Conclusions This study suggests us that monitoring of recall behaviour would be an efficient and practical tool for compliance assessment of players in the market. It can tell us which manufacturers are possibly very reluctant or lazy in recall actions. Also this study suggest us some improvement is needed for accident database and recall database.

810 EPIDEMIOLOGICAL CHARACTERISTICS OF PRODUCT HARM CASES IN 32 HOSPITALS IN 11 AREAS IN CHINA, 2012–2014

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Background To understand the epidemiological characteristics of product harm cases in 32 hospitals in 11 areas in China from 2012 to 2014 and provide the basic data to support for product-specific survey, product harm early warning and the assessment of product safety.
Methods The descriptive epidemiologic analysis was conducted by using the surveillance data of product harm collected from 32 hospitals in 11 areas in China during 2012–2014.
Results A total of 208772 product harm cases were reported in the 32 hospitals during 2012–2014, accounting for 19.50% of total harm cases during the same period. A total of 222401 cases (times) of product harm were reported. For all the product harms, the top five products causing harms were transportation equipment except motor vehicle (36.55%), motor vehicle (21.50%), other products (20.84%), furniture (7.21%) and food, medicine and related products (5.18%). Both the case number and times of product harm were higher in males than in females. Males aged 25–44 years might be at greater risk for product harm. Most product harms, i.e. bruise, were caused by blunt force on heads.
Conclusions The epidemiologic characteristics of product harm varied with products. It is necessary to take targeted intervention measures to prevent product harm in China.

811 THE USE OF INJURY DATA AS DRIVER FOR EFFECTIVE PRODUCT SAFETY STANDARDS

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Background For consumers, standards are important. When they are properly developed and applied, they can make our lives easier, the products we buy safer, and help prevent injuries and accidents. In order to properly develop standards leading to safer products, it is very important to have accident and injury statistics at our disposal.
Methods One powerful aspect of ANEC's pan-European network of experts is that it has the ability to spot emerging trends, as there is no pan-European data system that allows this to happen. Thanks to the availability of accident data from some countries, ANEC asked the European Standardisation organisation CEN for standards to be set up for cords and drawstrings on children's clothing, moveable goals and 'nappy sacks', and asked for improving the standards for cigarette lighters and window blinds.
Results ANEC was successful in asking for standards to be set up for cords and drawstrings on children's clothing, for moveable goals, and in improving the safety of cigarette lighters and window blinds through standardisation. Unfortunately, only a few countries within the EU systematically collect accident and injury data. This lack of data is often used by some stakeholders as an excuse not to improve standards. As a result, ANEC has not been able for the standard for small off-road motorbikes to address child safety aspects, nor for the standard for the safety of children's clothing to address the risk of hoods. The request from ANEC to set up a standard for 'nappy sacks' was not followed up, as data on fatal accidents was only available from one country.
Conclusions Lack of EU-funded accident & injury data system makes it difficult to assess where legislative, standardisation, market surveillance, and/or awareness raising actions are needed and to assess the success of measures/actions taken. Therefore, there is an urgent need for a pan-European accident & injury data system, funded by the European Commission.

812 REVISION OF THE SAFETY STANDARDS FOR A BABY CHAIR UTILISING INJURY DATA

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Background Since the SG (Safe Goods) Standards for a baby chair was enacted by Consumer Product Safety Association in 1981, no revision has been made for 30 years. During these years, new types of products to which the SG Standards did not apply became available, serious injuries related to old type chairs were reported, and other issues came up related to a baby chair. Then it is necessary to revise the standard as soon as possible. The purpose of this study is to analyse baby chair-related injury data and revise the safety quality requirements.
Methods We analysed 99 baby chair-related injuries that required ambulance transport to identify a specific body part being caught and a part of a chair that caused injury in cooperation with Tokyo Fire Department.
Results The body parts caught in a baby pipe chair, a metal-pipe-frame low chair which is usually cheap with simple design, were: fingers (31 cases), feet (18 cases), head/neck (10 cases), toes (8 cases), and ankles (4 cases). Among 99 cases, 10 cases occurred in 0 year old, 28 cases in 1 year old, 26 cases in 2 years old, 13 cases in 3 years old, 14 cases in 4 years old, and 5 cases in 5 years old. When a child's body size is within 25 percentiles, his or her head is bigger than a trunk. Thus, in order to check the entrapment and strangulation hazard, we developed a probe (95×140mm) which mimics a trunk of a child body utilising data on a body trunk jig dimension suited for Japanese infants of National Institute of Technology and Evaluation. The revised standard requires that we must use the developed probe to check injury risk.
Conclusions As a result of injury data analysis, we found that children under 2 were more prone to a baby chair-related injury and understood how injury occurred in details. When a child's head is caught in clearance between the parts of a baby chair, it might cause suffocation. We developed a trunk probe to check injury risk for a pipe chair for ages 7–36 months and established a new safety standard requirement. From this standard revision

process, we re-learned the importance of injury data analysis to understand how a consumer product is used in our daily lives with children. Members of the committee, including product design professionals did not know how a child is caught in a baby chair. It is very important to remember that not only professionals' opinions and discussions but also injury data should be fully utilised to establish safety quality requirements for consumer products.

813 DEVELOPMENT OF NOVEL TOOTHBRUSH TO PREVENT A PENETRATING INJURY OF CHILDREN

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Background Brushing teeth is an important hygiene practice in our lives. However, this practice sometimes causes a serious injury for children. According to a report from Tokyo Fire Department, Japan, 45 children under 5 on average admitted an emergency room by ambulance annually because of a penetrating injury by a toothbrush. A half of the cases occurred in 1 year old, and 75% of all cases occurred either in 1 or 2 years old. It is necessary to design a new innovative product which promotes children's self-reliance and prevent injury. The purpose of this study was to measure a force inside a mouth when a child brushes his or her teeth and fell down and to design a new product which can prevent a serious oral injury caused by fall.

Methods We developed a device to measure the force when a child falls while brushing teeth. A 2.65 kg weight which was the average weight of a child head was attached to a tip of toothbrush and let it fall from a height of 50 cm. We put a piece of chicken meat under the toothbrush and then observed what happened to the meat. We used the chicken meat assuming inside of a mouth.

Results When the toothbrush with 2.65 kg weight was dropped, the maximum pressure in the toothbrush was about 15.6 MPa. Previous research clarified that the breaking stress of human skin is 3 to 15 MPa, and so this pressure is large enough to penetrate human skin.

Conclusions Based on our previous study, the time to fall is in only 0.5 second. A serious injury occurred in such short period of time. We collaborated with a corporate company dedicated to a safe toothbrush production and designed a "bendable" toothbrush. This toothbrush can bend when the pressure of 1.3[MPa] at a maximum is applied to the brush while maintaining the capability of brushing. The pressure is smaller than the breaking stress of human skin. The new toothbrush allows us to prevent serious injury. This flexible toothbrush is commercialised in Japan since May, 2015.

814 INJURY SEVERITY IN DIFFERENT TYPES OF PRODUCT INVOLVEMENT BASED ON INJURY SURVEILLANCE DATA ANALYSIS

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Background Severity of injury, as a measure of hazardous product consequences, is an essential aspect in the product safety risk assessment process. Moreover, the extent of product involvement in an injury event is also fundamental in order to determine the causality and preventability of the injury. While injury severity can be examined using coded injury data, product involvement is often omitted as coded data are limited to inform the level of product involvement in an injury event. However, text narratives data collected in emergency departments can potentially provide relevant product information. The study aimed to examine the severity of injuries and extent of product involvement in paediatric injuries in emergency department (ED) based injury surveillance data.

Methods A total of 7,743 paediatric injury cases were randomly selected from the Queensland Injury Surveillance Unit database and were manually reviewed and categorised according to the level of product involvement using the Product Involvement Factor classification system. Injury severity in these categories was then examined based on triage category and admission rate.

Results Overall, 44% of all reviewed cases were associated with at least one type of consumer product. Based on the triage scoring, product-related injuries had a lower proportion of high severity injuries compared to non-product injuries. Within the product-related groups, injuries associated with high intrinsic risk products had the highest proportion of high severity injuries based on triage scoring (8%) and injuries associated with maladapted or misused products had the highest admission rate after the emergency treatment (20%).

Conclusions The urgency of injuries and the need for further treatment as severity measures vary depending on the level of product involvement. This highlights the need to account for product involvement and injury severity in order to inform a better understanding of product-related injuries in product safety prioritizations. Hence, emergency department data should be utilised to support product safety initiatives.

815 INJURIES RELATED TO PRODUCT MISIDENTIFICATION ERROR: A SECONDARY ANALYSIS OF QUEENSLAND INJURY SURVEILLANCE DATA

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Background There are growing safety concerns around consumer product misidentification errors. As incidents are thought to be under-reported to the product safety authority, it is difficult to quantify the extent of the issue. Injury surveillance data can be utilised to identify such injuries, using a combination of narrative text and coded data analysis. This study aimed to identify product misidentification incidents that resulted in injuries and to retrieve any details relating to the injury circumstances using the text narrative.

Methods A secondary data analysis was conducted using Queensland Injury Surveillance data collected over 15 year period (1999–2013). Product misidentification injuries were identified through text search using relevant keywords. The text narrative of all cases identified were then manually reviewed to validate and categorise the product misidentification error by the type of product, whether or not the product had been decanted, and whether it was a dosing error.

Results Overall, 158 cases were validated as relating to product misidentification. Around 61% of these cases were related to primary misidentification due to resemblance between two different