

THE VALUE OF SHARED HEALTH

Shared Health is committed to improving the quality, safety, and efficiency of health care by connecting clinicians, consumers, and health coaches through a secure information exchange. We are the clinician's trusted partner for sharing information that enhances the value of specific health and wellness interventions at the point of care, enabling both health care professionals and consumers to improve outcomes. At the clinician level, benefits include: a reduction in staff burden and an increase in efficiency; enhanced quality and accelerated assessment, diagnosis, and treatment; maximized patient confidence, convenience, and satisfaction; facilitated application of EBM care; and demonstrated practice effectiveness and improved practice revenue. By using the Shared Health suite of products, clinicians and providers will be participating in a new kind of collaboration in health care that unites them with health care plans, hospitals, and patients.

Similarly, hospitals will also reap value from the point-of-care insight offered by Shared Health. With the Shared Health Clinical Health Record (CHR), hospitals will accelerate the point-of-care process of assessment leading to appropriate diagnoses and effective treatment. Hospitals will also be better prepared to control inpatient utilization of facility resources and more adequately manage patients within an environment of complex payer reimbursement models. The electronic availability of data will also assist hospitals with monitoring quality metrics and JCAHO compliance. As coordination of care improves, patient confidence, convenience, and satisfaction will continue to rise.

The role of health plans in the collaboration of health care will be to empower the doctor-patient relationship at the point-of-care. Health plans can use the Shared Health products to work with clinicians in improving medication management, reducing fragmented care, and enabling more effective use of chronic care resources. Shared Health products promote pro-active wellness management that health plans and clinicians can use to monitor patient health. Health plans will also have access to applications that improve compliance with evidence-based guidelines. Shared Health provides a medium for all players involved in a patient's care to contribute relevant, secure information, as well as leverage that information to improve the quality of care and business efficiency.

SHARED HEALTH IMPROVEMENTS IN EFFICIENCY STUDY

In a recent Medicaid report analyzing data from July, 2006 through June 2007 researchers documented that patients evaluated with Shared Health have a greater disease burden, with 50% having health status indicators (HSIs) compared to 36% in the residual population. Yet even with higher severity of illness scores, Shared Health patients have an Average Length of Stay (ALOS) of 3.28 days compared to the residual or 3.98 days. During this same timeframe, Shared Health's patient admission rate is 139 per 1,000 compared to 141.6 per 1,000. Shared Health patients also enjoy better wellness performance in all measures but one, smoking education.

Methods:

Comparing data from 2005 to 2006, Shared Health analysts are investigating the influence of our point-of-service system by studying practices where our Clinical Health Record (CHR) is frequently accessed to assist in treating patients. Shared Health elects to evaluate impact by using Episode Treatment Groupers (ETGs), which aggregate like episodes of care into homogeneous groupings of similar conditions with equivalent severity. ETG methodology has been validated nationally and is effective in studying comparative care efficiency and cost. An ETG efficiency value of 1.0 represents a case where the actual episode cost was equal to expected cost[□]. (Expected cost calculations are based on a technique that averages costs for an episode after removing outliers.) On the other hand, an efficiency value of 2.0 represents a case where the cost is twice that which was expected.

Shared Health focused on 102 practices (Super Adopters) meeting a criteria of accessing patients in the CHR at least four times per month during six months or more in 2006. For that time period, these 102 practices accessed 12,477 unique patients who accounted for 7,292 discrete ETGs or episodes of care attributed to those practices. Shared Health attributes an episode of care to a physician practice when it accounts for ≥ 60 percent of each episode’s E&M codes. (Please note that ETGs are attributed to clinician practices, not facilities.)

Results:

In order to achieve a precise control group, our analysts first limited our study to comparing 2005 with 2006 for Shared Health patients treated by the same Super Adopter practices for the same ETGs in both years. (For example, this approach would compare Practice “A’s” treatment of Jane Doe’s diabetes in 2006 with that in 2005.) In spite of reducing the number of patients in the study, this rigorous approach showed a significant (P=0.04) 17% improvement in efficiency from 1.48 to 1.22. (See Figure 1.)

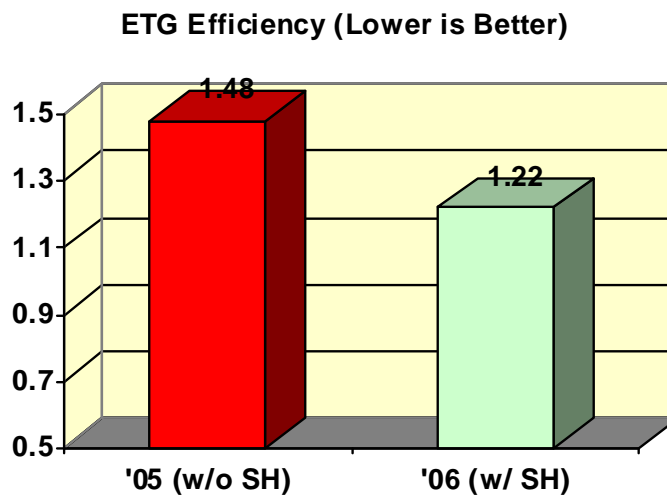


Figure 1

These results were further evaluated to establish the areas where the efficiencies were achieved. Our ETG methodology allows us to separately examine the contributions from Ancillary (lab, imaging, etc.), Facility (hospital charges, in-patient, outpatient, etc.), Management (office care, E&M codes), Pharmacy and Surgery (CPT surgical – in-patient, outpatient, venipuncture, etc.). We show that the enhanced efficiencies are derived from improvements in Pharmacy, Facility, and Ancillary. (See Figure 2.)

Efficiency Gains by Category

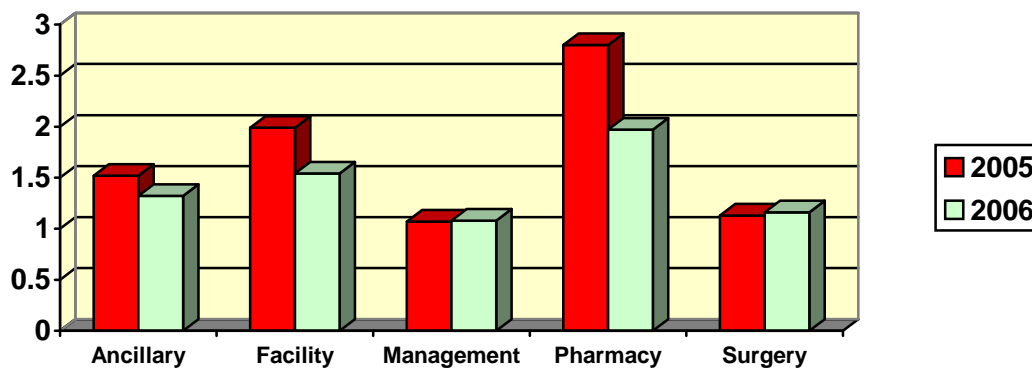


Figure 2

To achieve greater understanding of Shared Health's impact, our analysts compared the results above with a cohort from these 102 practices of patients who were treated for the same ETGs in both years without the benefit of our CHR in year two. Interestingly, there was a 10% improvement in this group, but this was significantly (0.03 level) less than the 17% improvement in the Shared Health patients. Nonetheless, the 10% improvement in the control group was noteworthy, and we elected to create two additional cohort pairs for these practices and their same patients during years one and two - Shared Health versus non-Shared Health for different ETGs and Shared Health versus non-Shared Health for all ETGs.

The findings for the different ETG groups were dramatically different with a 16% (-16%) worsening of efficiency in the control compared to a 7% improvement in the Shared Health patients. This 23% differential was significant (< 0.001). Finally, putting this together for all ETGs in the same patient-practice context, there is a 9% (-9%) worsening for the control versus a 9% improvement, resulting in an overall 18% significant (0.02 level) advantage where Shared Health was used in the evaluation. (See summarized findings in Figure 3.)

Implications:

Shared Health has anticipated that information provided in the CHR would lead to improved decision making at the point of care, and this study seems to bear that out. It appears that the Shared Health CHR helps good clinicians get better at what they do. The 17% improvement in efficiency treating the same ETGs is notable.

Interestingly, the categories of savings seem to corroborate the savings predicted by most theoretical models and agree with Shared Health's premise that exposing clinicians to previously unavailable information will reduce redundancy and foster appropriate interventions. Reductions in Ancillary, Facility and Pharmacy support the contention that HIE can reduce costs related to lab, imaging, certain procedures and injectable medications.

We were initially surprised to see a 10% efficiency boost in the non-Shared Health, same ETG group, but, on reflection, this may in part represent the natural tendency of growing more familiar or informed with the same or chronic condition in a patient over time. It is therefore encouraging to demonstrate that Shared Health with a 17% improvement might be accelerating this tendency further. Moreover, the Shared Health advantage to accelerate the process of informing seems most pronounced for novel ETGs where the differential between the control and experimental groups was 23% in favor of cases for which the Clinical Health Record was employed. It could therefore be that the data contained within the Shared Health system is giving clinicians a "head start" toward understanding a new case.

It is tempting to translate these improvement percentages into dollars. We emphasize that there is much more work to do in order to refine our analysis to establish an accurate figure. Nonetheless, using these preliminary findings and the data currently at hand, we can begin to hone in on a potential savings that show greater credibility than that for purely theoretical models generally quoted today.

SH Efficiency Change Impact: Same vs. Different Conditions (ETGs)

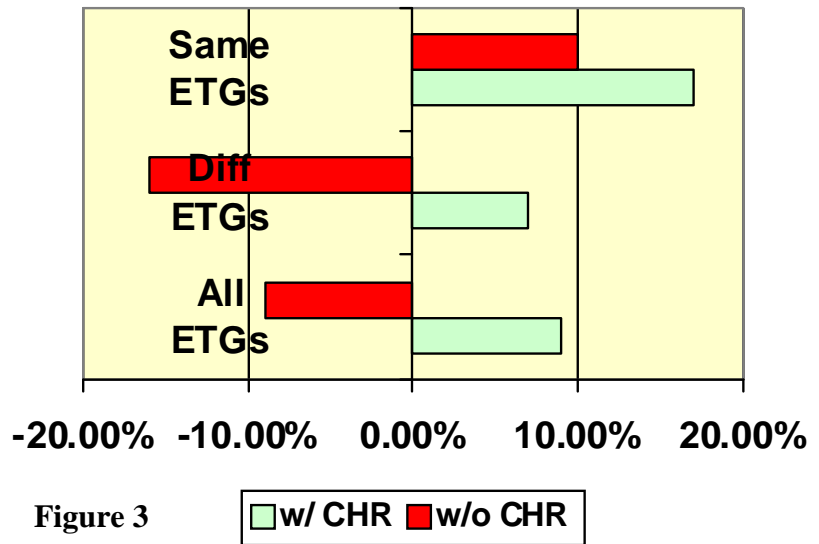


Figure 3

ACTUARIAL VALIDATION REPORT

Methods:

The first Axene Report was also released in August of 2007. The research from the Axene Report compares 2007 data from organizations extensively using the Shared Health technology to their 2006 or pre-Shared Health numbers. Specifically, Axene Health Partners thoroughly analyzed the impact on Child Well-Care Exams, emergency rooms services, electronic prescribing, and primary care physicians (PCPs) efficiency. Axene will continue to update their studies as new data becomes available.

Results:

In the Child Well-Care study, Shared Health users provided 10.5% more EPSDT wellness services to eligible members. Emergency rooms using Shared Health demonstrated 30% fewer emergency room services/visit, 21% lower cost/visit, and 15% fewer patients being admitted. Additionally, using the ETG mix adjusted basis, Shared Health emergency rooms contribute to related episode efficiency. The e-prescribe analysis showed Shared Health users prescribing less expensive drugs and 9% more generics, as well as more frequent compliance with the formulary. Clinicians using Shared Health also prescribed 11% fewer drugs requiring pre-authorization. Finally, the PCP services study showed that Shared Health users have 5.4% improvement in episode service efficiency and a 21% improvement in episode efficiency when prescriptions are included.

CLINICIAN FEEDBACK

In addition to the quantitative findings, Shared Health surveyed its clinician users to determine impact on quality and efficiency and found the following results: (1) 76% of surveyed physicians reported modifying a prescription as a result of Shared Health, (2) 81% of respondents indicated Shared Health's CHR helped them provide high quality, cost effective care and (3) 69% of respondents indicated they have successfully integrated Shared Health CHR into their workflow. A key success of Shared Health is achieving strong provider satisfaction results. Positive provider satisfaction results are a good indication of clinician utilization and in turn return on investment.

THE SHARED HEALTH PERSPECTIVE

Shared Health is the largest fully operational public/private health information exchange (HIE) in the nation with nearly two million Tennesseans enrolled in our HIE. Located in Chattanooga, TN Shared Health has been operational for two years and employs close to 50 professionals. Shared Health is the only comprehensive statewide HIE in the country with a scalable technology infrastructure that replicates NHIN models. Early findings show that use of the Shared Health product suite (including the CHR) contributes significant value where implemented enhancing quality and enabling better patient outcomes. Shared Health is delivering on the promise of health information technology.