epidem. data of inj.
3. Risk behavior
4. Trans. to hosp.
5. Prehos. care
6. ER Vital Data
7. Diag. to D/C Data

Injury Surveillance Record <input type="checkbox"/> Hospital name <input type="checkbox"/>		Province	
1		Present <input type="checkbox"/> 1 In this province address <input type="checkbox"/> 2 Not in this province <input type="checkbox"/> 3 Unknown	
First name	Last name	HN	
Sex <input type="checkbox"/> 1 Male <input type="checkbox"/> 2 Female	Date of Birth	or Age	Yr
Occupation <input type="checkbox"/> 01 Govt. Officials <input type="checkbox"/> 02 Police/Soldier <input type="checkbox"/> 03 Govt. enterprise <input type="checkbox"/> 04 Private company	<input type="checkbox"/> 05 Unskilled worker <input type="checkbox"/> 06 Business <input type="checkbox"/> 07 Agriculture <input type="checkbox"/> 08 Students <input type="checkbox"/> others		
Date occurred	Time occurred	Intention	Occupational Injury
Date arrived at hospital	Time arrived at hospital	<input type="checkbox"/> 1 Accident <input type="checkbox"/> 2 Self-harm <input type="checkbox"/> 3 Assault <input type="checkbox"/> Unknown	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 0 No <input type="checkbox"/> Unknown
Location District		Province	
<input type="checkbox"/> 1 Home <input type="checkbox"/> 2 Residential institution <input type="checkbox"/> 3 School, Public Admin Area		<input type="checkbox"/> 4 Sport, athletic areas <input type="checkbox"/> 5 Street/Hi-way <input type="checkbox"/> 6 Trade and service area	
<input type="checkbox"/> 7 Industrial and construction area <input type="checkbox"/> 8 Farm <input type="checkbox"/> 9 Others			
External causes of injury		2	
<input type="checkbox"/> 1 Transport accidents		Risk behaviors	
L.1 Type of injured person <input type="checkbox"/> 1 pedestrian <input type="checkbox"/> 2 Driver <input type="checkbox"/> 3 Occupants <input type="checkbox"/> 4 Unknown		1. Alcohol <input type="checkbox"/> 1 Use <input type="checkbox"/> 0 Not use <input type="checkbox"/> Unknown	3. Seat belt <input type="checkbox"/> 1 Use <input type="checkbox"/> 0 Not use <input type="checkbox"/> Unknown
L.2 Vehicle of the injured <input type="checkbox"/> 1 Bi/tricycle <input type="checkbox"/> 2 Motorcycle <input type="checkbox"/> 3 Motor-tricycle <input type="checkbox"/> 4 Personal car <input type="checkbox"/> 5 Pick up/Min <input type="checkbox"/> 6 Heavy truck <input type="checkbox"/> 7 Trailer-Truck <input type="checkbox"/> 8 Mini-Bus <input type="checkbox"/> 9 Buses <input type="checkbox"/> 10 Others (Specified)		2. Drugs / Medication <input type="checkbox"/> 1 Use (specify) <input type="checkbox"/> Not use <input type="checkbox"/> 0 Not use <input type="checkbox"/> Unknown	4. Helmet <input type="checkbox"/> 1 Use <input type="checkbox"/> 0 Not use <input type="checkbox"/> Unknown
L.3 Injured due to <input type="checkbox"/> 20 Fall from vehicle <input type="checkbox"/> 21 Vehicle over turned, sank etc. <input type="checkbox"/> Collision with		3	
<input type="checkbox"/> Others (Specified)			
<input type="checkbox"/> 2 Others injuries (Specified)			
<input type="checkbox"/> 3 Unknown			
Transportation of the injured to hospital		First aid / care while transport	
<input type="checkbox"/> 1 From injured <input type="checkbox"/> Person who transport <input type="checkbox"/> No <input type="checkbox"/> Not known		Breathing care	
Site or others <input type="checkbox"/> 1 EMS <input type="checkbox"/> 2 Charitable Volunteers <input type="checkbox"/> 3 Police <input type="checkbox"/> Others		<input type="checkbox"/> 1 Yes-appropriate <input type="checkbox"/> 2 Yes but not appropriate <input type="checkbox"/> 3 Not needed <input type="checkbox"/> 0 No	
<input type="checkbox"/> 2 From health facility: Name		Bleeding care	
Province		<input type="checkbox"/> 1 Yes-appropriate <input type="checkbox"/> 2 Yes but not appropriate <input type="checkbox"/> 3 Not needed <input type="checkbox"/> 0 No	
2.1 By <input type="checkbox"/> Ambulance <input type="checkbox"/> With person to take care <input type="checkbox"/> 1. No person taking care		Splint / Slab	
<input type="checkbox"/> 0 Not ambulance		<input type="checkbox"/> 1 Yes-appropriate <input type="checkbox"/> 2 Yes but not appropriate <input type="checkbox"/> 3 Not needed <input type="checkbox"/> 0 No	
2.2 With referral letters <input type="checkbox"/> 1 Yes <input type="checkbox"/> 0 No		Type of injury cause	
		<input type="checkbox"/> 1 Blunt <input type="checkbox"/> 2 Penetrating <input type="checkbox"/> 3 Blunt and penetrating <input type="checkbox"/> Others	
Seen At: ER (Record only patients who are to be R/O Head injury / Observe / Admit / Dead at ER., Refer)		6	
Vital sign BP	mm/Hg	Pulse	/ min R.R
Consciousness description			
Coma Scale			
Date Disposition from ER		Time	
By <input type="checkbox"/> 1 D.B.A. <input type="checkbox"/> 2 D/C <input type="checkbox"/> 3 Refer <input type="checkbox"/> 4 Against advice <input type="checkbox"/> 5 escape <input type="checkbox"/> 6 Dead at ER. <input type="checkbox"/> 7 Admission to			
DIAGNOSIS (Specified organ and injury in detail) If admitted, do not fill at ER.			
1	✓(BR) AIS	4	✓(BR) AIS
2	✓(BR) AIS	5	✓(BR) AIS
3	✓(BR) AIS	6	✓(BR) AIS
7			
Date Discharged from ward			
Outcome <input type="checkbox"/> 1 Improve <input type="checkbox"/> 2 Releif <input type="checkbox"/> 3 Against advice <input type="checkbox"/> 4 Escape <input type="checkbox"/> 5 Dead <input type="checkbox"/> 6 Ask to go back to die at home			

Personal Demographic data



- SEX
- AGE
- Present address

Injury Surveillance Record Hospital name Province.....

Present address 1 In this province
 2 Not in this province
 3 Unknown

First name.....Last name..... HN.....

Sex 1 Male 2 Female Date of Birth.....or Age Yr Month, Or Approximately Yr.

Occupation 01 Govt. Officials 02 Police/Soldier 03 Govt. enterprise 04 Private company
 05 Unskilled worker 06 Business 07 Agriculture 08 Students others.....

Present address > 3 month

Epidemiological data of inj.



- Date/Time
- Place
- Inj. By
- Inj. Causes
- Occupation

Date occurred Time occurred

Date arrived at hospital..... Time arrived at hospital.....

Location District..... Province.....

1 Home 2 Residential institution 3 School, Public Admin Area

4 Sport, athletic area 5 Street/Hi-way 6 Trade and service area

7 Industrial and construction area 8 Farm 9 Others.....

Intention

1 Accident

2 Self-harm

3 Assault

Unknown

Occupational Injury

1 Yes

0 No

Unknown

External causes of injury

1 Transport accidents

1.1 Type of injured person

- 1 pedestrian 2 Driver 3 Occupants 4 Unknown

1.2 Vehicle of the injured

- 1 Bi/tricycle 2 Motorcycle 3 Motor-tricycle 4 Personal car
- 5 Pick up/Van 6 Heavy truck 7 Trailer-Truck 8 Mini-Bus
- 9 Buses 10 Others (Specified).....

1.3 Injured due to

- 20 Fall from vehicle 21 Vehicle over turned, sank etc.
- Collision with..... Others (Specified).....

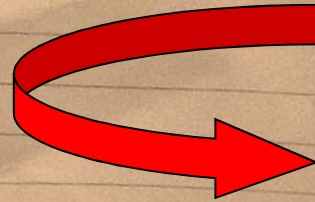
2 Others injuries (Specified)

.....

3 Unknown



Risk behavior



- Alcohol
- Drugs
- Seat belt
- Helmet

Mobile phone

Risk behaviors

1. Alcohol

- 1 Use
- 0 Not use
- Unknown

3. Seat belt

- 1 Use
- 0 Not use
- Unknown

2. Drugs/ Medication

- 1 Use (Specified)
.....
- 0 Not use
- Unknown

4. Helmet

- 1 Use
- 0 Not use
- Unknown

Mobile phone

- 1 Use
- 0 Not use
- Unknown

Trans. to hosp.



- seen site up
- health facility

Transportation of the injured to hospital

- 1 From injured Site or others
 - Person who transport
 - No
 - Not known
 - 1 EMS
 - 2 Charitable Volunteers.....
 - 3 Police
 - Others.....
- 2 From health facility: NameProvince.....
 - 2.1 By
 - Ambulance
 - ◆ With person to take care (specified professional).....
 - ◆ 1. No person taking care
 - 0 Not ambulance
 - 2.2 With referral letters
 - 1 Yes
 - 0 No

Prehos./ referral care



- Breathing
- Sprint/slab
- Bleeding
- IV Fluid

C-Spine

First aid / care while transport

Breathing care

- 1 Yes-appropriate
- 2 Yes but not appropriate
- 3 Not needed
- 0 No

Bleeding care

- 1 Yes-appropriate
- 2 Yes but not appropriate
- 3 Not needed
- 0 No

Splint / Slab

- 1 Yes-appropriate
- 2 Yes but not appropriate
- 3 Not needed
- 0 No

IV fluid

- 1 Yes-appropriate
- 2 Yes but not appropriate
- 3 Not needed
- 0 No

C-Spine care

- 1 Yes-appropriate
- 2 Yes but not appropriate
- 3 Not needed
- 0 No

ER Vital Data & Type of injury



- V/S
- GCS
- Outcome from ER

- Hx of conc.
- Type of inj.

Seen At. ER (Record only patients who are to be R/O Head injury / Observe / Admit / Dead at ER., Refer)

Vital sign BP.....mm/Hg Pulse/ min R.R / min

Consciousness description.....

Coma Scale

Type of injury cause

- 1 Blunt
- 2 Penetrating
- 3 Blunt and penetrating
- Others

Date Disposition from ER. Time.....

By 1 D.B.A. 2 D/C 3 Refer 4 Against advice 5 escape 6 Dead at ER. 7 Admission to

Diag. & D/C Data



- Dx
- BR
- AIS
- Outcome from ward

DIAGNOSIS (Specified organ and injury in detail) If admitted, do not fill at ER.

1.....(BR.....AIS.....) 4.....(BR.....AIS.....)
2.....(BR.....AIS.....) 5.....(BR.....AIS.....)
3.....(BR.....AIS.....) 6.....(BR.....AIS.....)

Date Discharged from ward

Outcome 1 **Improve** 2 Refer 3 Against advice 4 Escape 5 Dead
 6 Ask to go back to die at home

Data utilization

National Level

IS: Injury Surveillance



Thailand anti knocked helmet legislation , 1 Jan 1996



➤ 2003, IS report on severely injured child from riding on MC, non-helmeted, alcohol

-> Policy on child MC helmets and technical support for production of standard child helmet



❖ Child helmet promotion campaign 2004-2005 in 15 pilot provinces (US \$ 400,000)



**compulsory to wear a seat belt in the front
seats Year 1996**

Alcohol Consumption Control Policy ,
Alcohol Consumption Control Unit under
the Ministry of Public Health. Ministry of
Public Health : Core of activities

LAW Drunken don't drive year 2000
Fine and Jail drunk driving 2010

Campaign No alcohol in Khao Panxa
period year 2002

Alcohol label have the warning on driving 2003

No alcohol in Kathin (Buddhist Merit festival
after Khao Panxa period) year 2009
Support data of alcohol among festival for
the centre for Alcohol Studies

: The core for alcohol related knowledge 2009-2011



IS: Injury Surveillance

➤ MOPH - FDA regulations for mandatory warnings on alcoholic beverage. labels RE; driving after drinking 1995

➤ BAN the alcohol advertisement on TV sport game



เมาไม่ขับ



โทษไม่ขับ



ช่างไม่ขับ



ขับไม่ชิ่ง



สวมหมวกกันน็อคทุกครั้ง



เคารพกฎจราจร



...เดินทางถึงที่หมายปลอดภัย...



- **No Mobile phone while driving Legislation
Year 2008**



โทรไม่ถือ

โทรแล้วขับอันตราย เลี้ยงไม่ได้ ให้ใช้อุปกรณ์เสริม

Logos: AIS, dtac, true move, Hutch, MOTOROLA, LG, SAMSUNG, Sony Ericsson, 100, 100, 100

IS: Injury Surveillance

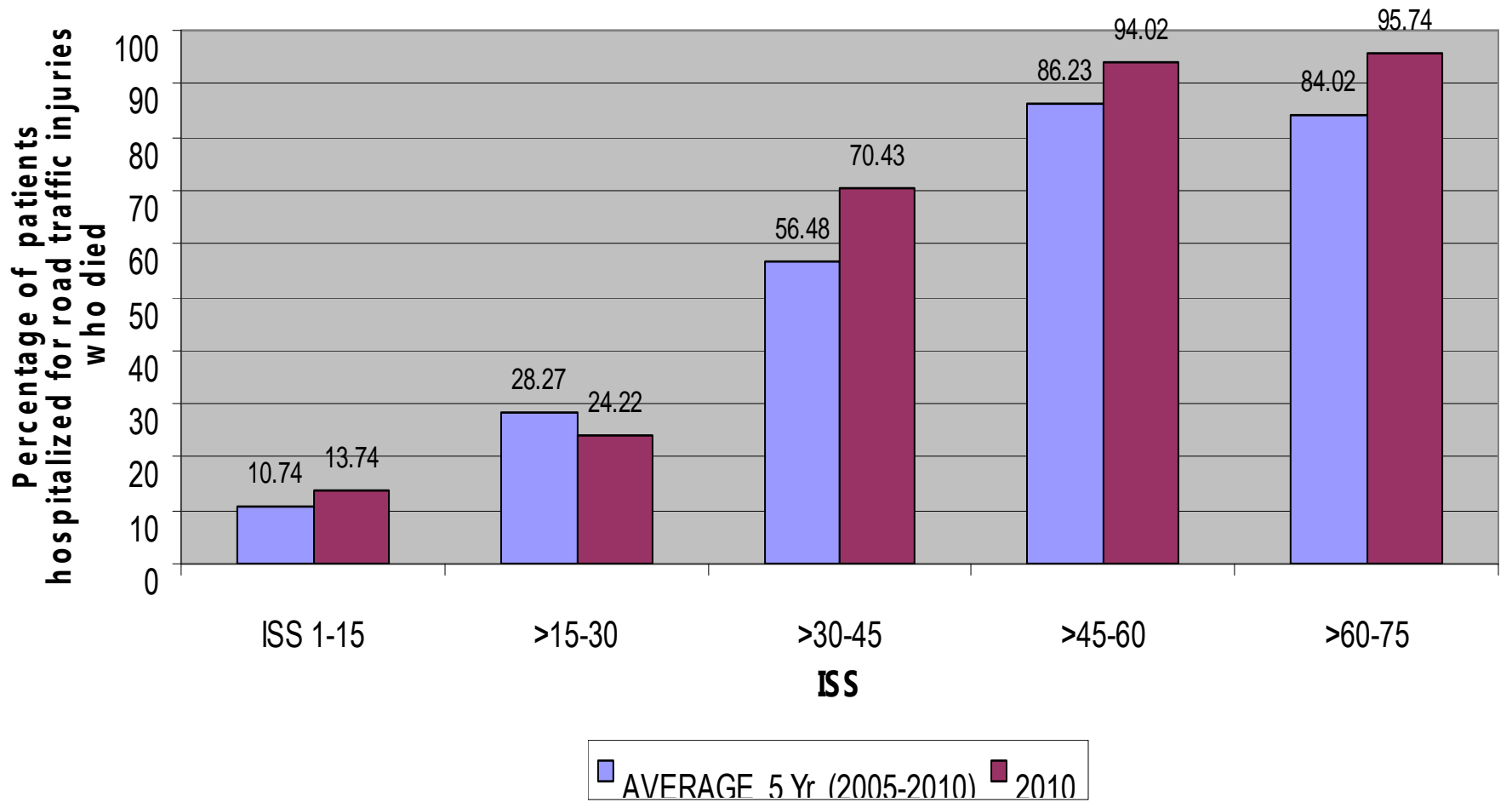


**National policy in pre-hosp. care,
year 1995-20**



Source: Udonthani hospital

Example of ISS from IS





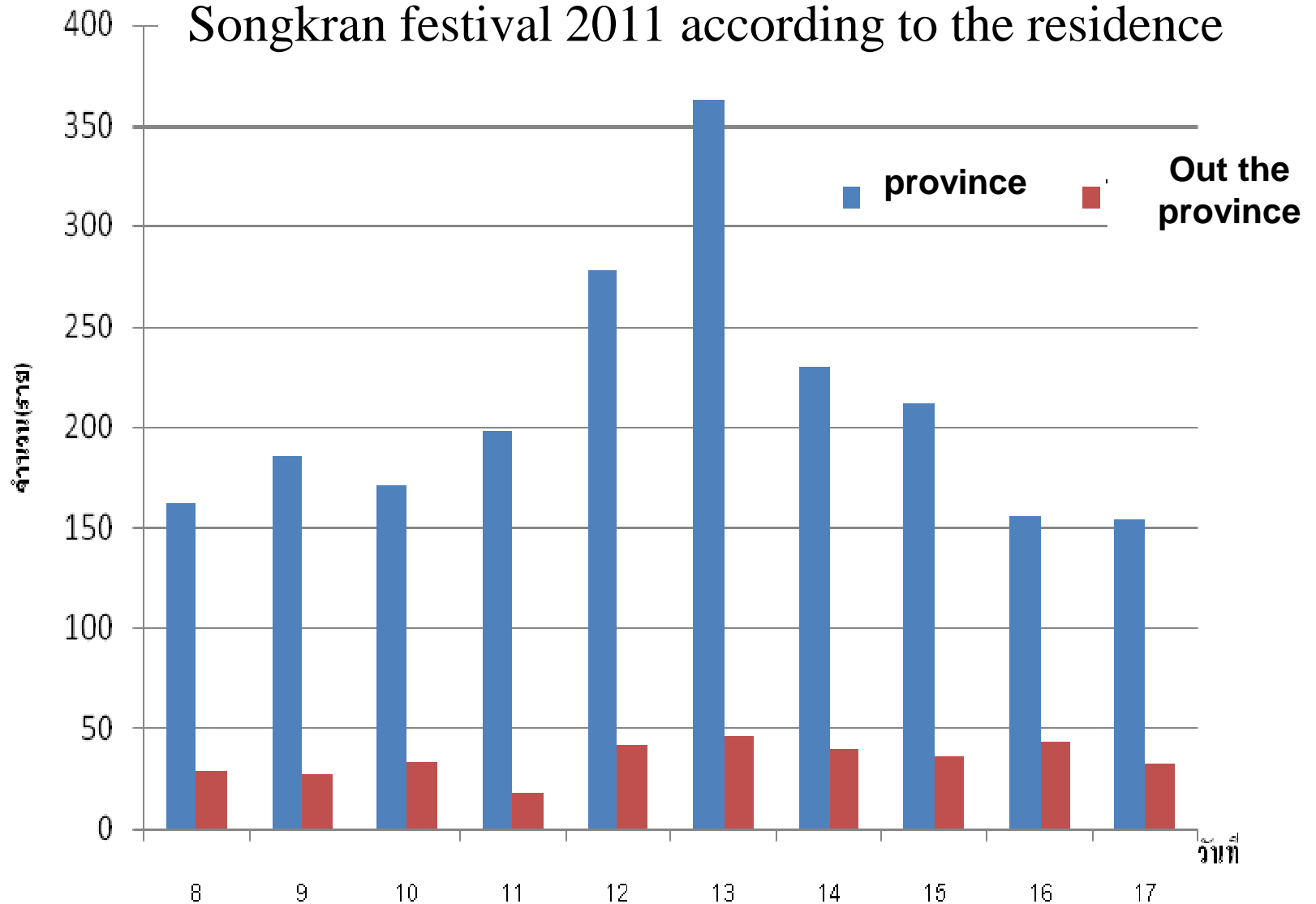
SONGKRAN FESTIVAL IN THAILAND RISK NOTIFICATION AND CASE DEFINED IN RTI

1. Less people wear Helmet

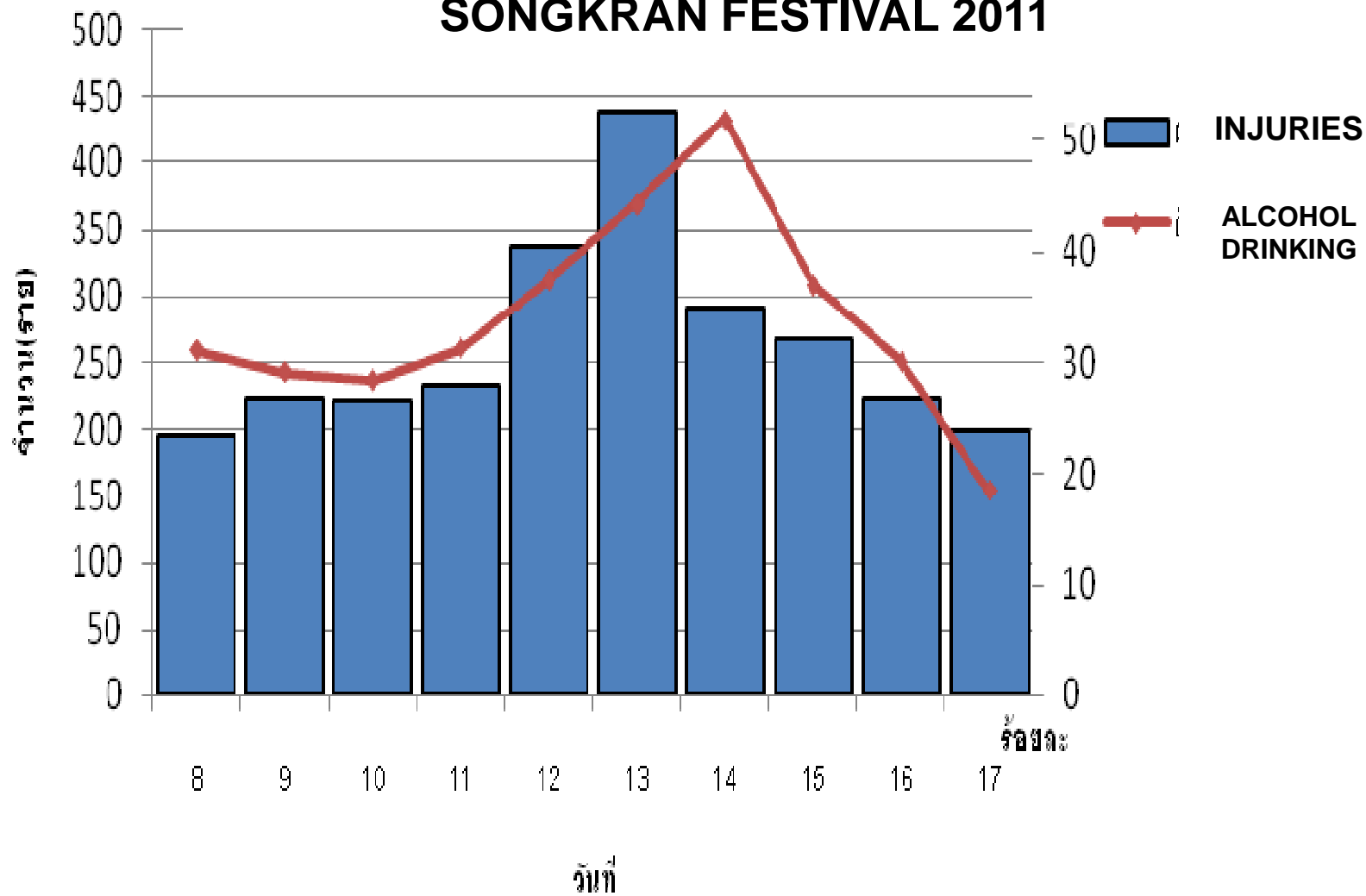
2. Drink drive almost 2 times than normal period

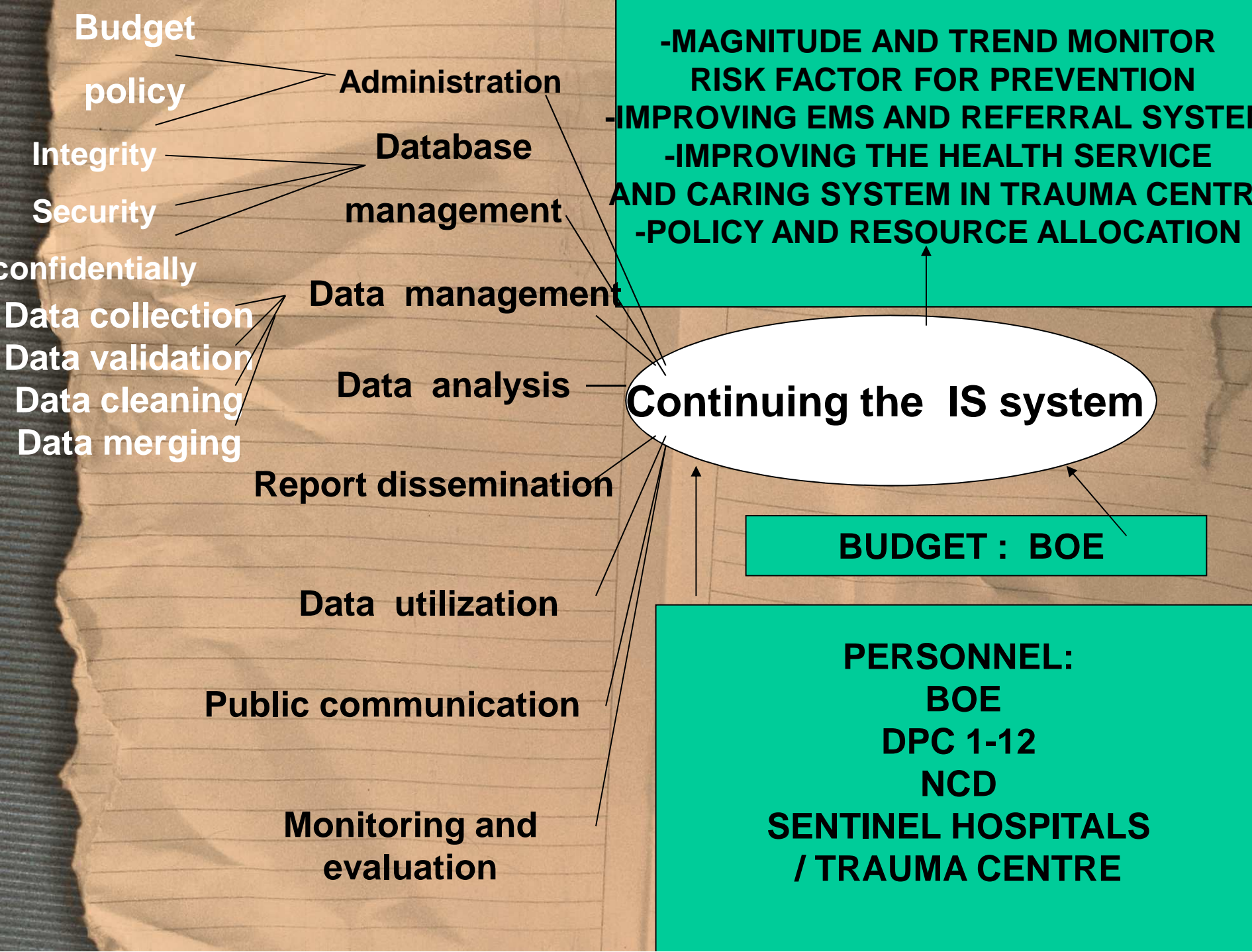
3. Injured cases almost 90 % are people in that province

Number of road traffic injuries and death among Songkran festival 2011 according to the residence



NUMBER OF ROAD TRAFFIC INJURIES AND PERCENTAGE OF ALCOHOL DRINKING AMONG SONGKRAN FESTIVAL 2011



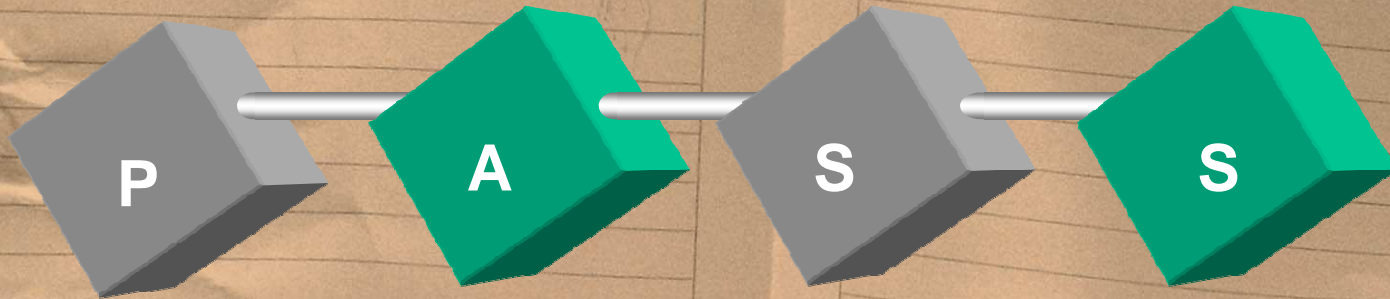


Budget Estimation

- Salary 30000 Baht or 1000 US dollars /month
*4 persons directly work on IS center
- IS National Seminar 700,000 baht or 23,000 US dollars
- Supervisor cost /one sentinel hospital
40,000 baht or 1,300 US dollars / 8 places per year

Total around 32,000 US dollars/year

Achivement on system establishment



**Prepare
Knowledge
Review
with the team**

**Act
and work
together**

Supervise

Support

LET's change the idea...
We stay together

Sentinel hospitals are important partners:

We sweat together...

We starved together...

We learned together....

We proved things together...



**And we've
saved more
lives
together.....**



THAILAND 'S FLOOD CRISIS



VS

STORM OF THE GIVING HEART





*Inspiration can change one's life that this
is only possible once it has been
happened for one whole's being and
makes one "feel" things can change for
the better and something can actually be
"done"
to that effect*

*THANK YOU our sentinel
hospitals and all IS persons*