matching on civil registration number and date 97 patients were found in all three registries, 140 only in hospitals trauma, 8683 only in pre-hospital and 8147 only in ambulance data. For 69% of the trauma registry patients location of occurrence where known.
Conclusions For the present geographical region in Denmark pooling data from these registries seems a promising way for identifying place of occurrence. However, immediate merge were only valid with manual cumbersome review. Further analysis must look into whether the recorded locations are valid indications of actual places and gives sufficient input to the planning of preventive measures in municipalities.

532 NEW EMERGING PERSPECTIVES ON RAOD SAFTY MANAGMENT: WHAT LIGHT CAN COMPLEXITY SCIENCE TROW?

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Background The words "complexity" and" complex system are increasingly used in road safety and transport system literature. They refer to the acknowledgement of the complexity of the multi-causal nature of road safety issues, and their solutions. The terms have also been used in describing the complexity of changing individual behaviours or policies, anticipating and assessing the consequences of interventions. Hence, it seems rational turning to complexity science for insights.
Description of the problem Complexity science is about complex adaptive systems (CAS). It defines a complex adaptive system as a collection of autonomous, interactive and adaptive agents that act freely in diverse ways, and are unpredictable and, non-linear but interconnected. It is considered an ever changing system, typically with fuzzy boundaries which is built of multilayer nested systems.
Changes Utilising the lenses of complexity, a road traffic system is perceived as a dynamic complex adaptive system formed of many diverse interdependent agents including individuals, culture, environment, policies, vehicles and roads which constantly change. In addition, any change in one aspect or component of this system can significantly change other parts and so the whole system. This new understandings provides new explanations for current road safety issues leading us to new understanding of potential adaptable solutions.
Conclusions This paper will explain this new understanding. By doing this, it suggests that utilising concepts of complexity science is a promising line of inquiry to explore successful approaches to context and time dependent road safety interventions. It also argues that it is not possible to remove the complexity, but we need to harness it in order to be able to develop more safe transport systems across all countries and communities.

533 FRACTURE PATTERNS IN YOUNG CHILDREN AFTER MOTOR VEHICLE CRASHES

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Background In Africa, road traffic injuries rank second to interpersonal violence and the road traffic fatality rate is higher than for any WHO region. The aim of this study is to explore potential differences in number and patterns of fractures between childhood survivors and non-survivors after a motor vehicle crash in view of developing targeted and more effective prevention strategies.
Methods Total body radiographs were obtained of all children under 13 years presenting to our trauma unit after a motor vehicle crash during a 30 month period between January 2010 and July 2012. In addition, total body radiographs were obtained from the mortuary of all children under the age of 13 who demised after a motor vehicle crash. The number and types of fractures as well as any other skeletal malformations were compared and evaluated. Approval was obtained from our University Ethics Committee.
Results A total of 1045 children were assessed; 1007 presenting to the trauma unit, and 38 directly to the mortuary. Twenty patients presenting to the trauma unit did not survive. The total amount of non survivors was 58 but 6 were excluded since radiographs were not available. From the 987 survivors 79 were excluded because the radiographs were unavailable. The average age of children was 6.2 years (SD 3.1; Range 0–12). Fractures were far more common in non-survivors than survivors (78.8% vs 46.7%). Fractures of the Skull ($p < 0.0001$), Cervical Spine ($p < 0.0001$), Thoracic Vertebrae ($p < 0.0001$), Trunk including Shoulder ($p < 0.0001$), Lower Arm ($p < 0.002$), Upper Arm ($p < 0.3$) were statistically significantly more frequent in non-survivors than in survivors. Fractures of Facial bones, Elbow, Wrist, Hand, Pelvis, Femur, Knee, Foot and Ankle were different but not statistically significant in survivors and non-survivors.
Conclusions This is the first study documenting and comparing fracture patterns with outcome (survivors and non-survivors) in young children after motor vehicle crash. Since motor vehicle crashes are the most common cause of unnatural childhood death it is important to study fracture patterns in order to understand the injury mechanism and develop preventative strategies. This study indicates that skull, cervical spine and torso fractures are more intricately associated with severe morbidity and mortality in children than fractures of other body regions. The upper torso, head and neck are the body regions most vulnerable in young children and requiring most protection.

534 RESULTS OF THE "DECADE OF ROAD SAFETY ACTION" IN COLOMBIA. 2010–2015

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Background In the 1990's, the United Nations set the standards for confronting the increasing issue of traffic injuries and fatalities (TIF). In Colombia, the 2013–2021 National Road Safety Plan was created to implement guidelines and facilitate inter-sector coordination of the strategic pillars proposed in the program Decade of Road Safety Action-DRSA. This study shows the results of the first five years of the DRSA program in Colombia.
Methods This descriptive, longitudinal study analyses the behaviour of TIF in Colombia from 2010 to 2015. The injury and fatality records were obtained from the Colombian National Institute of Legal Medicine and from the Colombian National Statistics Department. The number of vehicles was obtained from the Unified National Transit Registry. Adjusted fatality rates were estimated. A lineal regression model was made to correlate the

fatality rates with the overall increase in the number of vehicles adjusted by population during the study period.
Results The information sources differ as far as percentages were concerned (1.3%–6.5%), but they coincided in the fact that fatalities increased by around 40% (2014). 37% of the fatalities occurred in three provincial departments: Antioquia (14.4%), Valle (12.5%) and Bogotá (10.1%). The average fatality rate for 2014 was nearly 14.0/100,000 inhabitants; although it was higher in the provincial departments of Casanare (37.7), Arauca (27.9), Meta (26.6), and Cesar (25.7). There was a positive correlation between TIFs and the increase in the number of vehicles in Colombia ($p < 0.001$).
Conclusions Road safety management in Colombia is restricted due to the lack of a leading agency to direct, control, and manage policies. Although a decree to create a National Road Safety Agency was issued in 2013, the year 2015 is now closing and such agency has not initiated operations. Poor implementation and non-compliance with traffic laws and regulations seem to be the main cause for traffic accidents.

535 GLOBAL ALLIANCE OF NGOS FOR ROAD SAFETY

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Background Road traffic crashes and resultant injuries and fatalities have become a major global problem as countries develop and rapidly acquire motorised vehicles. The United Nations launched the UN Decade of Action for Road Safety 2011–2020 to coordinate global efforts and promote solutions to this increasing health issue. The Global Alliance of NGOs for Road Safety was established in response to the Decade of Action, and provides a forum for non-governmental organisations to share best practices and collectively advocate for road safety and the rights of victims of traffic crashes. The Alliance currently represents more than 140 NGOs from over 70 countries.
Problem Each year, more than 1.2 million people die on the world's roads and tens of millions are seriously injured. Traffic crashes are currently the number one killer of young people aged 14–29, and the eighth leading cause of death among all people worldwide. Alongside the devastation that traffic crashes impose on victims' families and loved ones, traffic crashes take a tremendous toll on the economy. Each year, developing countries lose between 1% and 3% of their GDP as a result of traffic crashes. Thankfully, these consequences are preventable and NGOs play a critical role in reducing the impact of traffic crashes in their communities and around the world.
Solution The Global Alliance of NGOs for Road Safety serves as a platform for NGOs to share best practices and coordinate efforts to implement effective road safety programs and campaigns. The Alliance provides services and support to its members in three key areas: 1) networking and sharing, 2) advocacy, and 3) capacity building and training. The Alliance also provides information about the activities of NGOs to non-NGO actors, such as governments, multilateral organisations, media, and other stakeholders to promote road safety in the global development agenda. The Alliance consistently reaches more than 140 member NGOs and more than 600 other road safety advocates through official communication platforms, organised conferences, and other outreach efforts and services.
Conclusions The Global Alliance of NGOs for Road Safety is an effective platform for NGOs working in road safety to share ideas, best practices, and coordinate international campaigns to promote road safety and the right's of road victims in their countries and around the world.

536 FEDEX GLOBAL ROAD SAFETY TRAINING PROGRAM

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Background Each year, more than 1.2 million people die on the world's roads and tens of millions are seriously injured. Traffic crashes are currently the number one killer of young people aged 14–29, and the eighth leading cause of death among all people worldwide. However, these devastating consequences are *preventable*, and NGOs play a critical role in reducing the impact of traffic crashes in their communities and around the world. However, many NGOs still struggle to reach their full impact due to a lacking of training and expertise in critical operational areas including project management, fundraising, etc.
Objective To improve NGO capacity to implement effective road safety programs, FedEx and the Global Alliance of NGOs for Road Safety, which represents more than 140 NGOs from over 70 countries, have partnered to develop a targeted training program for road safety NGOs. The FedEx Global Road Safety Training Program focuses on key areas for programatic improvement including: project management; fundraising and proposal writing; research, monitoring and evaluation; communications; and more. Specifically, the Training Program includes face-to-face training workshops conducted in key regions of the world, as well the development of public webinars, online tool-kits, and mentor programs for NGOs. This program is expected to improve NGOs' ability to design and implement effective programs to advocate for road safety and reduce traffic-related injuries and fatalities in their localities.
Results Currently, the Alliance is conducting a needs assessment among member NGOs to gather information on area-specific weaknesses of members, to inform the specific content of the Training Program. The Training Program will formally launch at the 2nd High-Level Conference on Road Safety in Brazil on 18–19 November 2015. The Training Program will be systematically monitored and evaluated to determine the effectiveness of the Training Program in improving member NGOs capacity to design and implement road safety programs with measurable results.
Conclusions NGOs have significant potential to reduce traffic-related injuries and fatalities and advocate for road safety by implementing community programs, but many NGOs lack training in key operational areas to ensure the effectiveness of their programs. The FedEx Global Road Safety Training Program will provide this training to road safety NGOs around the world.

537 CONSENSUS DRIVEN DESIGN OF CHILD RESTRAINT PRODUCT INFORMATION TO REDUCE MISUSE

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