Defining Outcomes Research in Athletic Training

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OUTCOMES ASSESSMENT

DOCUMENTATION of the outcomes of clinical care provided by athletic trainers is a current research priority.1-5 Two of the most commonly stated reasons for this priority are the ongoing battle for uniform third-party reimbursement and the need for athletic trainers to practice evidence-based medicine.2-4 Research suggests that for athletic trainers to achieve these goals, the profession must continue to document evidence for the effectiveness of treatments provided by athletic trainers.2,4 Clinical outcomes research provides the best evidence for the effectiveness of a treatment.6

All athletic trainers need to understand outcomes research methods. The current shift toward the practice of evidence-based medicine makes it particularly important for athletic training educators to become familiar with the topic. Educators are uniquely positioned to facilitate evidence-based practice by teaching outcomes research concepts. Athletic training students who learn how to conduct and interpret clinical outcomes research will be better equipped to practice evidence-based medicine and provide a higher quality of care to their patients. The purpose of this report is to define clinical outcomes research as it relates to athletic training and to describe common conceptual models used in healthcare outcomes research.

Outcome Research Defined

Outcomes research seeks to understand the end result of health care practices and medical treatments.5 This research provides critical data to all participants in the health care system. Healthcare professionals and their patients may use clinical outcomes research to understand the benefits and risks of particular treatments to make more informed decisions.8 Third party payers and health care administrators may use information from outcomes research to improve the quality or value of health care services.8

The definition of outcomes research may sound simple and easy to understand; however, the interpretation of what actually constitutes a positive outcome in healthcare is very complex. This complexity is due to the various perspectives that must be considered when interpreting the end result of a healthcare service. For example, athletic trainers may focus on functional

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improvements such as return to sport or work to define a successful outcome. Physicians, on the other hand, may focus on the absence of disability or impairment to define a successful outcome.9 Third party payers and policy makers may focus on quality and cost indices to describe a successful clinical outcome.9,10 Last, but certainly not least, the patient may focus on overall health status or quality of life as a determinant of a positive outcome.9,11-15

Due to these various perspectives, there is no clear consensus on the definition of a successful outcome.11,15-17 Outcome perspective variability has led to various outcome study models. Athletic trainers could benefit from a better understanding of clinical outcome models that have been utilized by other health professions: (a) the structure-process outcome model, (b) the disablement model, and (c) the health-related quality of life (HRQL) model.

**Structure–Process Outcome Model**

This clinical outcomes research model proposes a relationship between healthcare service structure and process variables and the end result of the services. Examples of structure variables in healthcare may include the provider of service, the resources available to the provider, and the setting in which the provider is working.16 Process variables may include the decisions made and resultant actions taken by the provider or facility in behalf of the patient.15,16 This model was conceptualized to guide research on the associations and causal relationships that affect healthcare quality. The underlying assumption of this model is that high quality of care will produce good outcomes.

This model could be adapted to any athletic training setting to evaluate and document quality of care. Structure variables might pertain to the athletic trainer and his/herself and include experience level or any specialty training or certificates they possess (i.e., certified strength and conditioning specialist, various ergonomic certifications, etc.). Other structure variables may include cost indices and the resources available to the athletic trainer such as medical supplies, rehabilitation equipment, and written policy and procedures. Structure measures may also incorporate the physical space in which the athletic trainer provides services, such as the athletic training room or playing fields.

Process measures in the practice of athletic training could include the degree to which services are available and provided according to the needs of the athletes or patients. These variables may include the amount of time the athletic trainer is on site, the ratio of athletic trainers to athletes, and the number of athletic events that are occurring simultaneously. Other process variables could include the consistency with which the athletic trainer follows available policy and procedures and correctly utilizes and maintains available equipment and supplies.

The specific structure and process variables chosen would depend on the specific research question and the outcome of interest. Figure 1 illustrates how the structure process outcome model may be utilized with

![Figure 1](image-url)