

## **Washington State Department of Health Adding Clinical Data to CHARS: Assessing the Merits and Challenges Final Report**

### **Summary**

The Washington Department of Health (DOH) participated in a federal project through the Agency for Healthcare Research and Quality (AHRQ) to explore the feasibility and utility of augmenting hospital administrative data with selected clinical data for quality purposes. Part of the project required engaging hospitals and other quality stakeholders through interviews and in person discussions and dialogue to explore the benefits, issues, uses, and barriers relating to collecting, sharing, and using this type of data. DOH captured this input from stakeholders through two free one day symposia in October 2008, and through a series of one on one phone interviews with selected key stakeholders in November 2008. Interview responses were documented at the time of the interview. Symposia attendees participated in facilitated discussions; notes from these discussions were documented and shared back with the participants for review and comment. Principal attendees of the symposia were hospital quality staff. This final report summarizes the findings from the interviews and symposia discussions.

Overall, hospitals were generally positive about the possible value of adding clinical data to administrative data, and there are no real technical issues that impede feasibility. However, hospitals in general are not overly enthusiastic about new (and unfunded) reporting requirements. There are also organizational resource barriers for some facilities. DOH found that there were different types of concerns about the project that often aligned with particular hospital characteristics. Larger urban hospitals with a quality assurance department and dedicated quality staff often already collected much of the data electronically and used it internally for their own purposes. These hospitals usually had staff with extensive quality backgrounds and strong research and analytic capabilities. Representatives of these facilities had concerns about specific and detailed aspects of collection, submission, and analysis, such as developing a common submission format and mechanism, assuring data comparability, and using the data in sophisticated analyses, such as risk adjustment. In general, technical issues were considered to be minimal while issues related to use, analysis, comparability, and publication of the data were elevated in priority. Cost issues were raised but not emphasized as much as use issues.

Smaller rural hospitals without a dedicated quality department and only one or two staff with assigned quality responsibilities usually had quality as a much lower priority, only measuring or reporting it as required for reimbursement or regulatory purposes. These facilities often struggle to keep the hospital solvent, do not collect or maintain as much of their information electronically, have minimal to no quality experience and/or research and analytic capacity, and usually assign quality responsibilities to personnel who have other, usually higher priority, responsibilities. Representatives of these hospitals often reacted less positively to this potential data collection benefits, but more often for issues related to organizational survival rather than issues specific to the collection activity

itself: These hospitals have limited resources in staff, budget, and time, little to no internal expertise or management support for such activity, and, because they are often the only hospital for many miles around, focus primarily on providing care and constantly chasing cash flow to keep the doors open. These small/rural facilities often use external vendors for data collection and submission, and noted that requests to modify the systems were usually priced beyond their ability to pay, making data changes a particular burden for them. In general, cost and resource issues were the overwhelming concerns affecting all hospital activities. Technical issues were also seen as a major consideration, although still as related to costs, but ranked far down the scale from overall organizational survival. Issues related to data use and analysis were barely mentioned as these facilities usually did little to none for quality or most any other purpose. Because this activity is not a priority, staff often lack analytic skills or the time to utilize them.

Key stakeholders for the one on one interviews were selected from two different groups: large urban hospitals, and state organizations involved in some way in health quality. Again, two somewhat different perspectives emerged, aligned with the type of organization. In the large urban hospitals, the attitudes were quite positive and the areas of concern focused on the details related to submission, data comparability, and analytic issues as noted above. Hospital quality staff were always part of the interview, so the attitude towards collecting clinical data was almost overwhelmingly positive. These interviewees saw few technical challenges to collecting the data and focused more on the challenges in using the data. The state quality organizations, while generally positive about the potential collection of clinical data, did not see it as essential to their work as they are all were collecting the data they use for their measures and reports via other sources. Their areas of concern focused more on data quality and comparability, and how the data might be used by the hospitals and the State.

Late in the project the DOH team followed up on the lab data currently collected in the department's Public Health Laboratory (PHL). Utilizing the lab reporting system established under the CDC's National Electronic Data Surveillance System (NEDSS), the PHL is supporting augmented lab data collection for a handful of state hospitals under Inland Northwest Health Services (INHS) in support of another CDC initiative to improve the electronic submission of reportable conditions for public health purposes. The PHL plans to continue and expand that augmented lab collection to all state hospitals, either by capturing the hospital's electronic lab data directly from hospital systems or through a web application that allows for direct data entry of a lab data subset for those hospitals who do not yet maintain their lab data electronically. Initial information on this effort is that this data may contain many of key lab values recommended for the clinical data project. Therefore, DOH could potentially link this data with the state hospital administrative data to produce a hybrid clinical data set without initiating a new hospital data collection effort. This approach would significantly reduce the time, cost, economic and political issues involved with an independent data collection effort. This potential should be further explored by DOH and by other states before deciding to initiate a separate data collection effort.

Key conclusions reached by the DOH team for this project are:

- The value of clinical data and present on admission is generally recognized by state hospitals and organizations
- Issues and barriers differ by hospital size and geography, presence of dedicated and experienced quality personnel, and hospital viability
- For large, urban, well capitalized hospitals, cost and technical concerns are secondary to data usage, analysis, comparability, and standardization
- For small, rural, marginally viable hospitals, core functions and organizational survival (obtaining reimbursement, providing care) take overwhelming priority to anything else. Quality activities, let alone this specific collection effort, are far down the list or not even on the list
- Small, rural, marginally viable hospitals often outsource data collection and submission, and feel these vendors often overcharge for system changes. When the state has a mandate for data collection from hospitals, vendors will change their data systems for free or reduced fees, which can then make it affordable for these facilities.
- State organizations involved in quality efforts are primarily concerned about data usage, analysis, comparability, and standardization issues. However, these organizations are not particularly interested in using the data themselves as they utilize alternate data sources for quality data
- DOH explored lab data captured elsewhere in the department and it appears that sufficient clinical data may be available from that system in the long term to implement a clinical data effort. This would eliminate the need for any separate data collection from the hospitals
- Plans for new proposed hospital data reporting activities must include thorough research on the collection/submission burden on the different types of hospitals and recognize the variable impacts. DOH should first explore other ways to obtain the data, perhaps from other existing sources, and if a new collection effort is absolutely necessary, find ways to mitigate that burden for at least those most heavily affected to ensure hospital survivability.
- DOH should consider providing additional technical assistance and support to the small/rural hospitals to help compensate for their lack of resources, as well as technical, data and analytic skills and capacity

### **Project Overview**

Over the past several years, the Agency for Healthcare Research and Quality (AHRQ) has been involved in conducting a series of research efforts around the added value of certain clinical data used in conjunction with administrative data to enhance measurement and analysis, particularly in the quality arena. Adding clinical data, especially present on admission coding and laboratory results, to existing administrative datasets was considered a practical, effective, and cost-effective method to produce more accurate and expanded quality assessments of hospitals, and also provide data for a variety of quality improvement efforts. Research showed that adding these clinical data could provide substantial benefits at minimal cost, so in September 2007, AHRQ awarded four “Adding

Clinical Data to Statewide Administrative Data” Pilot or Planning contracts to work in collaboration with hospitals in the States to explore feasible, practical solutions to adding

clinical data to administrative discharge records.

In the Pilot projects, three States are conducting two-year in-depth projects to demonstrate the practical feasibility of adding or linking hospital clinical information to administrative (discharge abstract or claims) data. In the Planning project, a smaller award was provided to one State that seeks to enhance its administrative datasets with more clinical data, but is not yet prepared to conduct the actual collection. The findings from these projects will be accumulated in an AHRQ guidance document to share lessons learned with other organizations interested in creating enhanced administrative databases. The AHRQ project website is at <http://www.hcup-us.ahrq.gov:80/reports/clinicaldata.jsp>.

The four participating states/organizations and their websites, if available, are as follows:

- Florida Center for Health Information and Policy Analysis, <http://www.fhin.net/FHIN/HITinitiatives/AHRQaddingClinData.shtml>
- Minnesota Hospital Association, <http://www.mnhospitals.org:80/index/ahrq-project>
- Virginia Health Information, <http://www.vhi.org/hybriddata.asp>
- Washington State Department of Health (no project specific site)

The Washington State Department of Health (DOH) was the recipient of the Planning contract under this project to study the feasibility of obtaining a limited set of clinical data that would be combined with existing hospital administrative (claims) data to improve quality measures until full electronic health/electronic medical record (EHR/EMR) data becomes widely available. Washington State's project was to explore the feasibility by working with hospitals to identify the associated benefits, uses, issues and barriers that would impact planning such an effort. The project does *not* include collecting any data. The hospitals are key partners in this exploration, not just as data providers but also as expected beneficiaries of the added value that this additional data would provide.

While the focus of the clinical data project is on quality measurement, a number of other factors point towards widespread and increasing needs for collection and use of clinical data:

- Payers are beginning to require selected clinical information for reimbursement (e.g., newly proposed CMS clinical data requirements for Medicare reimbursement);
- Quality measures and initiatives, such as pay for performance, are increasingly requiring clinical data;
- The newly proposed HIPAA standard transactions, Version 5010, include a new standard transaction for claims attachments, which captures clinical information required for reimbursement. Compliance is expected by 2011.
- Adding clinical data is a cost-effective method which can improve measures in the interim prior to widespread adoption of EHRs/EMRs.

DOH's Center for Health Statistics (CHS) is the State's project lead. CHS is responsible for collecting and publishing the state's inpatient discharge database, which aggregates

hospital billing data for individual patient stays. The Comprehensive Hospital Abstract Reporting System (CHARS) inpatient hospital discharge database has been maintained and disseminated in Washington State since 1987. The CHARS database aggregates hospital administrative billing data and includes information such as patient age, sex, zip code, diagnosis and procedure codes, and billed charges per stay. The CHARS system provides relevant information to consumers, researchers, public programs, providers, payers, policy makers and others to help analyze many significant health care issues and make informed decisions on health care.

### **Project Team**

DOH team members from CHS included Joe Campo, Research Services Manager, Gary Blair, Research Analyst, and Rachel McKinley, Assistant to the State Registrar. Joe Campo acted as overall Project Manager; Gary Blair served as Project Coordinator, and Rachel McKinley provided administrative support.

DOH also hired a consultant, Vicki Hohner, who previously worked for CHS and has extensive experience with hospital data and the stakeholder environment in Washington State, to perform key tasks for the project. Her experience includes state and national level projects in a variety of health data and technology related areas, such as health data standards, privacy and security, and electronic health records. She has extensive federal contacts, including with AHRQ, the Centers for Disease Control (CDC), the Centers for Medicare and Medicaid Services (CMS), the Office of the National Coordinator for Health Information Technology (ONC), as well as others, and participates in several national standards development efforts.

The DOH project team performed many of the project management functions for the contract and communicated regularly to plan, organize, and finalize all project tasks.

- Joe Campo had overall project responsibility for DOH, hired the consultant, assembled the DOH project team, and had the final approval on hiring and other administrative matters. He also participated in AHRQ project calls, initiated the discussions with the Washington State Hospital Association, attended and led groups during the symposia, and participated in identifying and interviewing stakeholders.
- Gary Blair wrote the proposal, attended and led groups during the symposia, participated in AHRQ project calls and attended the AHRQ face to face meeting, coordinated activities with the DOH team and within DOH offices and individuals, managed the consultant and consultant activities, assisted with developing the symposia materials, reviewed all project materials and activities, set up the speaker contracts, and was responsible for developing and monitoring the budget and contracts for the project.
- Rachel McKinley coordinated activities to set up and conduct the symposia: developed invitee lists and obtained contact information, sent out mailings and emails to invitees, arranged and handled the contract for symposia facilities and food service, set up air travel and hotels for the DOH project team, symposia speakers, and some of the participants, made copies and assembled the symposia attendee packets, staffed registration at the symposia, made sure symposia activities and food service were

appropriately handled, took notes during the facilitated discussions, and handled email distribution of the summary of the symposia. She also handled the DOH budget related to the symposia activities and some of the broader project activities.

The DOH consultant performed the following key project tasks under the direction of and in consultation and coordination with the DOH project team:

- Conducted a literature review
- Assisted with identifying key stakeholders for symposia invites and one on one interviews
- Conducted key stakeholder interviews
- Developed symposium materials
- Organized and led the symposia and facilitated the discussion sessions
- Produced symposia summary report for attendees
- Wrote final report for AHRQ

### **Key Stakeholders**

Washington has 91 community hospitals and 3 psychiatric hospitals, primarily not-for-profit, operating across the state. There are two state-run facilities: the University of Washington Medical Center and Harborview Medical Center, both teaching hospitals associated with the University of Washington and its medical school. Harborview is also a Level I adult and pediatric trauma center and regional burn center serving Washington, Alaska, Montana and Idaho. Thirty-nine hospitals are Medicare Critical Access Hospitals, a federal program designation for selected small rural facilities that ensures access to care in less populous areas. Many of the rural hospitals in the state are independent and not part of or supported by larger hospital systems.

### **Clinical Data and Measurement: Background and Rationale**

The primary objective of the AHRQ project is to explore the feasibility and utility of using a combination of clinical and administrative data for purposes of quality reporting, pay for performance, research, and public health. One of the first tasks of the project was to conduct a summary of the literature comparing clinical and administrative data as well as examining the value of combining the two. In addition, the DOH project team decided to add a review evaluating risk assessment methods. The complete detail of the literature review summary covering both clinical data and measurement topics is appended to this report; the findings on both topics are summarized below.

#### ***Clinical and Administrative Data***

Obtaining selected clinical data was seen as a cost-effective method that could fill in the gap for badly needed information prior to widespread availability of electronic medical records (EMRs) and fully interoperable electronic health information exchange (HIE). Both administrative and clinical data have long been used for various measures of health care quality, outcomes, and performance. Clinical data has always been considered the

gold standard, but the resources required to obtain it make it prohibitive for regular use. Administrative data has been used as a proxy because of its low cost and availability, although it has less clinical detail. Interest in measuring health care performance and quality grew at the same time as national efforts to move the health care industry towards greater automation. While industry wide EHRs/EMRs are still a ways off, pressures to improve measurement to identify quality care, pay for performance, and compare health care providers and facilities have intensified the desire for more data. Analysts and researchers began to explore the feasibility of adding some clinical data elements to readily available administrative data to create a hybrid database. Certain clinical values combined with present on admission (POA) and administrative billing information have been found to greatly increase the accuracy of risk adjusted hospital clinical performance and other quality measures and can help bridge the gap between the data available today and the data anticipated in the future.

Studies evaluating types of data and specific data elements used in measuring severity, quality, and performance uniformly support administrative data plus selected clinical elements over administrative data alone. Most of the studies compared the two types of data through risk-adjusted measures of hospital mortality, both overall and for a variety of specific chronic and acute conditions. Administrative data gains significant validity and predictive power with the addition of selected elements, specifically POA indicators and numeric lab values. These values also provide the most “bang for the buck”, requiring the least amount of effort and cost to obtain. Studies show, however, that measurement outcomes and predictive value can vary by condition evaluated, so what data and data elements perform well for measures of one condition may not do as well for another. Only a few studies looked at hospital mortality for all conditions; no studies evaluated non-mortality hospital measures, and studies evaluating measures for physician performance are rare.

### ***Measurement***

Risk adjustment is considered a key analytic tool for quality measurement, and has long been used for severity and other quality and performance measures. Studies comparing risk adjustment methods evaluated different methods using different data/variables and different models. Although risk adjustment is widely used, there is no accepted “gold standard” methodology that provides clear superiority for calculating risk measures. The studies do, however, universally find that models using clinical data, particularly lab values, are the best predictors of severity as measured by mortality. Risk adjustment methods vary widely in their appropriateness and fit for different measures being calculated, meaning that different models seem to be more predictive in some conditions than others. This makes it difficult to identify a single “best” method for measuring quality that enables comparable measures across all conditions and dimensions of care. Increasingly complex risk adjustment does not necessarily result in a more predictive measure, and risk adjusted measures are easily misunderstood and difficult to explain to the general public. Most risk adjustment models have shortcomings that should be recognized and weighed prior to use.

## Project Planning

The primary goal of the project was to obtain feedback from hospitals, which would be the source of the data, on the feasibility of collecting and submitting the clinical data proposed. This required engaging hospitals and other quality stakeholders in a discussion/dialogue to explore the issues related to collecting and using clinical data. Therefore, one of the first steps was to contact the Washington State Hospital Association (WSHA) and arrange an in person meeting in mid-July 2008 to inform them of the project, and request advice and support in encouraging hospital participation. One of the things that WSHA advised was to conduct two symposia, one in the more urban Western Washington and one in the more rural Eastern half of the state, as perspectives in the two regions are very different and it would improve the chance for the Eastern Washington facilities to attend and be heard. DOH then proceeded to move ahead in planning the activities for gathering hospital and other key stakeholder input to meet the project goals.

DOH proposed to undertake two activities to capture information to determine the feasibility of collecting clinical information in Washington State. These were 1) conduct one on one interviews with a few key stakeholder organizations, and 2) conduct a one day symposium to gather direct stakeholder participation and input. Both activities were designed to gather responses to the following questions:

- If clinical lab values and present on admission codes were readily available to you, what potential benefits of adding this clinical data to billing data can you see for your business? Assume there are no issues related to capturing, storing, or using the data.
- How could this data be used by your organization? Please be as specific as possible. Again, assume there are no issues related to obtaining and using the data.
- Do you see any technical barriers to capturing clinical lab values and present on admission codes? Please describe.
- Are there any organizational or other barriers to collecting clinical lab values and present on admission codes? Please describe.
- How do you think these barriers (technical, organizational, and other) could be overcome so that the data could be collected and shared?

The project team held several meetings and discussions to identify the most appropriate hospital staff to invite to the symposium and the best organizational candidates for the one on one key stakeholder interviews. The team ultimately chose to focus on four key positions in each hospital: the Chief Executive Officer (CEO), Chief Financial Officer (CFO), Quality Assurance/Quality Improvement Director, and Medical Records Director.

### *Key Stakeholder Interviews*

Key stakeholders for one on one interviews were identified by the project team and in discussion with WSHA and included both hospitals and organizations that had a health care quality or measurement focus. The final list of key stakeholders included:

- **Foundation for Health Care Quality**--a nonprofit organization dedicated to providing a trusted, independent resource to all participants in the health care

community. The Foundation leads evaluations ranging from use of comparison quality standards by consumers to supporting public health agencies in the surveillance of sudden health risks.

- **Inland Northwest Health Services**—a non-profit organization that brings together Spokane area hospitals to reduce health care costs and improve the quality of patient care. INHS works to bring high-quality, cost-effective health care to the region through innovative and successful collaborations of health care services, and is one of the oldest and most successful health information exchange models in the country. The network serves a wide geographic area, covering not only the more rural Eastern Washington communities but also extending into Idaho and Montana.

- **Puget Sound Health Alliance**-- a regional partnership involving employers, physicians, hospitals, patients, health plans, and others working together to improve quality and efficiency while reducing the rate of health care cost increases across the most populous Western Washington counties. Alliance participants agree to use evidence to identify and measure quality health care, then produce publicly-available reports designed to help improve health care decision-making.

- **Washington State Hospital Association**—represents state community hospitals and several health-related organizations, and provides issues management and analysis, information, advocacy and other services. WSHA works to improve the health of the people of the state by becoming involved in all matters affecting the delivery, quality, accessibility, affordability and continuity of health care.

- **Harborview Medical Center**--The only Level I adult and pediatric trauma center and regional burn center serving Washington, Alaska, Montana and Idaho, it is also one of the two primary teaching sites for the University of Washington School of Medicine and other UW Health Sciences programs.

- **Swedish Medical Center**— Swedish is the largest, most comprehensive nonprofit health provider in the Greater Seattle area. Swedish Medical Center has been the region's hallmark for excellence in health care and overall care in a variety of specialty areas.

- **Sacred Heart Medical Center**--Sacred Heart is the largest hospital in Eastern Washington, the second largest hospital in Washington State, and the largest hospital between Seattle and Minneapolis. Sacred Heart works collaboratively with other hospitals and organizations through Inland Northwest Health Services. Because of the extensive geographic reach and service to rural communities, Sacred Heart specializes in programs and services targeted to these areas, such as telemedicine.

The organizations above were all contacted by phone and by email to ask for and schedule the interviews.

## **Project Implementation**

One of the first priorities for the project was to develop the materials that would be provided to the hospitals to invite them to the symposia and provide enough background on the project and the purpose of the symposia to encourage attendance. This required developing a project summary, some background on hybrid data, an explanation of what the symposia were intended to accomplish, and how the participants would be asked to contribute. The first documents developed were:

- An invitation letter explaining the project and the project goals, providing dates for the symposia, and describing how participants would be asked to contribute
- Project summary—a short description of the project and the intent to prepare stakeholders for the interview/symposia participation

As the symposia began to take shape, content and timing were further defined. The team decided to kick off the events with two invited speakers who would go into more detail on the background on the project, discuss the research that showed the value of the clinical data approach, and describe the value to and uses of the clinical data for hospital purposes. The participants would then break for lunch, which would be provided, and regroup for facilitated sessions, where each of the questions outlined above would be discussed. Because initially the project team had no way to gauge what kind of response the invitations would generate, the facilitation approach was left flexible as different methods are more useful with different size groups and under different situations. It was decided to run the event one week in late October on a Tuesday and Wednesday, and set the timing from 9 am to 3 pm to allow for travel time and avoid peak traffic times.

In the meantime, the DOH project team were also contacting possible speakers for the symposia. Dr. Michael Pine, who is one of the lead authors on several research articles studying the value of clinical data for quality, was under contract to AHRQ for this project, and one of his roles was to be available to the contract states to speak on the project topic upon request. The second speaker, whom the project team wanted to present the hospital perspective, took a bit longer to solidify. The team identified several possible candidates, and eventually found Pat Merryweather, from the Illinois Hospital Association, who agreed to participate. Both speakers were asked to submit copies of their presentations in advance.

All symposia invitees and key stakeholders contacted for interviews were sent the invitation letter, project summary, and the following materials prior to the actual interviews and/or attending the symposia.

- Literature review summary—a summary of the research on POA coding, lab values, administrative vs. clinical data, and risk measurement methods
- Copy of Dr. Michael Pine's presentation—discussing the value and use of POA and clinical lab data alone and in combination with administrative data

- Copy of Pat Merryweather's presentation—hospital experiences with and uses of POA and clinical lab data, and new initiatives which will require hospitals to have access to this type of information to submit measures to meet regulatory and federal financing requirements
- Speaker biographies for both Dr. Pine and Ms. Merryweather
- Symposia agenda

### ***Key Stakeholder Interviews***

Although the key stakeholders were to be interviewed prior to the symposia, project delays caused by state budgeting reductions pushed this activity to after the symposia events. Key stakeholders were contacted and sent background materials in early November to arrange for approximately one hour one on one interviews. All key stakeholders were also invited to the symposia, and most had a representative at one of the symposia. Some of those who attended the symposia declined to participate in the one on one interviews, stating that the input provided at the symposia adequately represented their position. Four interviews were ultimately completed with the Foundation for Health Care Quality, Puget Sound Health Alliance, Swedish Hospital, and Harborview.

### ***Clinical Data Symposia***

To obtain broad, direct hospital input, DOH invited all state hospitals to attend one of two free one day symposia in October, one in Seattle and one in Spokane, to engage in informational sessions and discussions on clinical data. Invites were sent by mail and email to four key positions in each hospital; CEO, CFO, Quality Assurance/Quality Improvement Director, and Medical Records Director. Other invitees included the Foundation for Health Care Quality, Puget Sound Health Alliance, the Washington State nursing school program, WSHA, the state hospital association, and the state medical records association. The invitations included a letter briefly describing the project and the goals of the symposia, a one page project summary, a summary of the literature review (with the abstract of and link to the Michael Pine JAMA article [Enhancement of claims data to improve risk adjustment of hospital mortality](#)), and speaker presentations and biographies. Lunch was provided for the participants at no charge. Response to the invitations was much better than anticipated, and many respondents included positive remarks about the opportunity to discuss the topic.

Dr. Michael Pine of Michael Pine and Associates and Pat Merryweather, Illinois Hospital Association, were the featured presenters speaking on the merits and issues related to capturing and using clinical data. The symposia began with Dr. Pine introducing and providing background on the value of clinical data, followed by Ms. Merryweather speaking on hospital experiences with clinical data as well as upcoming federal activities and requirements that would utilize more clinical data.

Attendees were then involved in small and/or large group facilitated discussions around

the key questions identified above. Participant responses and discussions were captured by the DOH team on flip charts and by taking notes. At the end of each meeting, the information gathered was summarized either by the participant groups or the facilitation team. Additional information requested by the participants was also noted for further follow up.

Both symposia were successful in terms of interest and attendance for the audience in each part of the state: the Seattle symposium drew 39 people, and 22 attended the one in Spokane. The majority of the participants were hospital quality staff, particularly at the Seattle event; in Spokane, some participants attended to discuss issues with the state's hospital discharge data (CHARS) collection. Participants were generally receptive to the process and forthcoming with their feedback on both the benefits of and barriers to collecting and using selected clinical data.

## **Project Findings**

### **Key Stakeholder Interview Findings**

The key stakeholder interviews were conducted with two different groups: one was with state organizations/foundations involved in independent quality activities and measurement, the other was with hospitals which have their own organizational quality needs and requirements. The two groups predictably also had different perspectives on the proposed clinical data collection.

- The state organizations independently involved in quality projects were mildly positive or somewhat neutral about the proposed clinical data collection activity; most could see benefit for the hospitals, the state, and others, as well benefits as a public source of a uniform set of information that would provide added measurement and research capability, but did not see it as being of significant value to their organizations as they were already getting similar and often more comprehensive information directly from the hospitals or other comparable sources.
- The interviews with the hospitals were held with the quality manager and staff; these respondents were generally highly supportive of the proposed collection activity. While the hospitals interviewed were large and already collected much of this information for internal use, they could see the limitations in the current data both internally and for comparisons to other state hospitals. These interviewees recognized the value in having consistent and standardized data to compare quality for their facility to that of other hospitals in the state.

### **Symposia Findings**

Feedback received from attendees on the symposia was generally positive. The most ardent supporters of the proposed clinical data project were the hospital quality staff; these personnel formed the bulk of the attendees and were the most active participants in the symposia discussions. They were also able to understand and delve into more of the

research and quantitative aspects of the project than others. Other participants usually recognized the value of clinical data, but often had questions and reservations in terms of the resources that would be required to collect and submit the data. In general, small rural hospitals had more barriers to collection and use of the data than did larger, more urban facilities, but for reasons that were usually systemic and went far beyond the particular needs of this project.

Because the audiences that attended each symposium and their issues and concerns were vastly different, the outcomes of each are reported separately and summarized below.

The *Seattle symposium* attendees were primarily from the larger urban hospital facilities and state quality organizations. The group in general was fairly sophisticated in their knowledge and use of data for quality purposes; some had strong research backgrounds and there was keen interest in the academic and technical aspects of clinical data in quality measurement. Many of the facilities represented had a dedicated quality position and some had a quality assurance department with multiple staff. This group had no difficulty understanding the concepts presented and the potential uses for such information; in fact, some of the facilities are already engaged in similar activities for their own purposes. Interest in this information and its potential uses was high, and discussions were lively and often academic and technical as well.

Uses and benefits captured at this symposium focused on improved internal and external measurement, comparisons, and risk adjustment, cost effectiveness, improved identification of complications, and improved credibility and engagement with clinicians. This group also identified risks, primarily technical and related to data and analysis: data quality and comparability, choosing, maintaining, and comparability of analysis methods, standardization of definitions and measures, and appropriately interpreting and using analysis results.

Issues and barriers focused on education and training to capture clinical data uniformly, the complexity of dealing with information in varying formats (non-standard lab data collection, vital signs primarily on paper), finding, purchasing, or modifying software and systems to simplify collection and reporting, lack of standards and definitions, and fear, lack of understanding and support by administrators, staff, and patients.

This group also delved into specific issues around particular data elements. For POA, there was a recognition that: 1) incentives to collect are limited; 2) hospitals currently collecting POA may be doing so in different ways (definitions, deciding when POA starts); 3) common definitions and terminology are lacking; and 4) physician interest must be won. For lab data, the group saw issues with: 1) IT interfaces and priorities; 2) when and how linkage with administrative data would occur; 3) collection standards and points; and 4) appropriate use of data.

The *Spokane symposium* attendees were primarily from more rural hospital facilities. Inland Northwest Health Services, a health care collaborative, the chair of the Washington State University nursing program, and a representative from the Washington

State Information Management Association were also in attendance. The group in general did not have strong data backgrounds, but it quickly became clear that quality measurement was not a priority for most rural facilities as daily operations absorbed all available staff hours. Most of the facilities represented had no dedicated quality position, and many have little capacity for data analysis. This group was more interested in the business uses of the information and in mandates that would require submission of clinical data or measures using that data. Interest in this information and its potential uses was low; discussions focused on the day to day realities for many rural hospitals.

While this group recognized some potential value in clinical data, discussion on uses, benefits, risks, issues and barriers at this symposium was subsumed to the larger issues facing rural hospitals. Many rural hospitals operate in survival mode, staff are overloaded, and activities not directly related to treatment or billing/receivables generally do not occur. Even coding for payment is not subject to any form of quality control. The participants made it clear that many rural facilities do not have the time, resources, or expertise to devote to data collection, analysis and measurement, even for their own purposes. Rural hospitals have other critical data needs such as nursing sensitive data that would have greater priority. The bottom line for these facilities was that any new data collection activity must be mandated to make it happen. They wanted quick and easy data collection facilitated by cheap and easily available software to make it realistically feasible. They feared that additional resources (money, time, expertise) would be needed in most cases to support collection activity so that providing care and obtaining reimbursement would not be impacted as a result.

Issues and barriers for this group included extensive resource and education needs. They wanted: clear rules and standards for charting and reporting the data; assistance with collecting the data; provision of analysis tools; and analysis support. They requested DOH communication with appropriate personnel (for some rural facilities, it appears that current DOH (and hospital association) contacts are not correct, and necessary communications are not reaching the appropriate personnel). Vendor costs are a big issue; they are often too high for many cash strapped facilities, many interfaces changes need customization, and there is no price break on work done for a facility when the same work was already done elsewhere. In Washington State, vendor system costs only become reasonable once an activity is mandated, so mandates are often in the best interests of rural hospitals. Another issue is that critical access hospitals are sometimes exempt from certain data requirements, like POA, under CMS, meaning they do not collect/submit the same information as collected/submitted by others. This causes them to be at a disadvantage in instituting new data requirements, as they may have to do more work and expend more resources than other hospitals to meet the requirement.

A discussion specific to overcoming barriers to clinical data collection only occurred at the Seattle symposium, as the barriers for small rural hospitals are more fundamental to their existence. Key items identified by this audience to address barriers included vendor participation and affordable solutions; standardization of approach, definitions, process models, collection, data elements, etc. to reduce effort and costs; collaborate, partner and share experiences across state hospitals and associations, including in other states and

nationally; and support in the way of materials, examples, technical assistance, communications; and funding. There was some support for incremental implementation, such as through a phased approach or use of sample data. However, the downsides of these methods are that the costs of doing a little vs. doing it all can be almost the same, and sample data may not provide enough information to obtain good measurement quality and predictive value.

The summary document was distributed for review and comment by all symposia participants, invitees, and other interested parties. All comments were evaluated by the DOH project team. Only a few comments were received, mostly to the effect that such a collection effort should not be undertaken, particularly without reimbursement for the effort required, at this time of economic downturn.

## **Project Results**

The DOH project team felt that much more was achieved in this project than originally anticipated. In general, the DOH outreach itself was positively received by stakeholders, and most seemed open in their comments and criticisms raised by the project. The offices of DOH CHS operating the CHARS data system rarely have opportunities to connect to the hospital community in this fashion, and both sides seemed to come away with generally positive attitudes about the experience. The personal connection allowed DOH to gain credibility by providing an opportunity to partner with and request input from hospitals on a cutting edge topic. It allowed the hospitals an opportunity to have a significant voice in what will likely become a national initiative, and laid the foundation for potential implementation in the state. It also brought out a variety of issues for the hospitals, some of which were well known and others which were not. Some of the issues were unrelated to the data collection proposed for this project, such as issues with the conversion from the UB92 format to the UB04 format. In general, the connections made and information received in and of itself were a very positive contribution for DOH, not only for this particular project but in other areas as well.

## ***Accomplishments***

Overall, the major accomplishments for the project were as follows:

- Identified statewide interest in and barriers to clinical data collection among the hospitals and key stakeholders
- Identified a significant distinctions between the concerns of eastern (rural) and western (urban) Washington facilities not just about clinical data but in other matters, primarily related to budget, staffing, and knowledge resources
- Built connections to and credibility with hospitals and with the state hospital association
- Connected with hospital quality staff, who appear to be potential advocates for the current administrative data as well as for the potential clinical data expansion
- Raised awareness and educated the hospitals on clinical data, risk adjustment, quality measurement, and other associated matters

- Produced materials to hand out to attendees on the topics and issues listed above
- Produced a literature review which can serve as a resource to attendees and others who want to pursue the topics in more depth
- Put a face on hospitalization data collection activities in Washington State

### ***Barriers***

There were a number of unexpected hurdles that arose during the project, although most proved to be surmountable.

One large barrier that arose early in the project was significant state budget cutbacks, which put many expenditures, such as contracts and travel, on hold for an extended period until the rules and exceptions were determined. This cut back travel subsidies for attendees and stalled the project activity for a short time while the project team determined if the project could proceed if the symposia could not be held as planned. The budget reductions, which have since continued with the declining economy, appears to have affected management perceptions of possible implementation of clinical data collection, making it a low priority project and not something to consider in the current climate. Eventually the project moved forward and was able to be completed, but high level departmental support at this time is unchanged.

DOH also ran into some contracting issues early on that delayed bringing a consultant on board to assist with the project. Limits on the dollar amount for a contract that could be awarded without going through the full solicitation process and locating a suitable consultant for the project all caused considerable delay in getting it started.

Initial response from the Washington State Hospital Association (WSHA) to the project was skeptical, as it was seen as another regulatory requirement that hospitals already feel overburdened by. After assuring the Association that the project was purely a feasibility study and not a collection activity, they offered their support but kept some distance. They did, however, send a representative to the Seattle symposium who participated in the discussions.

An issue which DOH had some awareness of but did not realize the extent of was the issues facing primarily the small and/or rural hospitals. As demonstrated in the findings above, there was an extreme degree of skepticism from the primarily rural hospital participants at the Spokane symposium about quality assurance issues and why they should be given priority when many of their facilities struggle just to survive. In general, anything outside of direct patient care is seen as a waste of resources, and data will only be collected and reported when absolutely necessary for reimbursement. Some participants did reflect that this information would be useful and helpful for their hospital, but when staff are overburdened and the priority is getting paid, there is no time to do anything but the basics to keep the hospital operational. The Spokane participants seemed to leave the symposium on a generally positive note, but it is obvious that these issues must be factored into any future collection activities, particularly when unrelated to reimbursement.

Another issue that DOH was unaware of was the extent of hospital frustrations with the current state hospital discharge data (CHARS) collection activities. Some of the skepticism noted above appears to be tied to this discontent. At the Spokane symposium in particular the DOH staff spent some time answering questions and discussing issues and problems with that effort. Again, rural hospitals appeared to be most impacted, often because they had few resources to deal with the problems that arose. Participants were also concerned that information about CHARS data collection activities was often sent to the wrong party within the hospital and would not reach the person actually responsible for submitting the data. Participants were quite vocal in expressing that they felt that DOH should spend more time identifying the correct contact persons and engage in more active and ongoing communications and provide a means to hear the problems and concerns as they arise.

### *Next Steps/Future Activity*

The final project report is expected to be disseminated, at a minimum, to all stakeholders interviewed and invited to the symposia, the same individuals that were sent the summary of the findings of the symposia. That list includes hospital quality professionals, but also includes the CEOs, CFOs, and medical records directors of all hospitals statewide. In addition, it will be sent to the academic, for-profit and non-profit organizations and foundations in the state involved in measurement and quality of health care and health services. This should reach most of the key stakeholders in the state who have an interest or stake in clinically augmented data and quality activities. Because of the open participation in the process, no political concerns are expected to be raised from its release. The report will also be sent to other parties upon request.

Short term, the likelihood for augmenting the CHARS data with selected clinical data is very low unless CMS or another federal agency/program requires it. Given the current economic climate in the country and in Washington State, there is little political or budget support for projects seen as non-essential. At present, not only are new projects and programs not being implemented but many existing and publicly supported projects and programs, such as local parks, are being cut. In addition, some hospitals indicated that they needed a mandate for their vendors to change their data systems for free or reduced fees. Without that, vendors' charges are often unaffordable for smaller facilities.

However, since DOH's Public Health Laboratory (PHL) was one of the early participants in the National Electronic Disease Surveillance System (NEDSS) project, the project team decided to look at the current PHL lab data collection effort to see what information was being gathered from whom and how. The team interviewed the head of the lab collection effort and discovered that PHL is collecting a large quantity of laboratory data electronically for a CDC project designed to increase the efficiency of hospital disease reporting to public health agencies. The data being collected for the CDC project is far more extensive than that proposed for the clinical data project, and it appears it would easily meet the requirements to augment the existing administrative data. Although the project involves only a limited number of facilities in the state so far (and some across the border in Idaho as well), the intent is to expand the lab collection to all hospitals in the

state and to maintain that collection on an ongoing basis. This means that the data required for clinical data collection will already exist in house, and it appears it will only need to be merged with the CHARS administrative data to meet the goals of the project. Having the necessary data already available will significantly reduce the time and costs necessary to add the clinical data, and may also help overcome management reticence about the project when it is shown to be economically and politically expedient.

## **Project Review**

As stated earlier, the DOH project team felt that the success of this effort exceeded initial expectations. Critical factors contributing to that success included:

- Engaging with the hospitals directly in a public forum via the symposia
- Holding separate symposia in both the Western and Eastern parts of the state to better capture the range and diversity of hospital concerns
- Setting the symposia agenda and locations sensitive to participant schedules and traffic flows
- Inviting hospital quality personnel, enabled by the dedicated efforts of Rachel McKinley, the project's symposia coordinator
- Providing advance materials at both general and specific levels, which seemed to help spark interest in some invitees
- Bringing in outside, nationally recognized speakers to improve interest and attendance
- Choosing a speaker who could relate to and directly address hospital concerns
- Inviting some of the state's non-hospital organizations, some of whom were quite supportive, providing a somewhat different perspective on the proposed collection
- Working with a consultant who was familiar with the department, the existing data collection effort, and the hospital climate in the state

In hindsight the project team made many of the right choices to facilitate the success of the project. However, there were some important things that could have improved the success of the project or helped it go more smoothly. These included:

- Obtaining early DOH management support for the project, perhaps by enlisting a project champion
- Improving communication with and support from the state hospital association
- Engaging more hospitals from other parts of the state through additional symposia, such as in SW Washington (Vancouver/Portland area) and central Washington (Yakima, Tri-Cities)
- Inviting more of the right hospital personnel. For the small/rural hospitals in particular, the department did not always have the right contacts for the existing hospital data collection, and relying on internal communications to locate the right person did not always work. In addition, the effort might have benefited from additional input from other areas such as IT personnel.
- Providing better clarity on the topic. While the quality personnel were a good fit, other attendees not involved in quality efforts often thought the symposia were about

the state administrative data.

- Paying for travel, particularly for the more isolated and less financially stable hospitals, might have given more facilities the opportunity to attend and provide input
- Understanding the major challenges facing many small/rural hospitals in advance
- Additional materials including some graphics, such as a graphic of a quality profile showing the differences between pre and post application of risk adjustment methods, may have simplified communication and improved understanding of the project
- Additional simple materials on risk adjustment, the impact on hospitals, how it would work technically and some other topics would also have been beneficial

Plans for a potential future implementation, as mentioned above, are likely on hold for the time being as the economic downturn cuts deep into state budgets and curtails new activities. There also would need to be considerable work with the smaller, rural hospitals to bring them on board if they would need to submit new data directly to the department. However, DOH feels that this project has set a good foundation for either taking this activity into a pilot phase with selected hospitals or going directly to creating a hybrid data base using the lab data already being collected elsewhere in the agency. Some participants in the symposia were extremely interested in the project, and if their hospital already collected this type of information in electronic format, many were ready to begin right away. These hospitals could be tapped to pilot data submission if it was not too burdensome. A more feasible option might be to pilot the work completely in house by looking at the lab data being collected and investigating how it could be linked to the CHARS data. An effort that does not set new requirements on the hospitals would be much cheaper and more politically feasible both for the hospitals and the department, and bring DOH several steps closer to full implementation in a much shorter time. Given the current budget crisis, AHRQ may be able to kick start the next development phase by providing additional funds.

The DOH team did take away a number of lessons learned from this project. First and foremost is to understand the audience (the hospitals) and be aware of hospital concerns, not just in general but for specific hospitals and specific types of hospitals, about collecting and submitting not only new data but also current data to the state. These issues affect attitudes and receptiveness to any new proposals at the outset and color any related activities. If these attitudes are negative, the road to new data collection will be more difficult. It is also essential to understand that unrelated hospital issues and problems can also affect attitudes towards new collection activities, such as excessive pressure on budget, staffing, time and resources, which can lead to a negative response to any new activity that increases staff workloads, uses scarce resources, and takes away from patient care. Related to that is knowing enough about the hospitals, and communicating with them in advance, to ensure that the right people are invited and involved in the project. This understanding will also drive development of educational and support materials that are clear as to topic and explanatory in content while being appropriately targeted to the knowledge level of the audience. The DOH symposia attracted attendees at different knowledge and responsibility levels, and while some were extremely interested in and could understand the research that formed the foundation for the project, others had little background in this topic or the academic approach and would

have benefited from some simpler content and documentation. This simplified material is particularly helpful to small and rural hospitals who often do not have dedicated or wellversed quality personnel. Because activities not related to care or reimbursement often have very low priority in these settings, the addition of specific information on benefits to the hospitals and particularly to small/rural hospitals may be particularly helpful.

Second is to understand your state government's environment and the realities of working in a bureaucracy when setting a timeline and what might cause that timeline to slip. The current economic state of the country is causing unprecedented stresses on state governments and is forcing them to make hard choices on what programs and activities and programs to keep and what will no longer be funded. Recognize that, depending on state priorities, this may hurt or help a new data collection activity on clinical data. Therefore it is important to make the case for implementing clinical data collection that includes how it could be implemented with minimal impact on the hospitals, save money, facilitate greater accountability for use of funds and reap the most benefits for the state's tax dollars.

Another significant lesson is that state and federal agencies and programs looking to impose new data, measure, or informational requirements on hospitals must realize that each of these requirements imposes new costs on facilities. Government requirements and regulations are imposed in isolation from a variety of state and federal agencies and programs with little consideration of what is already being collected/reported and how to build on existing activities rather than create new ones. Each new requirement has the potential to add significant administrative costs, not just in the one time cost of setting up the capacity to obtain the required data but in the ongoing costs of collection, submission, editing, analysis and reporting. These costs are not recognized or reimbursed either through claims payments or via any other funding mechanism. Over time, governments must be aware that these requirements, often aimed at controlling costs, add significant costs to health care and services and increasingly impact long-term hospital survival. At particular risk are hospitals already on the edge of survival: public hospitals, regional trauma centers, and small/rural hospitals that are unaffiliated with a larger hospital network. Government regulators must calculate the costs of any new requirements, and assess and determine how to reduce or eliminate the impact on hospitals to maintain existing access and services. This particularly impacts access and services to marginal and vulnerable populations, so it is imperative to recognize that overburdening certain facilities with administrative requirements and costs can lead to an unwanted reduction in access and services.

DOH should also look at ways to level the playing field between the large urban hospitals with significant resources and the small/rural hospitals struggling with basic survival. The department could commit to providing additional hospital support to all players but with particular emphasis on the needs of the small/rural facilities: technical assistance, a free state-operated web submission mechanism, provision of analysis services, and perhaps a reporting subsidy to help reduce any unintended impacts on hospital viability.

AHRQ could also contribute to states' efforts in exploring and/or implementing clinical

data collection in a number of ways. Assistance with the last two issues above (advance consideration of current collection and reporting requirements and leveling the field for small/rural and marginally viable hospitals) would be of critical importance to widespread implementation of clinical data collection. Some suggestions are:

- Develop a white paper or conduct research on the burden of multiple reporting requirements on hospitals, particularly those with marginal viability, and explore options for reducing that burden through regulatory consolidation, guidance on aligning regulations and requirements with health data standards, repurposing data, providing monetary support, providing free submission mechanisms, and other possible ways to simplify the effort and reduce the burden on costs and resources. Utilize this document to help educate state and federal agencies on the impact of their reporting requirement decisions and advocate for exploring other solutions and offsetting costs incurred. Consider what actions AHRQ could take to further address this issue.
- Conduct an inventory on the types of assistance that the state and federal agencies could provide to equalize the burden across large well-funded hospitals and small hospitals in survival mode. Utilize the results to help educate state and federal agencies on the impact of their reporting requirement decisions and advocate for providing technical, analytic, IT, funding, and other support assistance that assures, and perhaps enhances, continued survival of the most marginal facilities. Consider what actions AHRQ could take to further address this issue.

AHRQ could also assist states with the following:

- Communicate the importance of understanding and addressing hospital concerns and creating a positive, collaborative environment around data collection activities
- Supply supporting educational materials such as sample hospital quality assurance/quality improvement profiles and graphics pre and post risk adjustment and pre and post the addition of clinical data
- Supply states with examples of communications approaches and tools for interacting with hospitals on this topic
- Assist states with identifying quality assurance/quality improvement and other interested hospital personnel classifications, as well as key quality assurance/quality improvement organizations
- Assist states in locating appropriate speakers for various phases of the effort
- AHRQ funding support was critical for initiating this project and developing statewide interest. It was unlikely that DOH could have achieved what it did without that support.

As a result of the project, DOH has the following suggestions for next steps for AHRQ:

- Many concerns were raised about the resource burden of collecting and submitting the data, particularly among small/rural providers and others who were not already collecting the data electronically. Funding and other support for implementing the

collection would greatly assist rolling out a statewide effort.

- States often capture lab data in other divisions and programs. AHRQ could encourage states to do further exploration on the possibility of utilizing existing data to meet some or all of the clinical data needs, reducing hospital burden and eliminating many of the hospitals' concerns
- Hospitals raised the issue of how the data would be submitted, what form/format, and concerns that the hospital lab data is not truly standardized. AHRQ could do further work to build a standardized collection/submission format and content, and help identify and resolve standardization issues.
- Hospitals often are frustrated by being asked to submit data but often receiving nothing in return in terms of data and reports. AHRQ could work on templates for possible reports, measures and statistics using this data that the hospitals or the states could produce that would provide benefit to the hospitals
- Although not relevant to the planning project, the technical assistance AHRQ provided to the other contract states, such as with HL7, seemed invaluable for the actual collection. AHRQ could consider continuing to offer technical assistance to states and hospitals that choose to pilot and/or implement.

Overall the project was a useful effort that provided an opportunity to connect with the state's hospitals in a collaborative mode, get a sense of where they are in automating their own business operations, understand what may impede this movement, and get a glimpse of how the state as a whole will progress towards the national goal of EMRs/EHRs by 2014. While the interim step of adding clinical data appears to be a viable and effective method for improving the utility of administrative data, timing is a critical factor. If national availability of EMRs/EHRs is reached in the next 5-8 years, or close to, the timing needed and rationale for implementing a hybrid system will likely disappear. Therefore it appears that if this approach is to provide value for the amount of effort needed to implement, the window of opportunity is narrow and must be taken quickly.