Traffic safety: Road infrastructure

Parallel Tue 1.3

243 THE EFFECT OF REDUCED STREET-LIGHTING ON ROAD COLLISIONS IN ENGLAND AND WALES 2000–2013

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Background Many local authorities in England and Wales have reduced street lighting at night to save money and reduce carbon emissions. Reductions in street-lighting, however, have attracted considerable public concern about road safety. While there is evidence that increasing street-lighting can reduce collisions it is unknown wheather reducing street-lighting can increase collisions. We quantified the effect of four street lighting adaptation strategies (switch off, part-night lighting, dimming and white light) on road traffic collisions in England and Wales.
Methods Observational study based on analysis of geographically coded police data on road traffic collisions in 62 local authorities. Conditional Poisson models were used to analyse longitudinal changes in the counts of night-time collisions relative to day-time collisions occurring on affected roads during 2000–2013. Effect estimates were adjusted for regional temporal trends in collisions.
Results There was no evidence that switch-off (rate ratio 0.97; 95% confidence interval 0.82 to 1.15); part-night lighting (RR 0.95; 95% CI: 0.84 to 1.07); dimming (RR 1.00; 95% CI: 0.91 to 1.10); or changes to white light (RR 1.01; 95% CI: 0.93 to 1.09) were associated with a change in collisions at night relative to collisions during the day.
Conclusions This study found little evidence of harmful effects of switch off, part-night lighting, dimming, or changes to white light/LEDs on road collisions in England and Wales.

244 HELMETHON: SUCCESS OF HELMET CAMPAIGN IN AIDING THE HELMET LAW ENFORCEMENT IN A DISTRICT OF SOUTH INDIA

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Background Road traffic injuries were the leading cause of injury with a mortality rate of 18.1/1,00,000/year and accounted for 38% of fatal injury deaths and 39% of nonfatal injuries during Jan 2011–Dec 2011 in Tumkur. Nearly 26% of fatal and 38% of non-fatal road traffic injuries were sustained in the age group of 15–29 years. Two wheeler riders accounted for 45% of fatal and 35.5% of nonfatal injuries. Head injury is the most common cause of death among two wheeler users. Helmet is the only vaccine to prevent head injuries. Though there was a law about compulsory wearing of helmet in the state, it was never enforced in the district and helmet usage rate in a district before campaign was varied from1% to 5%.
Methods 'Helmethon', was a campaign initiated and led by a Medical college with the support of other universities. Campaign targeted the public with special focus 1. To create awareness among public about helmet safety, with special focus on youth. 2. To promote helmet usage 3. To draw stakeholder's attention towards importance of helmet safety and need for enforcement. This campaign was designed with the inputs from youth, so that more youth would be part of this.

Multi faceted Campaign was carried out for a period of three months. It had various components like, Helmet education,HELfie challenge in a social media, bike rally with a flash mob and wear helmet pledge at different campus and public places, an intercollegiate literary and cultural event with the theme 'HeLMeT' and a first ever marathon-HELMETHON, in a district for Helmet.
Results Campaign was successful in bringing the stakeholders together with good community participation and Helmet law was enforced in Tumkur district in less than a fortnight following the campaign. Now helmet usage rate among riders has increased to 80%.
Conclusions A well planned and committed helmet campaign shall influence stakeholders to enforce the helmet law and sensitises the community regarding helmet safety and encourages them to use it.

245 IMPLEMENTATION AND EVALUATION OF A PROGRAM TO INCREASE BOOSTER SEAT USE AMONG SCHOOL-AGE CHILDREN

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Background Between the 2011–2012 and 2014–2015 school years, the Injury Prevention Centre of Greater Dallas (IPC) implemented *Give Kids a Boost (GKB)*, a one-year, multi-faceted, school-based booster seat program in a total of 8 target schools in the Dallas area. Through the program, the IPC trained school staff and parents to be booster seat champions. Together, they conducted parent presentations, provided fact sheets and tailored communication, educated parents at dismissal, and offered inspection stations. This study aimed to evaluate the effectiveness of all of the IPC's *GKB* projects in increasing booster seat use among children 4–7 years of age in motor vehicles.
Methods The IPC conducted observation surveys at target and comparison schools before project implementation (pre-intervention, P_0), 1–4 weeks after project implementation (early post-intervention, P_1), and 4–5 months after project implementation (late post-intervention, P_2). Observations were conducted at morning drop-off times near school entrances. A standardised form was used to document the child's restraint use, age/race/gender, seating position, vehicle type, and driver belt use. P_0, P_1, and P_2 time periods were analysed to compare the changes in booster seat use across each project. Observations were conducted in the same manner at the comparison schools, which received no intervention.
Results In the 8 target schools, booster seat use for children 4–7 years of age increased an average of 20.9 percentage points between P_0 and P_1 (P_0 = 4.8%, P_1 = 25.7%; O.R.= 6.9, 95% CI: 5.5 to 8.7; $P < 0.001$). Comparison schools (n = 14) experienced no change in booster seat use (P_0 = 4.7%, P_1 = 4.9%; O.R.= 1.0, 95% CI: 0.8 to 1.3; $P = 0.4$). In 3 of the 4 years, booster seat use remained at a high level at the P_2 time period (P_2 = 31.5%).