

Caplan RA: The Closed Claims Project: Looking Back, Looking Forward. *ASA Newsletter* 63(6): 7-9, 1999.

Full Text

The end of a calendar year traditionally leads to reflections about the recent past and resolutions for the forthcoming months. The approaching millennium provides a similar opportunity, but from a broader perspective. For the Committee on Professional Liability, 1999 marks the 15th year of the [ASA Closed Claims Project](#). That is a long enough history to warrant an overview of progress and some predictions about the challenges lying ahead.

Looking Back

The usefulness of closed claims data was first appreciated in the early 1980s at the University of Washington by Richard J. Ward, M.D., Professor of Anesthesiology, and Richard J. Solazzi, M.D., then a resident in anesthesiology. While studying closed malpractice claims against anesthesiologists in Washington State, Drs. Ward and Solazzi realized that these cases provided an enriched environment for collecting information about rare but often catastrophic events. They also realized that the opportunity to collect a large set of rare events might reveal recurring themes and insights that would be difficult to discern by the practitioners who experienced these cases as isolated events.

In 1984, Dr. Ward convinced Ellison C. Pierce, Jr., M.D., who was then ASA President, that a nationwide project would be the best way to realize the potential benefits of closed claims analysis. Dr. Pierce agreed and the Closed Claims Project was established in 1985 under the direction of Frederick W. Cheney, M.D., Chair of the ASA Committee on Professional Liability. Since then, the Closed Claims Project has been the one of the main activities of the Committee.

The goal of the Closed Claims Project is to discover unappreciated patterns of anesthesia care that may contribute to patient injury and subsequent litigation. This goal is rooted in the basic philosophy that *prevention* of adverse outcomes is the best method for controlling the costs of professional liability.

The initial years of the Closed Claims Project were challenging. The Committee had to develop a standardized survey form for data collection and then train reviewers to use this form. In conjunction with data collection, the Committee also had to establish a computer-based system for coding, storing and analyzing data. Insurance companies were initially reluctant to have their closed claims reviewed by outside physicians. After a slow start in the mid-1980s, the project gained wide acceptance throughout the insurance industry and the number of participating companies steadily increased.

Today, closed claims are obtained from 35 insurance carriers. In aggregate, these companies insure approximately 50 percent of practicing physicians in the United States. More than 60 members of ASA make a voluntary contribution of time to serve as reviewers for the Closed Claims Project. The Society owes a great deal of gratitude to these reviewers, who have devoted many long hours to claims review, often at sites distant from home. The current database contains approximately 4,000 claims that span a three-decade interval

from 1970 through mid-1990. (The database does not contain the most recent claims because the process of claim investigation and resolution typically creates a lag time of about three to five years.) The Closed Claims database represents the world's single largest resource for the in-depth study of major adverse outcomes related to anesthesia care.

The Closed Claims Project has played an important role in understanding anesthesia liability and promoting patient safety. For example, by the late 1980s, analysis of the database led to the clear recognition that respiratory-related events were the single most important source of anesthesia liability and that most of these events were preventable. These findings compelled ASA to develop standards and guidelines relating to pulse oximetry, capnography and management of the difficult airway. The Project also affords an opportunity to discern previously unrecognized sources of risk and to suggest strategies for further study and prevention. This was first demonstrated in 1988 with an extensive study of sudden cardiac arrest during spinal anesthesia. Other in-depth studies have yielded important insights about diverse problems such as burns from warming devices, peripheral nerve injury, intraoperative awareness, injuries arising from gas delivery equipment and the effects of bias and variation on expert review. Overall, the findings of the Closed Claims Project have been published in 19 journal articles. A list of publications and a synopsis of each study can be found at the Web site of the Closed Claims Project, <<http://depts.washington.edu/asaccp/ASA/index.html>>.

Looking Ahead

The recent stream of cases entering the Closed Claims database suggests that the landscape of anesthesia liability is changing. Happily, the direction of change is favorable for the most severe injuries. Death and brain damage accounted for 56 percent of all database claims in the 1970s, compared to 45 percent of all claims in the 1980s and 31 percent of all claims in the 1990s. Of note, the contribution of respiratory events to death and brain damage is diminishing. In the decade of the 1970s, adverse respiratory events accounted for 55 percent of all claims for death or brain damage, compared to 50 percent in the 1980s and 45 percent in the 1990s. The three most common adverse respiratory events associated with death or brain damage are inadequate ventilation, esophageal intubation and difficult intubation. Among these three events, the most dramatic change has occurred in the category of inadequate ventilation, which accounted for 22 percent of all claims for death or brain damage in the 1970s, but only 7 percent of these claims in the 1990s. A similar but smaller change has occurred with esophageal intubation, which accounted for 10 percent of all claims for death or brain damage in the 1970s, compared to 7 percent in the 1990s. What accounts for these favorable trends? The widespread use of pulse oximetry and capnography may be playing an important role, as suggested by the observation that more than two-thirds of adverse respiratory events in the database are considered preventable with the use or better use of one or both of these monitors.

If claims for death and brain damage continue to decline, peripheral nerve injury may eventually emerge as the leading source of claims against anesthesiologists. Currently, peripheral nerve injury is the second most common class of injury, accounting for 16 percent of claims in the database. (By comparison, death is the most common injury, accounting for 32 percent of all claims.) An in-depth analysis of claims for peripheral nerve

injury has recently been published (see [Anesthesiology 1999; 90:1062-1069](#)). This new study adds support to a growing body of evidence that most injuries to the ulnar nerve and brachial plexus occur under conditions of conventional positioning and padding. The study also supports the observation that conventional explanations for perioperative nerve injury (for example, compression or stretch) are rarely evident. Taken together, these findings indicate that we do not yet have a clear or useful understanding of the basic mechanisms of perioperative nerve injury, and that this lack of knowledge impedes our ability to both establish cause-and-effect relationships and develop effective preventive strategies. Another interesting feature of this analysis is that injuries to the spinal cord are increasing. The two most common factors associated with claims for spinal cord injury are the administration of blocks for chronic pain management and the administration of blocks in the presence of systemic heparinization. An accompanying *NEWSLETTER* article by Donna Kalauokalani, M.D., provides further observations about liability patterns emerging in the area of pain management.

The resources of the Closed Claims Project are now developed well enough to be exported for use in related areas of inquiry. An important example of this capability is the Pediatric Perioperative Cardiac Arrest (POCA) Registry. This registry, initiated in 1994 under the direction of Jeffrey P. Morray, M.D., and Jeremy M. Geiduschek, M.D., represents a joint effort by the ASA Closed Claims Project and the Quality Assurance Committee of the American Academy of Pediatrics Section on Anesthesiology. The impetus for creating the registry arose after an in-depth study of pediatric cases in the Closed Claims database showed that a specific mechanism for cardiac arrest could not be determined in a large number of pediatric cases. The goal of the POCA Registry is to explore the causes of cardiac arrest in children using the data collection methods and investigative techniques developed by the Closed Claims Project. Thus far, 63 institutions have submitted nearly 300 cases of cardiac arrest that have occurred over four years and the administration of approximately 1 million pediatric anesthetics. Analysis of this initial information is under way, and will hopefully lead to a better understanding of perioperative cardiac arrest in pediatric patients.

What direction will the Closed Claims Project take in coming years? The primary objective will be to strengthen the Project's role as a national quality assurance system for the specialty of anesthesiology. This role has evolved for at least two reasons. First, the database is large enough to discern sources of injury that are poorly understood or previously unrecognized. The recognition of such injuries provides an important stimulus for focusing attention on areas of basic research that may lead to improvements in patient safety. Second, the use of standardized data collection and analysis tools creates an opportunity to detect and measure changing patterns of liability over time. By studying these changing patterns, we can learn how preventive strategies are either succeeding or failing and thereby make more effective decisions about allocating resources for improving patient safety. In this regard, the ability to detect new sources of injury is particularly important and efforts are now under way to obtain a more timely understanding of emerging areas of risk.

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