



Kentucky Transportation Cabinet
Division of Highway Safety Programs
**FINAL REPORTING – NON-OVERTIME
ENFORCEMENT PROJECTS**

TC 35-22
02/2011

Activities Completed: October 1, 2014 - September 30, 2015
Return by November 12015

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**Grant Number: K9-15-06 Phone Number: 859-323-7873 Fax Number: 859-
257-3909**

Please provide a summary of activities/accomplishments for the grant year.

Title: Kentucky Trauma Registry and CRASH Integration and Surveillance Quality Improvement Related to Commercial Vehicles

Probabilistic data linkage between 2014 Ky Trauma Registry (TR) and CRASH data was performed to assess the quality of integration of TR data and to establish a baseline on the completeness and accuracy of the TR records related to commercial vehicle occupants treated in Ky trauma facilities. The estimated percentage of linked records is 82% (2,944 out of 3,573 MVC TR records considered appropriate for linkage). For comparison, in 2012, 2,410 (78%) of the thirty one hundred trauma registry records initially considered appropriate for linkage with the police collision reports, were successfully linked.

The TR- CRASH linkage addressed the completeness and accuracy of coding for variables related to commercial vehicle occupants treated in trauma

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centers. The analysis showed the need for education among the registrars on the importance to use all available information to improve the completeness of coding on variables pertaining to position in the vehicle, work-relatedness of the injury, occupation and industry information. Some facilities had disproportionately high rate of missing/not applicable values on these variables. The issues of completeness and coding will be addressed during the spring 2016 state trauma registrars training.

Data quality issues were addressed at the 2 trauma registrar trainings, along with training on changes in the most recent NTDB standardized data dictionary, coding requirements for the new state-specific variables added in 2014.

Overall, the process of submitting data for the Ky-specific data variables added in FY2014 was successful. All currently reporting facilities are submitting the Ky-specific TR variables. Some facilities had more problems than others with the initial submissions but the trauma registry software vendors (CDM and DI) worked with the facilities to eliminate/correct problems with incorrect/incomplete data submission.

An analysis on the majority of the Ky-specific TR variables was performed on completeness and concordance and facilities that had a higher than the average percentage of missing, NA, or outlier values were identified. Some of the information was shared with the Ky Trauma Advisory Committee (TAC) Performance Improvement (PI) subcommittee; 2 meetings of the PI subcommittee were held with participation of trauma registrars, KIPRC analysts, and TAC members to identify strategies to improve data quality.

The results from the data quality assessments done as part of this grant showed the need of a trauma registry data analyst to monitor the data quality of

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this new and expanding trauma registry system. With so many new facilities joining the trauma system, many standardized variables, changing reporting and coding requirements, and relatively unexperienced or new trauma registrars, the trauma registry systems needs ongoing analysis of data quality and communication of the findings to the Ky TAC and the facilities.

List each objective and provide information relevant to the status of each through contract end date, September 30, 2015.

This grant had 3 main measurable objectives that were met:

1. **On Trauma Registry Integration: To increase the percentage of appropriate records in the 2014 Trauma Registry that are linked to 2014 CRASH records by 10% compared with the 2012 baseline linkage.**

The estimated percentage of linked records is 82% (2,944 out of 3,573 MVC TR records considered appropriate for linkage). For comparison, in 2012, 2,410 (78%) of the thirty one hundred trauma registry records initially considered appropriate for linkage with the police collision reports, were successfully linked.

2. **On Trauma Registry Completeness: To establish a baseline percentage on the completeness of the data elements in both systems pertaining to commercial vehicle occupants.**

The TR- CRASH linkage addressed the completeness and accuracy of coding for variables related to commercial vehicle occupants treated in trauma

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centers. The position in the vehicle was not listed in the trauma record for 18% of the 22 commercial vehicle occupants identified in the linked data. Only 10 (45%) of the 22 trauma records for commercial vehicle occupants were listed as “work-related”. Industry was listed only for the 10 occupants listed as work-related injuries; occupation was listed for only 3 of the 22 TR records. Protective device, another required TR variable, was not listed for 18% of the 22 TR patients injured as occupants of commercial vehicles.

3. **Trauma Registry Data Accuracy:** To establish a baseline percentage on accuracy of the information in the both systems pertaining to commercial vehicle occupants.

Our analysis showed that there were some disagreements between the information in the two systems: 1) Restraint (using CRASH as more reliable source) – 36% disagreement; 2) Position in vehicle (using CRASH as more reliable source)- 18% disagreement; 3) Injury severity (using TR as more reliable source)– TR variable Injury Severity Score (ISS) (score ranges: 1-9 mild, 10-15 moderate, 16-24 severe, 25-75 very severe) – assuming discordance when CRASH=incapacitating & ISS=mild or CRASH=possible inj & ISS>=severe: 5/22= 23% discordance;

**If you did not meet an objective, provide explanation along with the status.
objectives were met**

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