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ACHIEVING ELECTRONIC CONNECTIVITY IN HEALTHCARE

Summary of Financial Incentives
Recommendations

Working Group on Financial, Organizational,
and Legal Sustainability of Health Information

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Summary of Financial Incentives Recommendations

Physicians and hospitals are not adopting clinical information technology at a rapid rate due to the poor financial case, difficult modifications of clinical workflow and decision-making processes, perceived legal barriers to sharing information among disparate organizations and limited capacity of health care organizations to organize regionally: factors that make a risky implementation even riskier. The promise of EHRs and other clinical information technology remains, however, as studies demonstrate that they can advance the quality and efficiency of care, resulting in reduced medical errors, reduced utilization, improved ability to manage chronic disease, improved longevity and health status, among other potential benefits. This gap between the potential of clinical information technology and the willingness to adopt these technologies raises the question of whether the market appropriately supports technology purchasers in society's efforts to realize value.

From February through July 2004, within the framework of Phase II of Connecting for Health, the **Working Group on Financial, Organizational and Legal Sustainability of Health Information Exchange** performed an analysis of the legal and organizational issues and barriers to health information exchange as well as a high-level qualitative financial analysis of health care IT application adoption. The Working Group focused on health information exchange for the ambulatory care physician practice. The goal of the analysis was to clarify and improve the understanding of barriers and opportunities to achieving sustainable adoption of health information technology and information exchange for the purchaser/implementer of a specific type of clinical information system application. Furthermore, we hoped to identify starting points and near-term opportunities for physician practices and inpatient providers to adopt health care information technology with the goal of health information exchange.

The nine (9) members of the Working Group represented health care informatics researchers, physicians, health system executives and legal professionals. The Working Group also created an External Review Panel consisting of experts on the topic from a variety of perspectives and representatives specifically from employers, health plans, vendors and the federal government that will review the results of the full report. There is a dearth of data to work with concerning the financial impact of IT on the ambulatory practice as well as a dearth of strong experience base to draw out legal and organizational issues resulting from health information exchange among health care organizations. Working Group and staff conducted literature reviews, interviewed industry experts, developed an analysis methodology and utilized the expertise of the Working Group to develop the framework and analyses during a series of conference calls, in-person meetings and sub-group working sessions.

Preliminary Recommendations

Ambulatory care practices are on the front line for the treatment of patients in the United States today, specifically the chronically ill. These physicians have the lowest adoption rates, in the United States, of health care IT among the provider sector; an estimated 6% to 13% of practices have implemented an EHR in 2001 (JHIM, 2004). In addition, we chose to focus the majority of our analysis on the small to medium-sized physician practices in the ambulatory care setting; these practices account for more than 50% of the physicians in the US.

Our analysis had two major orientations. First, we examined the financial and support mechanisms necessary to significantly increase EHR adoption by the small to medium-sized practice. Extensive regional and national interoperability will not be possible unless there is extensive EHR adoption in this critical segment of the industry. Second, we analyzed other legal

and organizational barriers that need to be addressed to further regional and national interoperability. Extensive EHR adoption by all providers does not inherently result in clinical data exchange between providers.

In our qualitative financial analysis, we analyzed small and medium-sized physician practices in order to derive an incentive to equip this specific subset of the industry with clinical application technologies. We developed an **incentive** that we believe would **cause "tilt" in the adoption of clinical applications** among clinicians and not for the application with complete interoperability or as part of participating in a community-based interoperable infrastructure. We do not intend to derive an incentive to attract clinicians to adopt complete interoperability since there is a significant dearth of data on which to base the cost of participating in a fully interoperable infrastructure. We analyzed some cases from the physician practice perspective. In two cases, we analyzed the inpatient provider perspective. The inpatient analyses are in progress and have not been factored into our recommendations.

We did not include other societal or stakeholder benefits related to health information sharing. We also have not, at this time, studied the incentives for CPOE in hospitals, for labs or for any other potential stakeholder.

Our analysis is modeled for a "typical", outpatient physician practice of five physicians in a primary care practice and a cardiology specialty practice. Although there is great variation in size, specialty and geography across ambulatory care practices, we believe that the conclusions from analysis of the "typical" practice can be broadly extended across the majority of small and medium-sized ambulatory care practices due to the similar set of implementation and infrastructure issues. We specifically analyzed use cases 1, 2, 3 and 4 which relate to EHR, eRX and on-line chronic care management tool adoption in the ambulatory care setting. We analyzed a comprehensive list of costs of adoption as well as benefits realized by the physician practice over a three-year period to account for capital costs and improved efficiencies.

The recommendations below should be interpreted with the following notes:

- For analysis purposes, we defined a "typical" practice. Although the general lessons are thought to be applicable to a variety of small to medium-sized practices, these should not be interpreted as the exact net benefit for all ambulatory practices. Many factors influence IT costs and benefits including practice size, specialty and geography. In addition, the variation in practice operational efficiency, hospital affiliation, degree of IT support mechanisms in place and the variety of current incentive mechanisms in the market cause us to exercise caution when extrapolating our analysis to other ambulatory settings.
- There is a dearth of data to work with concerning the financial impact of IT on the ambulatory practice. We relied heavily on qualitative research and the expertise of our Working Group to develop the basis for the financial analysis framework. Hence, these are initial estimates that need to be improved upon for practical application.
- The financial **incentive estimates are starting points only**, thought to be sufficient incentives to provide adoption momentum in the market. We recognize that there are a number of other factors that contribute to the successful and sustainable adoption of health care IT toward the goal of information sharing as well as realizing the value of interoperability. These estimates **do not cover** a physician practices' ability to participate in **full regional and national interoperability** due to the lack of complete data on these costs. However, the success factors and additional opportunities will be presented in the

Working Group's Final Paper and should be considered essential to accompany this financial incentive estimate.

- 1. Financial incentives need to be realigned to promote quality care improvement via IT adoption, connectivity, and information exchange among all health care providers.**
- 2. Financial incentives of the approximate range of \$3 to \$6 per patient visit or \$0.50 to \$1.00 per member per month, based on 4,000 patient visits per year or a 2,000 patient panel, over at least a three-year period appear to be a sufficient starting point to encourage and sustain wide-spread adoption of basic EHR technologies by small, ambulatory primary care practices.** Estimate represents approximately \$7 - \$14 billion per year for three years or 1.2% to 2.4% of total amount spent on ambulatory care in 2003 on an annual basis. Industry is experimenting with incentive models and will gradually migrate to incentives to encourage adoption as well as additional incentives that will be necessary on an on-going basis to encourage more extensive use of EHR technologies, e.g., coordinated care or advanced chronic disease management.
- 3. The qualitative analysis supports a business case that is better for some "incremental applications" than others. These incremental applications can be implemented as steps toward the full implementation of an EHR.** Applications with smaller investment or a very high net beneficial business case could be considered as candidates for initial implementation as long as they are not dead-end applications.
- 4. Small and medium-sized practices have greater potential to benefit from information exchange, but will require greater attention and support in order to achieve sustainability.**

Findings

- 1. Financial incentives will be necessary to promote quality care improvement via IT adoption and connectivity and information exchange among all health care providers.**
 - Our analysis of physician practices providing ambulatory care confirms what several recent studies have found; the **business case** for IT adoption among physician practices is **not sufficient** and **incentives are misaligned**, specifically for the small to medium ambulatory care practice modeled as the purchaser.
 - Currently, providers bear the expense of clinical application technology adoption, but a significant portion of value attained from improved quality of care and more appropriate utilization of services accrue to organizations and groups other than physician or provider purchaser. This "value imbalance" leaves the physician exposed to a likelihood of a poor financial business case for EHR adoption. A positive business case must be in place to make clinical IT adoption work among physician purchasers.
 - **Financial incentives for both IT adoption and interoperability** among health care providers **are an essential contributor** to achieving widespread gains in improved healthcare that can result from IT. Adoption of most types of technology in

the absence of financial incentives for interoperability interventions, results in a net cost to the physician practice purchaser in at least the first three years.

- Among incentive vehicles, financial incentives have the greatest impact and can be designed as either direct (e.g. direct payment for EHR or eRX use) or indirect (e.g., pay for performance for outcomes measures, care coordination, or chronic care management).
 - Incentives should include IT adoption with support of interoperability among data sources outside the physician practice. A recent study from the Center for Information Technology Leadership showed that the return on investment for IT use is significantly improved when interoperability of structured clinical information is present, as much of the operational and clinical gain can be more fully realized with patient-centric data transparency. Incentives that promote IT adoption without an emphasis on interoperability have the potential to fund IT approaches that fail to enable the full quality and efficiency gains that IT has to offer and result in a weaker business case.
 - The **greater the interoperability among IT systems, the better the business case** for the ambulatory care practice purchaser, which means that providing incentives to adopt piecemeal technology that cannot support increased levels of connectivity and information sharing will lead to insufficient progress.
 - In addition to policy actions that the federal government could take to improve the business case for provider-sector purchasers and realign market incentives, both health plans and self-insured employers must play a significant market intervention role by to accelerate provider adoption by participating in complementary incentive strategies. The entire health care industry faces an increased public health focus on medical errors, rising health care costs in Medicare and the private sector, and industry-wide productivity loss caused by the inefficiency of the health care system. Both policy and industry leaders recognize the importance of greater transparency to permit purchasers and consumers to select and reward high-quality care along with the implementation of tools that permit both providers and patients to make informed, cost-conscious decisions about their use of care resources across the continuum.
 - Health plans interviewed as part of this process have expressed concern about the size of the incentive range and its effectiveness. Increases in financial **incentives by payers and employers are likely to be incremental**. Many payers and providers are experimenting with incentive approaches but the utility of these approaches is still being learned. Many payers are struggling with their own margin pressures and are **hesitant to devote significant dollars to incentives until the evidence of care improvement is clearer**. Payers and employers also recognize that the small physician practice needs EHR selection and implementation support; the absence of such support elevates the risk of the investment failing. An increasing number of industry forums are forming to enable employers and health plans to share ideas and learn from their experiences. The Working Group understands the issues raised by health plans and believes that incentives must be sufficient and in substantial enough increments to enable appropriate investments and effective implementation in order for the technology to benefit all stakeholders.
- 2. Financial incentives of the approximate range of \$3 to \$6 per patient visit or \$0.50 to \$1.00 per member per month based on 4,000 patient visits per year or a 2,000 patient panel, over at least a three-year period appear to be a sufficient**

starting point to encourage and sustain wide-spread adoption of basic EHR technologies by small, ambulatory primary care practices. Estimate represents approximately \$7 - \$14 billion¹ per year for three years or 1.2% to 2.4% of total amount spent on ambulatory care in 2003 on an annual basis². Industry is experimenting with incentive models and will gradually migrate to incentives to encourage adoption as well as additional incentives that will be necessary on an on-going basis to encourage more extensive use of EHR technologies, e.g., coordinated care or advanced chronic disease management.

- The estimates of needed incentives should be interpreted as a point at which **large scale adoption** will occur, sufficient to cover the initial and three-year maintenance costs of an EHR application with very modest interoperability among providers (i.e. lab interfaces). Incentives of this magnitude may **not cover full-scale interoperability nor advanced EHR functions**. However, incentives of these ranges are likely to lead to a significant increase in IT adoption by ambulatory care providers that, with appropriate implementation and support assistance, will enable them to realize value and provide a foundation for greater practice efficiencies and care improvement.
- The estimates are based on full time primary care provider with a **patient panel of 2,000 or 4,000 patient visits per year**. Assuming that the fully functioning EHR capital and on-going costs amortized over at least a three-year period cost a physician approximately \$12 - 15,000 per year, an incentive of \$3 - \$6 per patient visit or \$0.50 - \$1.00 PMPM would result in \$12,000 - \$24,000 per year per physician.
- These **estimates should cover the technical basics** for a small physician practice including hardware, software and installation, but **may not be sufficient to cover the full costs** of implementation assistance, on-going personnel necessary to support the application, cost of additional modules or modifications to further productive use, initial practice productivity impacts related to adoption (productivity decrease can be significant and can last for several months), high degrees of community-wide connectivity, impacts of practice paradigm shifts or the significant risk of adoption failure.
- The estimate range accounts for variability in implementation costs and practice size. Small practices will require greater attention and support to enable sustainable adoption.
- The Bridges to Excellence (BTE) program conducted an extensive literature search on incentives for practice re-engineering, the summary of which can be found on its web site (http://www.bridgestoexcellence.org/bte/bte_references.htm). In 2003, BTE founders published an article in the Journal of Clinical Outcomes Management that summarized the research. Findings from focus groups was later validated by the work done by Bailit et al. (Bailit M, Dyer MB. *Provider Incentive Models for Improving Quality of Care*. National Health Care Purchasing Institute, March 2002) on incentive programs. A consensus view is that rewards and **incentives have to be meaningful** enough to more than compensate for the **added cost associated to data collection and measurement of processes**, perceived to be fair and equitable, attainable, periodically reviewed, incremental, with small step increments, as opposed to a "cliff".

¹ In 2004 dollars. This estimate is not a scientifically-derived nor should it be used for practical application.

² \$578B projected spending on ambulatory care in 2003, "Health Spending Projections," [Health Affairs](#) W4-79, 2003.

Bailit's work and independent focus groups from BTE both concluded that "meaningful" was achieved when the bonus was equivalent to 5% to 10% of a physician's income, which translates to approximately \$10K to \$20K.

- The estimates assume an **aggregation of at-risk payments** (i.e. direct reimbursement and/or pay-for-performance) with broad adoption by multiple financiers in concert to cover the majority of the patient panel or patient visits for a physician practice. Incentives by a limited number of a practice's payers creates a first mover disadvantage for those payers and generates insufficient incentives to encourage technology adoption progress.
- Wide spread adoption of incentives by payers will require **national standards for EHR technical capabilities and features as well as metrics for EHR use**, e.g, percent of prescriptions entered using the EHR. These standards and metrics can help ensure that payers have reasonable assurance that they are "buying" an acceptable EHR that is being used in an acceptable fashion.

3. The qualitative analysis supports a business case that is better for some "incremental applications" than others. These incremental applications can be implemented as steps toward the full implementation of an EHR.

- EHR adoption experience has shown that many physicians are often **highly resistant** to full-scale **practice changes** required by EHR and very **few** have **recognized the value of health information exchange**. Hence, there is a strong hypothesis that the path to EHR adoption may occur via incremental technology adoption.
- Our qualitative financial analyses to-date shows that there are **certain applications** that could be **starting points to attract some clinicians to IT adoption and information sharing**. Different types of interoperability have differential business cases, supporting an additive business case across a pathway to full interoperability.
- Applications with a **smaller investment or a very high net beneficial business case** could be considered as candidates for initial implementation.
- **Incremental applications cannot be a dead-end** to other, highly important applications. They should both support practice workflow and provide the IT infrastructure improvements necessary to accommodate more comprehensive solution integration along the road to full interoperability.
- Our analysis shows that e-prescribing (eRx) and on-line tools for chronic disease management may be good starting points for building an information sharing pathway toward wide-scale EHR adoption. Although we did not specifically analyze the business case for other incremental application possibilities, the Working Group noted that applications such as disease registries and cross-organization information access may also provide strong starting points toward EHR adoption. However, these recommendations require some analyses before implementation in a specific physician practice. Some of our task force members believe that non-visit based care should not be done out of the full context of EHR. The essential role of the patient in helping the system achieve the full potential benefits in two areas – medication management and chronic care management – highlight the importance of selecting incremental clinical applications that deliver high value quickly.

- **Incentive specifics** are likely to be very **local in character**, e.g., some regions have payer contracts that reward providers for using generic medications while other regions do not have such programs. eRx may have diminished physician acceptance if there are no fiscal incentives to switch medications to generics.

4. Small and medium-sized practices have greater potential to benefit from information exchange, but will require greater attention and support in order to achieve sustainability.

- Small practices have greater interoperability needs since small practices are more dependent on patient data from external sources. Hence, for these practices, availability of patient information via an interoperable platform would be especially beneficial.
- Small to medium-sized ambulatory care practices will have greater challenges achieving sustainable implementation of interoperable health care IT due to the lack of a driving force for change and the management ability to effect change, as is present in many large groups or hospital-based physicians, and a dearth of resources available to dedicate to technical support, change management and implementation.
- In addition to business case development, consideration should be given to **establishing implementation support structures** for the small practice. Experimentation should be done to identify the most successful support models and these models may need financial support until the market for small practices matures.
- There should be financial support for local and regional information sharing collaboratives. These collaboratives should provide technical assistance, including resources describing viable collaboration models, practical implementation considerations and processes for multi-institutional and practice-level adoption and interoperability.
- While the small practice is in the greatest need of IT adoption and interoperability, a case can be made that adoption strategies should initially focus on the larger providers in the region. These larger providers may require lower incentives and generally have established internal IT support mechanisms. If several larger providers accelerate their adoption of interoperable IT, this may result in encouraging the smaller providers to follow suit.

To ensure sustainability and continued progress at the local level, investments will be needed. A wide range of activities, education and information will be necessary including rigorous financial analysis to support the incentive structure, implementation methodologies for small practices, change management approaches and implications, draft policies and procedures for information sharing, case studies, product certifications and comparisons with user surveys and feedback, collaborative forums to continually refine practice implications and directories or brokering services for technical assistance to individuals and practices. Investments like these will create experience and work products that can be broadly shared across communities and support physicians in achieving improved healthcare through clinical IT application adoption as well as interoperability among other key health care providers.

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* David Brailer initially chaired this Working Group. However, when HHS Secretary Thompson appointed him the United States' first Health Information Technology Coordinator on May 6, 2004, he was obliged to resign as chair. Leadership of the group was graciously assumed by John Glaser.

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Connecting for Health is an unprecedented collaborative of over 100 public and private stakeholders designed to address the barriers to electronic connectivity in healthcare. It is operated by the Markle Foundation and receives additional support from The Robert Wood Johnson Foundation. Connecting for Health is committed to accelerating actions on a national basis to tackle the technical, financial and policy challenges of bringing healthcare into the information age. Connecting for Health has demonstrated that blending together the knowledge and experience of the public and private sectors can provide a formula for progress, not paralysis. Early in its inception, Connecting for Health convened a remarkable group of government, industry and healthcare leaders that led the national debate on electronic clinical data standards. The group drove consensus on the adoption of an initial set of standards, developed case studies on privacy and security and helped define the electronic personal health record.

For more information, see www.connectingforhealth.org.