UNDERSTANDING QUANTIFICATION OF PHYSICIAN CARE

*PhyScore™, a new software solution to evaluate: Critical Thinking, Physician Intervention, Resource Utilization, Healthcare Cost Tabulation, Patient Outcomes, Overall Performance Scoring*

INTRODUCTION

‘Physician performance’ has long been a disorganized and incomplete science at best, more often fraught with inconsistency and biased opinions of the reviewer than actual ongoing hard data comparisons to support the reviewers’ conclusions.

Many of these reviews are performed because the hospital or physician groups are required to have them performed for “compliance”, “licensing”, or “unexpected” outcomes, therefore limiting the scope and purpose of a performance review.

There are currently no ‘national standards’ for thorough physician performance reviews. In the few situations and areas in which the review is performed, there is no existing source for regional or national results available for comparison. Due to time and cost, any review of hard medical data is performed mostly in a limited range that looks at only a microcosm of the physician’s total performance.

These limited reviews examine short term or incidental hard data such as surgical outcomes, infection rates, etc., but this type of review does not address any consistent, ongoing performance of the physician. In most cases, a thorough physician performance review requires a physician of the same specialty, which is expensive and limits the scope. The physician most often does not have sufficient allocated time or access to all the data required that the new software solution PhyScore™ contains.

PhyScore software was created to discharge the need for human interface in the physician performance review. This software also accesses a database much larger than any reviewer has the time or expertise to use.

For the first time, there is a system capable of reviewing the performance of every individual patient treated; and PhyScore suggests areas for performance improvement, as well as comparing the physician’s performance to other physicians within the group and other regional groups.

Through complex medical algorithms created over two decades of development, PhyScore compares the resources and interventions physicians use in making medical decisions. This program can tabulate and track actual total facility cost and physician costs of every patient the physician treats.
The six preceding categories of physician assessment scoring are explained in detail below:

CRITICAL THINKING SCORING

Forming an objective analysis and evaluation of the possible multiple medical issues in order to form the correct medical judgment in essence is the definition of ‘critical thinking’ in medicine. The physician in the ED is often required to formulate an immediate medical decision without the benefit of time or testing, but more often has the time to formulate a plan by considering several differential diagnoses to be verified or deemed incorrect through testing and/or medical interventions.

For Emergency Medicine, the critical thinking portion of PhyScore examines both types of these presentations in its multipart algorithms by mining four regions of the medical record. Each of these four subcategories is applied in the formulation of the critical thinking score:

A. Differential Diagnoses: After the physician formulates the differential diagnoses PhyScore applies its researched proprietary algorithms giving proper weighting to the difficulty of the presenting and final diagnoses presented. Over 68,000 specialty specific diagnosis codes are used in this process.

B. Emergent Decision Making: Additional critical care scoring for emergent medical decision is applied to the overall critical thinking score such as immediate surgical intervention and/or Cath lab decisions (Neurological and Cardiac) and trauma admissions will give the physician a higher score.

C. Consultations with Attending Physicians: These consultations allows the physician to broaden his/her critical thinking thru seeking consultations with subspecialists, and it is one area of high importance in the process of scoring critical thinking. The simple fact the physician makes the decision to consult on a patient increases the physician’s critical thinking.

D. Critical Care Time: Documentation of the time taken in delivering emergent care ascribes additional weight to the overall critical thinking score as well. Additionally this reveals that the physician is using his training and experience to the maximum, and this time is additive and increases the score proportionally to the submitted time documented.
PHYSICIAN INTERVENTION

The physician intervention score is essentially “What the physician does for the patient.” Ordering diagnostic tests, performing surgeries, intubating and resuscitating patients, etc. PhyScore grades all specialty physician procedures that are performed and applies difficulty ratings to each procedure in an excess of 7,800 medical procedures. PhyScore goes beyond procedure scoring by accounting for the work that the physician also performs but is not normally credited in a manual physician review. This program scores all nursing and medication orders, both oral and IV, patient rechecks, oversight of ancillary patient interventions such as respiratory therapy, ultrasound testing, bedside monitoring, reevaluations, etc. By including these items not typically credited during a physician review allows a more complete picture of the physician’s body of work, and triggers a larger separation in the scoring of the sicker and more injured patients by including these items.

RESOURCE UTILIZATION

PhyScore accounts for all diagnostic testing a physician uses on each patient. This includes lab testing, radiology, EKG, EEG, ultrasound, imaging studies, and special procedures performed that contribute to the usage of the hospital facility and clinical resource services. Every patient and physician has a resource utilization score and PhyScore displays these scores for comparison and quality improvement.

HEALTHCARE COST TABULATION

The financial impact that physicians’ decisions make on the cost of medical resource utilization accounts for approximately 75 - 80% of all healthcare costs. Not surprisingly, physicians have been left in total darkness (to some degree purposely) by the healthcare industrial complex concerning their contribution to the overall costs of their decisions. Recent studies have shown that merely showing the cost of the testing and procedures to the physician prior to the ordering reduced the overall costs by 20%. The study revealed the physicians merely on their own took a few more seconds of critical thinking prior to pushing the order entry button in the computer.

For the first time ever, physicians will see what the cost is to every patient they care for, including all hospital rooms, clinical studies, lab, radiology, imagining, cardiac, pulmonary, surgical procedures, and medications ordered.

PhyScore provides all healthcare and provider costs that are contributed to the individual physician orders and the individual patient. Again, cost comparisons are virtually displayed in dollar amounts within the individual physician and group averages.
PATIENT OUTCOMES

All patient outcomes are displayed in individual and group percentage for comparisons. This information is hardly ever given in total to either the individual or group as a part of any standard reporting mechanism, but PhyScore will provide this individually and for the group. In future versions, PhyScore will compare the patient admitting diagnoses to the patient discharge diagnoses between the attending hospital physicians and the ED physicians to reveal the correlation coefficient values between the two groups.

OVERALL PERFORMANCE

This score is simply not a summation of the previous four main categories but applies weighted algorithmic equations to each of the four categories according to the medical specialty being analyzed. Only after that is the final score is tabulated.

SUMMARY

All physicians by nature are investigators and scientists, and understand information is the most powerful tool for them to use in their practice. Physicians are not provided with what should seemingly be basic practice information such as:

- All patient outcomes
- The cost of my medical decision-making
- My hospital resource usage
- How do I compare within my own group and outside groups of the same specialty
- How strong is my Medical Critical Thinking compared to my associates
- Should I take CME courses to improve myself in this area?

This is why PhyScore was developed by physicians for physicians within their own specialties to help the physician to improve the quality of their patient care. It will only get better through their continued input and the continued advancements in medical informatics.