Investigation of New Approach Towards Road Enforcement System in Poland

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Context Poland is covered by the automatic traffic enforcement system. Since road safety improvement progress in Poland is slow, it was decided to expand this system.

Process In 2019, a methodology was developed to optimize the selection process of recording devices locations, including enforcing the exceeding of speed limits and entering the intersections at red light. By using more technologically advanced recording devices, road network covered by automatic enforcement system has been expanded.

Analysis The available data regarding locations of accidents and collisions was collected. Data was verified and superimposed on country map, broken down into accidents and collisions was collected. Data was verified and superimposed on country map, broken down into accidents and collisions was collected. Data was verified and superimposed on country map, broken down into accidents and collisions was collected. Each area was evaluated with regard to different weights, assigned according to events' severity and type. Methods for determining the intensity of traffic incidents and algorithms for creating ranking lists were developed. Based on that, specific areas were selected for further analyses.

Outcomes Based on the carried out analyses, locations for new recording devices were selected, ranking list of locations and risk maps were developed for all road types.

Learning Outcomes The new approach to the process of locations' selection of the recording devices is easy to implement and will contribute to the optimization of this process and, consequently, to road safety improvement.

Road Safety Information and Knowledge Management Model

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Context Every year there are over 35,000 road accidents in Poland, in which over 3000 people are killed and more than 40,000 are injured. Road accidents constitute a very heavy financial burden, they cost the state almost 3% of GDP.

Process The interdisciplinary theoretical basis for the model was formulated. The review of good practices in the development of information systems concerning road safety to identify effective solutions was carried out.

Analysis Numerous analyses were carried out, including an analysis of the main road safety problems in Poland and will contribute to the optimization of this process and, consequently, to road safety improvement.

Safety Aspects of E-bikes

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Background E-bikes have become a popular means of transport in everyday and leisure traffic, especially for older people. Figures show a rapid increase in the number of e-bikes on the market: In 2018 more than 150,000 e-bikes were sold...
in Austria, which means a total market share of 33% of all bikes sold (2016: 22%).

E-bikes are above all a good alternative for motor vehicles in city traffic.

The KFV (Austrian Road Safety Board) is currently dealing with questions about the safety of e-bikes.

### Methods

In our studies the following methods were applied:

1. analysis of existing accident data on e–bikes (statistical data, media analysis)
2. on–site observations (e.g. helmet wearing quota for cyclists, collection of speed differences of selected bike types, …)
3. questionnaire survey among 101 e–bike users concerning the comfort and safety of different bike types
4. survey on the subjective safety of e-bike users and e–bike non–users

### Results

Results showed among others that...

1. ... in 2018 1.025 injured and 17 killed e–bike cyclists showed up in statistics
2. ... helmet wearing rate of e–bike cyclists was 44% (compared to 25% of conventional bikes)
3. ... the average speed of pedelecs was 21.4 km/h (compared to 18 km/h of conventional bikes)
4. ... pedelec drivers feel safer and more comfortable than conventional cyclists

### Conclusion

Based on the results, tips for safe driving with e–bikes were drawn up and measures and recommendations for action to increase the safety of e-bike users were derived.

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**P5.009  PREDICTORS OF PSYCHOLOGICAL AND FUNCTIONAL OUTCOME FOLLOWING TRAFFIC INJURIES: A SCOPING REVIEW**

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### Background

Each year tens of millions of individuals are injured or disabled as a result of Road Traffic Crashes (RTCs). In addition to immediate death, there is an increased risk of subsequent death, ongoing physical disability, psychological issues, and reduced overall health related quality of life following RTCs. This study aims to identify the factors reported in the literature that are associated with adult trauma patients’ morbidity following an RTC.

### Methods

A scoping literature review was conducted. Peer-reviewed articles were retrieved from MEDLINE/PubMed, EMBASE, and CINAHL.

### Results

This literature review identified six categories of variables being used in studies that explored predictors and factors associated with physical and psychological morbidity following RTCs. Five of the categories represented independent variables: (i.) injury characteristics and hospital predictive factors; (ii.) demographic factors; (iii.) family and social support; (iv.) compensation system process and fault in the RTC (v.); and (vi.) pre-injury health status (vi.). The sixth category was used to represent the range of (vi.) psychological and functional outcomes.

### Conclusion

These findings highlight the multiple and diverse contributors that influence person outcomes following an RTC. These factors are intrinsic and extrinsic and commence from the time of injury as well as highlighting the importance for ongoing support after acute care discharge to enable a quick return to optimal wellbeing.

### Learning Outcomes

Research examining RTC outcomes must integrate information about the crash response and health care system whilst simultaneously measuring other factors to appropriately quantify the relative contribution of each variable to psychological and functional outcomes.

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**P5.010  RED LIGHT RUNNING RATE IN THE KUMASI METROPOLIS OF GHANA**

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In Ghana, approximately 12% of all road traffic fatalities occur at junctions and the cause of these crashes, as assigned by the traffic police, include signal violation. Red light running places the violator and other road users at risk of road traffic crash. The main aim of the research work was to undertake baseline study to establish the current level of red light running through a direct observation survey and determine the risk factors associated with traffic light violation in the Kumasi Metropolis of Ghana. An uninterrupted road side observational survey was conducted at ten (10) signalized intersections using pro-forma checklist. A binary logit model was employed to determine the risk factors associated with traffic light violations. Overall, drivers were observed running red in 35% of all the red phases observed. From the model, factors which influence red light running include the age and gender of the driver, presence of a passenger in the vehicle, vehicle type, junction type, cycle length of the signal and queue length. There is a need for public awareness campaigns on the dangers of red light running. The education on red light violation must be accompanied by sustained enforcement of the traffic law by the traffic police to help reduce the violation of red light. Deployment of automatic red light cameras will also go a long way in ensuring enforcement at all times.

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**P5.011  EVALUATION OF INTERVENTIONS TO PROMOTE CHILD RESTRAINT USE AMONG KINDERGARTENERS IN CHINA**

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### Objectives

To evaluate the effectiveness of parent-based child restraint system (CRS) intervention so as to promote the parents’ knowledge, attitude, and use of CRS.

### Methods

We conducted a randomized trial with cluster sampling in 8 selected kindergarteners in Shantou and Chaohzou, China (4 from each city). Parents were randomly assigned to receive 1 of the 4 conditions: education intervention, behaviorial education intervention, biomechanical visualization intervention, or control.

### Results

Six months after the intervention, multivariate logistic regression models showed that child gender of boy, parents’