California Health Information Technology Study

Input to the California Health Data Exchange Roadmap

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We are grateful for the efforts of the California Government Committee on Health Information Technology (CGCHIT), led by Ms. Barbara Garrett, Assistant Deputy Director and CIO, Department of Managed Health Care. The CGCHIT was a key sounding board and content contributor throughout the HIT Study. Finally, we want to acknowledge the participation of the California health industry and health data exchange (HDE) leaders on the federal level and in other states. Finally, The HIT Study team would like to thank the participants, all stakeholders in California health care for their commitment and contribution to the State's role in future HIT adoption. We found their input insightful and measured. A full list of project participants can be found in Appendix F.

Key Terms

This document is written with the assumption that readers have an understanding of health data exchange concepts. However, there are four terms where a shared understanding of their definitions is beneficial. These are:

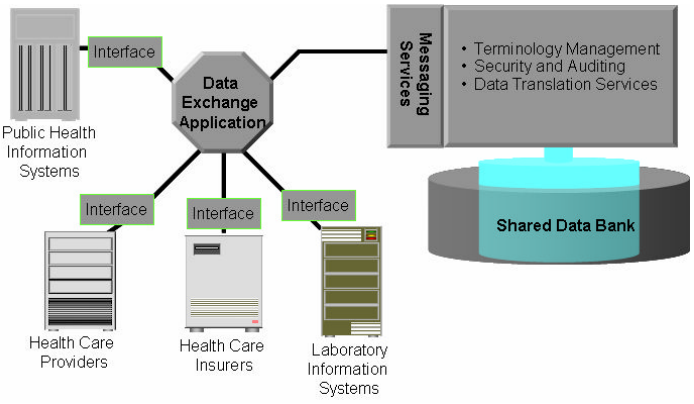
- Health information technology;
- Health data exchange;
- Application service provider; and
- Core connecting infrastructure.

Health information technology (HIT) - is a set of hardware (physical) and software tools that help health care professionals solve problems, extend human capabilities, and manage and store data or information. This can include computer programs, business, network, and messaging applications, such as clinical systems, personal digital applications (PDAs), and cell phones.

Health data exchange - The electronic sharing of patient health information (administrative, finance, and care delivery) between two authorized entities.

Application service provider - Abbreviated as ASP, an application service provider is a third-party entity that manages and distributes software-based services and solutions to customers across a wide area network from a central location (data center).

Core connecting infrastructure (*see adjacent graphic*) - In an environment where digital patient health data is to be exchanged, core connecting infrastructure serves as a health data exchange "hub" between entities, and refers to the technology and communications components required to achieve this exchange. With respect to technology, this includes the ability to locate a specific patient health record located either in one location or many. This typically requires technology of a Record Locator Service, an Electronic Master Patient Index, and a data exchange application. It includes the communications layer (network, interfaces, messaging, and data translation), and the capability to store data.



Executive Summary

The Governor's Executive Order S-12-06, issued July 25, 2006, established a California goal of 100 percent health data exchange (HDE) in the next ten years. The capability to exchange personal "digital" health data is a necessary component of health care affordability, access, and quality. In order to exchange digital health data, the utilization of health information technology (HIT) must be enhanced and extended throughout the California health industry.

The Governor has begun the development of a comprehensive health information technology agenda. HIT can improve affordability by driving down long-term operating costs in both administration and medical care. HIT can increase access, delivering care through remote technological means, and can improve quality, producing better care through reduced medical errors and access to the current health record at the point of care. The first task of this agenda was to solicit input and participation in an *e*Health Action Forum (Forum) -- a gathering of California health care stakeholders tasked with identifying ways that the State can best enhance the adoption of HIT.

Funded by a UnitedHealth charitable contribution, Accenture Health & Life Sciences was asked to plan, prepare, and conduct the Forum. In this effort, Accenture Health & Life Sciences worked closely with the State agencies of Health and Human Services and Business, Transportation, and Housing, the State Chief Information Officer, and the Department of Managed Health Care to plan and conduct a process for capturing California health care stakeholder recommendations, synthesizing findings, and developing a proposed roadmap. This process was called the "HIT Study."

Based on this input, and with consultation with others, the output of this Action Forum would become a set of recommended areas and tasks the State has the unique capability to address. These areas were to be actionable, and when presented on a timeline would provide a stakeholder view of a roadmap to the Executive Order goal. This document reflects the input provided by the stakeholders who participated in the project. It also summarizes the process utilized to capture this view and reflects a strong harmony of ideas from California health care stakeholders. State leadership, in conjunction with private and public sector stakeholders dedicated to the build out of a sustainable, secure broadband infrastructure in California, will use this roadmap to better define the Governor's health care agenda and implement its recommendations over the next several years.

The format of the HIT Study was designed to engage an extensive number of state health industry leaders in various types of discussion settings to allow for maximum input. To solicit input on the State's role in promoting HIT, the project team conducted one-on-one interviews, convened focus groups, and conducted the *e*Health Action Forum called for in the Executive Order throughout the State. In total, more than 130 public and private health leaders participated, including some from other states and the federal government.

Five key action areas emerged:

1. *Establish Statewide HIT Leadership.* This action area is comprised of two components, a designated leader and a strong advisory group. The leader will provide a single point of state health care leadership and direct the achievement of the Executive Order goal. This leadership position should have impact across state agencies, not to create a bureaucracy, but to act as a force for coordination of efforts and rapid action. The strong advisory group is intended to provide a public-private collaboration on HIT issues and provide counsel to the State leader.

2. *Structure Incentives and Identify Financing Methods*. This action area covers a further investigation of available financing for technology and telecommunications infrastructure, for example areas of public good and market gap; obtaining financing; determining which of the described financing vehicles are best for specific audiences and assets; and creating the structures and processes by which the state funnels financing to the defined needs. Examples of these needs include clinical systems for poorly automated care delivery in sites with low access to capital, and the "last mile" of broadband establishment. Primary investment structures discussed in the HIT Roadmap include grants and loans; contracts and purchases; and financial incentives built into ongoing fee schedules.

3. *Invest in HIT.* This action area fits hand-in-glove with *Structure Incentives and Identify Financing Methods, above.* While action area #2, above, describes the financing incentive vehicles, this action area describes the HIT to consider and finance. The HIT Roadmap recommends that the State create an end-state vision, or architecture, for how providers and entities of all types will link to a secure, operating core connecting infrastructure (technology and communications) to achieve 100 percent health data exchange (HDE) in ten years. The HIT Roadmap uses the organizing framework of "macro" and "micro" investments in the categories of technology and communications to convey where the participants suggested the State should invest. Macro assistance refers primarily to the core connecting infrastructure that may become a state asset, like the state highway system. Micro assistance refers to seeding efforts to enable digitized data at the point of care and connection to the core infrastructure. The HIT Roadmap discussion coupled with an end-state vision will provide the State with the information necessary to define who and what receives the funding described in action area #2.

4. *Augment Current Privacy and Security Protections.* This area addresses the assurance of privacy protection and sufficient security policies in the exchange and use of personal health data. To achieve the benefits of health information exchange, patients must have a clear and strong belief that their information is protected. As a guardian of the public trust, the State will need to provide direct engagement and leadership.

5. *Engage Consumers.* To achieve the benefits resulting from 100 percent health information exchange, patients should be at the center of the entire roadmap. This means that for every new action or attempt to change the health care environment, the patient perspective and reaction should be considered. Patients should also experience a clear benefit from HDE.

Accenture's Perspective

There is growing recognition in California of the value of health information exchange. The upcoming delivery of the National Health Information Network prototypes; the number of health stakeholders involved in this effort nationally, regionally, and locally indicate the intrinsic value. Combined with California's inherent culture of innovation, patient advocacy, and personal wellness, the State has a unique opportunity to take meaningful action. Indeed, the actions taken should move the California health care market toward greater HIT utilization and accelerate HIT adoption by all parties.

The following milestones represent our thoughts of the near term steps which could be achieved and are necessary to maintain momentum:

- Appointment of a State HIT Czar and an advisory board, potentially establishing advisory board subgroups, such as the Innovation Subgroup, and getting started on advancing the HIT agenda;
- Establish the foundation for new financing structures, especially around the grants and loans efforts;
- Draft the end-state health data exchange vision for use in developing detailed criteria for investment in macro and micro technology and telecommunications projects. This action also applies to organizing the various health information projects throughout the State which can also feed into developing the infrastructure;
- Continue the rationalization of the myriad of confusing and conflicting privacy laws and regulations; and;
- Appoint a patient panel; organize current privacy and security efforts; and define the initial patient populations that HIT will be organized around and engage them in developing pilot efforts.

California's health care community is confident that statewide leadership is a role that the State should play in HIT and HDE, as it is a role missing in the market today. As the trusted entity, working for public good, the State is best able to mobilize *multi-stakeholder funding sources* to funnel through trusted, publicly-accountable *financing methods* for seeding and overseeing the effectiveness of new public works, or projects. The State would invest in HIT where the market either moves slowly, or has few incentives to address Californian's health affordability, access, and quality. Given that the State exists by the will of the people and is the paramount guardian of the public's interest, it is also in the best position of trust to *engage consumers* and to *enhance the public's privacy and security* with respect to HIT. While the State should not do this work in isolation, it is unique in its ability to be an arbitrator among many parties.

The focus of our HIT Study was to identify potential State actions for advancing HIT. Our team did not focus on proving the value of action toward HDE. This is assumed through the Governor's Executive Order. We focused on the solicitation, synthesis, rationalization, and robustness of the State role in HIT. These recommended actions and their descriptions presume that the reader is familiar with HIT and the required components of HDE. The actions in the California HIT Roadmap, as described in the task tables in Appendix A, have been extensively examined by public and private sector participants and have received participant endorsement.

Introduction

California is at the forefront of the national movement to improve health care affordability, quality, and access using health information technology (HIT). To further this movement, Governor Schwarzenegger launched an initiative to develop a state policy agenda for advancing HIT adoption in California and issued Executive Order S-12-06 on July 25, 2006, establishing the goal of 100 percent HDE within the next ten years. Due by July 1, 2007, this agenda is intended to be "actionable" and will address efforts that the State can best provide in support of that goal.

This HIT agenda is expected to help facilitate greater affordability, safety, and accessibility through:

- Appropriate health information at point of care;
- Improved safety;
- Fewer medical errors and duplicative or unnecessary tests;
- Greater care coordination;
- Consumer access to personal health information; and
- Timely access to specialists for rural and underserved Californians.

To assist in the agenda development effort, Accenture was selected to conduct a health information technology (HIT) study, closely coordinating with three state agencies: Health and Human Services, Business, Transportation and Housing, and the State Chief Information Officer. The primary focus of this study was to define the State's unique role in advancing HIT and to recommend specific public sector actions to enhance HIT. These actions would be the primary output of this effort, in keeping with the "action" orientation of the Executive Order.

Through an extensive data and opinion collection effort with California health care leaders, five primary State actions emerged from this study as necessary for achieving the Executive Order's HDE goal. These five are appropriate, as the State has the position, influence, and resources to move the California health care market through:

- State-wide consensus-building leadership;
- Market influence, as market fragmentation prevents any single private entity from exerting sufficient HDE influence;
- The control of a large portion of the total healthcare market dollars through State health programs and purchasing;
- The ability to cross industry lines, as many of the State's complex health care issues extend beyond the health care industry, for example, the uninsured and underinsurered, temporary workers, and rural areas;
- The ability to create change through policy and law; and
- Current State accountability for, as an example, privacy, security, oversight of managed health care, and overall economic vitality.

The State has much to gain, given the size and number of State health care programs. While the future environment may change, for now, the California health industry needs State action.

This roadmap is organized into four sections. These are:

- HIT Study Methodology;
- Discussion of the State's Role in HIT;
- Context for Recommended Actions; and
- Recommended Actions.

HIT Study Methodology

Early in our joint planning processes for the capture of the State role and action area perspectives, we established a set of project guiding principles and activities. This section summarizes our approach. A detailed description of our methodology can be found in Appendix B.

Guiding Principles - The development of the action areas and tasks were guiding by six principles:

- Leverage ongoing efforts;
- Be actionable;
- Set timeframe for actions;
- Seek bold actions**;**
- Build solutions incrementally; and
- Measure progress**.**

While self explanatory, these principles are intended to communicate a need to create steady, measurable progress that does not duplicate existing, ongoing public or private efforts, and where there is an opportunity to make significant improvements, to be bold in the actions undertaken.

Project Phases - The HIT study encompassed four project phases:

- **Phase 1: HIT Landscape.** This phase gave a general understanding of the current HIT environment and trends in California and the nation, as well as capturing the industry participants' views of the State's roles and corresponding HIT actions. This Phase utilized eight interviews and four focus groups to capture this information over the course of 40 days. Draft action areas and tasks were developed and verified incrementally by each subsequent group throughout this phase.

- **Phase 2: Forum.** In October 2006, more than 50 healthcare industry leaders and 50 observers provided additional input and insight to the draft action areas and tasks shaped in Phase 1. These industry participants had the opportunity to add, modify, and delete the draft action areas and tasks. At the end of the day, the participants prioritized the top 15 actions into a list of five State actions.

- **Phase 3: Verification**. This phase provided confirmation the draft action areas and tasks indeed were reflective of the input received, reasonable to achieve 100 percent digital health information, and were "actionable." The action areas and tasks were reviewed by the California Government Committee on Health Information Technology (CGCHIT) and a public-private verification panel.

- **Phase 4: Roadmap**. The purpose of this phase was to distill all of the project input and finalize the stakeholder-recommended roadmap.

Throughout this project, every recommendation was evaluated; however, not every recommendation was included in the final action areas and task list.

Discussion of the State's Role in HIT

Through the HIT Study, it became clear that California health care stakeholders want the State to own and lead an ambitious set of activities. These activities are unique to the State and without the State's leadership; the goal of 100 percent HDE may not materialize in the foreseeable future. The State's roles include leader, health services purchaser, health services payer, HIT financier, health data provider, arbiter, educator and convener. Predominate roles for enhancing the adoption of HIT appeared to be those of *leader, purchaser, and payer*. These are reflected in the action areas and tasks presented at the end of the roadmap.

Overall, the participants want the State to provide those HIT needs not likely to be achieved without its involvement:

- Financing for electronic health data capabilities to those who are unable to obtain it on their own;
- The infrastructure (hardware, applications, and communications) needed to enable HDE among appropriate health care entities;
- Direction and guidance on health data privacy and security issues; and
- Consumer engagement on data exchange, privacy, and security concerns.

State government provides *statewide leadership* on actions in the interest of the public good. California's health care community is confident that this is a role the State should play in HIT as well. Given that the State exists by the will of the people and it the paramount guardian of the public's interest, it is also in the best position of trust to *engage consumers* and navigate all interests on their behalf. While the State should not do this work in isolation, it is unique in its ability to be an arbitrator among many parties. Such "navigation" should be incorporated in policy and law to enhance the public's privacy and security with respect to HIT. As the trusted entity, working for public good, the State is best able to centralize multi-stakeholder funding sources which would funnel through trusted, publicly accountable financing. These methods would seed and oversee the effectiveness of new public works.

Context for Recommended Actions

In addition to the significant input provided by the HIT Study participants, three additional HIT Study activities were used in the evolution of the action areas and tasks. These included a review of 1) known California HIT public and private sector projects that may be leverageable, 2) a profile of two comparable states' HIT activities (Florida and Washington), and 3) national trends.

1. Leveragable Projects - Whether through a public or private sector initiative, the state intends to explore leveraging existing projects where possible. This would avoid duplication of efforts, and therefore better utilize resources. Although not exhaustive, we gathered information about both public and private sector data exchange and HIT projects around the state. The information about such projects was attained through a state survey, the State CIO and California Government Committee on Health Information Technology (CGCHIT) survey of state exchange projects, interviews, and research, as well as from Accenture subject matter specialists. This input ensured that the right questions were asked during interviews, focus groups, and the Forum, in order to drive clear, complete, and on-point comments.

Key to identifying where leverage may occur is understanding the intended State solutions, including the technology infrastructure architecture. With the architecture in place, other projects will have direct relevance. Further, as time passes during the execution of this agenda, new projects will likely emerge. In general, we found a number of private sector projects where operations or technology components should be considered. We provide a list of potential private sector projects in Appendix E. With a focus on immediate utility, three opportunities emerge:

- Integrated Health Association's (IHA) pay for performance program;
- California Telemedicine and e-Health Center telecommunications projects; and
- California Emerging Technology Fund (CETF), established by the California Public Utilities Commission.

These entities' organizational capabilities and resources should prove immediately and directly applicable to the action areas and tasks.

There are also leverage opportunities and value within state government. While there are many projects, we found three programs or projects with immediate and direct relevancy:

- Laboratory Information Management System (LIMS);
- The Department of Mental Health's HIE and EHR project: and
- CalOHI's Health Information Security and Privacy Collaboration (HISPC).

The first two projects have a requirement for the basic connecting infrastructure mentioned previously. Without regard to program or type of health data, the connecting hardware and software is likely to be the same, as they both intend to exchange patient health data. With immediate and early planning, these

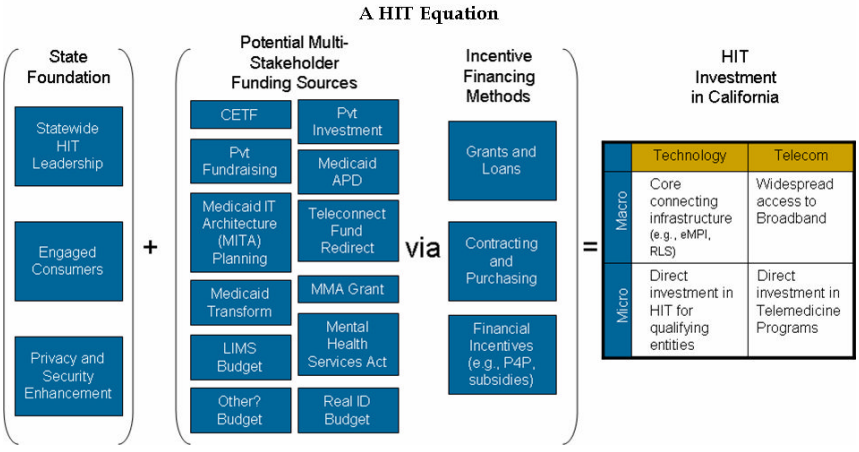
components may likely be shared[1]. There appears to be an opportunity to leverage each project as a component of a larger statewide HDE infrastructure, to some degree. If these projects were leveraged, there might be a path to seed statewide HDE architecture through existing project funding and resources. With verification, if each program has established funding and similar infrastructure as indicated, one of the most needed statewide HIT foundational pieces might have a starting point.

The CalOHI project, with a focus on privacy, should be leveraged in regard to the privacy tasks listed in the action area #4. We would encourage the continuation of state privacy efforts.

2. Comparable State Profiles - Accenture and the State developed comparable health system criteria, analyzed data from all 50 states and selected two states to profile -- Florida and Washington. Accenture created state profiles via interviews[2] and research. On balance, we concluded that no one state was out in front, and that they were all dealing with similar issues of governance, planning, participation, and appropriate State actions. Florida and Washington do not appear to be ahead of California on the HDE path. California has an opportunity to take a leadership role with immediate focus on the roadmap action areas.

3. National Trends - In consideration of the ongoing national HDE effort, the HIT Study reviewed the broader national context, and synthesized a list of trends around the components of health information exchange, such as technology, privacy, and governance. Study participants conducted literature reviews and a series of interviews with *e*Health leaders.

A Model for California: A HIT Equation - With consideration given to federal, other state, and California health information technology and HDE activity, and facilitated by the HIT Study project team, we present an overview of the stakeholder roadmap framework. The HIT "Equation" graphic below illustrates how the stakeholder action areas fit together to achieve a comprehensive HIT investment in California. It also indicates the most prominent "guardian of the public trust" roles for the State to play -- Leader, Purchaser/Payer, and Financier.



Starting at the left on the Equation chart is the category of State *Foundation*; showing the activities the State must engage in to create the foundation for health information exchange: leadership to cross State organizations and coordinate with the private sector, consumers who are engaged in the process of developing and using health information exchange, and improved privacy and security laws, regulations, and policies. These activities require the State to be a leader and guardian of the public trust.

[1] CGCHIT members recognize that the potential architecture duplication did not indicate conditions limiting funding use.
[2] Please see Appendix F for list of Florida and Washington interviewees.

The critical State action depicted in the center of the graphic is to structure financing: *Possible Multi-stakeholder Funding Sources and Financing Methods*, which consist of both obtaining funding and creating the processes and structures to distribute the funding. We list funding sources identified throughout the project and show how they funnel through three core financing methods synthesized from various HIT Study discussions. This action will use the State's purchaser/payer and financier roles.

Lastly, on the right of the equation chart, we depict what California would purchase and/or finance: *HIT Investment in California*. This includes macro core connecting infrastructure, such as a statewide broadband and a technology utility, which the State may purchase. This also includes micro financing of efforts that allow providers and entities with significant capital constraints access to the tools they need to participate in HDE. This action will also use the State's purchaser/payer and financier roles.

Recommended Actions

This Section presents the five State action areas as communicated and prioritized by participants throughout this study.

For each action area, this section provides:

- Actions and tasks that we heard from participants during the HIT Landscape and Forum Phases; and
- Our recommendations, based on our understanding of what we heard and our professional experience.

The actions presented in the stakeholder roadmap reflect five key health data exchange action areas:

1. Establish Statewide HIT Leadership;
2. Structure Financing Methods;
3. Invest in HIT;
4. Augment Current Privacy and Security Protections; and
5. Engage Consumers.

In our view, each of these was identified as important because in the eyes of the participants, each addresses a need in the current California HIT and HDE landscape.

1. Statewide HIT Leadership

What We Heard

The necessity for a HIT "Czar" and authority was consistently raised and received some of the greatest levels of support in the Study interviews, focus groups, and the Forum. It is clear that the participating California health community seeks statewide HIT leadership.

Czar
This term was used by participants frequently. There is a desire for a State leader with sufficient autonomy and influence to operate across agencies, coordinate HIT activities, drive actions and produce results. A partial list of responsibilities for this leadership position was synthesized from the Landscape and Forum phases. These included:

- Carrying forward the Executive Order by execution of the HIT roadmap;
- Focusing on the development and maintenance of HDE business and economic opportunities;
- Coordinating standards, for example data, architecture, statewide and specifically through state HIT contracting, for example, developing procurement guidelines, coordinating with State purchasers;
- Coordinating State HIT efforts so as to begin the development of the core connecting infrastructure;
- Communicating HIT goals to the broader health community, particularly the private sector;
- Acting as a resource for organizations associated with HIT skill building, such as educational and vocational institutions and professional licensing entities; and
- Engaging the educational system (primarily the post secondary system) to develop needed HIT personnel.

Given the nascent nature of health information exchange, the Czar's initial purpose is to be more leader than operator. Not unlike a private sector start-up created via multiple acquisitions, the leader role will need to unify disparate state HIT activities, coordinate relevant state actions with stakeholders and the market, craft a detailed vision or blueprint of how 100 percent digital health data should operate, and set the State on a course to creating the vision's building blocks. The most critical building block is the core connecting infrastructure. The current expectation is that the State may need to build and run parts of the core connecting infrastructure to achieve secure and reliable 100 percent HDE throughout California in ten years. As this utility[3] develops, the State's elected leadership will decide whether the leader should transition to an additional operator function. Even if the State should choose to outsource the operations of core connecting technological infrastructure, the operator role will remain, albeit in an oversight capacity.

[3] Please see action area #3 for a discussion of the utility.

The HIT Advisory Body

Participants consistently identified the need for a public-private group of directors to provide considered guidance and direction to the HIT leader. The advisory body was described as a public–private collaborative comprised of public officials and representatives from the private sector, including consumers, allied health professionals, and legislators. The key stakeholder message was for the State to empower a body with real power, influence, and responsibility over state HIT actions,

Discussions throughout the HIT Study indicated that after building a core connecting infrastructure, the State should examine using a traditional corporate board of directors model or the University of California Board of Regents model to govern the HDE. These boards could be comprised of some or all of any advisory body members.

In discussing ways to jump start the establishment of the advisory body, some HIT Study participants cited CalRHIO[4] as an entity that could be leveraged. CalRHIO, whether in whole or in part, has the potential to play a strong role in the State's HIT agenda. Any such role should be carefully studied and crafted to achieve broad support.

Develop A Plan to Advance HIT Roadmap

With the leadership in place, participants suggested that the leader finalize the roadmap in order to set the vision and context of subsequent HIT actions. Participants talked about an end-state vision or architecture for how providers and entities of all types will link to a secure, operating core connecting infrastructure, for example technology, communications, to achieve a 100 percent health data exchange. This vision, driven by the HIT leader in collaboration with state agencies, for example, the State CIO, would identify:

- The core connecting technology and communications infrastructure and how it fits together to achieve HDE; and
- The most critical micro investments and financing required to make sure HDE can reasonably be available for 100 percent of the California population.

Such an end-state vision will be critical for focusing all action areas. For example, it may be used to establish the criteria necessary for providers and entities to qualify for micro investment (tools and technology). It is also important for organizing the various health information projects around the State, which can also feed into a larger health data exchange infrastructure.

Accenture's Perspective

From our perspective, it was clear the participants saw a need for consolidated leadership on health information technology within the State. We believe the term "Czar" was used to express the authority the participants believed necessary for success. Just as strong was the desire for the California health

[4] CalRHIO describes itself as "An independent organization…[that] brings together health plans, providers, hospitals, consumers, public agencies, researchers, policy leaders, and others around a shared vision: using information technology to make health care safer and more efficient throughout California." (www.calrhio.org)

industry to have a vehicle to provide input to this leader. This vehicle was defined as a board of directors. We believe the participants used the term "board of directors" to express how strong the input of these advisors should be.

The HIT Leader
Without regard to the title, in order to be effective, this HIT leadership position should have:

- Strong credentials;
- Organizational position;
- Budget; and
- Staff.

Solid credentials - The HIT leader should be a high caliber and respected individual with diverse skills, accepted as an authority across the various health industry stakeholder groups. There are two important qualities necessary for the HIT leader and the Governor's Executive Order to be successful. These are:

1. Well-established credentials in the health industry. (A clinician might best be able to engage and retain the necessary stakeholders as this effort evolves.)

2. Demonstrated business and technology acumen. (This quality should help ensure the long term success of the HDE roadmap. For this reason, business acumen should not be underestimated, as the establishment of the core connecting infrastructure, such as the technology exchange components and broadband communications connectivity has potential to grow the State's economy through the stimulation of other related businesses.)

Beyond these two key qualities, experience with patient advocacy organizations, experience in engaging the public in complex issues, and a history of working through privacy and security needs and challenges would provide an ideal candidate.

Organizational position - The HIT leader should be at a level in state government sufficient to drive and influence HIT actions across state agencies. The position should not represent the creation of a bureaucracy, but instead be a force for streamlining the process and taking rapid action.

Budget - The HIT leader should control funds to fulfill the HIT mission, and the State will need to budget accordingly, once the state HIT agenda is final.

Staff - While we anticipate that the HIT leader would coordinate the activities of many resources across state agencies, we would also expect that the HIT leader would need a staff to effectively execute the state HIT agenda. The core of the HIT leader's staff should be comprised of highly capable managers. With a small start-up staff and an aggressive state HIT actions time table, it is necessary that each person should have the ability to manage multiple efforts, and have demonstrated leadership in successfully managing people who that they do not directly supervise. Ideally, one or two staff with specific skills, such as finance, and technology development experience, may be required to lead particular action areas.

The Advisory Body
As the state HIT agenda evolves, so too may the role and responsibilities of a board of directors. We suggest that a public-private group be assembled to provide input to the HIT leader. This group would be an advisory board whose membership could perhaps transition over time into a board of directors. Such an evolution would be likely only if the State moves to some type of HIT operating model, such as the operation of a state core connecting infrastructure, oversight of assets, and related services. The difference between the advisory board and a board of directors lies in the advisory nature of the group. The advisory board could transition to a more active oversight body with more formal leadership and direction roles.

We would also recommend utilizing the advisory board to instill fresh ideas into the health information exchange development process. It would be important and creative to appoint industry representatives outside of health care, such as leaders in the utility and banking industries, and those with fresh skills, such as professional venture capitalists who are experienced in the development of new markets.
As a purely advisory entity however, it is important that the recommendations and suggested guidance of the advisory board be regularly followed.. A possible example of this type of advisory board is the Medicare Payment Advisory Commission (MedPAC). While not perfectly analogous, MedPAC's recommendations are given heavy weight in the Congressional budget and authorizations process. Whatever model the State chooses to follow for the early advisory board, it needs to be meaningful, with a clear and direct role in decision-making to appropriately move the market toward better affordability, access, and quality through HIT and HDE.

Develop Plan to Advance HIT Roadmap

To establish the context for these HIT needs, we would agree with the participants and recommend that the State create an end-state vision or architecture for how providers and entities of all types will link to a secure, operating core connecting infrastructure, for example, technology and communications, to achieve 100 percent health data exchange. This vision, driven by the HIT leader in collaboration with state agencies, such as the State CIO, would identify:

- The core connecting technology and communications infrastructure, and how it fits together to achieve HDE; and
- The most critical micro investments and financing required to make sure HDE can reasonably be available for 100 percent of the California population.

2. Structure Incentives and Identify Financing Methods

What We Heard

It was clear that the HIT Study participants saw a need for State incentives to boost HIT adoption. This incentive boost was described in different forms, but each form shares the concept of using funds, some of which are State funds, to move the market. Below is a discussion of how the State may consider using such funds to encourage the widespread adoption of technologies to digitize health data and exchange it for the improvement of care. To *Structure Incentives and Identify Financing Methods,* the State must (1) *Obtain Money for Financing,* and (2) *Design Financing Methods*.

Obtain Money for Financing

Participants agreed that the State should investigate all sources of funding currently available to promote the goal of 100 percent HDE. They suggested that the State first create an end-state vision or architecture for how providers and entities of all types will link to a secure, operating core connecting infrastructure. This would focus the State's funding investigation on the existing gaps in this architecture, such as providers without electronic medical records and data exchange capability, and help uncover a complete picture of funding sources, for example, funding for a single technological component versus a whole service or geographic area. This investigation should identify funding available in the private sector, as well as through state and federal government sources. As a starting point, the following suggestions were offered during HIT Study conversations:

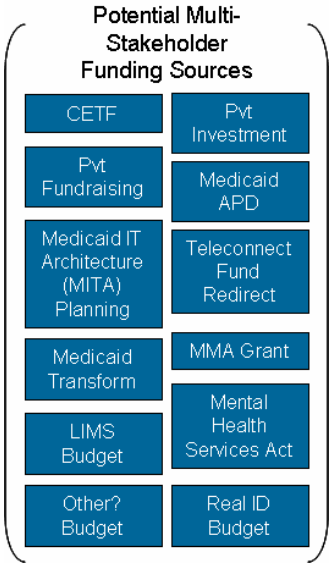
> *Private Sector*
> There are a myriad of private funding sources in California. The State's primary purpose regarding private sector financing should be to indirectly move the market by taking action that encourages greater private investment in critical and/or complementary HIT assets and activities. This leverages public sector money to achieve greater overall spending toward the goal of 100 percent HDE in ten years.
>
> Additional comments indicated that the State may have the opportunity to more directly use private sector monies. Participants referenced accessing the UnitedHealth investment and charitable funds[5]. On the eve of the Forum, the California Health Care Foundation[6] released a paper suggesting a single public-private pool to aggregate and maximize the effectiveness of private sector donations.

[5] For additional information about the UnitedHealth investment and charitable funds, please see the December 19, 2005, Department of Managed Health Care press release entitled "Department Of Managed Health Care Approves UnitedHealth Group As New Parent Of Pacificare Of California," http://www.dmhc.ca.gov/library/reports/news/prpckkl.pdf**.** For **t**he corresponding Department of Insurance press release entitled, "Insurance Commissioner John Garamendi Approves $9.2 Billion Merger of Unitedhealth Group and Pacificare Life and Health," see www.insurance.ca.gov/0400-news/0100-press-releases/0080-2005/release-119-05.cfm.

[6] "The California HealthCare Foundation is an independent philanthropy committed to improving the way health care is delivered and financed in California, and helping consumers make informed health care and coverage decisions. Formed in 1996, our goal is to ensure that all Californians have access to affordable, quality health care." See www.chcf.org .

State Funds
In what appears to be an immediate and available source of resources, the State has committed money for HIT projects. With mindful planning and solid execution, these may be sufficient to build the core connecting infrastructure technology components such as a record locator service (RLS) and an electronic master patient index (eMPI), among multiple State programs and private sector interfaces. In Forum breakout sessions and in follow-up conversations, one suggestion was the redirection of a current telephone tax for *e*Health.

Federal Financing
At the federal level, money exists to fund portions of the State's HIT needs. Some examples of funding that may be obtained and channeled to help California achieve its goal of 100 percent health information exchange in ten years include: Medicare Modernization Act grants, Medicare Management Information System Advanced Planning Document, Medicaid Transformation Grants, and Bioterrorism and Homeland Security investment monies. If coordinated from a public and private perspective, it may be possible to leverage the federal government's move of the National Health Information Network (NHIN) contracts to a regional project model.



Within each funding source, it will be important to search for financing outside of health care. The core connecting infrastructure may be able to serve the needs of other industries and governmental entities, such as the Department of Motor Vehicles and the Real ID budget. Additionally, the focus of HIE on improving target areas and populations could also open new funding sources, for example, the U.S. Department of Agriculture has sponsored rural health efforts, and the U.S. Navy has sponsored telemedicine research.

Design and Implement Financing Methods
The next three tasks address financing methods design. These are *Structure Grant and Loan Program, Harmonize Contracting and Purchasing,* and *Align Financial Incentives*. These designs are needed to fulfill the State's unique financing role. There were a variety of financing methods brought up across the HIT Study conversations. The State will need to refine these methods and put in place the optimal set to foster investment in HIT. The Study participants synthesized three primary suggestions, discussed below.

Structure Grant and Loan Program
Grants and loans were mentioned often by the Study participants, but were typically qualified, as such programs were already under State consideration. The most often cited recipient groups were safety net facilities, small group practices, and solo physicians. The grants and loans would be used for hardware and software purchases focused on digitizing health information and linking into an infrastructure to participate in the exchange of health information for patient care and public health purposes. There was an expectation, as well, that loans would be the preferred state method of financing. Further,

there was an expectation that results would be measurable and that there would be consequences if results were not achieved. The intent is to get recipient "skin in the game," and increase the likelihood of leveragable value.

Harmonize Contracting and Purchasing

Contracting and purchasing received some of the highest level of support as strategies the State should employ to advance adoption of HIT and HIE. The clear theme was that the State is in a unique position to move the market, given the volume of health services and systems it purchases, through, for example, Fee for Service Medi-Cal or contracts with health plans to administer Healthy Families. A common theme in discussions was that the State should lead by example. One important area that should be addressed early in the Governor's agenda is to establishing common standards for health data and health system architecture in state contracting and purchasing practices. Participants articulated the importance of the State in utilizing and remaining inline with established federal standards. These standards would become a requirement in every State health system procurement, thus setting the expectation that California industry would utilize these as well.

Two State actions would effectively provide financial incentives to the vendor markets to meet state HIT criteria.

1. *Projects.* All of the State's HIT projects should adopt the same data and technology standards as they are available. This will ensure internal technology development to focus on supporting 100 percent health information exchange. If a national standard does not exist, there should be a centralized method for coordinating any "California-specific" standards.

2. *Contracts.* The state should build expected data and technology standards into all health-related contracts. This includes contracts for hardware and software for its use in State programs, such as electronic data capture software, and facilities, such as University of California medical center medical imaging devices, and contracts with those providing health services and care delivery, such as Medi-Cal Healthy Families, which overlaps with *Align Financial Incentives*, discussed below.

Align Financial Incentives

Participants rated this as a high priority because it moves the market and encourages those providers who are "doing the right thing." Any incentives for rewarding providers for adopting HIT should align with and further leverage similar activities within the private sector. For instance, implementation of pay-for-performance within the Medi-Cal managed care program should build upon the efforts already under way in California, modeled on the successful program established by the Integrated Healthcare Association (IHA). Care should be taken to ensure that state programs use common measurement criteria so that incentives build cumulatively. With over three million enrollees in Medi-Cal managed care plans, this could offer an important leverage point. However, changes to payment methodology may not be well received by providers unless they are perceived to be "new" money, as opposed to a redistribution of existing payments.

A suggested alternate approach is to look for opportunities to partner with providers who are contracting for state programs where investment costs and payoffs might be shared. One possibility might be the investment in e-prescribing technology, where dollars saved could be shared with those providers who could demonstrate better adherence to formularies.

The State can also leverage purchasing power through the public employees' health insurance program, CalPERS. With over a million enrollees accessing benefits, participants thought that this presents another opportunity to use State purchasing power to drive contracted health plans to reward providers who are using HIT.

Implementation of pay-for-performance in fee-for-service programs is still in development through programs such as the American Quality Association pilot in California. The complexity of measuring and rewarding performance for individual providers may require further adoption of technology in order to more efficiently gather data and measure results. It was clear, however, that such efforts would be encouraged.

There were three key themes framing the *Align Financial Incentives* section. Participants agreed that a variety of financial incentives would be required, for example, evolving over time, and that incentives should be tailored to the different provider and health insurance types. However, a theme requiring further discussion is the definition and application of equity, which participants termed "Equity Must Be Clear in Policy." The statement "Protect Equity in the Incentives" had at least three connotations throughout discussions, and will need to be made clear in policy direction.

One connotation was that equity, or fairness, is not penalizing good doctors for doing the right thing, such as not ordering unnecessary tests. This is not in contradiction to any other idea expressed. However, the other two connotations are contrary to one another. There were some who used this theme to support direct investment in HIT hardware and software for the safety net providers. In other words, equity was defined as the state providing for the technology "have nots." The opposing connotation was that equity means treating all providers and facilities similarly.

The inconsistent use of the term "equity" highlights the likely need to clearly articulate the State's position about the goals and distributions of incentives. The preponderance of conversations (interviews, focus groups and the Forum) support special investment in the safety net along with a common set of performance payments available to all providers.

Provider Incentives

Considering incentives for providers, pay-for-performance received far more support as an incentive than did simply paying for use of electronic health records, indicating the perceived need for accountability and associated improved performance. However, caveats were often made to reiterate that performance measurements will materialize over time, and that pay-for-use, while not the system end goal, may be a required interim measure on the journey to a pay-for-performance program. The intent is to reward high quality and high efficiency, not high volume. By efficiency, the group meant sparing use of resources with the goal of rewarding those physicians using the minimum of diagnostic and therapeutic resources to treat the patient effectively. The "minimum" was not defined. The State will need to define it explicitly by type of patient to permit implementation of this goal. By "reducing the reward for a high volume of services," the group meant changing the economic incentives to physicians so that the volume of procedures which they order or perform is not rewarded, but instead the quality of care (measured by clinical outcomes) and the efficiency of care (measured by costs of care and some measures of the appropriateness of care) are rewarded in a pay-for-performance program.

Payer Incentives
When incentives – or what some termed mandates for health insurers -- were discussed, there was a strong feeling that to be effective in driving HIT adoption, incentives should apply equally to Medi-Cal programs and commercial health insurance, as well as between health insurers and administrative services-only contracts.

Participants recommended that the State evaluate and possibly adopt the appropriate pay-for-performance measures and financial incentives of the Integrated HealthCare Association[7]. The State HIT leader (see *Establish Statewide Leadership*) should collaboratively evaluate IHA's pay-for-performance methods, and determine their applicability across state health programs and their potential for use in private sector plans contracting with the State, such as Medi-Cal Managed Care, Healthy Families, and CalPERS. From this evaluation, the State could require health insurers doing business in California to offer specific pay-for-performance incentive programs for hospitals and physicians.

For the state-contracted health plans, such as Medi-Cal Managed Care and Healthy Families, participants recommended that in addition to the potential requirement mentioned above, a pay-for-performance incentive of $2.00 per member per month (PMPM) to should be considered. It is important to note that, based on the approximately 3.3 million Medi-Cal beneficiaries enrolled in managed care organizations (MCO)[8], the $2.00 PMPM recommendation would amount to nearly $80 million in new annual spending, assuming that MCO enrollment remained relatively constant.

Public Incentives. As the State can only require differential co-payments in Medi-Cal, another suggestion was to give incentives to patients and the public. These incentives would mandate that health insurers implement co-payment differentials, with lower co-payments when patients receive care from providers participating in health information exchange, such as ePrescribing or electronic medical records.

Accenture's Perspective

From our perspective, the State drives a significant portion of health activity in the State through the roles of health purchaser, payor, and data gatherer. It is through these activities that the State has the unique opportunity to influence the adoption of HIT and encourage market alignment on statewide HDE issues. Through the leadership, direction, and coordination of the HIT leader and advisory board, along with the incentives provided in this action area, the State can move the market exponentially faster than any other entity to meet the Governor's goal.

We agree that the State needs to take a lead role in obtaining HIT financing money and implementing methods to utilize these funds. The market is missing the investment needed to move the market toward greater HIT and HDE, and the appropriate role for the State is to seed the initial investment.

[7] Please see http://www.iha.org/, for information on IHA's pay-for-performance measures.
[8] Kaiser Family Foundation, "California: Medicaid Managed Care Enrollees, as of June 30, 2005," December 2006, www.stateheathfacts.org.

There are many possible funding sources and options that the State can choose to deliver HIT funding. Those identified in this document represent a solid set of initial funding sources and vehicles which the State should examine. We agree with interviewees that every effort should be made to find ways to utilize the United-Pacificare investment dollars for HIT and HDE incentives.

Design and Implement Financing Methods

Structure Grants and Loans

A grants and/or loan program should be structured to drive cost effective, aggregated purchasing. It should also enable implementation assistance to ensure that work process improvements have occurred so that physicians can minimize the loss of productivity and revenue. While there is a cost to technology, it is generally accepted that implementation assistance is one of the most significant success factors. The ability to obtain such assistance should be included as well.[9] This will help the State maximize the purchasing power of its investment on the front end and improve its likelihood of success and return on investment.

Provider readiness assessments could be required to ensure that the providers receiving loans are prepared to make the business process changes needed to maximize the impact of the technology. This qualification cannot be overly burdensome, or the loan may not be desirable. The State should consider structuring the loan program – including designing a provider readiness assessment – and beta test the package with targeted physicians and clinics to assess the likelihood of widespread loan uptake. A sober understanding of the potential impact that a loan program could have is prudent before significant investment of time or capital.

Harmonize Contracting and Purchasing

Without question, the State could have immediate impact by coordinating the electronic health record projects of the Department of Mental Health with projects being entertained by state and national lab data exchange projects and the state identity management (Real ID) projects. While each has particular program constraints, many of these projects are working toward the same or similar core connecting infrastructure, and should be coordinated to achieve economies of scale, reducing new budget outlays.

The adoption of data and technology standards through the coordination of current State contracts also has an immediate impact. This initial work is comprised of cataloging expiring contracts, defining standards of language for inclusion, and identifying appropriate IHA pay-for-performance expectations.

[9] In action area #3, *Invest in HIT*, we suggest that a shared service model would likely be the most effective and efficient, and would reduce the overall cost of HIT adoption.

3. Invest in HIT

What We Heard

As previously noted, this action area fits hand-in-glove with the section entitled *Structure Incentives and Identify Financing Methods.* While action area #2 communicates the financing vehicles, action area #3 captures participant themes as to which HIT the State may finance. In the text below, we focus on the far right portion of the HIT equation: HIT Investment in California. In this section, we organize what we heard into a framework of "macro" and "micro" HIT investments in the categories of technology and communications to convey where the State should focus investment resources.

HIT Investment in California

	Technology	Telecom
Macro	Core connecting infrastructure (e.g., eMPI, RLS)	Widespread access to Broadband
Micro	Direct investment in HIT for qualifying entities	Direct investment in Telemedicine Programs

Investment Challenges

Participants suggested two types of investments that the State could fund: macro and micro. Both levels have gaps where it appears the market alone will not meet the goal of 100 percent of health information exchange in a timely fashion. As noted in the graphic below, the State's macro financing role addresses the core connecting infrastructure required to achieve the goal of 100 percent HDE in ten years. This includes both technology and communications infrastructure. The State's micro financing role should be to assist certain providers establish electronic record functionality and access the core connecting infrastructure, so that Californians receive the benefit of HDE.

Macro Investment Challenge

In the 1950's, commerce was predominately local, as were the highway transportation systems. As populations and cities grew, local commerce was hampered by a poor transportation infrastructure. Ultimately the federal government stepped in to develop the national system of interstate highways. Similarly, no single business has the financial motivation to invest in the creation of a digital health data-connecting infrastructure. However, the interstate highway system was a public good that promoted economic prosperity through improved access to commerce. It became a utility for the benefit of all. Participants view HDE and the

	Technology Fund Technological Infrastructure and the Safety Net	Communications Fund Communications Infrastructure and Telemedicine
Macro	▪ *What is the state funding?* Core connecting infrastructure, which includes key technological components such as an electronic Master Patient Index and a Record Locator Service ▪ *How is the state funding it?* – Leverage monies already earmarked for State HIT health data exchange projects by determining a common infrastructure and building key technologies robustly enough to be useful across multiple projects – Award contracts from a public-private matching pool using the UnitedHealth investment funds, as needed	▪ *What is the state funding?* Widespread access to communications lines, namely evaluation and build out of broadband into areas without adequate access (e.g., rural) ▪ *How is the state funding it?* Leverage the California Emerging Technology Fund's $60 M and possibly up to $200M from Proposition 1D
Micro	▪ *What is the state funding?* Direct investment in Health IT for qualifying providers and facilities ▪ *How is the state funding it?* Provide a combination of grants, low interest loans and performance payments using the public-private matching pool described above; provide state tax credits to IT vendors who provide low or no cost equipment	▪ *What is the state funding?* A Telemedicine and eHealth Program to further develop the programs California Telemedicine & eHealth Center and others have already invested ▪ *How is the state funding it?* Develop a partnership with social venture capitalists; Redirect the California Teleconnect Fund Surcharge to the funding of rural broadband.

Notes: The California Emerging Technology Fund (CETF) is an independent non-profit entity that will focus on building broadband networks in areas with limited access to high-speed Internet service. This is as a result of the California Public Utilities Commission (PUC) approval of the SBC-AT&T and Verizon-MCI mergers on November 18, 2005.

infrastructure needed to support this exchange in the same manner. An infrastructure, incrementally extended statewide, to enable the exchange of a health record for any Californian, no matter where they are seen for care throughout the state, was seen as valuable. Additionally, the expanded broadband through which this core infrastructure operates should help stimulate patient access, particularly to specialty health, as well as investment in new telemedicine applications, and potentially rural economies. It was generally agreed that commercial interest will drive intra-health system (and regional) data exchange.

Micro Investment Challenge
Participants identified critical gaps that the state should fill to encourage all providers to connect with and utilize the core connecting infrastructure and thus realize the maximum public good from investment. From a micro view, the need is to transform paper health records to "digital care delivery." Therefore, health entities must computerize.

Safety net providers have little to no margin or business case to fund digital documentation technologies or connection to a core exchange infrastructure. For these providers, as well as others who have limited access to capital, micro financing solutions are required. This will allow the neediest Californians to have equal access to the benefits of HDE.

All providers must be accountable for quality. Health information exchange helps measure this quality (with appropriate data standards) by providing the health data when needed. Innovative reallocation of funds to pay for improved quality and efficiency should be used by both the public and private payers to stimulate health information exchange.

State Investment
Technological Infrastructure
As described by participants, the macro technology financing target is development of connecting infrastructure, for instance RLS, single eMPI, and a database for possible use with all private programs and state programs, such as Mental Health Medi-Cal, to facilitate exchange of both administrative and medical data. As stated previously, no one entity other than the State, who is the payer of last resort and responsible for guarding the public good, will find creating the connecting infrastructure valuable enough for its own purposes. However, participants agree that once created, the connecting infrastructure should generate additional value through a reduced taxpayer burden for the costs of health care, and new care delivery and business innovations.

Entities with Capital Constraints
Participants typically described the micro financing technology targets as the HIT needs of safety net providers, small group practices, rural hospitals, and solo physicians. These entities generally have three types of HIT needs: hardware, software, and services. The hardware and software needs primarily address the need to capture, store, and track patient data electronically. The services largely relate to implementation, maintenance, and interface with the core connecting infrastructure or other data exchanges. On the services side, the State should craft financing methods that encourage cost-effective service provision, for example, through an application service provider (ASP) model delivery with shared services maintenance[10]. Many safety net providers, small group practices and solo physicians are

[10] For additional discussion on how to encourage cost effectiveness in financing, please see the "Financing Methods" section.

moving toward these models already, following the efforts of groups such as the TIDES Foundation, the physician organizations, and the Physicians' Foundation.

Communications Infrastructure
The State should identify the gaps in network capability, such as the locations where the market will not naturally seek to establish towers, and provide universal broadband across California. This broadband capability is essential to HDE and has potential for statewide economic benefit. Telemedicine is regarded as one of the most promising HIT tools for reducing health care costs, increasing cost effective access, and increasing quality care. The ability to deliver telemedicine is enhanced by a robust broadband network was and was regarded by participants as one of the first applications in which to invest.

Technology Resources
Throughout the HIT Study phases, it became clear that participants were not convinced that the HIT knowledge workers will be there when needed. The collection of HIT resource themes have been synthesized and categorized below. While this does not rise to the level of a key action area, HIT resources will become critical and has been included as a task step under 3.2. *Invest in Technology Infrastructure and Entities with Capital Constraints.*

Accenture's Perspective

We concur with the macro and micro HIT needs and the leadership role that the State should take regarding each. To establish the context for these HIT needs, we would recommend the State create an end-state vision or structure that allows providers and entities of all types to link to a secure, operating core connecting infrastructure, such as technology and communications, to achieve a 100 percent health data exchange. This vision, driven by the HIT leader in collaboration with state agencies, such as the State CIO, would identify:

- The core connecting technology and communications infrastructure and how it fits together to achieve HDE; and
- The most critical micro investments and financing required to make sure that HDE can reasonably be available for 100 percent of the California population.

Such an end-state vision will be critical for focusing all action areas. For example, it will be used in the *Invest in HIT* action area to create the detailed criteria for providers and entities that will qualify for micro investment. It is also important for organizing the various health information projects around the State which can also feed into developing the core connecting infrastructure, as mentioned in the previous action area: *Structure Incentives and Identify Financing Methods*.

With data and technology standards established as well, the State would have a solid definition of its goals for HIT, and would assist the health industry in understanding the existing health data exchange gaps and how to address them.

The HIT leader, with input from the advisory group, would be instrumental in navigating the macro and micro opportunities as they evolve in the marketplace. The critical HIT *investment* challenge will be to remain focused on the macro investment needs even though the micro investments are generally easier and more commonly done.

Macro Focus

To exchange patient health data of magnitude and reach, a core connecting infrastructure is necessary. Of the possible macro investment alternatives, the connecting infrastructure is likely to consist of at least an *e*MPI and a RLS, and to address public health data needs, a data base. This would likely be delivered through a utility model, over which the State would operate or oversee governance.

In the case of Health IT, a corresponding utility may comprise:

- A connecting infrastructure, extended statewide incrementally, to enable exchange of a health record for any Californian, no matter where they are seen for care throughout the state. This will:
  - Improve continuity of care and increase quality;
  - Help decrease the overall costs of delivering health care, which eases the current and future tax burden on Californians and California businesses for the cost of financing care, and;
  - Allow the state to fulfill its role as guardian of the public health in emergency situations such as a pandemic outbreak, bioterrorism or natural disaster.
- An expanded broadband through which this core infrastructure operates, which should:
  - Help stimulate rural economies and investment in new telemedicine applications, and;
  - Increase access to specialty health, particularly in rural and underserved areas.

The complexity and interdependent nature of consumer HDE requires a target end-state architecture vision, for example, a core connecting infrastructure, network, data exchange applications, and associated databases, along with financing options, to be robust and sustaining. Without an end-state vision, the funding solutions risk becoming singular investments without scale or ability to interoperate. Whether one deploys e-prescribing, telemedicine, or applications – such as mental health systems or even aspects of swipe or smart card deployment – a secure, available infrastructure is needed.

The macro investments are likely to be "state assets" only in the sense that the State will have the incentive to fund and maintain this statewide infrastructure initially. The operation of such utility may be first a free service, but clearly the intent is to find a cost-neutral and then revenue-producing model in order to sustain the utility over time. In the foreseeable future, any statewide private sector endeavor will likely request public funds, but just as likely spurn public oversight. Over time, as the infrastructure is built and economic models emerge, the State may reduce involvement, and transition to a private entity. With a focus on the public good however, one would expect the State would maintain a strong position to ensure this public trust. Unique to California's history of innovation, it is the macro focus that will also help engage the professional investment community in developing California's new health care delivery business models to improve access, quality and affordability.

The micro investments are not state assets per se, but require special seed funding for the market to move and take hold. Micro financing is used in many areas of public policy, and therefore processes are

in place to achieve it. However, micro investments without a macro context will stymie the momentum needed for the whole health community to achieve the Governor's goal of 100 percent HDE.

In this regard, we suggest funding projects in State programs first, if necessary, to implement e-prescribing and telemedicine applications. Both applications are available in the market and offer immediate benefit to patient health and cost of care.

Regarding technology resources, we recommend enhancing our HIT resource base in regard to:

- *Private Sector HIT Workers.* Our community college, state college, and university system should increase the number of skilled HIT workers. The focus groups suggested that licensed practical nurse training and radiological technician education be evaluated for HIT infusion, including potentially a world-class HIT curriculum into all University of California campuses.

- *State HIT Knowledge Base.* The State should engage in regular, multi-state conversations to share best practices. Washington and Florida leaders indicated a desire to participate in such an ongoing exchange. The State should also consult with Health Legislative Assistants within our federal delegation to improve federal coordination.

- *State HIT Workers.* Many who raised the need for affordable HIT workers in the private sector also echoed that requirement for the State. The State should implement a plan to improve the knowledge and skill levels of State HIT workers.

4. Augment Current Privacy and Security Protection[11]

What We Heard

Across the HIT Study conversations, including interviews with other states' leaders, it is recognized that 100 percent HDE cannot be realized without the public having adequate assurance of firm protections of patient health data and privacy rights. Protection and acceptance will involve streamlining current privacy laws and regulations, filling notable gaps around secondary data usage, and involving patients throughout the process. Patients must be involved both proactively, in the creation of strong security policies that balance privacy with improved health care delivery, and reactively, in providing a clear location for resolution of medical identity breaches.

Streamline California Privacy Law
Participants expressed the opinion that the State should first evaluate the laws and regulations that already exist, where they conflict, and how to best implement those laws consistently in order to begin the process of augmenting current privacy and security protections. Participants mentioned specific laws, including the California Confidentiality of Medical Information Act (CMIA) and the Information Practices Act (IPA) as difficult to understand and implement consistently. The suggestions were to take health information out of the IPA and consolidate all health information privacy matters into the CMIA. Next, participants suggested improving the enforcement of the CMIA by including stiffer penalties and giving a specific agency or department authority to enforce it. One concern expressed via the State HIT Workgroup was that research and access to health information for other public health purposes must be preserved if this streamlining occurs.

Secondary Use Data[12]
Early interviewees, as well as CGCHIT, focused on fully understanding how data flows from and between entities. They suggested a need for a privacy law and security policy debate on protections following data versus following particular entities, for example, as under HIPAA. Most seemed to believe that "following the data" would help uncover where current laws leave privacy gaps, for example, secondary data use entities, and would help prevent future gaps in privacy law as new entities become involved in HDE throughout its growth and evolution.

During an interview, Dr. Paul Tang, co-author of American Medical Informatics Association's paper entitled, *Toward a National Framework for the Secondary Use of Health Data*, focused on AMIA's secondary data use recommendations:

[11] During the course of this HIT Study, California's work for the National Health Information Security and Privacy Collaboration project with RTI International was ongoing. As the report was not complete, most of the project findings were not available for inclusion here.
[12] According to the American Medical Informatics Association's paper entitled *Toward a National Framework for the Secondary Use of Health Data*, the definition of secondary use data is as follows. "Secondary use of health data refers to non-direct care use of personal health information (PHI), including but not limited to analysis, research, quality and safety measurement, public health, payment, provider certification or accreditation, and marketing and other business (including strictly commercial) activities. Secondary use of health data can enhance health care experiences for individuals, expand knowledge about disease and appropriate treatments, strengthen understanding about the effectiveness and efficiency of our health care systems, support public health and security goals, and aid businesses in meeting the needs of their customers."

	Recommendation
1	Increase the transparency of data use and public awareness. Secondary use of health data must be conducted and managed solely through the use of open and transparent processes.
2	Focus ongoing discussions on data access, use, and control (not on ownership).
3a	Continue discussions on privacy policy and security with regard to the secondary use of health data.
3b	Increase public awareness efforts on the benefits and challenges associated with the secondary use of health data.
4a	Create taxonomy of the secondary use of health data.
4b	Address increasingly difficult current and evolving questions related to the secondary use of health data in a comprehensive manner.
5	Focus national and state attention on the secondary use of health data.

Patient Involvement
Patient involvement in privacy considerations was emphasized in two critical ways:

1. *Patient Council.* Require a patient council to assist in tasks associated with privacy. Currently, this patient council is described in the task tables as a freestanding panel associated with all privacy work. It could, however, be considered as synonymous with the advisory board's subgroup on privacy.
2. *Single Point of Patient Access and Advocacy (For example, the Office of the Patient Advocate or the Department of Consumer Affairs).* One office could be given explicit authority to receive suspected breaches of patient confidentiality, investigate allegations and take appropriate punitive action. As noted in the World Privacy Forum's *Medical Identity Theft: The Information Crime that Can Kill You*[13], a government agency should be dedicated to helping victims of medical identity theft. The Office of the Patient Advocate could be responsible for both preventive efforts and solutions and correction of records, should privacy be compromised and used fraudulently.

Accenture's Perspective

The State has owned a leadership role in data privacy and security with the implementation of the Health Insurance Portability and Accountability Act and CMIA. As something that affects the public good, this is a topic where consistency of practice is important and the State is an appropriate leader. Participants solidified the need for the immediate and continued focus on forecasting, (or defining as a pilot project progresses), the HDE privacy needs and defining a path to achieve it.

Streamline California Privacy Law and Secondary Use Data
California privacy laws and regulations need to be as uncomplicated as possible. Confusion and frustration currently exist because of differing privacy direction, particularly in the county public health arena. Regulations do not appear to treat the same data similarly across entities. Evaluating it in the

[13] Dixon, Pam, World Privacy Forum, "Medical Identity Theft: The Information Crime that Can Kill You" Spring 2006, http://www.worldprivacyforum.org/pdf/wpf_medicalidtheft2006.pdf.

aggregate would enable the State to identify privacy and security gaps when considering the business requirements of health information exchange.
It is also clear that the secondary use of health data be should avoided where possible in any pilot or early build-and-use of the core connecting infrastructure, as it would like cause unneeded public and industry concern. This may require a statewide restriction for consistency and patient peace of mind. It is expected that part of the public debate on the secondary use of data will need to define "benign" secondary use, for example, outbreak tracking, versus what is questionable and requires patient permission or other protections, such as clinical trial patient recruitment.

Advice from many, including HIT leaders doing the work to achieve HDE and enhance HIT in other states, is to get started on the journey. This includes preparing the policies and guidance that one can, and then adjust based on the privacy and security issues as they arise along the path. Attempting to address all privacy and security questions up front – absent an anchor in the reality of execution – will likely derail the process into an exercise of endless meetings planning for "one-off" hypothetical circumstances.

To this end, we suggest a State driven pilot to explore practice and issues and simultaneously create a path for expansion statewide. The next action area suggests pilot groups. Such pilots would allow the State to develop some of the key security and privacy components needed between entities for HDE. The first list of items would include[14]:

- An overall HDE policy;
- Patient notifications for data exchange; and
- Health data access practices.

Data sharing agreements should be included, as such agreements have proven to be hindrances in many data exchange efforts.

The State should consider creating "safe harbors" in these areas to allow entities to move forward with the assurance that they are protected as long as they follow the guidelines.

[14] John R. Christiansen, "Using Safe Harbors to Reduce Legal Barriers to Implementation of Electronic Health Records and Health Information Networks," November 2006.

5. Engage Consumers

What We Heard

Give Consumers Tools

An overarching theme is to engage consumers early and demonstrate value with a targeted solution to meet their solvable needs (see below). This concept has two components. First, similar to a public service campaign, the State should lead the effort to communicate the purpose and value of HDE and educate the public. Health entities would certainly join the effort, but the initial direction and messaging would likely come from the State.

Second, because of the nascent nature of the health information exchange marketplace, it is difficult to narrow the large field of patient advocacy groups to a manageable and pertinent number to consistently engage on general HIT topics. Many suggested finding a uniquely motivated group with many solvable needs to serve as initial population, and then to focus on solving one clear need with health information exchange.[15] This will provide an opportunity to examine early value and issues of health information exchange, while simultaneously creating a path for expansion, for example, adding additional information to solve more and more of their health information needs. It will also, most likely, bring to light – and to the table – the most critical advocates, to find a mutually beneficial path to expanded health information exchange, such as expanding from medication history to a richer medical record. An early win with motivated patients and/or their caregivers, for example children and certain elderly) and patient advocates in a set of targeted efforts can provide solid grassroots support for expanding health information exchange statewide.

Examples of ideas discussed include:

Consumer Engagement Ideas: Potential Target Patient Groups and HIT Needs

Children's Immunization Registry	Mental Health Personal Health File	PHR for All State Employees
The challenge of creating a linked and accessible child's immunization registry was echoed throughout the HIT Study, as parents described calling multiple providers and clinics to compile a comprehensive immunization record. Foster children were noted by some as most critically in need of an electronic health record that could begin with their comprehensive immunization records.	The Department of Mental Health (DMH) described focus groups of patients frustrated by the challenge of integrating mental health care with other types of medical care. Health information exchange would allow DMH patients to provide their information to multiple providers with reduced hassle. Because some members of this population do not recognize their own identity, DMH HIT leaders recommend biometric identification and the assignment of a "medical home" to provide additional monitoring and case management services.	The idea synthesized from early discussions was to make PHRs available for members of public programs, and then move the market to develop PHRs for other Californians. There is not yet industry-wide consensus on the definition of a PHR. However, we believe that a PHR would need to eventually include the defined minimum critical care information and allow patients to input their own information, such as over the counter drugs.

[15] Determine frequent health users and organize electronic tracking around their needs. Use this as an opportunity to work with the American Civil Liberties Union, AARP, legal services, and any applicable disease-specific groups on health information exchange.

Give Consumers Transparency

The concept of transparency reflects a desire for consumers to have access to cost and quality health data. This health data needs to be transformed into information that is easy to understand. HIT enables this link between health data and consumers to occur through data standardization, collection, and analysis. The likely role of the State would be two-fold. The first would be to provide consumer focused standards for the data, and then transform it into understandable information. The second would be to provide incentives for providers and payors to report the data needed. As there are similar public and private efforts under way today, the State would benefit from leveraging these efforts where possible.

In addition to transparency on costs and quality, patients and consumers will require transparency on the actions and issues of the State as it moves down the path of 100 percent HDE. It will be important to openly share the Governor's roadmap, the value proposition, privacy and security actions, and methods for public feedback.

Along with providing consumers with information, the State or the private sector industry itself may utilize this data at a macro level. A potential future data use cited in interviews was to synthesize population related information to create meaningful, comparable indices on the health of communities, for example, community-related data on morbidity, complications. While such transparency, if deemed appropriate, would be years in the future, it does extend the notion of quality transparency to ideas larger than physician or hospital selection. The benefits of such an effort may be two-fold:

1. Use information from HIT to uncover unexplainable, unnecessary health disparities and drive quality improvement; and
2. Develop this into an economic stimulant. For example, if an HIT-derived health index were published, it could drive housing prices – and thus State revenues – much like school ratings do. To increase the meaningfulness of such scores, the underlying metrics should be consistent across other states. This effort could be one focus of a multi-state consortium.

Accenture's Perspective

The participants consistently touched upon the key issues around consumer or patient engagement in this HIE journey, and we agree with the actions articulated. As a trusted source in health and HIT issues, the State will likely need to lead the communication of the value and benefit of health information exchange to the public. As patients and consumers look for HIE information and guidance, they will turn to the State. In this trusted leadership role, the State would provide the health information exchange messages and answers to questions most widely asked. We should not overlook the advocacy groups as a target audience as well.

We suggest that all of the actions are worth considering, and underscore how critical it is for Californians to see the benefit to their personal heath and the economic health of their state for engaging in health information exchange.

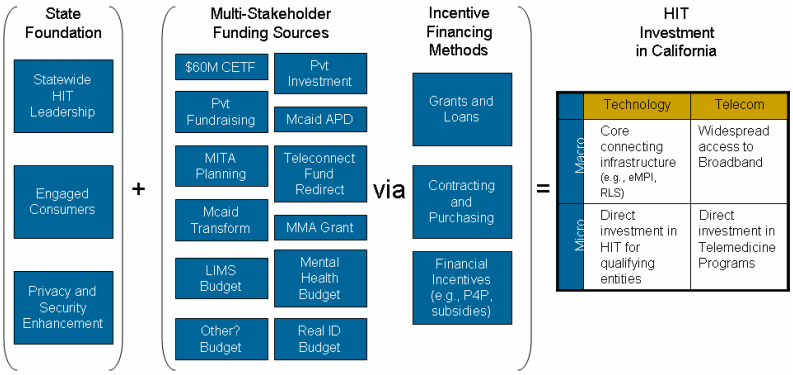
A patient council should be appointed. In addition, at least one patient representative should be named to the overarching advisory board referenced in action area #1, *Statewide HIT Leadership*.

Improvement in health care affordability will result if the industry passes along to patients some of the value of health information exchange. This concept was not widely discussed throughout the HIT Study process; however, we believed that its message is so critical that we included it in the roadmap. While no health information exchange effort is far enough along to have already implemented this idea, it is clear that payers and employers could choose to pass along a percentage of savings to the consumer. Making this process explicit from the beginning could energize more consumers to engage sooner in the process.

We would suggest that the State bring all payers, for example, theAssociation of Health Plans, Chamber of Commerce, retail associations, and the National Federation of Independent Businesses, to the table early, and devise a mutually beneficial plan to hold down increasing premiums if connecting infrastructure demonstrates quality improvement and cost reduction. It is likely that these discussions will identify early target populations to add to those examples listed in the aforementioned section. Engaging this community at the appropriate time should help the State select which patient populations it will focus on in health information exchange build-out.

Conclusion

The health care community in California set forth an ambitious set of activities for the State to lead and own. These activities are unique to the State and without the State's leadership as identified above, the goal of 100 percent HDE may not materialize in the foreseeable future.



California's health care community is confident that leadership is a role the State must play in order to accomplish broad, consistent adoption of HIT across the industry. While the State cannot do this work in isolation, it is unique in its ability to be an arbitrator among many parties. Such "navigation" must be instantiated in policy and law, to *enhance the public's privacy and security* (see chart at right). The State is best able to centralize *multi-stakeholder funding sources* (see chart above) to funnel through trusted, publicly-accountable *financing methods* (see chart above) for seeding the development of, and overseeing the effectiveness of, new public works, as identified in the *HIT Investment in California* section of the chart above.

Appendix A: HIT Roadmap

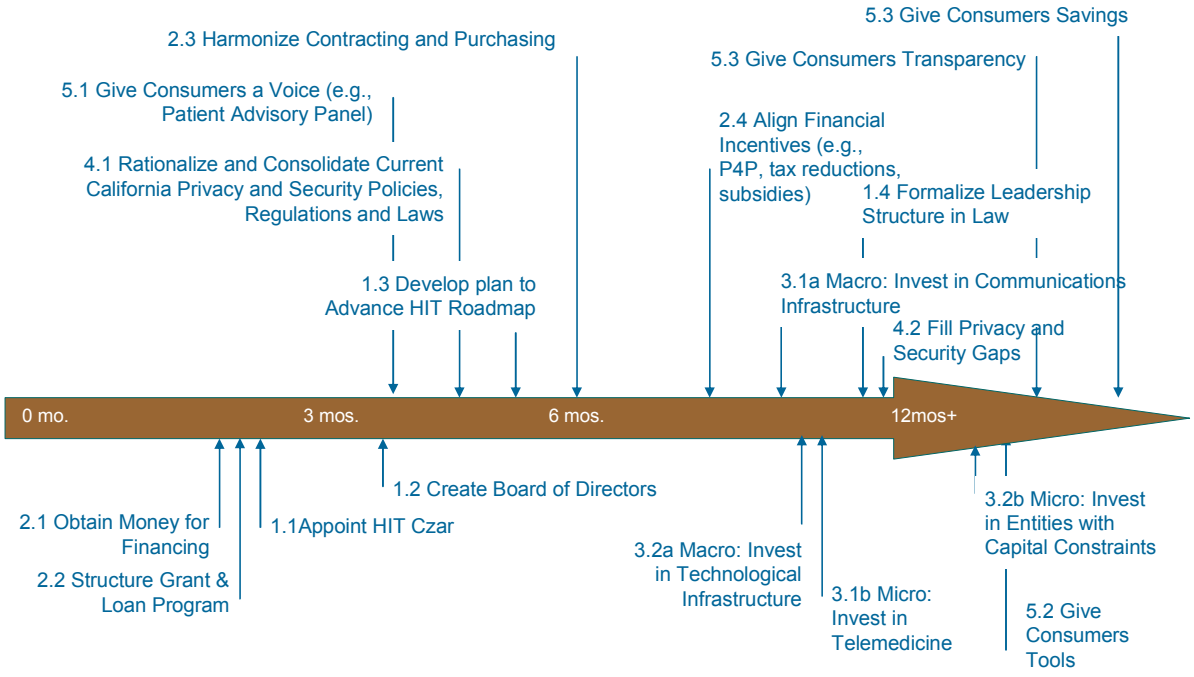
Appendix A details the five recommended action areas and associated sub-actions, as identified by HIT Study participants. To provide the most actionable recommended roadmap, Accenture, with review from the CGCHIT and others, added the tasks to these actions.

1. Action: Establish Statewide HIT Leadership
   - 1.1. Appoint Czar
   - 1.2. Create Advisory Board
   - 1.3. Develop Plan to Advance HIT Roadmap
2. Action: Structure Incentives - Financing Methods
   - 2.1. Obtain Money for Financing
   - 2.2. Structure Grant and Loan Program
   - 2.3. Harmonize Contracting and Purchasing
   - 2.4. Align Financial Incentives
3. Action: Invest in HIT
   - 3.1. Invest in Communications Infrastructure and Telemedicine Projects
   - 3.2. Invest in Technology Infrastructure and Entities with Capital Constraints1
4. Action: Augment Current Privacy and Security Protections
   - 4.1. Create Patient Council
   - 4.2. Rationalize and Consolidate up Current California Privacy and Security practices, Regulations and Laws
   - 4.3. Fill Privacy and Security Gaps
   - 4.4. Target Initial Risk Areas for Privacy Compliance
5. Action: Engage Consumers
   - 5.1. Give Consumers a Voice
   - 5.2. Give Consumers Tools
   - 5.3. Give Consumers Transparency

The first graphic is a summary of sub-actions, which represent the most critical projects for the State to undertake. If a HIT leader is full-time on the HIT effort, we believe that two to three sub-actions could be executed simultaneously, given the anticipated flow of work.

To highlight the anticipated workflow of all the sub-action projects in combination, our second graphic arrays the sub-actions on a suggested timeline for implementation. While each project could be managed by a single resource, as discussed above, the timeline below assumes multiple state agency prioritization and participation and is aggressive in its nature.

The final graphics are the task tables. Many of the tasks below originated in discussions of the State's role in interviews and focus groups and based on Accenture's professional experience.



After tasks were grouped and synthesized, early action areas and tasks emerged. These tasks were significantly expanded as a result of the *e*Health Action Forum afternoon breakout sessions, and further refined via Accenture, the California Government Committee on Health IT, and our public-private Verification Panel input.

These task tables suggest what the State should execute and the timelines in which the health community would like to see the State perform. Again, these timelines were often recognized as aggressive, but the health community favored "stretch goals" to help maintain momentum that they could get excited about in the marketplace.

1. Action: Establish Statewide HIT Leadership	Timing
1.1. Appoint Czar	3 months
1.1.1. Define primary job functions	
1.1.2. Define "must have" skills	
1.1.3. Appoint selection/search committee	
1.1.4. Create short list of qualified candidates	
1.1.5. Solicit interest from short listed candidates	
1.1.6. Interview interested short-list candidates a. Design interview questionnaire b. Design interview scoring template c. Conduct interviews	
1.1.7. Select and offer position	
1.2. Create Advisory Boards	6 months
1.2.1. Design board structure *(See Section description)* a. Determine desired subgroups (three suggestions below) i. Innovation subgroup, for example, a group of social venture capitalists focused on the tasks below 1. Evaluate new business ideas/innovations that would use technology to transform the fabric of health care, such as eAssisted Living 2. Consolidate funding, for example, applicable private and public sources of funds interested in the idea 3. Assist in HDE efforts to identify saving and quality outcome milestones ii. Privacy subgroup iii. Standards subgroup b. Determine optimal number of participants c. Determine optimal mix of participant skill and knowledge, for example, consider skills required within health care, and consider skills required outside health care such as communications, banking and utility industries	
1.2.2. Write job descriptions a. For Board as a whole, for example, the duration of board and its primary function b. For each board member, for example, duration of terms	
1.2.3. Define board member screening qualification and scoring	

1.2.4. Seek input and board member nominees from industries, such as health care, banking, or telecommunications a. Design nomination process and required tools, such as aboard member nominee form b. Announce nomination process, for example press release, calls, discuss at key meetings, and deadline c. Collect nominations d. Review industry nominations against screening qualifications and scoring	
1.2.5. Candidate review a. Interview top candidates b. Submit to recommendations for advisory board to Governor's Office	
1.2.6. Announce board members	
1.3. Develop Plan to Advance HIT Roadmap	6 months
1.3.1. Unify HIT Roadmap with private sector activities	
1.3.2. Execute state work[16] a. Obtain money for financing b. Structure grant and loan Program c. Harmonize contracting and purchasing d. Align financial incentives e. Invest in communications infrastructure and telemedicine projects f. Invest in technology infrastructure and entities with capitalconstraints g. Create patient council h. Rationalize and consolidate current california privacy and security practices, regulations and laws i. Fill privacy and security gaps j. Target initial risk areas for privacy compliance k. Give consumers a voice l. Give consumers tools m. Give consumers transparency n. Give consumers savings	

2. Action: *Structure Incentives and Identify Financing Methods*	Timing
2.1. Obtain Money for Financing	1 - 6 months
2.1.1. Create end-state technological and communications vision to understand what funding is available/accessible for the State's purposes (cross reference with 3.1.1 and 3.2.1)	
2.1.2. Obtain federal funding	

[16] Czar has responsibility and authority over all HIT Roadmap sub-actions. We expect the State to move forward on certain sub-actions and their tasks prior to the appointment of an HIT Czar. For example, the grants and loans may already be structured, but other financing methods may require the Czar to both design and implement them.

2.1.3. Maximize current State funding	
2.1.4. Solicit private sector funding a. Health-specific foundations, for example, CHCF, California Endowment b. Other foundations, for example, Google.org, Gordon and Betty Moore Foundation c. Private entities, for example, work with industry to increase funding available for industry-specific projects such as Telecom, Banking	
2.2. Structure Grant and Loan Program	1- 12 months
2.2.1. Establish guiding principles (What types of technologies does the State want to help fund? Who would the State be willing to fund?)	1 month
2.2.2. Test guiding principles through market evaluation a. Confirm technologies (What do the desired technologies cost --macro technologies, micro technologies) b. Determine current capital access (What capital can the "fundable" entities access now? What is the interest rate can these entities achieve from the commercial market?) c. Calculate size of fund: i. Macro (What is the cost of a core connecting technological infrastructure? Currently expect that communications infrastructure can be paid through redirection of current telephone tax) ii. Micro (What is the delta the public-private grant and loan fund would need to cover? And for how many entities?) d. Determine fundraising needs (What can the State afford to contribute? How much fundraising is required to cover the rest of the grant and loan fund?)	3 months
2.2.3. Convene entities to help structure the grant and loan fund a. Public sector -- Government bank b. Private sector -- Social venture capitalists	3 months
2.2.4. Secure financial commitments specific to the grant and loan fund	6 months
2.2.5. Structure loan program for micro financing (cross reference with safety net actions within "Fund Technological Infrastructure and Safety Net") a. Create "qualifying" providers and entity criteria (include readiness assessment and require operational change plan as condition for loan} b. Create financial structures to deliver loans (application process, review process, financial transaction process)	8 months
2.2.6. Structure macro financing program for core connecting technological infrastructure (cross reference with Technological Infrastructure within "Fund Technological Infrastructure and Safety Net)	12 months
2.3. Harmonize Contracting and Purchasing	3 months
2.3.1. Establish California standards policy using all national standards available, (health data) for use in contracting, purchasing and internal HIT builds	

2.3.2. Work with CalPERS to find common contracting and purchasing possibilities a. Meet with CalPERS senior executives b. Agree on plan to find contracting and purchasing synergies c. Create CalPERS workgroup and execute any needed analysis d. Finalize cooperation plan and assign tasks with timeline	
2.3.3. Develop a tactical plan that outlines common contracting and purchasing incentives to promote HIT through Healthy Families, possibly CalPERS, University of California medical centers and public hospitals a. Identify contracts with expiration dates within 6,12,18, 24+months b. Establish incentive goals and language for contracts and purchase agreements i. Require standards for interoperability, for example, federally certified systems, federal data standards, secure network infrastructure ii. Provide a "safe harbor" for data exchange iii. Consider additional incentives to accelerate certain interoperability programs, such as ePrescribing, Pay-for–Performance c. Identify delta between old contract and new contract needs to achieve health information exchange d. Identify the types of incentives the State should use for each contract type e. Determine contract change notification requirements per contract f. Notify vendors as required by contract	
2.4. Align Financial Incentives	
2.4.1. Consider the following incentives for State government use: a. Pay-for-use of EMR and HIT en route to pay-for-performance (P4P) b. Direct subsidies for health data exchange infrastructure construction c. Tax deductions for investments in HIT	
2.4.2. Define applicability of P4P to State programs, such as fee-for-service Medi-Cal)	
2.4.3. Define relations with Integrated Healthcare Association and which, if any, metrics and models for P4P to borrow from IHA	
2.4.4. Decide whether P4P incentives will be required for self-insured employers seeking to contract with the State	

3. Action: Invest in HIT	Timing
3.1. Invest in Communications Infrastructure and Telemedicine Projects	3 – 12 months
3.1.1. Determine broadband gaps a. Map rural areas in need of access to broadband b. Leverage knowledge from CTEC's regional rural e-Health networks	3 months

3.1.2. Facilitate statewide e-Health broadband connectivity a. Define broadband, for example, 300kps, DSL b. Acquire inventory of providers' access to broadband c. Create hardware/software requirements d. Assess resource and facilities requirements e. Develop project costs f. Plan rollout and implementation	6 months
3.1.3. Make regulatory changes necessary to support the sharing of broadband infrastructure by multiple user groups	12 Months
3.1.4. Develop a plan for long-term technical and business sustainability	12 Months
3.1.5. Evaluate the outcomes/accountability/measures of success	Ongoing
3.2. Invest in Technology Infrastructure and Entities with Capital Constraints[17]	3 months
3.2.1. Craft vision for California technological architecture that is interoperable with the National Health Information Network (NHIN) architecture	
3.2.2. Create plan to implement technology architecture	
3.2.3. Coordinate state spending in other areas with HIT goals, such as disaster preparedness	
3.2.4. Engage various educational entities to develop needed HIT personnel, for example, community colleges, state universities, University of California system	

4. Action: Augment Current Privacy and Security Protections	Timing
4.1. Create Patient Council	3-4 months
4.2. Rationalize and Consolidate up Current California Privacy and Security practices, Regulations and Laws	6-12 months
4.2.1. Harmonize data privacy and security laws	6 months
a. Streamline California Medical Information Act (CMIA) and Information Practices Act (IPA) i. Review statutes and regulations governing release of health-related information ii. Put stiffer penalties in CMIA iii. Take health information out of the IPA iv. Consider applying HIPAA-like criteria (minimum necessary) to all state releases of personal information (Committee for the Protection of Human Subjects) b. Harmonize other California laws[18]	

[17] Safety net clinics and hospitals, small group practices, solo providers, public health plans.

[18] During the course of this HIT Study, California's work for the National Health Information Security and Privacy Collaboration project with RTI International was ongoing. Due to stated confidentiality requirements, most of the reported 250 recommendations gathered in California via eight-to-ten statewide privacy focus groups have not been shared with this HIT Study.

4.2.2. Streamline State health data privacy regulations, for example, the treatment of public health patient data in mental health versus alcohol and drug	6 months
4.2.3. Clearly assign privacy and security functions to authority or authorities a. Give an agency/department authority to enforce CMIA b. Establish unified agency-level data release function (DHS programs (including Vital Statistics), OSHPD and various other health-related agencies have their own data disclosure programs) to rationalize data release policies i. Identify current policies in place at federal, state, local, and private levels related to the above ii. Recommend method for streamlining the documentation of the above and the appropriate access to the above iii. Develop security guidelines for uniform use and appropriate protection of data iv. Provide system for tracking uses/users or data v. Describe possible systems for linkage of above data sets in secure environment for internal data users, and method for releasing de-identified subsets of these linkages to appropriate researchers	12 months
4.3. Fill Privacy and Security Gaps	6-18 months
4.3.1. Reconcile California security standards with developing national/NHIN standards	6 months
4.3.2. Identify gaps in streamlined California privacy and security law a. Evaluate recommendations from State work in RTI privacy and security project i. Confidentiality gaps (authorization, authentication) ii. Reliability gaps, such as protecting data from loss or theft) b. Identify additional gaps in privacy and security by developing data flow models i. Define data elements, sources, and uses ii. Create data flow models for areas prioritized by patient council	6-12 months
4.3.3. Lead on-going discussions on the definition of patient health data "ownership" and "access"	12 months
4.3.4. Target privacy legislation and/or regulation to address identified gaps	18 months
4.4. Target Initial Risk Areas for Privacy Compliance	6-18 months
4.4.1. Review and make State's own privacy practices around state employment a model for the private sector	6 months
4.4.2. Create roundtable with payers and employers (fully insured, self insured) to discuss balancing their cost pressures and patients' privacy needs; key concerns about health information exchange with these entities: a. Fully-insured (Affordability of, or coverage denial for, individual and small group plans) b. Self-insured (Hiring, firing and promotion practices)	12 months

5. Action: Engage Consumers	Timing
5.1. Give Consumers a Voice	3-4 months
5.1.1. Appoint a consumer representative to the advisory board	3 months
5.1.2. Create a patient council for all privacy and security work (see: "Action: Augment Current Privacy and Security Protections")	3-4 months
5.2. Give Consumers Tools	3-12+ months
5.2.1. Engage a process to educate the public on the value of health data exchange 5.2.2. Define business and functional requirements of health data exchange to serve "highly interested" patient population(s), such as mental health patients and their caregivers, Medicaid foster care children and their caregivers, State Employee Health Benefit Program's chronically ill a. Use State and private payer data to identify motivated patient populations b. Coordinate with, and leverage, any HIT projects already focused (current, planned) at these populations c. Involve patient council and focus groups within chosen population(s) when crafting business requirements	3-12+ months
5.2.3. Require a Personal Health Record for all Medi-Cal patients and State employees, and challenge private sector employers to do the same a. Define minimum health data set b. Define functionality	12+ months
5.3. Give Consumers Transparency	12+ months
5.3.1. Provide transparency on the health of communities, for example, community-related data on morbidity, complications a. Use information from HIT to uncover unexplainable, unnecessary health disparities and drive quality improvement b. Create scoring index as potential economic stimulant (similar to identifying good schools, high scoring communities could drive housing prices, improving/maintaining State revenues and compelling communities to focus on improving health results) 5.3.2. Provide transparency on physician performance.	12+ months
5.4. Give Consumers Savings	3-12+ months
5.4.1. The State should create a plan to pass the value of health information exchange on to its workers and drive costs down for everyone in California a. Pass State payer savings on to workers via premium reductions to the State employees health benefit b. Include the business community, such as the Chambers of Commerce, retail associations, and the National Federation of Independent Businesses, early and devise a mutually beneficial plan to hold down increasing premiums if connecting infrastructure demonstrates quality improvement and cost reduction	3-12+ months

End of Appendix A

Appendix B: Methodology

Appendix B describes the methodology the HIT Study project team followed, which resulted in the recommendations in this document. These recommendations were developed over four HIT Study phases, which are described in detail below. The HIT Study developed and followed a list of guiding principles throughout the phases to keep the effort focused on accomplishing the Executive Order's requirement for a comprehensive HIT program by July 1, 2007, that supports an *e*Health information infrastructure in California. However inclusive and impartial our process, it is important to note that synthesis did occur. That synthesis was done using the California, national, and international experience of Accenture's Government Health and Electronic Health Records practices.

HIT Study Project Phases

Phase 1: HIT Landscape. The Landscape phase focused on understanding what information existed in the California and national landscape to help the State shape its role and activities to begin the path toward 100 percent health information exchange in ten years.

Interviews and Focus Groups. First, we sought to understand from various state and national leaders focused on health data exchange what ideas they had about HIT opportunities and barriers and valuable State roles and actions for improving the use of HIT. The HIT Study contract identified ten key constituencies: consumers, advocates, practicing clinicians, hospitals and other providers, community health centers, health plans, purchasers and employers, public health agencies, health care IT suppliers, and representatives of federal, state, and local governments. Initial interviews with forefront thinkers were conducted. These leaders are experienced in both the state and federal levels of HIT and would inherently describe the HIT needs of multiple constituency areas[19].

We conducted two focus groups, held in San Francisco and Los Angeles respectively. After data gathering in the interviews and focus groups, the team synthesized early action areas and associated tasks.

Leveragable California Projects. Second, as the state intends to leverage where possible, we were to understand what HIT projects exist across the public and private sectors of California. We gathered information about data exchange projects around the state. The specific scope was inter-system exchanges, not intra-system exchanges. Examples of inter-system exchanges include county to state exchanges, state to federal exchanges, and community exchanges among competing organizations. Out-of-scope examples include exchanges within hospital systems or within health plan operations. The information about such projects was attained through a state survey (State CIO and CGCHIT survey of state exchange projects), interviews (IHA), research (CalRHIO interactive statewide project map), and HIT Study recommendation papers (CHCF).

Comparable State Profiles and National Trends. Third, to understand the broader U.S. context of health information exchange, the HIT Study engaged in creating two comparable state profiles

[19] For interview list, please see appendix.

and a synthesized list of national trends around health information exchange. Accenture and the State also developed comparable health system criteria used to analyze and select two states to profile. These criteria included health maintenance organization penetration, health coverage by type, gross state product, state population, percent population -- low income, median household income, temporary workers, number of state federally qualified health clinics (FQHC), number of patients seen in the FQHCs, and number of rural health clinics. Accenture compared these factors from each of the 50 states and recommended two states to profile. With State concurrence, Florida and Washington were selected. Accenture created these state profiles via interviews[20] and research. National trends were organized around the components of health information exchange: technology, privacy, governance, etc. Literature and news reviews, a series of interviews with Accenture global *e*Health leaders, and select interviews with national U.S. leaders were conducted. This activity produced a better project understanding of the successes and challenges in comparable states and consideration of the likely trends in health data exchange.

Phase 2: Forum. Through his Executive Order, the Governor also directed the California Health and Human Services Agency, the California Business, Transportation and Housing Agency, and the California Chief Information Officer "to convene a California *e*Health Action Forum to solicit input and participation in the development of a state policy agenda to improve health and health care through the rapid implementation of health information technology." In October 2006, more than 50 healthcare industry attendees provided additional input and insight to the preliminary action areas and tasks. These industry participants had the opportunity to add, modify, and delete action areas and tasks. Their comments were incorporated as draft action areas and tasks.

Phase 3: Verification. This phase provided confirmation that the draft action areas and tasks indeed were reflective of the input received, reasonable as actions to achieve 100 percent digital health information, and were "actionable." The action areas and tasks were reviewed by the CGCHIT and a private public-private verification panel. This phase activity provided additional input, drawing the action areas and tasks to their final draft status.

Phase 4: Roadmap. The purpose of this phase was to distill all of the input and finalize the recommended roadmap to achieve 100 percent health data exchange in ten years.

HIT Study Guiding Principles

1. **Leverage ongoing efforts.** Given that significant HIT activity is already under way around the State of California and the nation, it is the State's intent to leverage as much of this work as practicable in the development the Governor's HIT program.
2. **Be actionable.** The HIT program will be comprised of clear, specific actions the State can take to support an *e*Health Information Infrastructure in California.
3. **Time box actions.** While the HIT program may discuss a multi-year vision for California, it will focus on detailing what can be accomplished in six months (January 2007 – June 2007) and twelve months (January 2007 - December 2007).

[20] Please see appendix for list of Florida and Washington interviewees.

4. **Seek bold actions. Build incrementally.** It is our current expectation that the specific actions will fall into two broad categories:
    - "Quick Hit" Actions: Activities that can be started and completed within six or twelve months; and
    - Foundational Actions: Activities that represent the first twelve month installment of what may be a larger, multi-year initiative.
5. **Measure progress.** The consolidated timeline at the end of this document is meant to help the state measure progress.

Action Area Development Note

Accenture, in coordination with the State, conducted a series of conversations including interviews, focus groups, and a forum that equally contributed to the foundation of these HIT recommendations. Additionally, we incorporated the views expressed from CGCHIT meetings, vendor interviews, our verification panel, and our project leadership team.

The recommendations are a synthesis of comments received. However, not all comments were incorporated into this document. Themes were extracted from majority opinions and select isolated comments were called out to illustrate key points or highlight areas that the HIT Study team felt were valuable.

Appendix C: State Comparison Profiles

Appendix C contains the health information exchange state profiles for Florida and Washington as discussed previously. The profiles below present a synopsis of Florida and Washington efforts for the State's examination.

Florida Profile and Interview Findings

Governor: Jeb Bush
Date Elected: December, 1998
Party Affiliation: Republican
Stated Position on HIT: Created the Governor's Health Information Infrastructure Advisory Board because he believes HIT will lower healthcare costs and improve efficiency.
Major State HIT effort and/or role: Creation of the HIIAB

State Population: 15,982,378
5 year Population Growth: 11.3%
State Contribution to GDP: 609.372 billion in 2004
Major Industries: Tourism, Agriculture, Electronics, Aerospace, Banking

HIT Effort	State Facts
Executive Order	
Summary of Order	Governor Jeb Bush, on May 4, 2004, issued an executive order creating the Governor's Health Information Infrastructure Advisory Board (Advisory Board) to advise the state as it develops and implements a Florida health information infrastructure. The Advisory Board has since recommended that Florida be a lead state nationally in establishing community pilot initiatives to transition to an electronic records system, and has begun developing criteria for selection of communities to participate in pilot programs on a 24-month timetable. The Advisory Board's members are made up of non governmental officials, including pharmacists, physicians, professors, and insurance executives, from such groups as: McKesson Medication Management, FSU College of Medicine, Florida Osteopathic Medical Association, Omega Dental Group, BCBS of Florida, HCA, Inc., Health Choice Network, University of South Florida, Jackson Health System, and the South Broward Hospital District. The Advisory Board will continue in existence either until its goals are reached or until June 30, 2007.
Advisory Board Mission	The mission of the Governor's Board is to advise the State Agency for Health Care Administration AHCA in implementing electronic health records. Its goals for its two-year span include (i) creating a plan to promote the development and implementation of a Florida health information infrastructure (HII), including measures to promote greater adoption of EHR information systems among the state's healthcare providers; ii) identify obstacles to the implementation of an effective HII in the state and provide AHCA policy recommendations to remove or minimize those obstacles; iii) advise the Executive and Legislative branches on issues related to the development and implementation of the Florida HII; and iv) assist AHCA in ensuring that the strategy and plan preserve the privacy and security of health information as required by law.

HIT Effort	State Facts
Executive Order	
	The Advisory Board was established in May 2004 by Executive Order of the Governor to advise the Executive and Legislative branches on issues related to the development and implementation of the Florida Health Information Infrastructure. The members of the Advisory Board include subject experts in health information technology, clinical practice, health informatics, state government, and health law. Since its inception, the Advisory Board has developed its expertise and visibility among Florida stakeholders.
Advisory Board Composition	Members of the Advisory Board include: - Carmen Aceves-Blumenthal, Pharmacist, McKesson Medication Management - Robert G. Brooks, M.D., Associated Dean for Health Affairs, Florida State University College of Medicine and former Secretary of Health - Ronald R. Burns, D.O., private practitioner, and Past President, Florida Osteopathic Medical Association - Raymond F. Caron, M.D., J.D., pediatrician in private practice - Brian O. Coleman, D.M.D., dentist and Trustee, Florida Dental Association - Jeanette W. Ekh, Chief Information Officer, Blue Cross Blue Shield of Florida - Peter Greaves, Senior Enterprise Architect, HCA, Inc. - Michael Heekin, Chair of the Board and Special Advisor to the Governor - Kevin S. Kearns, Chief Executive Officer, Health Choice Network - Rhonda M. Medows, M.D., Commissioner, Georgia Department of Community Health and former Secretary, Agency for Health Care Administration - Linda E. Moody, Ph.D., Professor, University of South Florida College of Nursing - James S. "Sandy" Phillips, Chief Operating Officer, Tenet Account, Perot Systems - Robert G. Reese, Chief Information Officer, South Broward Hospital District
Actions to Date	**2004** - May: The Florida Legislature passed HB 1629 authorizing the State Center for Health Statistics in Florida Agency for Health Care Administration (AHCA) to develop a strategy to implement electronic health records and Governor Bush signed an Executive Order creating the Governor's Health Information Infrastructure Advisory Board. - July: The State Center submitted a proposal to AHRQ to build a demonstration health information exchange. - August: The Florida Agency for Health Care Administration AHCA announced that it was distributing 2,000 hand-held personal data assistants (PDAs) to Medicaid physicians, increasing the number of physicians using the PDAs to 3,000. The use of PDAs increased access to Medicaid's preferred drug list, patient-specific prescription histories, Clinical Pharmacology© drug information, and drug interaction screening tools. The system provides a 60-day history of all Medicaid drugs dispensed to a specific patient regardless of prescriber, allowing physicians to better monitor all patient medications. - October: The Governor's Advisory Board held a Health Information Workshop with national experts. **2005** - February: The strategic framework for the Florida Health Information Network (FHIN) published in the First Interim Report to the Governor. The Interim Report also included goals for the FHIN in the coming year and obstacles to these goals. - March: The Governor's Advisory Board held a HIT Roundtable with support from AHRQ; in March 2005, the Advisory Board formed the Florida Health Information Network, a new, nonprofit corporation. The FHIN will oversee the development of the new statewide electronic network.

HIT Effort	State Facts
Executive Order	
	- May : The Florida Legislature allocated $1.5 million for Florida Health Information Network Grants Program. - June: The Governor's Advisory Board heard presentations from ten health information technology pilot projects from around Florida. - July: The State Center, with four RHIOs, submitted a proposal to the Office of the National Coordinator for Health Information Technology for a demonstration project of health information exchange, to be used as a prototype for the NHIN. - November: The Governor's Advisory Board held a technical meeting to discuss the needs for a state server to form the basis of the FHIN and agreed to produce a White Paper to address technical standards. **2006** - January: AHCA Secretary Alan Levine accepted the recommendation of the Governor's Advisory Board and approved funding of five planning grants, three operations grants, and one training grant under the FHIN Grants Program. The three operations grants are described below: o *The Big Bend Regional Healthcare Information Organization (BBRHIO)* will facilitate the exchange of patient data across multiple health care providers in the Florida Big Bend area by implementing and operating a regional health information network. Project participants currently utilize sophisticated electronic medical record systems. Project partners include Capital Health Plan, Capital Regional Medical Center, KWB Pathology Associates, Radiology Associates of Tallahassee, Tallahassee Memorial Healthcare, Southern Medical Group, Tallahassee Ear Nose and Throat, and Vascular Surgery Associates. o The *Tampa Bay RHIO* will create new technical and clinical pathways to improve the quality and availability of health information targeting people with three specific diseases – adult diabetes, pediatric asthma, and prostate cancer. By the end of the grant period (June 2006), the project will conduct formal electronic clinical data exchange among Tampa General Hospital, All Children's Hospital, H. Lee Moffitt Cancer Research Hospital, participating Medicaid physicians, and other providers. The formation of the Tampa Bay Regional Health Information Organization (Tampa Bay RHIO) is the result of a year-long planning effort of the Tampa Bay Partnership Regional Research and Education Foundation, Inc., in collaboration with The University of South Florida Health Colleges of Medicine, Public Health, and Nursing, and more than a dozen public and private health care, government and private business organizations. o The *Palm Beach County Community Health Alliance and the Health Care District of Palm Beach County* will implement and evaluate a shared electronic health record model for record sharing among a core group of safety net providers in Palm Beach County. The Alliance is composed of a total of 33 public and private entities, including Glades General Hospital, the C.L. Brumback Federally Qualified Health Center, and other safety net health and mental health providers. The first phase of the project will develop an All-Care interface for Glades General Hospital and C.L. Brumback, implement procedures for viewing data from both locations, and designate first users. - March: The Governor's Advisory Board participated in the House Health Transformation Summit, and a draft copy of the FHIN White Paper was distributed for public review. - May: Passage of HB 7073 mandated the development of a statewide health information network and integration of State health care databases; the Florida

HIT Effort	State Facts
Executive Order	
	Legislature allocated $2 million for the FHIN Grants Program; and a contract for a Privacy and Security Project was awarded with the Governor's Advisory Board serving as Steering Committee. - June: Secretary Alan Levine approved funding for seven health information exchange projects under the FHIN Grants Program; three FHIN Operations Grants began transferring patient data to initiate health information exchange in Tallahassee, Tampa and Palm Beach County.

HIT Effort	State Facts
Legislative Activity	
General	Effective July 2004, The Florida Legislature passed **HB 1629** that authorizes the State Center for Health Statistics in AHCA to develop a strategy to implement electronic health records. Approved in June 2006, **HB 7073** authorized the Agency to develop an electronic health information network. Effective July 2006, **HB 1409** - The FHIN Act established the FHIN as a nonprofit corporation. The bill requires the Agency for Health Care Administration to develop and implement a plan for the formation and operation of a health information network as a public-private partnership. It requires the agency to enter into a contract with the FHIN to implement this plan. The bill died in the Committee on Health Care. **HB 7073** passed and was effective in June 2006. This bill renames the State Comprehensive Health Information System Advisory Council and authorizes the AHCA to develop an electronic health information network. Thus far, the Florida legislature has allocated $2.5 million for the FHIN grants program. Effective in 2005, **SB 838** stated that by April 1, 2006, the Agency for Health Care Administration shall contract with an entity to design a database of clinical utilization information or electronic medical records for Medicaid providers. This system must be Web based and allow providers to review on a real time basis the utilization of Medicaid services, including, but not limited to, physician office visits, inpatient and outpatient hospitalizations, laboratory and pathology services, radiological and other imaging services, dental care, and patterns of dispensing prescription drugs, in order to coordinate care and identify potential fraud and abuse.
Privacy Law	Effective in June 2005, **SB 1868** related to the ownership and control of patient records and a report or copies of records to be furnished. The bill provides that such records may not be furnished to, and the medical condition of a patient may not be discussed with, any person other than the patient or the patient's legal representative or other health care practitioners and providers involved in the care or treatment of the patient, except upon written authorization of the patient. However, it also provides for exemptions to this rule and circumstances where records may be furnished without authorization. Such circumstances include (1) to any person, firm, or corporation that has procured or furnished such examination or treatment with the patient's consent; (2) when compulsory physical examination is made, in which case copies of the medical records shall be furnished to both the defendant and the plaintiff; (3) in any civil or criminal action, unless otherwise prohibited by law, upon the issuance of a subpoena from a court of competent jurisdiction and proper notice to the patient or the patient's legal representative by the party seeking such records; (4) for statistical and scientific research, provided the information is abstracted in such a way as to protect the

HIT Effort	State Facts
Legislative Activity	
	identity of the patient or provided written permission is received from the patient or the patient's legal representative; (5) to a regional poison control center for purposes of treating a poison episode under evaluation, case management of poison cases, or compliance with data-collection and reporting. Relates to **HB 1209.**

HIT Effort	State Facts
Interviews	
General Themes	- **California is not far behind** o Florida has provided seed funding for regional exchange; it has not yet funded the development of core connecting infrastructure. o Florida has a governance structure designed for a statewide core connecting infrastructure, but the corresponding legislation has not passed the full legislature. o Florida has a white paper that frames the vision for the connecting core infrastructure and facilitates ongoing decision making. - **Move forward and plan to adjust.** No core connecting infrastructure design will be fully known before starting implementation. Go with a design based on layering in of data that is readily available, test design, measure regularly and adjust as necessary. - **Engage the everyday patient.** The everyday patient does not know how health information exchange is putting money in his/her pocket and making his/her family safer. Florida outreach to date has been through press releases and speeches, but no specific informational campaign.
Ideas on State Actions	- General Approach o Get a small group of key people at the start of a large initiative who cannot financially benefit from the core connecting infrastructure, and set expectations that the statewide infrastructure will to be completed in three years. o Within six months, bring together all the work that has already been done (other states' information, design concept options that have already been developed), create initial project plan, have initial meetings with well-defined, CEO level stakeholders, and get moving on everything that is already known. o Create a white paper early, defining the vision of the core connecting infrastructure. The creation will help drive consensus, can be used by developing RHIOs for benchmarking, and provides guiding principles for the overarching effort (to help frame decision making). - Specific Ideas o Set standards for information exchange between RHIOs. o Engage in targeted education via one-on-one meetings and town halls. Focus on legislators, payers, and providers in the earliest stage. Focus on public early and into the medium-term. o Bring the business community (Chamber of Commerce, retail association, National Federation of Independent Businesses) to the table early and ask them to hold down increasing premiums if exchange demonstrates quality improvement and cost reduction. o Do a deep-dive investigation on the privacy and security challenges around specific programs and/or data flows that the State directly controls and can use early to move the market, such as Medicaid. o Create a practical line around privacy.

HIT Effort	State Facts
Interviews	
	▪ If the State goes by the current letter of the law, no movement will occur (Florida also has privacy standards that are more stringent than HIPAA). ▪ A practical line in the middle that allows both privacy and exchange is needed. o In building the core connecting infrastructure, use the data available and plan for layering in more as it is digitized and/or exchangeable. ▪ Start with the components in continuity-of-care record that are available in claims. ▪ Layer in pharmaceuticals and laboratory information. ▪ Add complex test results. o Provide seed financing for the core infrastructure/network and be involved in its governance. ▪ Be the arbiter of centralized activities, which may be a database or may be a hub. ▪ Provide start-up money to build. ▪ Provide a portion of ongoing funds in addition to others who use the system. • Medicaid should pay to use. • State Employee health system should pay to use. • Federal payments (Medicare, FQHC) should be brokered.

Sources **Florida's Health Information Infrastructure home page (http://www.fdhc.state.fl.us/dhit/index.shtml); Agency for Health Care Administration;** The Florida Senate (www.flsenate.gov), Draft FHIN white paper: "Florida Health Information Network Architectural Considerations for State Infrastructure"; eHI; various interviews with FHIN leaders and stakeholders.

Washington Profile and Interview Findings

Governor: Christine Gregoire
Date Elected: December, 2004
Party Affiliation: Democrat
Stated Position on HIT: Believes that HIT is critical in reducing health care costs
Major State HIT effort and/or role: Creation of HIAAB
State Population: 5.9 million
5 year Population Growth: ~ 400,000
State Contribution to GDP: 262 billion in 2004
Major Industries: Aerospace, Agriculture, Computer Software Development, Forest Products, and Wireless Telecommunications

HIT Effort	State Facts
Executive Order	
Summary of Order	While no Executive Order is in place, the Governor has outlined a five-point strategy for the future of health care, which specifically includes making more use of information technology in order to eliminate paper based recordkeeping, both to improve quality and decrease healthcare spending. The Governor signed a legislative bill that created the Health Information Infrastructure Advisory Board (HIIAB, or Advisory Board). In addition to this board, the HCA also created a Health Information Infrastructure Stakeholder Advisory Committee (HIISAC, or Advisory Committee). The HIIAB and the HIISAC are made up of consumers, providers, hospitals, health organizations, health information technology experts, business members, and employers.
Mission of Advisory Board	The mission of the Governor's Advisory Board is to collaborate with the Health Care Authority to develop a strategy for the adoption and use of electronic medical records and health information technologies in the state that are consistent with emerging national standards, and to promote interoperability of health information systems. The HCA and the newly formed Advisory Board submitted the required interim preliminary report in December 2005. Their final report, including strategies for implementation, is scheduled to be submitted December 2006.
Advisory Board Composition	Members of the Advisory Board include: - Chair: V. Marc Droppert, J.D., Partner; Leary Franke Droppert, L.L.C.

HIT Effort	State Facts
Executive Order	
	- Provider Community: Hugh Maloney, M.D.; Alexis Wilson, Ph.D., M.N., M.P.H. - Information Technology Expert: Jeffery Hummel, M.D., M.P.H. - Health Care Policy Expert: David Masuda, M.D. - Consumers: Ed Singler, J.D.; Wendy Ann Carr - Health Plan (Carrier) Representative: James Hereford, M.S. - Department of Information Services: Gary Robinson - State Agency Medical Director's Group (AMDG): Richard Onizuka, Ph.D. - Other Experts: Thomas M. Fritz, M.A., M.P.A.; Marcus Pierson, M.D. - HCA Project Consultant and Management Staff: Bill Yasnoff, M.D., Ph.D.; Juan Alaniz; Ruth McIntosh
Actions to Date	**2004** - The Governor hired a former Weyerhaeuser Company human resources executive, Steven R. Hill, to be the state's top healthcare official. **2005** - December: The HCA and the newly formed Advisory Board submitted the required interim preliminary report.

HIT Effort	State Facts
Legislative Activity	
General	Effective 2005, the Senate passed **Bill 5064**. The bill created the Health Information Infrastructure Advisory Board and required the development of a strategy for the adoption and use of electronic medical records and health information technologies consistent with emerging national standards. Passed by the House in 2006, **Bill 2573** encouraged hospitals, delivery systems, and providers in Washington to adopt health information technology by the year 2012. The bill also created a Health Care Authority whose duties would include promoting the adoption of health information technology systems through state health purchasing, reimbursement, or pilot strategies. The Senate passed **Bill 6189** in 2006. This bill requires hospitals to provide information to help patients better understand their hospital bills. In doing so, this bill states that the legislature finds that implementation of health information technologies such as electronic medical records in hospitals will reduce costs, improve patient outcomes, and simplify the administration of health care. The legislation encourages hospitals to design the

HIT Effort	State Facts
Legislative Activity	
	implementation of health information technologies that will provide clearly understandable information about services and billing for patients.
Privacy Law	Effective in July 2006, the **RCW** (Revised Code of Washington) **Chapter 70.02 and 70.129.05** define the ownership and control of patient records and a report or copies of records to be furnished. The bill provides that such records may not be furnished to, and the medical condition of a patient may not be discussed with, any person other than the patient or the patient's legal representative or other health care practitioners and providers involved in the care or treatment of the patient, except upon written authorization of the patient. However, it also provides for exemptions to this rule and circumstances where records may be furnished without authorization.

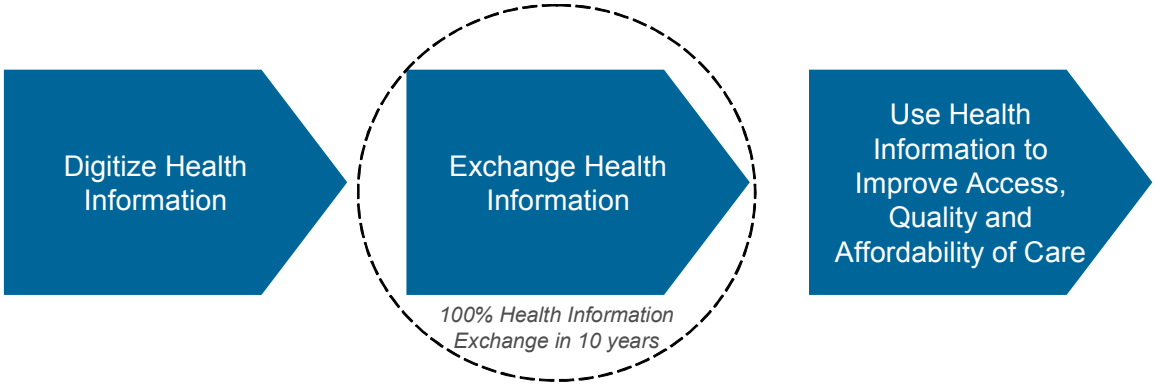
HIT Public-Private Partnerships	
What is the goal of the public-private partnership?	The Washington Health Information Collaborative is a new public-private partnership providing $1 million of funding in 2006 for a variety of projects related to the acquisition, implementation, and expansion of health information technology by health care providers. Current goals include assessing variations in business policies and state laws that affect the exchange of health information, identifying and proposing solutions that protect privacy of healthcare information while permitting interoperable exchanges, and developing plans to implement solutions for not only Washington, but, if applicable, the nation.
Who's involved and what are they doing?	The Washington State Health Care Authority and Governor Gregoire have appointed **Qualis Health**, a nonprofit quality improvement organization, to serve as the state's lead for this effort in Washington. They are heading the Health Information Security and Privacy Collaboration. Funding for the public-private partnership will come from First Choice Health and the Health Care Authority. The Puget Sound Health Alliance Provider will provide administrative services for the program. Under the Washington Health Information Collaborative, awards to smaller primary care practices and critical access hospitals will be made to fund partial costs of acquisition and expansion of health information technology (HIT) systems. Funding will also be provided for community-wide connectivity projects and for development of systems that facilitate patient access to their health information. Specifically, funding will be awarded for projects that address the following: - Initial practice or facility HIT acquisition and implementation support (technology, infrastructure, consulting, workflow redesign); - Increased functionality of HIT already in operation:

	o Purchase and/or implementation of additional modules, including decision support tools, computerized physician order entry, clinician feedback mechanisms, and chronic disease registry functions; and o Data analysis and reporting capabilities. - Connectivity efforts in a given community (infrastructure upgrades, primary care/hospital data integration/interfacing, ancillary communications); and - Expanded patient access to personal medical information (personal health record features), and increased patient engagement in care.
What are their current result and challenges?	In September 2006, the Washington Health Information Collaborative informed all applicants of their status for the IT awards. Based on the review process, applicants may have been offered immediate funding, may have been placed into a contingency pool to receive funding (should those applicants offered immediate funding not be able to accept their award for any reason), or may have been advised that their applications will not receive funding in this award cycle. In addition, applicants offered immediate funding were contacted directly by representatives of either First Choice or the Health Care Authority.

Appendix D: National Trends

Appendix D includes the information that was slated to be presented at the *e*Health Action Forum. Due to tactical process modifications made as the day progressed, this information was not presented. It is included here as additional thoughts to assist the State.

Our national trends are anchored in the graphic below. This very high-level "supply chain" depicting how to achieve the benefits of health information exchange frames what we focused on in documenting industry trends. We did not seek to capture trends around digitizing health information, or how the once aggregated health data could be used to improve access, quality, and affordability. While both of these are very important to making sure health information exchange occurs and meaningfully impacts society, we focused specifically on trends around the ability to exchange health information today.



Overarching Trends

There is a growing bias for action regarding HIT.	– There is growing consensus that health data exchange is an appropriate goal. – Data exchange participants grow tired of convening for the sake of convening. – When a State engages, the State must drive the "market" -- action can not stagnate. – Approximately half a dozen State data exchange plans exist. – A few States have actually contributed significant funds.
There is a recognition that all participants need to be at the table, *but not at the expense of action.)*	– Theme at the Governor's Health Affordability Summit – Theme from our other State interviews – Theme from other State documents
The proliferation of Personal Health Record "offerings" have the potential to drive greater health data sharing.	– The commercial market (health plans, employees, third parties) is emphasizing PHRs as a way to help consumers be more engaged in their health and lower costs. – The inconsistencies in PHR functionality will begin to drive standardization. – PHR standardization will move the market to provide greater supporting data exchange to meet consumer functionality

	expectations.

Technology

Platform infrastructure is no longer a state's main HIT problem.	– Key components now exist and are robust. – Key components are selling at reasonable prices. – Architecture for health information exchange is less mature, with few to none of the current exchange efforts having been built for scale (. 100,000+ simultaneous inquiries).
Core HIT applications do not demonstrate the maturity expected, and will need significant development into the near future.	– Product maintenance requirements are resetting purchasers' expectations of system availability and reliability. – Large entities are scenario planning to ensure business continuity in extreme events, such as Hurricane Katrina.
EHR software will require additional development to do all that States will want to do to exchange health data amongst multiple entities.	– Certification represents the rudimentary component of interoperability, and will take awhile before it equates to true interoperability. – Commercial off-the-shelf EMR solutions are not able to support inter-organization information exchange. – EHR is still custom solution software.

Standards

There has never been more national and industry sector interest in maturing data standards, and the industry desires standards to be set.	– Content: Specialties are beginning to want history and physical data standardized (pediatrics and emergency medicine have become involved in HL7 over the last two-three years). – Maturity: The industry is working to address shortcomings in Version 3.0, Clinical Document Architecture, CCR, ePrescribing, HL7 Structured Product Labeling (SPL), Clinical Trial Standards for the exchange of clinical information (CDISC), and HIPAA attachments standards. – Business process change: Healthcare Information Technology Standards Panel (HITSP) is working with IHE/HIMSS on an implementation profile.
There appears to be a growing alignment of data across industry segments (health plan to bring in clinical data).	– The emphasis is becoming consolidation of data standards (. HL7 with CDISK). – However, no standard approach exists for how to maintain terminology standards across organizations.

Increasing acceptance of messaging and reference terminologies.	– Most regions are seeking to adhere to the federal health architecture standards.

Funding / Cost and Revenue Model

Regional cost and revenue models for health information exchange are at an early stage.	– Seed funding is being driven by an expanding pool of government grants, such as those from AHRQ to ONC and CMS Medicaid Transformation Grants. – There is no critical mass of organizations far enough along to know what cost and revenue model will support ongoing exchange activity. Exchanges are considering all options, including stakeholder transaction fees and subscription fees.
Regional health information exchange is growing, many around commercial efforts.	– Hospital to hospital, physician groups, and health plans are increasingly providing system capability. – Public health entities increasingly look to utilize a shared services technology delivery model to provide EHRs.
Exchanging health information among regional efforts is a public good, and will require state seed funding.	– EHR is expected to provide public good via reduced medical errors and improved quality of care. – Debate continues about classic business case/ROI for physicians and hospitals. Incentives appear required to achieve the public good of EHR.
Momentum wanes when state actions are without funding and leadership.	– Many data exchange efforts suffer loss of participant enthusiasm when State actions do not sustain activity.

Laws and Regulations

Privacy and security has come to the forefront of importance in HIT.	– Focus is on engaging/empowering the patient to make decisions about personal information. – Trending is toward understanding and seeking to provide the most appropriate type and amount of data for a given provider to see. – Privacy advocates, consumer groups, and civil libertarians are mobilizing and raising concerns about privacy safeguards in federal Electronic Health Records Legislation.

Anti-kickback is no longer a front burner issue.	– CMS and the HHS Office of the Inspector General (OIG) released final regulations for anti-kickback statute "safe harbors" and Stark self-referral exceptions for electronic prescribing and electronic health records.
Concern about increasing unfunded mandates persists.	– Bolstered by recent federal activity around transparency (quality, cost, and consumer satisfaction), investment in EMR/EHR systems is expected to increase to meet growing demand to demonstrate performance improvement.

Governance

For health data exchange with State leadership, public-private partnership remains a constant – albeit early – approach.	– The State needs oversight when public dollars are involved. – Exchange participants need a seat at the governance table. – There is no real "long term role" definition for most parties, as most governance structures are in early stages of maturity.
Trust – established through leadership, clear business rules, and prioritization of stakeholder value – is foundational.	– Of those currently exchanging data, there have been strong leaders who have earned the trust of their local communities. – There has been consistent focus on providing value to each stakeholder throughout the stages of their development. – Business rules must be clear about who can access data, what data they can access, and when they can access it. – Developing trust is a stumbling block.
The lines of data ownership and access rights are still being defined; different local markets are likely to come to different solutions.	– There is consensus that patients own their data. – However, states continue to debate about different plans and expected approaches to provider co-ownership and automatic authorization for use (desire for blinded data to be automatically fed to public health for bio-surveillance).

Stakeholder Involvement

Providers continue to have financial challenges to engage in health information exchange.	– There is a clear recognition that primary care documentation is expected to contribute the most meaningful volume of patient information, yet it is trapped in settings with low ROI to initiate participation. – Digitizing health data in clinical capture systems will provide a low ROI, unless done concurrently to business process changes.
Commercial payers and pharmaceutical companies are more aggressively promoting clinical systems IT for	– Payers are beginning to see electronic prescribing and HIPAA attachments as a way to bolster and expand care management initiatives to affect patient behaviors for more healthy lives. – Pharmaceutical companies are looking toward the use of clinical data to streamline clinical trials and monitor new drugs

their needs.	for unintended side-effects/adverse events.
Everyday consumers don't know how health information exchange will benefit them.	– While nearly a third of consumers track their health information in some form, just one percent of those health record-keepers are using any of the online applications. In order to realize the improvements in consumer empowerment, payer-patient communications, and care management that PHRs promise, health plan strategists must boost PHR adoption.

Appendix E: California Landscape Projects

Appendix E contains all State HIT projects which responded to the State CIO's survey and select California projects, highlighted in yellow, which the HIT Study team believes represents what the State can leverage in the pursuit of its role in health information exchange (both public and private).

California Aging Reporting System (CARS)	Aging	To purchase a vendor predeveloped and hosted application that will generate the federal Administration on Aging program reports
CHHS Agency Licensing/Certification Web Site	Aging	To participate in the CHHS Agency project to provide information on licensing and/or certification programs in a standard web format used by the CHHS departments.
CA Child Support Automation Systems (CCSAS) Prj	Child Support Services	Implement single statewide child support automation system as required by federal regulations; provide statewide uniformity in program service delivery; improved performance on federal program measures.
California EMS Information System (CEMSIS)	Emergency Medical Services Authority	To collect patient care reports data from EMS service providers. Match that data with other related information including crash reports from the CHP, Emergency Room and Hospital Discharge data from OSHPD and Death data from DHS. Create a de-identified data warehouse for research by state staff and stakeholders
California Trauma Registry	Emergency Medical Services Authority	Obtain traum registry data from the state's 62 trauma hospitals. Create a de-identified data warehouse for use by state staff and stakeholders.
ESAR-VHP	Emergency Medical Services Authority	ESAR-VHP (Emergency Service Advance Registration - Volunteer Health Professionals) Provide an Internet available application and a database for the self registration of Volunteer Health Professionals. Validate the licenses/credentials of those volunteering through automatic electronic connections to the state and federal licensing agencies. Create an application that will utilize the information during times of emergency to assist in the deployment of the health professionals as needed.
Disability Automation Project Phase III	Employment Development Department	Implement HIPAA-compliant electronic communnications through the direct e-interface and Web-based intelligent forms with medical providers and claimants, creating two intake channels to assist the Disability Insurance Branch in meeting its access objectives. New intake methods will increase self-service options that allow claimants to be more responsible for providing DIB accurate and complete claim information through edits and businees rules that promote accuracy and completeness of information received. The DIAP3 solution will also assist DIB in managing fraud and abuse through automted programs and business logic. The solution will detect unauthorized access to Personal Health Information under EDD's ownership immeidately upon implementation of the proposed solution and automatically notify EDD of all unauthorized access or attempted access to PHI.
Disability Insurance Automation Phase 3	Employment Development Department	Electronic collection and automated workflow of Disability Insurance Claim information including Internet access and direct access for Medical Providers.

In-Home Supportive Services Case Management at OSI	Employment Development Department	EDD must integrate with new system at OSI including the electronic data exchange of Management and Payroll information.
ARIES - AIDS Regional Information & Evaluation Sys	Health Services	Collect data mandated by federal funding agencies. Consolidate data collection required by five Office of AIDS care and service treatment programs into a single web-based system. Providing ability for care providers to coordinate services for their shared clients. Increasing security of confidential client data by employing personal digital certificates, role based permissions, data encryption, etc. Eliminate the need to send data diskettes through the mail.
Electronic Laboratory Reporting System (ELR)	Health Services	(first 3 goals for WebCMR apply to ELR, as well) Providing automated means of lab reporting and notification with a single statewide lab reporting system. Eliminating outdated manual reporting submissions. Creating secure environment for confidential medical information to reside, restricting access to data for reporting purposes. Reducing elapsed time to collect data from local health departments. Enabling sharing of data across local health departments, public health programs and business functions. Establishing a standard vocabulary and process to share standard data elements and formats statewide.
GDB/Cystic Fibrosis	Health Services	Expand screening blood samples from newborns and prenatal screening to include cystic fibrosis, biotinendase, first trimester and provide necessary services to complete screening for inhibin.
MIS/DSS (Management info/decision support)	Health Services	Provide managers and staff with access to strategic and tactical information about medical encounters from a consolidated source of data that can be used and relied upon for analytical purposes and decision-making. Reduce the costs (data center charges) to run specialized reports to support management decision-making. Respond more timely to external requests from constituents, industry, Legislature, control agencies and other stakeholders.
Response and Surveillance System for Childhood RASSCLE II project:	Health Services	Increase blood lead data reporting to Local Childhood Lead Poisoning Prevention (CLPP)Programs. Improve data sharing features of existing business functions. Improve CLPP medical and environmental case management features. Improve case management oversight and surveillance performance. Improve blood lead reporting. Meet new capacity and retention requirements. Improve data sharing features. Improve quality assurance and security measures.
Web - Confidential Morbidity Reporting (Web-CMR)	Health Services	Enhancing and strengthening state and local disease surveillance and control capabilities. Improving timeliness and efficiency of state and local disease reporting and local case management. Providing efficient methods for collecting and aggregating statewide information on communicable diseases enhancing, centralizing, standardizing an dcoordinating outbreak detection and alerting. providing geographical data and analysis tools for identifying disease patterns, trends and risks.
Web - Confidential Morbidity Reporting (Web-CMR)	Health Services	Enhancing and strengthening state and local disease surveillance and control capabilities. Improving timeliness and efficiency of state and local disease reporting and local case management. Providing efficient methods for collecting and aggregating statewide information on communicable diseases enhancing, centralizing, standardizing an dcoordinating outbreak detection and alerting. providing geographical data and analysis tools for identifying disease patterns, trends and risks.
Workers' Compensation Information System	Industrial Relations	Collect information to beter manager the workers' compensation system in CA
Direct Dispense	Justice	Automating the manual process that doctors use dispensing drugs from their offices.

Interstate Prescription History Information (IJIS)	Justice	Pilot project sharing patient prescription information between California and Nevada. Sharing information between border states to ensure appropriate patient care.
Patient Activity Report (PAR)	Justice	Automating the current manual process of providing patient prescription history to doctors.
Admission, Discharge, and Transfers (ADT)	Mental Health	The ADT System performs State Hospital census functions. Statistical information from this system is used for management reporting and research purposes. The system provides transactions to the Department of Developmental Services for billing purposes. ADT contains the patient file, which is the foundation for all patient care-related hospital systems, and vital criminal and clinical history data. The system has over 500 programs that provide over 800 screens and 400 standard reports. When a patient is transferred from one hospital to another, patient data is available to the new hospital. This is essential for both the patient and staff at the hospitals.
Client and Service Information System	Mental Health	The CSI system collects, edits, and reports on client demographic and service encounter information on the entire California public mental health population of approximately 650,000 people receiving 7.5 million services per year. This system works via a web browser to provide data entry and correction screens, processes batch files and returns errors with error identity, and passes data to and from the counties via the Information Technology Web Services (ITWS). The CSI data has been integrated with other data sources to facilitate decision support.
HIE and EHR	Mental Health	The MHSA Unit is currently defining standards for HIE and EHRs within the State of California for Mental Health care and services. The DMH will issue two Requests for Information (RFI) in October of 2006 with standards and requirements for a central agent to address information request traffic and for EHR systems to reside at the counties and interface with the central agent and other counties. This specific effort includes the following tasks: 1. Review, analyze, and compile requirements for EHR systems derived by other States, Federal entities and standard-setting organizations. 2. Work with designated stakeholders, including mental health care consumers and family members to define the minimum California requirements for PHR systems for the 58 county mental health programs. These minimum requirements will undergo regular reviews and updates to ensure that the minimum needs continue to be met as technical and business processes continue to evolve. 3. Development of two RFIs to be issued to the 300+ EHR vendor community 4. On-going assessment of vendorœsponses to the RFIs based on: o Meeting minimum standards and requireme
MHSA Data Collection and Reporting	Mental Health	As part of a recently enacted law, the MHSA Unit has identified the need to collect a significant amount of performance outcome data to support the Community Services and Support (CSS) component of the MHSA strategy. This system, in the process of being developed, provides both on-line and XML methods for collecting performance outcomes from the 58 California Counties Mental Health care providers regarding the consumers of MHSA Full Service Partnerships. The providers can enter information directly utilizing the DMH Information Technology Web Services (ITWS) or transmit the information via XML documents to be posted to the DCR system.
Pharmacy Hospital Operations	Mental Health	The Pharmacy Hospital Operations system processes medication orders and recurring non-medication orders. It generates monthly Physician Orders for renewal and information that supports unit-dose order filling functions; this includes pick lists, Medication Administration Record forms and an electronic file for the Baxter automated unit-dose dispensing machine. All medication orders are checked for Drug-to-Drug Interactions, allergies, over maximum-dose, and approval for non-formulary items. When a patient is transferred, their medication orders are visible to the new hospital and can be utilized by the new physician as baseline current medications for the new episode. This greatly benefits the staff and minimizes patient risk. PHO also has over 900 screens.

Physicians' Orders System	Mental Health	POS automates physician order entry and transmission of physicians' orders to the service provider. This reduces order turnaround time and errors, and promotes more timely and effective patient treatment. This system uses extremely complex client/server architecture to provide the user with the easiest, friendliest interface possible. There are over 900 users at Napa State Hospital using POS to perform their daily operations.
PreAdmission Screening and Resident Review	Mental Health	Under the Omnibus Budget Reconciliation Act System (OBRA), PASRR is federally mandated to refer, track, and maintain the data to determine the placement and treatment for seriously mentally ill residents in Skilled Nursing Facilities, i.e., determining if they require nursing care, mental treatment, both or neither. The PASRR section receives Level I screening documents from the facilities and determines which ones warrant the more thorough Level II evaluation. Based on the evaluation, an appropriate letter is sent to the resident, facility, physician and field office informing them of the treatment recommendations.
Wellness and Recovery Model Support System	Mental Health	WaRMSS is currently under development with the implementation at the five state hospitals scheduled for September 2007. It is estimated that 5,000 clinical staff will utilize the WaRMSS system on a 7/24 basis to capture Wellness and Recovery Plan information, complete court monitor reporting requirements, and facilitate scheduling of treatment activities to match treatment objectives
Pesticide Ill Reporting	OEHHA	To add additional information to the calif. morbibity report to allow for pesticide illness information/collection as well as automating reporting to different gov. entities
Enterprise GIS for Effective Healthcare Planning	Office of Statewide Health Planning & Development	The EGIS implementation strategy addresses the need to provide a more comprehensive set of tools and shared data sets for better integrating, managing, analyzing, and disseminating important healthcare information to a broad range of stakeholders throughout the State. Jurisdictions and market areas for which information must be analyzed are highly complex and overlapping. Standard statistical and tabular reporting tools tend to provide oversimplified or incomplete results. Geographic Information Systems (GIS) have been used effectively in several OSHPD divisions to analyze and summarize various healthcare conditions, and to communicate the results to policy analysts and decisionmakers in an understandable way. The EGIS project makes a broad range of information and tools more readily available for internal use by OSHPD divisions, and will improve the level of service for the many stakeholders and customers that OSHPD serves. OSHPD-collected administrative patient data are included in the project.
Expand Perscare/Choice Warrant Series	State Controller's Office	Increase allotment of dedicated warrants to used in the Perscare/Choice program to avoid duplicating warrant numbers within a calendar year.
tbd in coordination with DHS	State Controller's Office	Federally regulated project related to HIPAA, to expand the national provider identifier.
Digital Upgrade of Medical Radiology/Imaging Fac.	Veterans Affairs	Veterans Home of YV needs a faster way to obtain Radiologist interpretations of medical X-ray studies which will enhance patient care.
Enterprise Wide Veterans Homes Information System	Veterans Affairs	1.Improve care quality to veterans by enabling the CDVA and the USDVA to collaborate effectively, share resources and provide a consistent and integrated care experience. 2.Improve care quality and eliminate redundant tests by enabling care providers to have access to treatment information regardless of where care was provided within the CDVA / USDVA system 3.Improve care quality, reduce paperwork and increase MDS Assessment Compliance Rate from 92% to 97% by providing an automated system that can effectively support the long-term care process at all CDVA homes. 4.Improve care quality by eliminating manually entered medication and laboratory orders and implementing clinical edits to prevent common errors. 5.Improve care quality and reimbursement by providing improved ability to capture clinical documentation. 6.Improve care management by providing information on care quality and efficiency across all facilities and care settings. 7.Reduce costs by ensuring that information from diagnostic testing is immediately and readily available to all caregivers whenever the veteran resident is receiving care. 8.Reduce the risk of losing vital records in

California Association of Physician Groups (CAPG)	No Department	Initiative Summary and Objectives: Clinical data repository for benchmarking, reporting and point of care support. Vision: Create a single data platform of pharmacy, laboratory and encounter data that will allow benchmark comparison reports and ad hoc member-generated analyses. Future vision is to migrate to a real-time data exchange for participants. Streamline and automate data submission, cleaning, matching, and analysis across disparate clinical electronic databases; Enable better clinical quality decision-making at both the individual patient and population level; Support management to streamline operations and identify savings opportunities; Promote trend toward use of clinical data at the point of care; Special studies **Project Type:** Clinical data repository for benchmarking, reporting and point of care support; Setting: Physician Group Office, Other **Governance:** IPA / MG; Governance Comments: COwned by CAPG, data sharing and data use agreements govern data flows. Governing body representing all key stakeholders makes major decisions
Smart Health	No Department	Initiative Summary and Objectives: Inter-connect the healthcare system in Silicon Valley to facilitate the electronic exchange of patient and administrative records. Develop sustainable funding model, choose technologies and facilitate the negotiation of agreements. **Project Type:** e-Prescribing, Lab Orders and Results Reporting, Other; Project Type Comments: Emergency room waste reduction Setting: Pharmacy, Public Health Department Clinic, Academic Hospital, Public Hospital, Emergency Department, Community Clinic or Health Center **Governance:** Multiple Stakeholder; Governance Comments: Task Force (not a separate legal entity yet) **Entity:** 501(c)(3) Corp **Partners:** Joint Venture: Silicon Valley Network, Smart Valley, El Camino Hospital, CommerceNet, Serious discussions in progress with Kaiser Permanente, Cisco Systems, Palo Alto Medical Foundation, Lucille Packard Children's Hospital, others
The California Clinical Data Project: Setting Standards	No Department	The California Clinical Data Project: Setting Standards (CDDP) is a collaborative of industry stakeholders to develop and implement laboratory and pharmacy data standards to facilitate data integration into clinical information systems. The project was organized and facilitated by the California HealthCare Foundation (CHCF). The standards will be maintained by the Integrated Healthcare Association (IHA). • CALINX Lab 1.2 is an HL7-based message profile for reporting batch laboratory results. • CALINX Rx 2.0 is a standardized file format for electronically transmitting pharmacy data. The pharmacy and lab standards have been adopted, and are currently in use throughout California, by numerous provider organizations, labs, hospitals, and commercial and Medi-Cal health plans. The data are being used primarily in support of pay-for-performance activities. CHCF has also developed a real-time data standard to help support the adoption of electronic health record systems. ELINCS (EHR-Laboratory Interoperability and Connectivity Standards) standardizes the electronic reporting of test results from clinical laboratories to Electronic Health Record (EHR) systems. ELINCS 1.1 is proposed to be included in the 2007 Certification Criteria for Ambulatory EHR Products by The Certification Commission for Healthcare Information Technology (CCHIT).
DOQ-IT	No Department	The Doctor's Office Quality – Information Technology (DOQ-IT) project is one of the Physician-Focused Quality Initiatives sponsored by the Centers for Medicare and Medicaid Services to improve the quality, safety and efficiency of health care services. The adoption of information technology in the outpatient setting is a primary focus of the DOQ-IT initiative, which also includes submission of clinical measure data to the Quality Improvement Organization (QIO) Clinical Warehouse. Electronic Health Record (EHR) specifications have been developed that outline data standards required for submission to the QIO Clinical Warehouse using HL7 messaging. Measures will be calculated and reported at the practice level for quality improvement assessment. Participants work with more than 300 California adult primary care practices in a no-cost, six-month EHR training program that includes teleconferences, workshops, EHR vendor fairs, and access to a robust online community. Benefits include optimizing chronic care management, benchmarking and improving performance for pay-for-performance metrics.

Appendix F: HIT Study Participants

California State Steering Committee and Project Team

S. Kimberly Belshé
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Secretary, California Business, Transportation and Housing Agency

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Michael Liang
Deputy Secretary for Information Technology

P.K. Agarwal
Director, Department of Technology Services

California Government Committee on Health Information Technology (CGCHIT)

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Marty Bornstein	Department of Health Services
Brian Bugsch	Department of Insurance
Lester Chan	California Office of HIPAA Implementation
Stephen Clemons	San Diego County
Gary Darling	California Enterprise Architecture Program
James DeBenedetti	CalPERS
Kathy Donneson	CalPERS
Eric Duran	Placer County
Cynthia Fair	Department of Social Services
Barbara Garrett	Department of Managed Health Care
Becky Harrigan	Department of Managed Health Care
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Christopher Holt	Department of Managed Health Care
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Nancy Johnson	Department of Health Services
Richard Keene	Office of Systems Integration
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Appendix F: HIT Study Participants (con't)

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Steven	Escoboza	Hospital Association of San Diego & Imperial Counties
Janlori	Goldman, JD	Health Privacy Project
Nancy	Griest	Brown & Toland Medical Group
Lori	Hack	CalRHIO
Gerry	Hinkley	Davis Wright Tremaine LLP
David	Hopkins, PhD	California Health Care Safety Net Institute
Francine	Kaufman, MD	Children's Hospital Los Angeles
Susan	Leonard	Council of Community Clinics
Robert	Miller, PhD	University of San Francisco
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Mark	Windisch	L.A. Care Health Plan

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Marti	Fisher	California Chamber of Commerce
Thad	Johnson	PacifiCare of California
Timathie	Leslie	Object Health
Nancy	Monk	PacifiCare of California
Jeff	Rideout, MD	Cisco Systems

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HIT Forum Participants

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Jack	Lewin, MD	California Medical Association
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