Trauma System Development: The Critical Need for Regional Needs Assessments

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Americans presume trauma center expertise exists for patients with major injuries. Although concentrated expertise exists for cancer and cardiovascular diseases, such expertise for trauma exists only in a disappointingly small portion of the country. The deficiency of trauma systems persists despite more than 2 decades of published data demonstrating effectiveness with a reduced rate of death and disability.1 The Skamania Conference provided an important and timely summary of supporting evidence for trauma systems effectiveness and highlighted many potential reasons why certain areas of the country still lack trauma systems.2 One reason, which I would like to develop further, is the importance of a timely, objective needs assessment.

What critical differences explain why Oregon implemented an effective and durable system of trauma care while Ohio and other states continue to be unable to achieve this goal? An American Medical News article by Peter MacPherson compares and contrasts political events in these two states during efforts to develop trauma systems.3 He emphasizes a critical difference in the perception of a basic need in Ohio and Oregon that resulted in their current dissimilar situations. One element of the perceived need for a trauma system in the Portland area was a regional needs assessment article published in the Journal of Trauma.4 Reaction to this article, which described the quality of care received by motor vehicle crash victims in Northwest Oregon, motivated a critical mass of people to take steps to implement the statewide trauma system.

Although the Oregon needs assessment study provided a timely and important impetus to system development, one wonders whether other regions should pursue similar information when multiple studies from regions around the country provide data supporting trauma system formation. At Skamania, I asked the collected national and international trauma system experts whether such a needs assessment study should be completed in a region contemplating trauma system formation. The answer was a resounding affirmative! With no dissent, the experts thought that a region contemplating development of a trauma system should perform a study of regional needs.

The state of Alabama, now contemplating trauma system implementation, concluded that such a study was unnecessary. Trauma physicians on the state board clearly stated that such a study would delay the implementation process. These physicians concluded that the high statewide accidental death rate (fourth highest in the nation) provides sufficient evidence for implementation of a statewide system.

Alabama’s trauma committee has a high level of motivation and a commitment to improving trauma care; this dedication may well result in a statewide system. Such a level of dedication may not require more details about the current status of trauma care needs in the state to motivate others to change established care methods. Other states, however, may need additional information about current trauma care quality (needs assessment) to create a critical mass of motivated individuals to facilitate a
statewide system implementation such as occurred in Oregon. The Oregon study used methods that have been supplanted by more modern and validated techniques. An additional value to such a study is the ability to perform follow-up studies to demonstrate the effectiveness of system implementation. Quality follow-up studies have been critical to the durability of successful trauma systems.

"Needs assessment" studies critically analyze a region's trauma care. Studies done in Orange County and elsewhere, as summarized by Cales et al., clearly impacted trauma system implementation in the regions studied by the authors. Trauma systems were subsequently created in Orange County, Southern California, and elsewhere as a direct result of the publication of these studies. Although some trauma centers and systems have developed without needs assessment studies, the majority of systems required such studies. I am unaware of published data providing a comparison study of systems developed with and without such regional needs assessment studies.

Northwest Oregon in the early 1980s did not seriously consider these California-based studies demonstrating reduction of death and disability because of the introduction of a trauma system. Local physicians, administrators, and emergency medical systems managers all believed that outside data was not pertinent to their region. Each group stated different reasons for their belief that Oregon did not have a trauma care problem. Further planning and development of an organized trauma system stalled at this point except for approval of a study to analyze the quality of the trauma care in the region. Each group authorized the study design, confident that the results would support the contention that no problem existed. Confidentiality of hospitals, physicians, and patients was strictly guaranteed. Involvement of the regional hospital council allowed access to the medical records in all involved facilities. Participation by regional physicians in the critique of care provided additional validity to the results and added to the critical mass of support. Prepublication presentation of results eliminated much of the opposition to trauma system planning, particularly by physicians and hospital administrators. Much of the trauma system development occurred before the actual publication of the article. Publication of follow-up studies by Dr. Mullins and his associates clearly added to the strength of support and the durability of the system.

Strong support of the status quo exists in many regions of the country, and few contemplate developing regional systems of care. Until compelling data exists that indicates that injured patients do not receive adequate care, the work needed to achieve implementation of a trauma system does not occur, and the status quo persists. Trauma systems require administrative oversight, usually by a designated state agency; funding of such agency activity creates a political approval process. A needs assessment study, particularly with information about the costs of trauma care, aids this political approval process. Ongoing data on trauma care (population-based trauma registry, for example) provides important information for the continued support of these systems. Financial support without such data results in minimal long-term change. It remains unclear if Federal money allocated during the 1970s and 1980s motivated states to designate trauma centers or if long-lasting trauma systems were achieved.

Clearly, the responsibility for change lies with surgeons. They must demonstrate the need for change to motivate hospitals and others to work for systems of trauma care. A critical element for motivation is information about the current quality of trauma care. Surgeons require this needs assessment data to motivate others to implement statewide systems.

REFERENCES

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