Emergency Department Performance Measures and Benchmarking Summit:
The Consensus Statement

Introduction

Emergency leaders are increasingly faced with challenges that go beyond the scope of traditional clinical medicine and department staffing. A thorough understanding of quality-improvement principles and benchmarking now is necessary for emergency department (ED) leaders to be successful in providing patient-centered care, improving customer satisfaction and evaluating service initiatives. Providing state-of-the-art, evidence-based clinical care is not the only focus, and emergency physicians and nurses now are being asked also to provide safe, timely, efficient and cost-effective care. The measures that allow emergency practitioners to gauge and measure their success in these areas are lacking, and even basic definitions have not been promulgated.

Outside agencies also are intensely interested in ED operations. With the potential for terrorist activity, pandemic flu, and natural disasters creating human casualties, government leaders are developing preparedness plans for communities. Those plans require forecasting of hospital surge capacity, and ED capability. Communities have been made aware of diversion and rerouting of emergency medical services (EMS) patients, but there are no definitions for those activities. Further, these activities do not reliably predict the state of available resources for any individual ED or hospital. In addition, the Centers for Medicare and Medicaid Services (CMS) are interested in applying pay for performance (P4P) to organizations and physicians and in seeking definitions of adequate and outstanding performance. Without industry-driven standards in place that are developed by emergency-service leaders, CMS will likely develop its own definitions and indicators.

Although others have written about clinical quality measures, (Graff 1, Lindsay 2) and indeed many of these parameters are being tracked via the regulatory requirements mentioned in the remainder of this section, the establishment of operational benchmarks for emergency medicine (EM) has been slower to evolve. The measurement of time intervals in the ED and the tracking of patients who leave before they are seen have become de facto markers for quality and efficiency in the literature (Liew 3, Lewandrowski 4, Pierhoples 5, Lorne 6, Bazarian 7), although no standardized definitions for these markers have been put forth or accepted.

There are three major reasons compelling emergency practitioners to standardize the language, terminology and implementation of performance measures and benchmarking practices. These are as follows:

1. **Regulatory burdens:** The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) now is pursuing clinical quality improvement (QI) data in the form of Core Measures. Any facility that does not have in place the infrastructure to track these data risks its accreditation. These measures are likely to be under double scrutiny as the CMS launches the P4P Program, which will reward hospitals that perform better along those same parameters (JCAHO 8, O'Reilly 9). JCAHO also has just levied additional regulatory burdens in the form of the so-called Flow Standards (JCAHO Standard LD3.15 10). If an ED wants to maintain its credentials and be reimbursed maximally, data tracking and following measures of quality will be an imperative. It is imperative that further regulatory requirements use parameters that come from within the specialty and that experts in EM who understand the nuances of data collection and analysis lead these endeavors.

2. **ED operations management:** This (with principles readily adaptable from other service industries) is a developing area within EM, and EDs will be searching for techniques to improve ED patient flow and

processes (Beach 11). To determine whether ED process innovations are effective, standardized markers for efficiency and quality will be required.

3. **Areas for research and publication:** The fundamentals of QI research are more similar to business models than to the model used for performing human research. These principles still are not widely accepted in the traditional medical-research environment. To advance the growing body of knowledge relative to QI, the standardization of terminology and methodology are necessary (Davidoff 12, Berwick 13, Thomson 14). To date, much QI work goes unpublished, and therefore EM QI workers are failing to build a body of research that is pertinent to operational efficiency. This is to everyone's loss. By standardizing the discipline, we can begin to aggregate knowledge and create a solid knowledge base.

Proposal for an ED Performance Measures and Benchmarking Summit

Problem Statement

There is a recognized lack of consistency in definitions regarding basic elements of ED operations. This is a recurring theme that is voiced directly by hospital and ED leaders and, increasingly, by outside agencies that are attempting to improve patient care. There have been no meetings to address this basic element (the vocabulary and terminology, the language) of operations, particularly by the organizations representing the providers of care in the ED. The literature regarding ED operations cannot provide scientific guidance to this process unless hospitals and EDs understand and apply routine definitions.

Mission Statement

Increasingly, EDs and their leaders are under scrutiny regarding efficiency and timeliness of care. As hospitals begin analyzing patient flow and ED processes, there is a need for the standardization of metrics for benchmarking purposes. To date there are no set definitions for performance measures, nor is there a simple comparison system for benchmarking EDs. This summit attempted to bring together representatives from various alliances and associations that have demonstrated interest in performance data and QI in EM. This influential group was tasked with defining a set of ED benchmarking terms and their definitions that could be used to monitor ED processes or operations. Further, these terms could serve as markers for quality in research relative to ED operations. Finally, the group drafted a simple system for hospitals to find appropriate benchmarking partners.

The summit was conducted with the following objectives:

- To discuss, debate, and complete a set of definitions for elements of basic ED operations;
- To draft a consensus statement regarding benchmarking terminology in EM;
- To develop a comprehensive set of benchmarks for ED patient flow and operations that also could be used as markers for operational quality;
- To define those benchmarks clearly so they can be applied uniformly in various ED settings;
- To develop a simple comparison system for categorizing hospital EDs for the purposes of benchmarking; and
- To disseminate and publish the results of this summit so that all organizations and hospitals will be aware that uniform definitions have been prepared regarding ED operations.

Results of the Performance Measures and Benchmarking Summit:

The ED Comparison System

The following is a schematic of the comparison system developed by the group (Table 1). In unpublished data collected by the Emergency Department Benchmarking Alliance (EDBA) (Augustine 15) and the Voluntary Hospital Association (VHA) (McGrayne 16), the data suggest a stratification of hospitals occurring along volume and acuity lines. This system takes into account both volume and acuity (through several markers).

Recognizing that there is a large cohort of lower volume EDs (Emergency Medicine Network 17), defined as those seeing fewer than 10,000 patients per year, the scheme affords stratification at the lower volume end. The acuity designation takes into account the presence and level of trauma services available in the department, as well as the admission rate and the presence or absence of transplant services. These factors are markers of tertiary care and therefore of acuity. Although there will be exceptions, the following three criteria serve as markers of acuity in most instances:

- *Admission levels* greater than 20% of ED volume;
- Presence of *transplant services* in the hospital; and
- Designation as a *Level I or II trauma center*, using criteria developed and verified by the American College of Surgeons Committee on Trauma.

This scheme currently is being trialed by the Maryland ED Collaborative and the EDBA and will be refined as data regarding its utilization are generated. It is a first attempt at segmenting EDs for the purposes of benchmarking. Again, we acknowledge that this system is exploratory and intentionally simple at this point and encourage investigators with access to ED operations data to explore how to improve it in the months and years to come. It should be noted that less than 5% of hospitals have a Level 1 trauma designation and that even fewer have transplant services. Although research overwhelmingly is being performed at such centers, the reality is that such centers do not represent 95% of the hospital EDs servicing the nation.

The comparison system is used as follows. First, the annual volume of the ED is used to assign it to one of four volume categories. Second, the acuity function is applied to designate high or low acuity. These acuity markers and their function are outlined in the comparison system table and defined fully in the text. And third, it is anticipated that the EDs first would identify other EDs in the same geographic area for benchmarking purposes. Benchmarking partnerships likely would be built first at the state level, then at the regional level.

Table 1
ED Comparison System

Acuity	Annual Volume <10,000	Annual Volume 10-29,999	Annual Volume 30-49,999	Annual Volume >50,000
Low	Trauma – Admission Rate < 20% Transplant –	Trauma – Admission Rate < 20% Transplant -	Trauma 3 or – Admission Rate <20% Transplant -	Trauma 3 or – Admission Rate <20% Transplant -
High	Trauma 1,2,3 Admission Rate >20% Transplant +	Trauma 1,2,3 Admission Rate > 20% Transplant +	Trauma 1,2 Admission Rate >20%, Transplant +	Trauma 1 Admission Rate >20% Transplant +

General Definitions and Concepts for ED Performance
These definitions have been grouped into four categories: *time definitions* (points in time), *time interval definitions*, *process definitions*, and *space definitions*.

Time Definitions (Points in Time). These are as follows:

- **Arrival Time**- the time that the patient is first recognized and recorded by the ED system as requesting services in the department;
- **MD contact time-** the time of first contact of the physician (or licensed independent practitioner, LIP) with the patient to initiate the medical screening exam;
- **Decision to admit time-**the time at which the physician or LIP makes the decision to admit the patient (time of bed request may be used as a proxy);
- **Conversion time**-the time at which the disposition is made for a patient to be admitted to the hospital as an inpatient or observation patient, or at which a patient is designated for observation within a clinical decision area of the ED;
- **Discharge time-** the time of physical departure of a discharged patient from the ED treatment area;
- **Decision to transfer time-**the time at which the physician or licensed independent practitioner makes the decision to transfer the patient to another facility (time of transfer request may be used as a proxy);
- **Transfer accepted time-**the time at which the patient is accepted for transfer by the receiving facility; and
- **Left ED time-**the time at which an admitted or transferred patient physically leaves the ED treatment area.

Time Intervals: Turnaround Time. These are as follows:

- **Door to doctor turnaround time (TAT):** arrival time until MD contact time;
- **Doctor to disposition TAT:** the time from physician notification (generally an emergency physician, but may be the medical-staff physicians responsible for patients in the ED) that all pertinent test results are available, until disposition time;
- **ED length of stay (LOS) or TAT:** the patient time in the ED with the following markers:
    - Admitted patients: arrival time to conversion time
    - Discharged patients: arrival time to discharge time; and
    - Transferred patients: arrival time to transfer conversion time;
- **Radiology TAT-** the time from the placement of an order for a radiographic test until the time the results are returned (there will be operational variation here based on institutional processes; Real-Time Radiology and ED Wet Reads are considered best practices but are not available everywhere; the time from when a radiographic study is ordered until a result is available [that is used to make decisions about patients] is what is to be measured here); and
- **Laboratory TAT-**the time from the placement of an order for laboratory testing until the time that the results have returned.

Process Definitions. These are as follows:

- **Active acuity level-** the Emergency Severity Index (ESI) is used for analysis of severity level of patients in the ED, averaged over the department at a point in time or over a time interval (the index would be applied to all patients in the department [because they are utilizing ED resources] even if they technically are admitted and boarding);
- **Boarding-** the process of holding patients in the ED for extended periods of time who have been directed for admission by a physician with admitting privileges (this process then has certain elements of the admission process and ongoing patient care provided by ED staff members);
- **Boarded patient-** an admitted patient for whom the time interval between decision to admit and physical departure of the patient from the ED treatment area (decision to left ED time) exceeds 120 minutes;
- **Daily boarding hours-** the sum of boarded patient minutes in a 24 hour period (divide total minutes by 60 to get hours of care provided by ED);
- **ED boarding load-** a snapshot of the boarded patient load being cared for in an ED and is an indirect marker for complexity and severity of patients being held in the ED [calculated as (number of admitted patients + observation patients+ transferred patients)/total ED patient care spaces; it can be calculated at any time and can be reported as a daily maximum value for a period of time];
- **Pediatric patients-** age cutoff for performance measures to describe and monitor this population needs to be tied to the resources required to manage these patients. However, we recommend that key performance indicators be specific for the pediatric population in the following two age ranges: 1) age 0 to the day before 2nd birthday and 2) age 2 (2nd birthday) to the day before 18th birthday.

Space Definitions. These are as follows:

- **Emergency department-**a 24 hour location serving an unscheduled patient population with anticipated needs for emergency medical care (this definition is provided by the CMS on an ongoing basis);
- **Psychiatric ED-** an ED developed and held out to the community as one that serves the unscheduled needs of patients with mental health conditions;

- **Pediatric EDs-** those EDs that are designed to serve the needs of a pediatric patient group (should be defined as those EDs that see a patient population younger than 18 years of age, for more than 80% of the total volume; this designation also should be applied to portions of a multifunction ED that serve this targeted population); and
- **ED patient service areas-** designated "complete patient service care areas (CPCSAs)", defined as an area which complete health service can be delivered to patient and family for a specific period of time (does not include hall areas, parking spaces, holding areas).

Performance Measures: Time Measures

Discharged Patients. These are as follows:

- **Door to doctor time**- the time interval in minutes between arrival time and MD or LIP contact with the patient;
- **Doctor to discharge time**- the time interval in minutes between MD or LIP contact with the patient and discharge time; and
- **ED LOS for discharged patients**- the time interval in minutes between arrival time and discharge time.

Admitted Patients. These are as follows:

- **Door to doctor time**- the time interval in minutes between arrival time and MD or LIP contact with the patient;
- **Doctor to decision to admit time-** the time interval in minutes between MD or LIP contact with the patient and the decision to admit;
- **Decision to left ED time**- the time interval in minutes between the decision to admit and the physical departure of the patient from the ED treatment area;
- **ED LOS for admitted patients**- the time interval in minutes between arrival time and physical departure of the patient from the ED treatment area (sum of the following: door to doctor time + doctor to decision to admit time + decision to left ED time); and
- **Daily boarding hours**- calculated as follows (for all boarders in a 24-hour period): sum of boarded patient minutes- 120 minutes for each boarder/60 minutes.

Transferred Patients. These are as follows:

- **Door to doctor time**- the time interval in minutes between arrival time and MD or LIP contact with the patient;
- **Doctor to decision to transfer time-** the time interval in minutes between MD or LIP contact with the patient and the decision to transfer;
- **Decision to transfer time to transfer accepted time**- the time interval in minutes between the decision to transfer the patient and the acceptance of the transfer;
- **Transfer accepted to left ED time-** the time interval in minutes between the acceptance of transfer and the physical departure of the patient from the ED treatment area; and
- **ED LOS for transferred patients-** the time interval in minutes between arrival time and physical departure of the patient from the ED treatment area (sum of the following: door to doctor time + doctor to decision to transfer time + decision to transfer time to transfer accepted time + transfer accepted to left ED time).

Performance Measures: Proportion Measures

As noted in the introduction of this article, time intervals in the ED have become de facto markers for quality. Other markers for ED quality have looked at patients who left before they were supposed to, in particular the subset of patients who have left without being seen. In 1991, Baker et al. looked at the characteristics of patients who left before being seen by a physician in a landmark *Journal of the American Medical Association* article (Baker 18). Other studies have followed, and the trend of tracking the larger category of patients who leave without being seen has continued (Fernandes 19, Khanna 20, Chan 21, Rowe 22, Weiss 23).

"People Who Left Before They Were Supposed To".

The language used to describe and monitor this population needs to be tied to specific, predictable events in every patient encounter across the industry. EMTALA has defined the medical screening exam (MSE) as a defining event in emergency care. The causes of a patient's unofficial departure and actions taken vary and warrant monitoring. This group therefore is recommending that the key performance indicators for patients leaving before the provider deemed treatment is complete to be referred to as follows:

- **Left without being seen (LWBS)** – This term refers to any patient who leaves the ED before initiation of the MSE (expressed as a rate of occurrences per 100 ED patient visits);

- **Left before treatment complete (LBTC)** – This term refers to any patient who leaves the ED after their MSE but before the provider documented treatment complete (expressed as a rate of occurrences per 100 ED patient visits); and

- **Against Medical Advice (AMA):** Any patient recognized by the institution and leaving after interaction with the ED staff but before the ED encounter is officially ended (this differs from LBTC in that it includes documentation of patient competence, discussion about risks and benefits, and completion or refusal to complete document confirming the intent to leave against the recommendation of medical care staff; it also is expressed as a rate per 100 ED patient visits).

Complaints.

The definition of complaints should be standardized to include all spontaneous concerns about service delivery in the ED, written or verbal, that are brought to the attention of ED leaders. Separate categories of service concerns should be those identified during a survey process or during the billing process. Complaints typically are counted as one complaint per communication and tracked in rates per 1000 ED patient visits.

ED Diversion Hours.

ED Diversion is an occurrence communicated to the community and EMS providers indicating that resources in a hospital are compromised (as a result of relative shortages of available staff, equipment, or beds). It is a request for patients being transported by EMS to be taken to another hospital for service. There may be specific inclusion or exclusion groups of patients, according to local EMS protocol. The diversion occurrences are tracked by the number of hours per time period where that request has been made.

ED Patient Flow Markers.

We are recommending benchmarking key process indicators for hospital capacity and throughput by breaking the time measures down into fractals. From there, outliers on the basis of cohort groups can be identified, and root causes of barriers to patient flow may be identified and targeted for improvement.

For instance, using medians as opposed to averages generally is preferred for comparing facilities with one another. Most interval data are not normal, and averages can be misleading. Medians are far less sensitive to extreme outlier values and are more appropriate for comparing nonparametric sets one to another.

As an example, arrange all the lengths of stay from a given period of time from lowest to highest value and identify the middle value, that is, the median LOS for all ED patients (50^{th} percentile). If a similar function is performed in multiple facilities, then a second array of values can be created with its own median and other percentile values. Similar exercises can be performed for almost all of the performance measures described.

A given facility can then understand where it stands compared with other facilities within the same comparison group. Facilities using this indicator, (regardless of region, size, acuity, and specialty) will recognize when they fall outside the 50^{th} percentile of comparatives which might then trigger performance reviews and initiatives.

This group has identified the following two groups of ED patient flow markers:

1. Longer than six-hour stay: capacity is reflected by patient LOS, but the definition of "extended LOS" is arbitrary and not useful. As with measures of flow and throughput, this group is recommending benchmarking to identify outliers and target root causes of barriers to throughput. Historically, longer than six-hour stays have been tracked as a percentage or rate per 100 of ED patient visits.
2. Cycle time flow markers: cycle times such as radiology turnaround time, laboratory turnaround time, door to doctor, and door to decision.

Census and Utilization Definitions and Markers

Definitions Related to Patient Numbers. These include the following: patients per day, pediatric patients per day (under age 18 years), and patients per day as stratified by ESI code levels 1-5.

Definitions Related to Patient Acuity. The include the following: patients admitted per day, patients transferred per day, high-acuity patients served (physician-coded patient levels 99284, 99285, and 99291), and low-acuity patients served (all other codes).

Definitions Related to Patient Mix. These include patient payer class, divided into the following three groups: Medicare patients, Medicaid plus self-pay, and all other payers.

Defined Elements of Emergency Service Units. These include the following:

- Electrocardiograms performed per 100 patients seen;
- Simple imaging procedures performed per 100 patients seen;
- Computed tomography or magnetic resonance imaging scans performed per 100 patients seen;
- Trauma panel utilization per 100 patients seen;
- Cardiac biomarker tests performed per 100 patients seen;
- Medication doses administered per 100 patients seen (eventually stratified by type of medication); and
- ED crowding, defined as the number of hours (reported as a per-day element) in which patient census exceeds designated patient-care areas (may be reported as a percentage or a rate).

ED Service Personnel/Staffing Ratios. ED personnel should be defined as to their general function area, not the cost center they are assigned. The reporting element is service hours per day, and the following personnel categories are included:

- Physician or physician extender;
- Resident physician;
- Nursing and other direct patient-care service;
- Ancillary patient care service (radiology, laboratory technician, respiratory therapy, orthopedic technician); and
- Ancillary nonpatient service (clerical, maintenance, security, cleaning, information technology, supply).

Patient Care-Specific Factors Designated by ED staff.
These are as follows:

- Designated prisoners;
- Designated patients presenting for care primarily related to mental health, chemical dependency, or both;
- Designated patients for observation services in the ED (may or may not be in an area designated as a clinical decision unit but are undergoing lengthy evaluation or treatment services under the medical direction of the emergency physician, with the intent to finish that evaluation and treatment and be discharged out of the ED).

Dissemination of Summit Materials
The members of the Performance Measures and Benchmarking Summit have affiliations with many national-level professional organizations that are influential. Members have volunteered to champion the summit document and to post the final version on their Websites. Further, there are other print media outlets available to this group as well. The list of anticipated outlets for the document follows:

1. *Academic Emergency Medicine*: As a consensus statement;
2. *Emergency Medicine News*: Quality Matters Column;
3. Institute for Healthcare Improvement (IHI): On Website, utilized in IHI ED Collaborative;
4. *Urgent Matters*: Posted on Website;
5. Maryland State ED Collaborative: Planned trial of measures and scheme began April 1, 2006;
6. Agency for Healthcare Research and Quality: H CUP Partners;
7. Interagency Committee on Emergency Research (ICER): Posted on Website;
8. National Association of Health Data Organization: Posted on Website;
9. VHA: Posted on Website
10. Emergency Nurses Association: Posted on Website, published in newsletters;
11. Emergency Department Practice Management Association: Distributed material to members;
12. EDBA: Posted on Website

Please direct any comments regarding this Consensus Statement to Shari Welch, MD, at sjwelch@networld.com. Thank you.

REFERENCES

1) Graff L, Stevens C, et al. Measuring and Improving Quality in Emergency Medicine. Acad Emerg Med. 2002; 9 (11): 1091-1107.

2) Lindsay P, Schull M, et al. The Development of Indicators to Measure the Quality of Clinical Care in EDs Following the Modified-Delphi Approach. Acad. Emerg. Med. 2002; 9(11): 1131-1139.

3) Liew D, Kennedy MP. Emergency department length of stay independently predicts inpatient length of stay. Med J Aust. 2003;179(10): 516-517.

4) Lewandrowski K. How the clinical laboratory and the emergency department can work together to move patients through quickly. Clin Leadersh Manag Rev. 2004; 18(3): 155-9.

5. Pierhoples W, Zwemer FL et al. Point of care testing provides staff satisfaction but does not change ED length of stay. Am J Emerg Med. 2004; 22(6):460-464.

6. Holland L, Smith L et al. Reducing Laboratory Turnaround Time Outliers Can Reduce Emergency Department Patient Length of Stay. Am J Clin Pathol. 2005; 125(5) 672-674.

7. Bazarian JJ, Schneider SM et al. Do admitted patients held in the emergency department impair throughput of treat and release patients? Acad Emerg Med. 1996; 3(12): 1113-1118.

8) A Comprehensive Review of Development and Testing for National Implementation of Hospital Core Measures. www.jcaho.org/pms, March 2005.

9) O'Reilly, K. Panel sets primary care standards for Medicare pay-for-performance. American Medical News. September 5, 2005.

10) Meeting the JCAHO Patient Flow Standard, presented by Richard W. Anderson MD, MBA, MPH, FACEP, JCAHO Field Representative, Urgent Matters Regional Conference, October 27, 2005.

11) Beach, C, Haley L, et al. Clinical Operations in Academic Emergency Medicine. ACAD EM MED. 2003; 10(7): 806-808.

12) Davidoff F, Batalden P. Toward stronger evidence on quality improvement. Draft publication guidelines: the beginning of a consensus project. Qual. Saf. Health Care. 2005;14: 319-325.

13) Berwick DM. Broadening the view of evidence- based medicine. Qual Saf. Health Care. 2005; 14: 315-316.

14) Thomson RG. Consensus publication guidelines: the next step in the science of quality improvement? Qual. Saf. Health Care. 2005; 14: 317-318.

15) Augustine J. Numbers Shouldn't Make You Numb: Statistics and the Operations of Your Emergency Department. EDBA survey results, fall 2004. Unpublished.

16) McGrayne J. Outstanding ED Performance. Presented at: ED Benchmarks 2005, March 5, 2005, Orlando, FL.

17) Emergency Medicine Network. 2001 National ED Inventory. Available at: http://www.emnet-usa.org. Accessed May 12, 2006.

18) Baker D, Stevens CD, Brook, RH. Patients who leave a public hospital emergency department without being seen by a physician: causes and consequences. JAMA. 1991; 266:1085-90.

19) Fernandes CM, Daya MR, Barry S, Palmer N. Patients who leave without seeing a physician: the Toronto Hospital Experience. Ann Emerg Med. 1994; 24: 1092-6.

20) Khanna R, Chaudry MA, Prescott M. Emergency department patients who leave the department without being seen by a doctor. Eur J Emerg Med. 1999; 6:233-5.

21) Chan TC, Killeen JP, Kelly D, Guss DA. Impact of rapid entry and accelerated care at triage on reducing emergency department wait times, lengths of stay, and rate of left without being seen. Ann Emerg Med. 2005; 46:491-7.

22) Rowe BH, Channan P, Bullard M, et al. Characteristics of patients who leave emergency departments without being seen. Acad Emerg Med. 2006; 13:848-52.

23) Weiss SJ, Ernst AA, Derlet R, King R, Bair A, Nick TG. Relationship between the National ED Overcrowding Scale and the number of patients who leave without being seen in an academic ED. Am J Emerg Med. 2005; 23:288-94.

APPENDIX A

Summit Participation and Attendance

A complete list of individuals, agencies, and programs that contributed to the proceedings is as follows:

- Shari Welch, MD. Summit Chair, EDBA, LDS Hospital Salt Lake City. sjwelch@networld.com
- Charles Reese, MD, (Emergency Department Benchmarking Alliance), Christiana Care, Delaware
- Brent Asplin, MD, Regions Hospital, St Paul, and works with AHRQ (Agency for Healthcare Research and Quality)
- Pam Owens, PhD, AHRQ
- Bruce Siegel MD, Urgent Matters Project/ The George Washington University School of Public Health and Health Services
- Khoa Nguyen, MPH, Urgent Matters Project/ The George Washington University School of Public Health and Health Services
- Marcia Wilson, MBA, Urgent Matters Project/ The George Washington University School of Public Health and Health Services
- Susan Nedza MD, Chief Medical Officer, Region V, The Centers for Medicare and Medicaid Services
- Kirk Jensen, MD, IHI (Institute for Healthcare Improvement), Best Practices
- Karen Humphreys, RN, VHA (Volunteer Hospital Association)
- Charlotte Thompson VHA
- Carlos Camargo, MD, National ED Inventory Project
- American College of Emergency Physicians
    - Nick Jouriles, MD, Board of Directors
    - Barbara Marone, Director Federal Affairs
    - Rick Bukata, MD, ACEP's Benchmarking Taskforce (Unable to Attend)
- Emergency Nurses Association
    - India Owens, RN BSN Clinical Manager, IU Emergency Department Clarian Health Indianapolis
- Jim Adams, MD, SAEM's Clinical Director's Group. Northwestern Univ, Chicago (Unable to Attend)
- John Lyman, MD. Chair, ED Practice Management Association (EDPMA)
- Jim Augustine, MD EDBA