TechBrief

Programs of the Federal Motor Carrier Safety Administration (FMCSA) encompass a range of issues and disciplines, all related to motor carrier safety and security.

The mission of the FMCSA's Office of Medical Programs is to promote the safety of America's roadways through the promulgation and implementation of medical regulations, guidelines and policies that ensure commercial motor vehicle (CMV) drivers engaged in interstate commerce are physically qualified to do so.

A "large truck" is any truck with a Gross Vehicle Weight rating or Gross Combination Weight rating of 10,001 pounds or greater.

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Overview of the FMCSA Medical Standards and Guidelines Development Process

Background

This technical brief describes the science-based process the FMCSA uses to assess its medical standards and guidelines. One way to improve the safety of commercial drivers is to review, revise, and create, if needed, standards and associated guidelines for medical fitness for duty determinations. Effective medical standards and guidelines are based on current diagnostic and therapeutic best practices.

To examine medical conditions and crash risk for the regulated driver population, FMCSA uses systematic reviews and meta-analyses, which are innovations in the development of transportation safety medical standards and guidelines. This is the first time these scientific methods have been applied in studies of the commercial large truck and bus driver population. The five steps are:

1) Topic Identification
2) Research
3) Data Review and Analysis
4) Standard and Guideline Development
5) Action

Topic Identification. The FMCSA identifies and prioritizes medical standards and guidelines for analysis and evaluation. General considerations include:

- What in the current standards and guidelines requires review and revision?
- What are the new diagnostic and treatment modalities?
- What are the current relevant standards and guidelines for other transportation safety sensitive occupations?
- What are the relevant standards and guidelines in other countries?
- What are the safety issues of critical interest to the public?

Research. The FMCSA medical program team conducts preliminary research to determine which questions will yield meaningful evidence, and provides a preliminary report that the Agency uses to develop key research questions. These questions are the basis for the systematic reviews and meta-analyses. The FMCSA consults with the Agency's Medical Review Board (MRB), a Federal Advisory Committee Act committee, during this process.

Data Analysis and Review. The FMCSA conducts a systematic review of the relevant medical literature. Table 1 presents a summary of the data sources, and additional sources may be used. The goals of this review and analysis are a) to provide a data-driven source of information about existing standards and guidelines and b) to provide the information needed for an evidence-based revision of standards and guidelines, and for creating new ones. The time it

takes to prepare a comprehensive evidence report varies, based on the number of questions and the amount of relevant research that is available. Generally they are completed in four to eight months. The methodology underpinning these evidence reports is summarized in a separate Technical Brief, "Overview of Methodologies to Develop Medical Standards and Guidelines for Commercial Motor Vehicle Drivers."

Table 1. Evidence Base

Name of database	Date limits	Platform/provider
Cochrane Library	Through 2006 Issue 3	www.thecochranelibrary.com
Embase (Excerpta Medica)	1980 – August 31, 2006	OVID
Medline	1966 – August 31, 2006	OVID
PubMed (Pre Medline)	Premedline Searched August 31, 2006	www.pubmed.gov
PSYCH Info	1968 – August 31, 2006	www.apa.org/psycinfo
TRIS Online (Transportation Research Information Service Database)	Through August 31, 2006	http://trisonline.bts.gov/search.cfm

Standards and Guidelines Development. The evidence reports reflect current diagnostic and therapeutic medical advances. Integral to the development of medical standards and guidelines are the processes of the Medical Expert Panel (MEP) proceedings and MRB meetings. This expert input prevents outdated or inadequate data being used, and improves the program's credibility in the medical community.

Action. The FMCSA considers evidence reports, expert opinion, the recommendations and advice of the MRB and other participants in the process, as well as other factors (such as feasibility and impact), before developing the action plan. All medical standards and guidelines proposed are then subject to public notice and comment rulemaking.

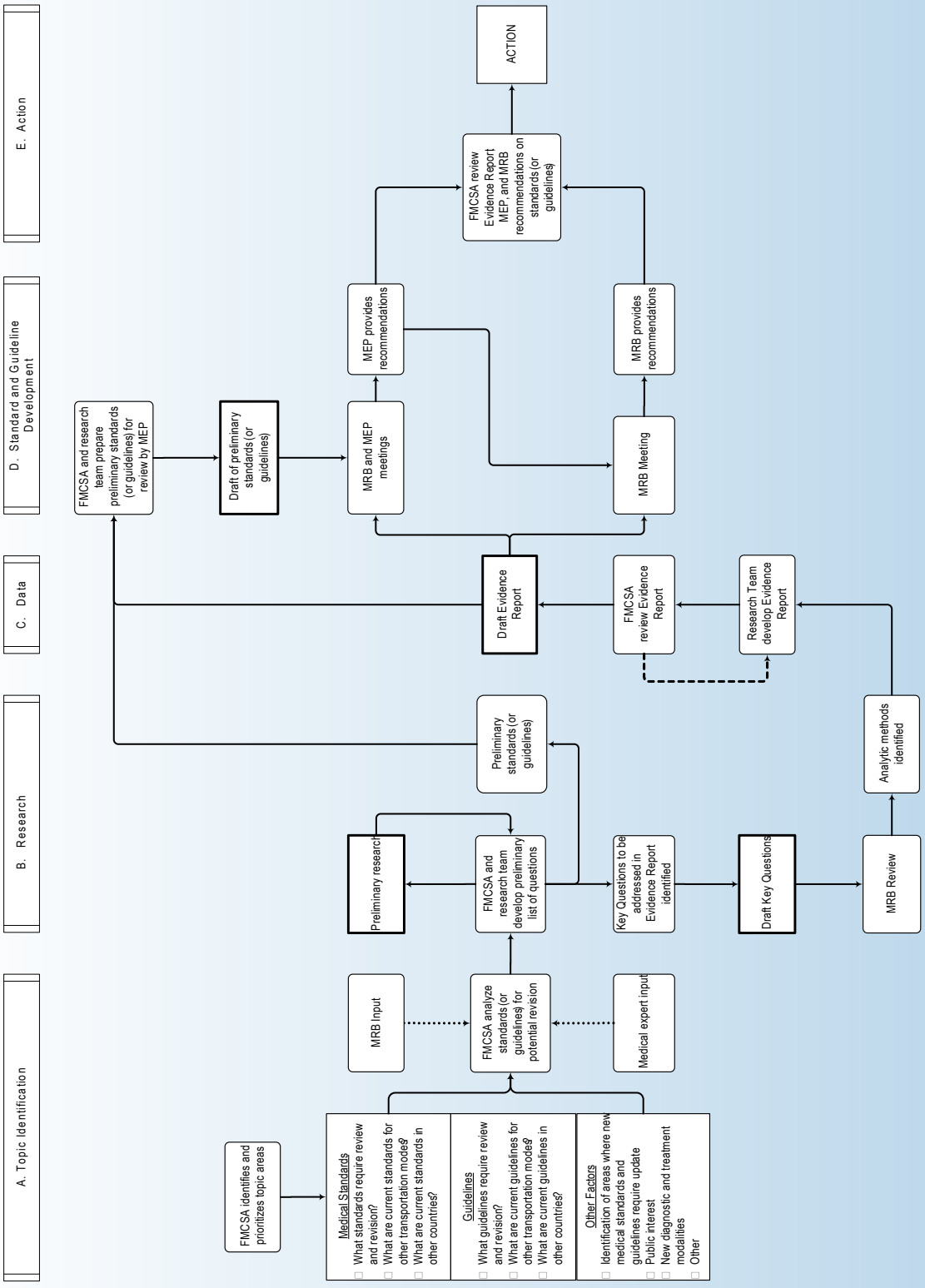
Refer to Figure 1 for a summary of this process.

Participants in the Review Process

The FMCSA has implemented opportunities for participation in this process and considers input from multiple sources. Proposed standards and guidelines are considered and evidence reports are examined in ongoing public forums and proceedings.

FMCSA Medical Program Team. This team consists of experienced researchers knowledgeable in evidence-based medicine. The team conducts background and preliminary research on relevant medical issues, conducts systematic reviews of the medical literature, and performs meta-analysis using quantitative and qualitative models to determine the sufficiency and quality of evidence when answering a question.

Figure 1. Flowchart of FMCSA Medical Standard and Guideline Development



Key Words: Meta-analysis, Medical Standards, Medical Program

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Medical Expert Panel. The Medical Expert Panel is an independent panel of physicians, clinicians, and scientists who are experts in their specialty fields. The MEP reviews the evidence about a question or topic, and makes recommendations to the Agency about medical standards and guidelines.

Medical Review Board. The Medical Review Board is composed of physicians who have expertise in a medical specialty, an understanding of research methods, knowledge of transportation medical issues, experience on panels that develop medical standards, a record of scientific collaboration and professional service, and experience developing teaching programs. For more information about the MRB visit the website at www.fmcsa.mrb.dot.gov.

Public. The public and interested stakeholders (e.g., industry, medical societies) have opportunities to attend meetings and participate in public discussions, as well as the notice and comment rulemaking process.

Summary

The FMCSA is using a systematic, evidence-based process to revise or develop medical standards and guidelines for commercial drivers. This process is comprised of five steps:

1) Topic Identification
2) Research
3) Data Review and Analysis
4) Standard and Guideline Development
5) Action

The goal is to ensure that medical standards and guidelines are current, consistent, and comprehensive. It is mission critical to review, revise, and create new, when necessary, medical standards and guidelines for commercial vehicle drivers.

For more information about FMCSA's medical program, go to: www.fmcsa.dot.gov/rules-regulations/topics/medical/medical.htm.

For questions about FMCSA's medical program via email: FMCSAmedical@dot.gov.

References

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