

Summary of Workshop 4: Detection of Problems Affecting Patient Outcome

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Key Questions:

- 1) Are methods available to detect problems, to measure their impact on patient care, and to provide feedback for preventing future occurrences?
- 2) What new methods are needed and how could they be implemented?

The participants in this workshop discussed approaches to identifying and investigating problems in laboratory practice as they affect patient outcomes. The questions posed to participants to frame the discussion were:

*“How can outcomes be measured?
What methods are useful in detecting
laboratory problems affecting
patient outcome ?
How can we better communicate our
findings to our colleagues? “*

Priority areas for study

It was clear that there are many possible approaches for measuring the relationship between laboratory testing and patient outcomes. The group suggested that, to begin with, research should focus on medical conditions that require high volume testing, expensive tests, highly prevalent conditions with significant morbidity, and those where intervention may have some impact. Studies should also take advantage of existing information systems more than in the past. Soundly based multi-center epidemiological studies were encouraged. In addition, some

established provider research networks are ideally suited to studies of laboratory tests and testing and collaboration with these was encouraged.

Outcomes measurement

The challenge of laboratory medicine research is to develop robust and meaningful measures that monitor the consequences of testing. These may be health outcomes (patient benefit) or system-based process measures (organizational, cost/utility etc.). Health outcomes are determined through clinical review, especially chart review, but process measures in laboratory medicine can be used as surrogate measures in lieu of these.

Critical pathway analysis is now increasingly used to evaluate the effectiveness of clinical care and the performance of health systems. It provides a context and a controlled environment to study the impact of various interventions. This approach has great potential for studying the role of laboratory practice in clinical care.

Data sources Reliable and useful data for

studying laboratory practice are commonly highly fragmented, inaccessible and expensive to obtain. Most available data are not accumulated over time and not linked to other outcomes of interest such as health care utilization. Uniform, standardized datasets that combine laboratory testing data, clinical information and health care utilization measures (collected prospectively) are needed. To achieve this, close collaboration must exist between the research and health care communities to identify a core data set to be accumulated prospectively from health provider networks. New databases such as The Health Care Employer Data and Information Set (HEDIS) that are now used by many managed care organizations are useful models for this.

Communication with colleagues

In the future, laboratorians will be asked to participate in collaborative research with others to demonstrate the diagnostic and therapeutic effectiveness of our clinical

testing. This will involve collaboration between laboratory professionals and clinical colleagues as well as payers and management professionals. To be effective in this role, laboratory professionals will therefore need better training in research design, epidemiology and biostatistics.

Timely communication with our clinical colleagues about all aspects of laboratory testing is an essential part of quality care. This extends from the rationale for ordering tests to the interpretation of results. In support of this, improved laboratory decision support systems are needed to identify problems that may affect clinical decisions such as systematic analytic bias. Modeling and bench-marking would also be helpful in providing feedback to colleagues.

Finally, the group believed that research questions and study results should be more widely disseminated beyond the conventional pathology journals in publications read by clinicians of all specialties and health care managers.