GEORGIA DEPARTMENT OF
COMMUNITY HEALTH

David A. Cook, Commissioner

Nathan Deal, Governor

2 Peachtree Street, NW
Atlanta, GA 30303-3159
www.dch.georgia.gov

February 9, 2010

Peter Banks
Office of the National Coordinator for Health Information Technology
U.S. Dept. of Health and Human Services
330 C Street, SW, Suite 1100
Washington, DC 20201

Re: Georgia Health Information Exchange Strategic and Operational Plans

Dear Mr. Banks:

The Georgia Department of Community Health and the State Health Information Technology Coordinator are pleased to submit the Georgia Health Information Exchange Strategic and Operational Plans for review by the Office of the National Coordinator for Health Information Technology (ONC) under the Georgia State Health Information Exchange Cooperative Agreement Program.

The enclosed HIE Strategic and Operational Plans reflect the planning, guidance, and efforts currently underway to implement the statewide HIE in Georgia. The plans advance health information technology (HIT) in our state and promote the balances needed for secure interoperable health information sharing between unaffiliated organizations. The ONC will find that our plans include a thorough analysis of the current health information technology landscape in Georgia and outline numerous strategies to advance the use of certified electronic health records and increase the adoption of interoperable health information technology among health care providers.

Please contact me at (404) 656-7990 or Ruth Carr, State HIT Coordinator, at (404) 657-9082, if you have additional questions or concerns.

Sincerely,

David A. Cook
Commissioner

cc: Ruth Carr

Georgia Health Information Exchange **STRATEGIC & OPERATIONAL PLANS**

Version 2.0
February 9, 2011

Contact:
State Health Information Technology Coordinator
Georgia Department of Community Health
Email: hitt@dch.ga.gov
Phone: 404-654-5703

1.0	08/31/2010	Initial version.
2.0	02/09/2011	Updated version.

Table of Contents

EXECUTIVE SUMMARY 9
A BRIEF UPDATE ON RECENT PROGRESS 13
STRATEGIC PLAN 16
1 Background 16
1.1 Overview: Georgia Statewide Health Information Exchange 19
1.2 Vision, Mission, Goals and Objectives 19
1.3 Guiding Principles 21
1.4 Planning and Implementation Framework 22
1.5 Priorities of the Georgia Health Information Exchange 22
1.6 Health IT Innovations in Georgia 24
1.6.1 Georgia Farmworkers Health Program 24
1.6.2 Public Health's Rome project 25
1.6.3 The Georgia Cancer Coalition Quality Information Exchange 26
1.6.4 Georgia Partnership for Telemedicine 26
2 ENVIRONMENTAL SCAN: ASSESSMENT OF CURRENT HIE IMPLEMENTATION & READINESS 27
2.1 Health Services in Georgia 27
2.1.1 The Structure of Health Care in Georgia 27
2.1.2 The DCH Division of Public Health 27
2.1.3 DCH Medicaid Administration 27
2.1.4 Low Income Medicaid (LIM) 28
2.1.5 Aged, Blind and Disabled Medicaid (ABD) 28
2.1.6 Medically Needy 28
2.1.7 Right from the Start Medicaid (RSM Children) 28
2.1.8 Breast and Cervical Cancer Program 28
2.1.9 Refugee Medicaid Assistance 28
2.1.10 Emergency Medical Assistance 29
2.1.11 Major Health Issues 34
2.1.12 Georgia at a Glance: Demographics 35
2.2 HIE and Health IT Assessment Processes 36

2.3 Assessment Findings: Georgia Health IT 37
2.3.1 The Adoption of Health Technology in Georgia 37
2.3.2 Plans to Accelerate the Adoption of HIT 39
2.4 Assessment Findings: Georgia HIE Landscape 41
2.4.1 Organization Type 41
2.4.2 HIE Scope and Development 41
2.4.3 Health Plan Administrative Readiness for Data Exchange 45
2.4.4 Governance Structure and Capacity 46
2.4.5 HIE Readiness: Existing Service Area Health Information Exchanges 46
2.5 E-Prescribing Capacity 50
2.5.1 E-prescribing Readiness 50
2.6 Laboratory Services 54
2.6.1 Georgia Laboratory Services 54
2.6.2 DCH Division of Public Health Laboratory Program 55
2.7 Care Summary Exchange 55
2.8 Electronic Public Health Reporting 56
2.8.1 Public Health and Statewide Registries 56
2.8.2 Notifiable Results 56
2.8.3 Newborn Surveillance 56
2.8.4 Georgia Registry for Immunization Status 57
2.8.5 Vital Records 57
2.8.6 Syndromic Surveillance and the DCH Division of Public Health 57
2.8.7 Quality Reporting 57
2.9 White Space in Georgia 58
2.10 Telemedicine in Georgia 60
2.11 EHR Adoption 61
2.11.1 Hospital Adoption 61
2.11.2 Physician Adoption 63
2.11.3 EHR Adoption –Medicaid Specific Information 65
2.12 State Government Health IT Activities 69
2.12.1 State Readiness 69
2.12.2 Overview of Georgia's Medicaid Program 70

2.13 Broadband Programs 71
3 GAP ANALYSIS 75
3.1 Electronic Prescribing 75
3.1.1 E-Prescribing Strategies 76
3.2 Electronic Delivery of Structured Lab Results 76
3.3 Clinical Care Summary Exchange 77
3.3.2 Provider Adoption 78
4 DOMAIN-SPECIFIC COMPONENTS 79
4.1 Governance 79
4.1.1 Building a History of Collaborative Governance 79
4.1.2 Membership Representation and Structure 79
4.1.3 Decision Making Authority 80
4.1.4 Alignment with Emerging NHIN Governance 83
4.1.5 Role of the State HIT Coordinator 83
4.1.6 Accountability and Transparency 84
4.1.7 Activities to Strengthen Georgia Statewide HIE Governance 85
4.2 Technical Infrastructure 86
4.2.1 Introduction 86
4.2.2 Clinical and Technical Principles 87
4.2.3 Interoperability 87
4.2.4 Technical Architecture / Approach 88
4.2.5 Technical Relationships Between Georgia and Others 92
4.2.6 Georgia and the Nationwide Health Information Network (NHIN) 92
4.2.7 Strategy to Assure HIE Capabilities for Any Provider in 2011 92
4.2.8 Enterprise Master Patient Index (EMPI) and Record Locator Service (RLS) 93
4.3 Business and Technical Operations 94
4.3.1 Introduction 94
4.3.2 Implementation 94
4.3.3 Electronic Administrative Transactions 95
4.3.4 Proposed Staffing Structure 96
4.3.5 Project Management 96
4.4 Finance 96

4.4.1 Financial Model Considerations 96
4.4.2 HIE Grant Program 99
4.5 Legal and Policy 99
4.5.1 Establish Requirements 99
4.5.2 Methodology for the Development of Privacy and Security Policies and Procedures 101
4.5.3 Monitoring and Enforcement of Privacy and Security Policies and Procedures 102
4.5.4 Technology Supporting Privacy and Security Policies and Procedures 103
4.5.5 Updating Privacy and Security Policies and Procedures 103
4.5.6 Privacy and Security Harmonization 103
4.5.7 Federal Requirements 104
5 Coordination 105
5.1 Medicaid Coordination 105
5.1.1 Medicaid Promotion of the Statewide HIE 105
5.1.2 Medicaid Support and Promotion of EHR Technology 105
5.2 Coordination of Medicare and Federally Funded, State Based Programs 106
5.3 Participation with Federal Care Delivery Organizations 108
5.4 Coordination with Other ARRA Programs 109
5.4.1 Georgia's Development of the Strategic Plan 110
5.4.2 HIE Strategy as a Framework for Georgia's Medicaid Health IT Plan 110
5.4.3 Ongoing Strategy Development and Planning 111
6 EHR Adoption 112
6.1 Strategy Framework for Supporting EHR Adoption 112
6.1.1 Georgia Medicaid Incentives Program 112
6.1.2 EHR Adoption Barriers 113
6.2 Promoting EHR Adoption 113
6.2.1 Provider Associations 113
6.2.2 Medicaid Claims and Encounter Data History 114
6.3 Meaningful Use 114
6.3.1 Funding for Stage 1 Meaningful Use Requirements 114
6.3.2 Attaining Meaningful Use 114
OPERATIONAL PLAN 115
7 INTRODUCTION 115

7.1 HIE in Georgia 116
7.1.1 Evolution of HIE Efforts in Georgia 116
7.1.2 Scope of GHIE's Operations 116
7.1.3 Goals and Objectives 117
7.2 HIE Implementation Timeline: Key Activities and Tasks 118
7.2.1 Proposed HIE Implementation Timeline 2010 - 2012 118
7.2.2 Georgia Statewide HIE Roadmap and Milestones 121
7.2.3 Project Dependencies 123
7.3 Change Management 123
8 COORDINATION WITH ARRA PROGRAMS 124
8.1 Coordination with Medicaid HIT Planning and Other State Agency HIT Initiatives 124
8.1.1 ARRA Funding in Georgia for HIE in Georgia 124
8.2 Coordination with Federal Health IT Initiatives 125
8.2.1 ARRA Funding for Broadband in Georgia 125
8.3 Coordination with Local Initiatives in Georgia 126
8.3.1 ARRA Funding for the Georgia Health Information Technology Regional Extension Center 126
8.3.2 Workforce Development 127
9 COORDINATION WITH OTHER STATES 129
10 DOMAIN-SPECIFIC COMPONENTS: GOVERNANCE 130
10.1 Governance Entity 130
10.1.1 Enforcement of Policies 130
10.1.2 Oversight 130
10.2 Board of Directors 130
10.3 Advisory Board 131
10.4 Advisory and Policy Committees of GHIE 131
10.5 Governance and Policy Structures 132
10.5.1 Maintaining and Updating Policies 133
10.5.2 Evolving to Productive Use of Georgia Statewide HIE 134
10.6 Organizational Structure and Staffing 134
10.7 Role of State Government 135
11 DOMAIN-SPECIFIC COMPONENTS: FINANCE 137

11.1 Financial Model and Sustainability 137
11.1.1 Model and Financing 137
11.1.2 Achieving Operational Status 137
11.2 Proposed Budget 138
11.2.1 Software/Hardware Purchase and Maintenance 138
11.2.2 Proposed Participant Cost and Sustainability Modeling 138
11.3 Operating Costs 139
11.3.1 Staff Salaries, Benefits and Taxes 139
11.3.2 Overhead 139
11.4 Statement of Cash Flow 140
12 DOMAIN-SPECIFIC COMPONENTS: TECHNICAL INFRASTRUCTURE 141
12.1 Overview 141
12.2 Approach to Implementing Standards and Certifications 141
12.2.1 Final Standards and Certification Rule 141
12.3 Technical Architecture Approach 144
12.4 Technology Deployment 146
12.5 Interoperability Standards 147
13 DOMAIN-SPECIFIC COMPONENTS: BUSINESS & TECHNICAL OPERATIONS 149
13.1 Introduction 149
13.2 State Level Shared Services and Repositories 149
13.2.1 Public Health in Georgia 149
13.3 Standard Operating Procedures for HIE 150
13.4 Proposed Staffing Plan for GHIE 151
14 DOMAIN-SPECIFIC COMPONENTS: LEGAL AND POLICY 152
14.1 Georgia HIE Legal and Policy Framework 152
14.2 Review and Analysis of State Laws 152
14.3 Georgia HIE Policies and Procedures 152
14.4 Policy Completion Timeline 154
14.5 Privacy and Security 154
14.6 Consent 156
14.7 Participation and Trust Agreements 157
14.7.1 Oversight of Georgia HIE and Enforcement 157

15 Risk Mitigation Strategies 159
15.1 Risk Management 159
16 EVALUATION PROCESS & CONTINUOUS IMPROVEMENT 165
16.1 Introduction 165
16.2 Ongoing Accountability 165
APPENDICIES 166
APPENDIX A: Abbreviations and Glossary of Terms 166
APPENDIX B: HITT Advisory Board 171
APPENDIX C: Map – Georgia's Public Health Districts 172
APPENDIX D: Letters of Support 173
APPENDIX E: Georgia's HIT Landscape 174
APPENDIX F: An Epicenter for Health Information Technology 178
APPENDIX G: Georgia Farmworker Health Program 179
APPENDIX H: Map – Georgia Rural Hospitals, CAHs, and FQHCs 182
APPENDIX I: Map – Critical Care Access Hospitals 183
APPENDIX J: Map – Federally Qualified Health Center Sites in Georgia 184
APPENDIX K: Map – Rural Health Clinics in Georgia 185
APPENDIX L: Map – Georgia Partnership for Telehealth 186
APPENDIX M: 11/5/2010 Supplement to the Georgia Statewide HIE Strategic and Operational Plans 187
APPENDIX N: 3/16/2011 Supplement to the Georgia Statewide HIE Strategic and Operational Plans 231

EXECUTIVE SUMMARY

Change in the health information technology and health information exchange environments in Georgia is moving faster than the speed of recording such change. Since the Georgia Department of Community Health (DCH) submitted its initial version of the Georgia Health Information Exchange Strategic and Operational Plans in late August 2010, much progress has taken place.

In November 2010, the Georgia Health Information Exchange, Inc. (GHIE), an established non-profit 501(c)(3) corporation, agreed to govern the statewide HIE. GHIE has agreed upon a two-prong strategy: 1. enabling simple interoperability to assure basic exchange; and 2. developing a robust HIE. Simple interoperability will enable more providers to join the exchange. A robust HIE is essential to establishing a powerful health IT infrastructure, enabling meaningful use and exchanging health information. The strategy is based upon the recommendations to DCH by the Health Information Technology and Transparency Advisory Board from 2006 through 2010. The recommendations are summarized as follows:

1. **Governance**. In keeping with its new duties and responsibilities, GHIE is revising its bylaws and expanding its Board of Directors to include virtually all major stakeholder groups. The membership of the Board includes representatives from Urban Hospitals, Rural Hospitals, Teaching Hospitals, Physicians, Nursing Homes, Home Health Agencies, Mental Health, Pharmacies, Health Insurers, Large Employers, Small Employers, Consumers, Public Health, Medically Underserved, and Quality Improvement Organizations. DCH has an ex officio, non-voting role as will the federal government (CDC and VA) and GA-HITREC, the regional extension center that serves all of Georgia. The state agencies that have a significant role in health care, will be encouraged to participate on all of the committees of GHIE. These agencies are the Department of Community Health, the Department of Behavioral Health and Developmental Disabilities, the Department of Corrections, and the Department of Juvenile Justice.

GHIE has created six committees to assist the Board in its responsibilities. The three advisory committees are: (1) Service Area HIEs; (2) Clinical; and (3) Secondary Use. The three policy committees are: (1) Technical; (2) Finance/Business; and (3) Legal and Privacy. Several dedicated volunteers have been providing expertise and assistance to GHIE with the early stages of planning and development of the statewide HIE.

2. **Legal, Privacy & Security**. GHIE is well aware that electronic health information exchange must comply with applicable federal and state laws and regulations, particularly HIPAA. The protection of personal health information is essential to any viable exchange of health data. Patients' confidence and trust, data integrity, and provider confidence are vital to the successful operation of an HIE. DCH will make available to GHIE the HIT legal team whose members share considerable expertise in privacy and security.

3. **Finance**. The statewide HIE must be financially sustainable for the long term. GHIE and DCH both recognize that the role of DCH, in the statewide HIE, is to collaborate, cooperate and facilitate. How to finance the start-up costs and to pay for the on-going costs will be determined by GHIE. The Board of Directors will be responsible for adopting a business plan that fosters financial sustainability and the long-term survival of the HIE. It is the Finance Committee's task to develop business plans for GHIE that ensure the HIE's affordability for all interested stakeholders and the HIE's steady growth over planned phases.

4. **Technical**. The consensus of stakeholders is that the statewide HIE must:

- Use national standards to facilitate interoperability;
- Enable hospitals and other providers to demonstrate compliance with the requirements for meaningful use, as needed to obtain Medicaid and Medicare incentive payments;
- Comply with applicable federal and state requirements for privacy and security; and
- Build on technology that is already working.

GHIE is committed to the use of NHIN standards (notably the Direct Project), achieving interoperability at the lowest possible cost, and the integration of existing HIEs as partners. GHIE and its participants envision steady and incremental growth of the statewide HIE. Both DCH and GHIE recognize that plans must be flexible and adaptable, in order to accommodate change as the use of health care technology expands across the state. Both DCH and GHIE anticipate that these Plans will need to be updated on a regular basis.

In keeping with these basic principles, written Documents of Commitment and Statements of Privacy Principles were executed in November 2010 between DCH, GHIE and the following organizations: the Emory Healthcare, the Georgia Cancer Coalition, the Central Georgia Health Network (CGHN), Chatham HealthLink IT Consortium, Georgia's Health Sciences University (f/k/a the Medical College of Georgia), the Georgia Association for Primary Health Care, (an operational HIE that includes 26 Federally Qualified Health Centers), the Cobb-Douglas Community Service Board, the Georgia Pharmacy Association, and the DCH Division of Public Health. Those organizations will engage in Phase 1 of the statewide HIE.

The Environmental Scan by DCH in 2010 identified several key gaps in the exchange of certain health-related information. These gaps represent opportunities for the expanded use of health information exchange.

- Only 76 percent of all Georgia pharmacies actually use e-prescribing
- Only a limited amount of clinical laboratory results exchange is taking place among unaffiliated providers
- Only a low-level of clinical summary exchange is occurring among unaffiliated providers
- Scattered pockets of white space appear throughout Georgia

The following strategies are being advanced to address these four gaps:

- Employing a two-part approach, targeting providers through key groups such as the Georgia Health Information Technology Regional Extension Center (GA-HITREC), Georgia Pharmacy Association, Georgia Academy of Family Physicians, and other provider associations.

- Leading meetings with laboratories to assess barriers to exchange and encourage them to build Direct into their systems to help integrate labs into the statewide HIE. Work with hospital and provider office laboratories is being included in provider outreach and education efforts. As with e-prescribing, DCH will work closely with GA-HITREC in outreach efforts to educate providers on the implementation, use, and benefits of electronic lab ordering and results delivery.

- Encouraging physician adoption of clinical care summary exchange by collaborating with GA-HITREC and with physician associations to explain the benefits of certified EHRs to their practices, including the benefits of certified EHR technologies to enable the exchange of clinical care summaries. In addition, DCH is promoting the use of certified EHRs in its Medicaid Incentives Program provider outreach and engagement activities.

- Eliminating "white space" in Georgia presents a significant challenge. By using open source technology and components that enable simple interoperability, GHIE is advancing the opportunities to participate in meaningful exchange. Filling the white space is a commitment of DCH, GA-HITREC, and GHIE. GA-HITREC is concentrating its efforts mainly on non-metropolitan Atlanta area physicians, especially physicians in small practices in rural areas of Georgia. By helping these physicians adopt certified EHRs and meet the requirements for meaningful use of EHRs, GA-HITREC is enabling these physicians to participate in the statewide HIE via the use of NHIN Direct national standards. As discussed in Georgia's State Medicaid Health Information Technology Plan (SMHP), there is considerable interest among Medicaid physicians in Georgia in obtaining Medicaid incentive payments. This interest coupled with GA-HITREC's work and the technical assistance provided by the Georgia Institute of Technology (Georgia Tech) will advance efforts to fill the white space. GHIE is committed to enabling every provider who wishes to participate in the statewide HIE to be able to do so. The use of NHIN Direct standards is expected to facilitate enhanced and meaningful participation in the statewide HIE.

As depicted in the statewide HIE Activities Timeline, Roadmap and Milestones, GHIE is scheduled to implement Phase 1 of the statewide HIE in 2011. Phase 1 includes these components:

- **Provider Directory;**
- **Master Patient Index;**
- **Secure messaging using NHIN Direct Standards; and**

- **Other services as a majority of the Board of Directors of GHIE shall agree to develop and implement**.

Developing the Master Provider Directory is scheduled to begin in mid-2011 and will be on-going as providers enter into the network. Other GHIE 2011 activities include creation of an open and competitive vendor selection process, establishment of privacy, security, and related policies and procedures, development of detailed business requirements, and design and implementation of a financial sustainability model.

The descriptions of the statewide HIE and DCH's role in facilitating the expansion of health information exchange in Georgia are explained in the sections of this document that follow. The Georgia HIE Strategic and Operational Plans identify specific goals and strategic objectives driving the development and implementation of the statewide HIE and several core and value-added services. DCH anticipates that these Plans will need to be updated on a regular basis as the statewide HIE becomes operational and as the Georgia HIE landscape continues to change.

GEORGIA STATEWIDE HEALTH INFORMATION EXCHANGE

A BRIEF UPDATE ON RECENT PROGRESS

The Georgia Department of Community Health (DCH) has brought together key stakeholders to help launch the creation of statewide health information exchange system. In collaboration with the Health Information Technology and Transparency (HITT) Advisory Board, the State HIT Coordinator and the Georgia Division of Medicaid have worked diligently with these stakeholders to build consensus on the approach to developing a robust and inclusive statewide HIE. These stakeholders represent the full continuum in Georgia's health care system: consumers receiving care under commercial plans and government funded programs, physicians and nurse practitioners, hospitals, dentists, pharmacies, laboratories, Georgia's Division of Medicaid, state public health departments, commercial payers, and interested employers representing companies of all sizes. The degree of commitment of these stakeholders to the statewide HIE is evident in the amount of time and resources dedicated to the development of the HIE, including the governance design, financial sustainability and plans to ensure meaningful use. It is DCH's mission to provide leadership and direction in the formation of a financially sustainable statewide HIE that is valued by all stakeholders and results in real improvements in the quality, efficiency and safety of health care provided to all Georgia citizens.

DCH would like to recognize and express appreciation to the members of the HITT Advisory Board and the Advisory Board's workgroups who contributed countless hours of volunteer service. DCH would also like to express appreciation to the following organizations and individuals:

- Georgia Hospital Association
- Georgia Health Information Exchange, Inc.
- Georgia Pharmacy Association, Inc.
- Metro Atlanta Chamber of Commerce
- WellStar Health System
- Cobb-Douglas County Community Services Board
- Georgia DCH Division of Medicaid
- Georgia DCH Division of Public Health
- National Center for Primary Care at the Morehouse School of Medicine
- Collaborative Transformations, LLC
- Enterprise Innovation Institute at the Georgia Institute of Technology

- Open Health Tools, Inc.
- Georgia Medical Care Foundation
- Georgia Academy of Family Physicians
- Georgia Health Care Association
- East Georgia Health Cooperative
- Georgia Association for Primary Health Care
- Center for Telehealth at the Medical College of Georgia
- CIGNA HealthCare
- Georgia Association of Community Service Boards
- Georgia Department of Juvenile Justice
- Georgia Department of Corrections
- Children's Healthcare of Atlanta
- Emory Healthcare
- Georgia Dental Association
- Merck & Co., Inc.
- David Satcher, M.D., Ph.D.
- ChathamHealthLink IT Consortium
- St. Joseph's Health System
- United Healthcare of Georgia

This list is by no means exhaustive of the stakeholders and supporters to whom DCH is not indebted.

From meetings and forums held with stakeholders across Georgia, DCH identified strong interest in forming a statewide HIE. Based on numerous meetings and discussions, DCH has determined that:

1. The consensus of the stakeholders is that the state should not control the HIE or dictate how it is operated.

2. The statewide HIE should be a collaboration – a public/private partnership.

3. The statewide HIE should be sufficiently flexible as to allow smaller HIEs and health care practices to enter it gradually and affordably.

4. The statewide HIE needs to be interoperable and to comply with national technical standards.

5. The statewide HIE needs to be financially self-sustaining to ensure its long-term survival.

STRATEGIC PLAN

1 Background

In order to plan for the statewide HIE, it is important to understand certain essential facts about Georgia. Geographically, Georgia is the largest state in land mass, east of the Mississippi River. Georgia's population outside of the major metropolitan areas of Atlanta, Macon, Augusta, Columbus and Savannah is widely dispersed. Pockets of poverty may be found in the north Georgia Appalachian Mountains and along the coastal plains as well as in flat farmland of deep south Georgia. Georgia has 159 separate and distinct counties, more than any other state except Texas. Many local governments wield significant local power and control.

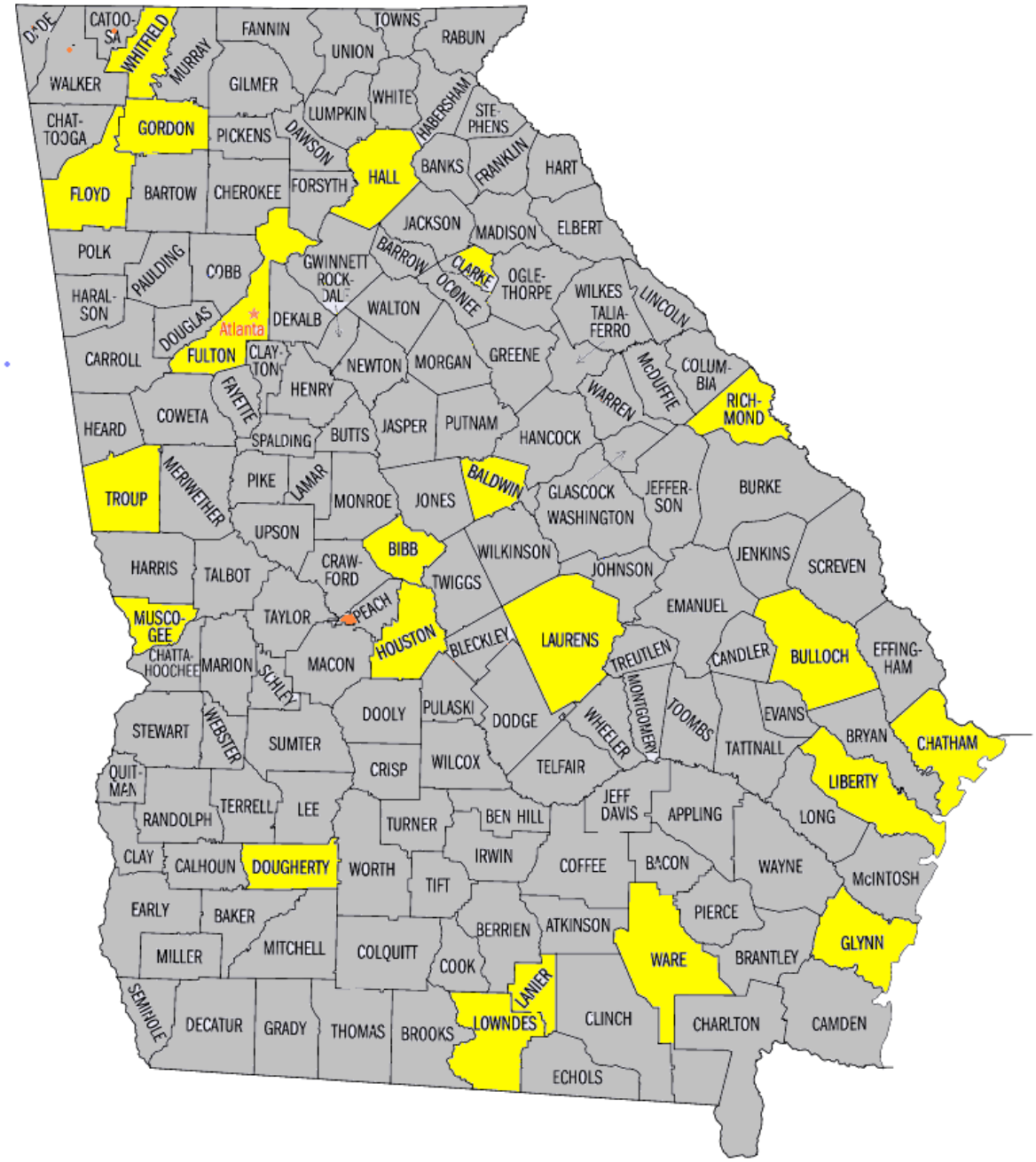
According to the U. S. Census Bureau, in 2009, Georgia's population was 9,829,211. Of that number, approximately 24.3% of those persons age 25 or older had attained a bachelor's degree or higher. In 2008, the Census Bureau reported that 14.7% of Georgians were below the poverty level, a percentage somewhat higher than the national average of 13.2%. In terms of racial and ethnic composition, the Census Bureau calculated the state population as consisting of approximately 65% white persons, 30.2% black persons, 8.3% Hispanic or Latino persons, and 3% Asian persons.

Largest metropolitan areas, as of 2009

On March 1, 2010, the US Census Bureau released 2009 estimates for Georgia's twenty Metropolitan Statistical Areas and Micropolitan Statistical Areas with populations above 50,000. In descending order, they are:

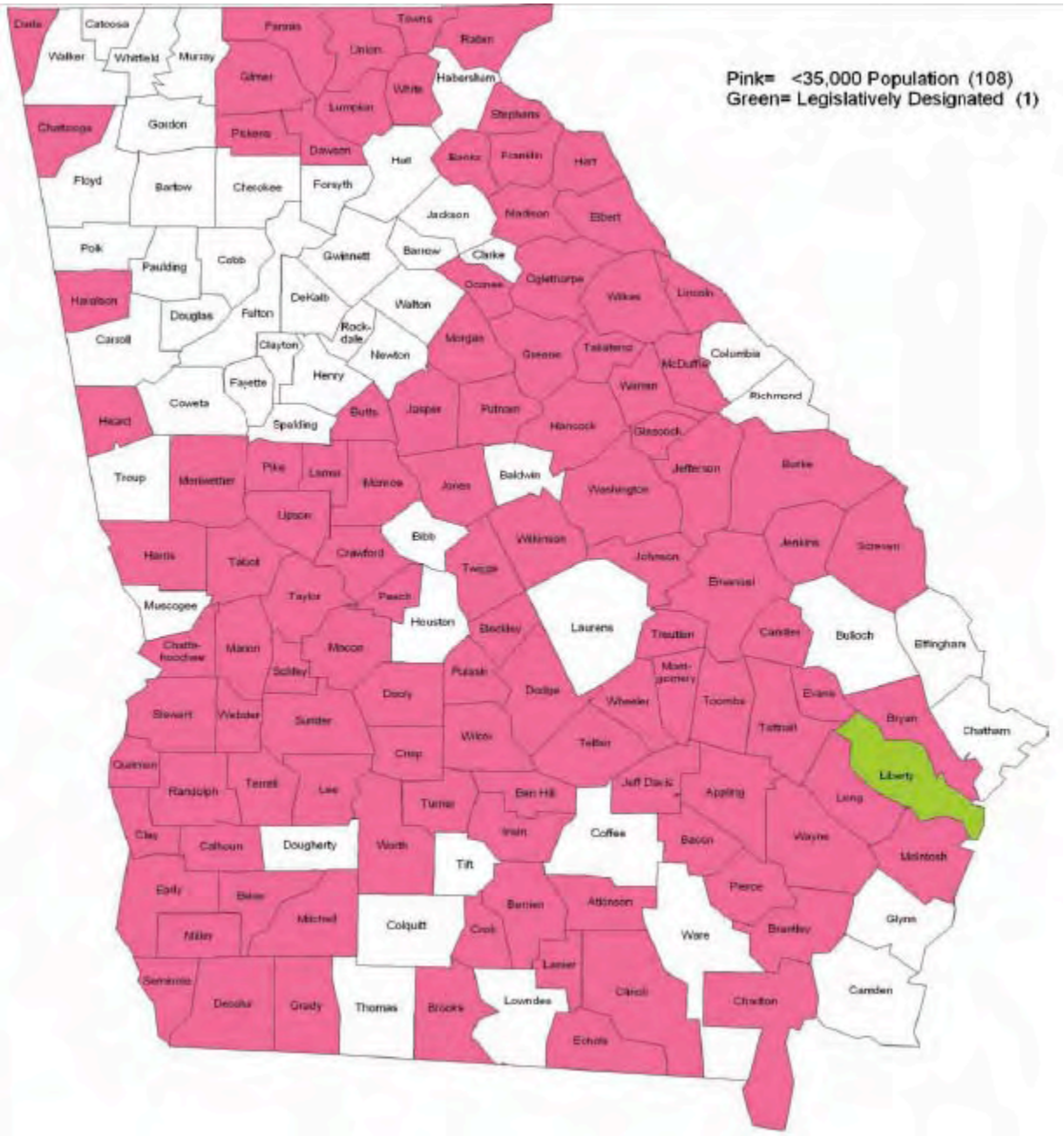
- Atlanta, 5,475,213
- Augusta, 539,154
- Savannah, 343,092
- Columbus, 292,795
- Macon, 231,576
- Athens, 192,222
- Gainesville, 187,743
- Albany, 165,440
- Valdosta, 135,804
- Warner Robins, 135,715
- Dalton, 134,319
- Brunswick, 102,852
- Rome, 96,250
- Hinesville, 74,420
- Statesboro, 69,213
- LaGrange, 64,233
- Dublin, 57,595
- Milledgeville, 56,156
- Waycross, 54,494
- Calhoun, 53,292.

Georgia's Metro Areas Map



Yellow signifies larger metro areas in Georgia as of 2009.

Georgia's Rural Communities



SORH
Georgia State Office of Rural Health

1.1 Overview: Georgia Statewide Health Information Exchange

A successful statewide HIE must have a representative and inclusive governance structure that accommodates stakeholders across health care systems and industries. DCH expects the statewide HIE will help health care providers:

- Achieve meaningful use of EHRs in order to qualify for incentive payments under Medicaid and Medicare;
- Use nationally recognized standards for data exchange;
- Facilitate interoperability among disparate systems;
- Utilize a technical infrastructure that accommodates expansion of the statewide HIE;
- Provide for technical relationships between the statewide HIE and other smaller networks and entities; and
- Link to the National Level Repository (NLR) and help providers to demonstrate meaningful use of electronic health records.

Participants in the statewide HIE will execute Participation Agreements to protect and safeguard individuals' personal health information. DCH considers the use of federal and state privacy and security rules essential to maintaining the integrity of the exchange of information and to maintaining the confidence of health care consumers.

1.2 Vision, Mission, Goals and Objectives

In the Office of the National Coordinator (ONC)'s Program Information Notice released on July 6, 2010, the ONC outlined a set of common principles: (1) supporting privacy and security; (2) focusing on desired outcomes, especially the meaningful use of EHRs; (3) supporting HIE services and adoption for all relevant stakeholder organizations, including providers in small practices, across a broad range of uses and scenarios; (4) being operationally feasible and achievable, building on what is already working; (5) remaining vigilant and adapting to emerging trends and developments; and (6) fostering innovation. Georgia has been engaged in efforts to facilitate these same principles.

Almost immediately after the announcement that Georgia was the recipient of an award under the State Health Information Exchange Cooperative Agreement Program in February 2010, DCH began undertaking efforts to engage stakeholders to address the policy issues that underlie the planning for a viable and sustainable statewide HIE. After discussions across a broad and inclusive range of interested stakeholders, Georgia refined its HIE vision, goals and

objectives in order to align them with the HIE services needed and desired by stakeholders across Georgia.

Georgia's **mission** is to create statewide HIE that is trusted and valued by all stakeholders (medical providers, health systems, clinics, health plans, patients, employers, medical laboratories, pharmacies, etc.), in order to improve health care coordination, eliminate inefficiencies, and create a solid foundation for long-term financial sustainability.

Georgia's primary **goals and objectives** are the following:

- To ensure that the statewide HIE has the necessary governance and financial structure to enable its long-term survival and financial solvency;

- To ensure that the statewide HIE comports with the federal requirements for demonstrating "meaningful use," in particular, the initial requirements for the electronic exchange of e-prescribing, receipt of structured laboratory results, and the sharing of patient care summaries across unaffiliated organizations;

- To encourage the expansion of the adoption and use of electronic health record technology including the use of certified EHRs;

- To ensure that the statewide HIE system uses federally endorsed and approved technical standards that are compatible with the exchange of electronic health information;

- To ensure that all eligible providers have viable options for meeting the federal requirements for meaningful use in the exchange of health information so that these providers can qualify for incentive payments;

- To ensure that the statewide HIE is structured to accommodate continuous technical improvement and expansion to enable incremental and steady growth of the exchange;

- To secure the trust and confidence of patients and providers patients by providing strong leadership in the creation of a reliable and accessible statewide HIE; and

- To mitigate or eliminate any existing barriers that discourage the adoption of electronic health record technology.

Georgia's **secondary goals** are to ensure that the statewide HIE will:

- Meet or exceed the federal privacy and security rules and ensure the adoption and enforcement of standardized procedures, protocols, and data sharing agreements relating to privacy and security of individual's protected health information;

- Foster trust and confidence among patients, health care professionals, hospitals, health plans, employers and other users;

- Make interoperability among disparate systems and different end users a priority; and

- Meet the technical standards for the secure electronic exchange of protected health information including, administrative transactions between DCH and other entities.

Encouraging the increased use of health information technology that is interoperable and has the capacity to connect Service Area Health Information Exchange (SAHIE)s to a statewide HIE system is essential to developing a successful statewide HIE. Otherwise, health information remains locked inside SAHIEs and is inaccessible to other hospitals, clinics, or other providers and cannot be utilized to improve health care and eliminate duplication and inefficiencies in the delivery of health care. Georgia recognizes the importance of advancing the adoption of health information technology to provide interoperability and interconnectivity among all patients and providers.

1.3 Guiding Principles

In developing its strategic plan, Georgia aims to maximize the effective use of federal funding and other resources, including the technical advice and guidance from the ONC and its consultants. DCH believes that a financially and technologically sustainable statewide HIE that includes of the interests of a broad range of stakeholders and that facilitates the use of affordable electronic health care technology is in the best interests of Georgians. With these underlying principles in mind, DCH is convinced that the following concepts are especially important to Georgians:

- The statewide HIE must be financially self-supporting for the long-term and will not be sustained by government funds;
- Patients retain control and ownership of their personal health information;
- The interests of public health receive continuing and consistent consideration with respect to the policies of the statewide HIE;
- Expanding the capability for the meaningful use of certified EHRs is vital;
- Timely electronic exchange of reliable health information is essential;
- The interests of the medically underserved and medically indigent populations in Georgia require special protection, including health care consumers with special needs, such as children and HIV patients;
- The use of open source technology helps reduce costs and ensure affordability and access to the statewide HIE;
- Conduct of the business of the statewide HIE in an open and transparent manner.

As will be discussed later, DCH is working to leverage existing resources and coordinate existing and nascent HIE initiatives. Where possible, DCH is seeking to leverage telemedicine, the efforts of Georgia Health Information Technology Regional Extension Center (GA-HITREC), and the expansion of broadband to encourage further participation in and development of the statewide HIE.

1.4 Planning and Implementation Framework

The focal points of the planning and implementation framework are to enable improvements in the quality and efficiency of the Georgia health care sector by facilitating the statewide HIE infrastructure. This framework has a two-prong strategy: (1) enable simple interoperability to ensure basic exchange and (2) build a robust Georgia statewide health information exchange. The statewide HIE is being planned to support the delivery of private, secure, and reliable HIE services to all Georgia patients and providers through local HIE networks where the capacity exists and through DIRECT and secure messaging. Through this framework, no providers who seek to participate in the statewide HIE will be left behind.

The Georgia HIE Strategic and Operational Plans identify several high-level goals and strategic objectives driving the development and implementation of a statewide HIE and several core and value-added services. The table below outlines the five domains that the GHIE is required to address in detail.

Domain	Description
Governance	A governance process that creates trust and consensus on the approach for statewide HIE implementation, and provides transparency, oversight, and accountability of the statewide HIE.
Finance	Scalable financial sustainability models that do not rely on federal or state funding and are scaleable.
Technical Infrastructure	Architecture for the HIE in a secure and appropriate manner, and support protocols and technology standards with applicable and appropriate architecture through oversight and governance that ensures statewide and federal program interoperability (including NHIN) and vendor neutrality.
Business & Technical Operations	Establish business and technical operations including, but limited to: staffing plans, authentication and access policies, and budgets and financial sustainability models.
Legal and Policy	A framework addressing privacy and security requirements for system development and use, data sharing agreements, laws, regulations.

1.5 Priorities of the Georgia Health Information Exchange

GHIE has identified key priorities include:

- Use of the Nationwide Health Information Network (NHIN) standards, a nationally developed set of standards for the statewide HIE;
- Encouraging the use of open-source software to help reduce costs to providers and to encourage participation in the statewide HIE;
- Use of secure messaging;
- Development of a viable business plan to ensure long-term sustainability; and
- Inclusion of major stakeholders across Georgia on GHIE's Board of Directors, and Committees.

In addition, GHIE and its Participants have executed Documents of Commitment that provide that the statewide HIE will include these components:

- **Provider Directory;**
- **Master Patient Index;**
- **Secure messaging using NHIN Direct Standards; and**
- **Other services as a majority of the Board of Directors of GHIE shall agree to develop and implement**.

The statewide HIE architecture is being planned as a true "network of networks" capable of connecting 170 hospitals, 34 health systems, and 2,000 physician practices throughout Georgia, as well as other participants, such as health plans and employers. The infrastructure will comply with the meaningful use requirements and eventually connect with other HIEs regionally and nationally, through NHIN CONNECT when feasible.

The statewide HIE will interconnect the existing Service Area HIEs in Georgia and enable connectivity to providers and other participants outside those areas. The statewide HIE will provide a mechanism for authorized individuals to perform sophisticated analytics and reporting for public health, biosurveillance, and other appropriate uses of aggregate data (sometimes called secondary use).

It is anticipated that the statewide HIE will embrace a Service Oriented Architecture (SOA) approach, which is necessary for the long-term viability of any HIE. Under this approach, the statewide HIE infrastructure will be comprised of numerous services that will run on an enterprise service layer and enable the core functions of the statewide HIE. By incorporating a SOA approach into the design, the statewide HIE will ensure that the exchange takes advantage of developing and advancing services and not rely upon a single service provider for all functions.

This statewide HIE is being planned to perform as a secure and trusted conduit rather than a centralized repository. The HIE will consist of a hybrid federated model (as recommended by the Technology workgroup assembled by the HITT Advisory Board) that is built upon a model that keeps data at its source facilities or provider locations and uses the statewide HIE as the conduit for sharing. In the proposed model, a hybrid federated system consists of a single core

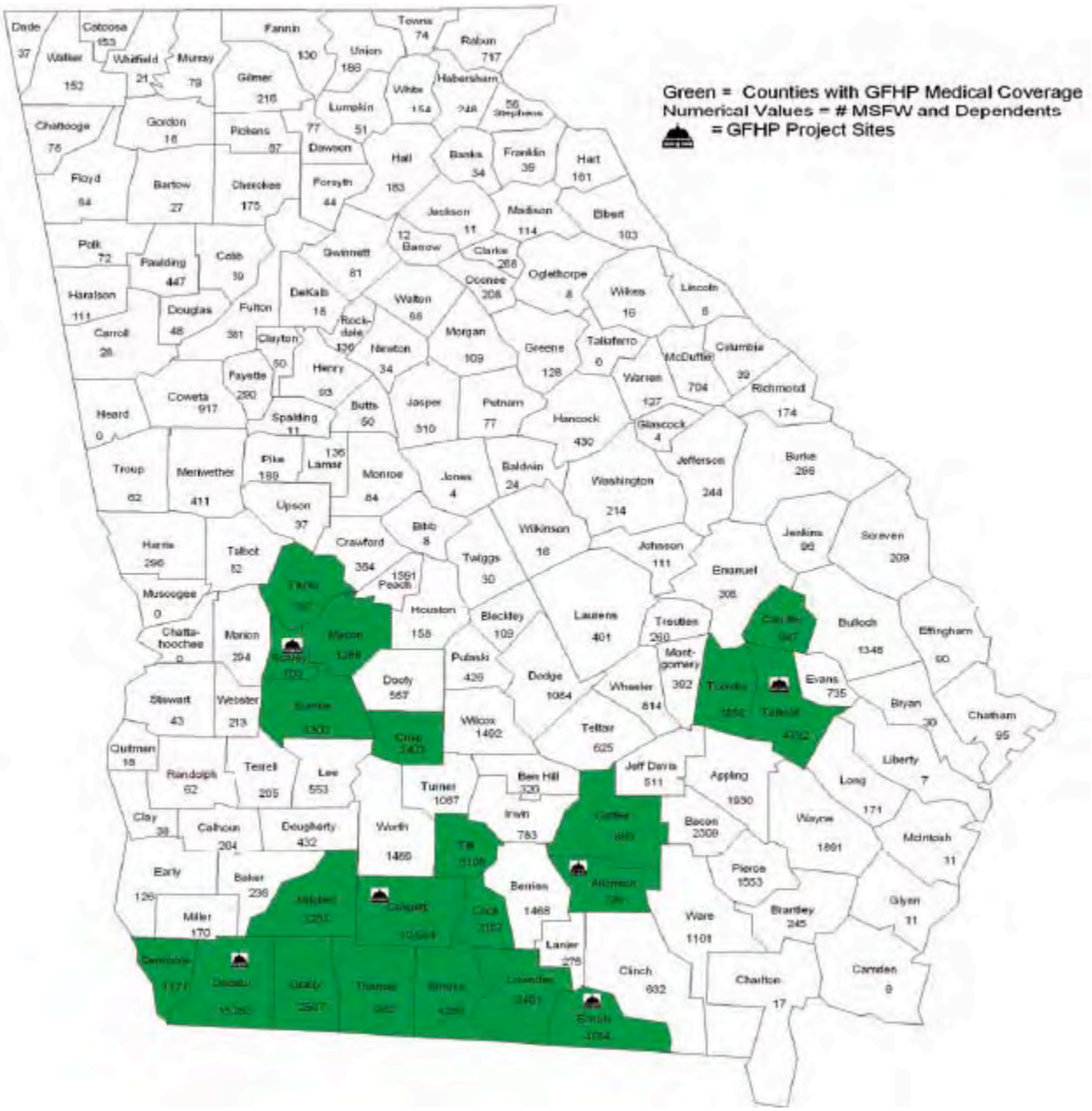
infrastructure vendor that serves as a platform for expanding functionality of the utility by adding different vendor applications to the core system. For instance, the core infrastructure selected may consist of an exchange utility with an enterprise master patient index (EMPI). The MPI in most local solutions lacks the robust features necessary to support advanced matching of consumers to their health information. An EMPI is comprised of a database of demographic information on patients and a set of algorithms for the purpose of matching patients with their records from disparate systems.

1.6 Health IT Innovations in Georgia

Georgia has some particularly innovative HIE and HIT programs in progress. Some of these innovative and unique programs are attributable to innovative thinking by the State Office of Rural Health, the DCH Division of Public Health, the Georgia Cancer Coalition, and Georgia Partnership for Telemedicine. Each is separately described below.

1.6.1 Georgia Farmworkers Health Program

The Georgia Farmworkers Health Program (GFHP) created by the State Office of Rural Health (SORH) is a unique program that targets migrant farmworkers and their families who often lack adequate health care options. The SORH developed a secure Internet solution to coordinate the provision of health care among six clinics. GFHP implemented the GFHP Tracking System so that once a person's information is entered into the system, any of the six clinics can readily electronically obtain the person's history of clinic visits, clinical procedure and modification codes, and provider notes on the person's medical history. Use of the system does not require any specialized software or hardware outside of the Internet browser and Internet access. Security is maintained through use of unique user i.d.s and passwords.



SORH
Georgia State Office of Rural Health

1.6.2 Public Health's Rome project

The DCH Division of Public Health is participating in an innovative pilot project in partnership with the Rome Public Health District. This pilot is entitled the "District Integration Project." The goals of this pilot are to assist providers with Medicare and Medicaid reimbursement, improve timeliness of reimbursement, and enable the electronic receipt of encounter information on individual patients electronically. The pilot is seeking to obtain measurable results, e.g., more flu shots—less flu incidents. The most promising aspect of the pilot is the development of an

electronic exchange of encounter information to be exchanged between the District Office in Rome and the DCH Division of Public Health in Atlanta.

1.6.3 The Georgia Cancer Coalition Quality Information Exchange

The Georgia Cancer Coalition created the Georgia Cancer Quality Information Exchange. This electronic health information exchange facilitates the access and retrieval of clinical information and public health data in order to measure the quality of cancer care to enhance adherence to standards of care for cancer patients, and to improve patient care and outcomes through process change. By using 52 quality metrics, the Exchange has been achieving improvements in the timeliness of staging for patients prior to treatment, reducing the time elapsed from abnormal mammogram result to biopsy, and improving pain management. By using and interpreting the 52 quality metrics, the Exchange has led to the redesign of processes for cancer treatment and has enabled the tracking of trends in cancer occurrence.[1]

1.6.4 Georgia Partnership for Telemedicine

In November 2010, the Georgia Partnership for Telehealth purchased seven MEDI PORT mobile telemedicine solutions and is distributing them to seven rural hospitals and rehabilitation centers. MEDI PORT enables health care providers to diagnose and treat patients regardless of their locations by converging patient data and medical applications through a powerful mobile computing platform that uses high definition video conferencing capability that can be easily moved from location to location.

C-Port Solutions, Inc., the world's leading provider of mobile unified collaboration solutions is an Atlanta company founded in 2008. C Port Solutions helped develop MEDI PORT through a partnership between Rubbermaid Medical Solutions and St. Joseph's Hospital's Translational Research Institute in Atlanta.

In developing MEDI PORT, C Port Solutions configured Rubbermaid's medical cart with Polycom's best-in-class video conferencing capability and Hewlett Packard's enabled computing platform to converge high definition video conferencing, high definition audio conferencing, web conferencing and interactive annotation/white board technology onto a single mobile device. Use of the mobile MEDI PORT devices is expected to help bridge the gap in access to medical care and treatment and to lead to faster diagnoses and prompter treatment.

[1] The ONC informed DCH on January 26, 2011 that it has selected DCH for a $1.6M Challenge Grant that will enable DCH and the Cancer Coalition to undertake an Consumer Mediated Information Exchange.

2 ENVIRONMENTAL SCAN: ASSESSMENT OF CURRENT HIE IMPLEMENTATION & READINESS

2.1 Health Services in Georgia

2.1.1 The Structure of Health Care in Georgia

Georgia has 84 Rural Health Clinics and 27 Federally Qualified Health Centers that provide health services at 121 different sites. Georgia's 159 counties are grouped geographically into 18 Public Health Districts. (See Appendix B) DCH has oversight for these 18 Public Health Districts. Many of these public health districts consist of communities that are largely underserved medically and that have widely dispersed populations. Each public health district functions as a somewhat autonomous entity. The DCH Division of Public Health is actively working with the Office of Health Information Technology and Transparency on plans to leverage existing health information technology resources to foster innovation and to support EHR adoption among relevant stakeholders in these public health districts. Nearly all public health departments receive immunization, syndromic surveillance, and notifiable lab results electronically. Eventually, the statewide HIE may be able to utilize this exchange to support additional data sharing.

2.1.2 The DCH Division of Public Health

The DCH Division of Public Health maintains and operates a robust syndromic surveillance system known as the State Electronic Notifiable Diseases Surveillance System (SendSS). SendSS uses a message broker mechanism for data transport. The CDC issued a two-year supplemental grant for "Electronic Laboratory Reporting Capacity" to enable SendSS to link with hospitals.

SendSS is responsible for three major functions: (1) Acute Disease Epidemiology Surveillance through which 72 notifiable diseases are timely reported to the CDC; (2) receipt of laboratory reporting from Quest, Lab Corp, and the Georgia Public Health Laboratories; and (3) newborn support activities under which metabolic screening for newborns is conducted through the Georgia Public Health Laboratories (GPHL). SendSS sends follow-up reports on at risk newborns to hospitals and physicians where appropriate.

2.1.3 DCH Medicaid Administration

DCH is the state agency responsible for administering the Medicaid and State Children's Health Insurance Programs (SCHIP) in Georgia. In FY 2008, the Division of Medical Assistance provided access to health care for 1.4 million Georgians at a cost of $6.4 billion through the administration of the following Medicaid Major Coverage Groups:

2.1.4 Low Income Medicaid (LIM)

Health care for adults and children who met the income standards of the Temporary Assistance for Needy Families (TANF) qualified to be a part of the LIM group. This program provided health care to eligible low-income families, breast and cervical cancer patients, foster children and refugees (states were federally required to cover this group, which consisted of legal immigrants). The majority of LIM members were eligible for the Georgia Families care management program, which began on June 1, 2006.

2.1.5 Aged, Blind and Disabled Medicaid (ABD)

Health care for the aged, blind or disabled under a Fee-For-Service (FFS) provider reimbursement model.

2.1.6 Medically Needy

Health care for pregnant women, children, aged, the blind and disabled.

2.1.7 Right from the Start Medicaid (RSM Children)

Health care for children from under one to 19 years whose family incomes were at or below the appropriate percentage of the federal poverty levels for their age and family size qualified for RSM children.

2.1.8 Breast and Cervical Cancer Program

Health care for uninsured and underinsured women under age 65 screened by the public health department and then diagnosed with either breast or cervical cancer may have been eligible for treatment under this program.

2.1.9 Refugee Medicaid Assistance

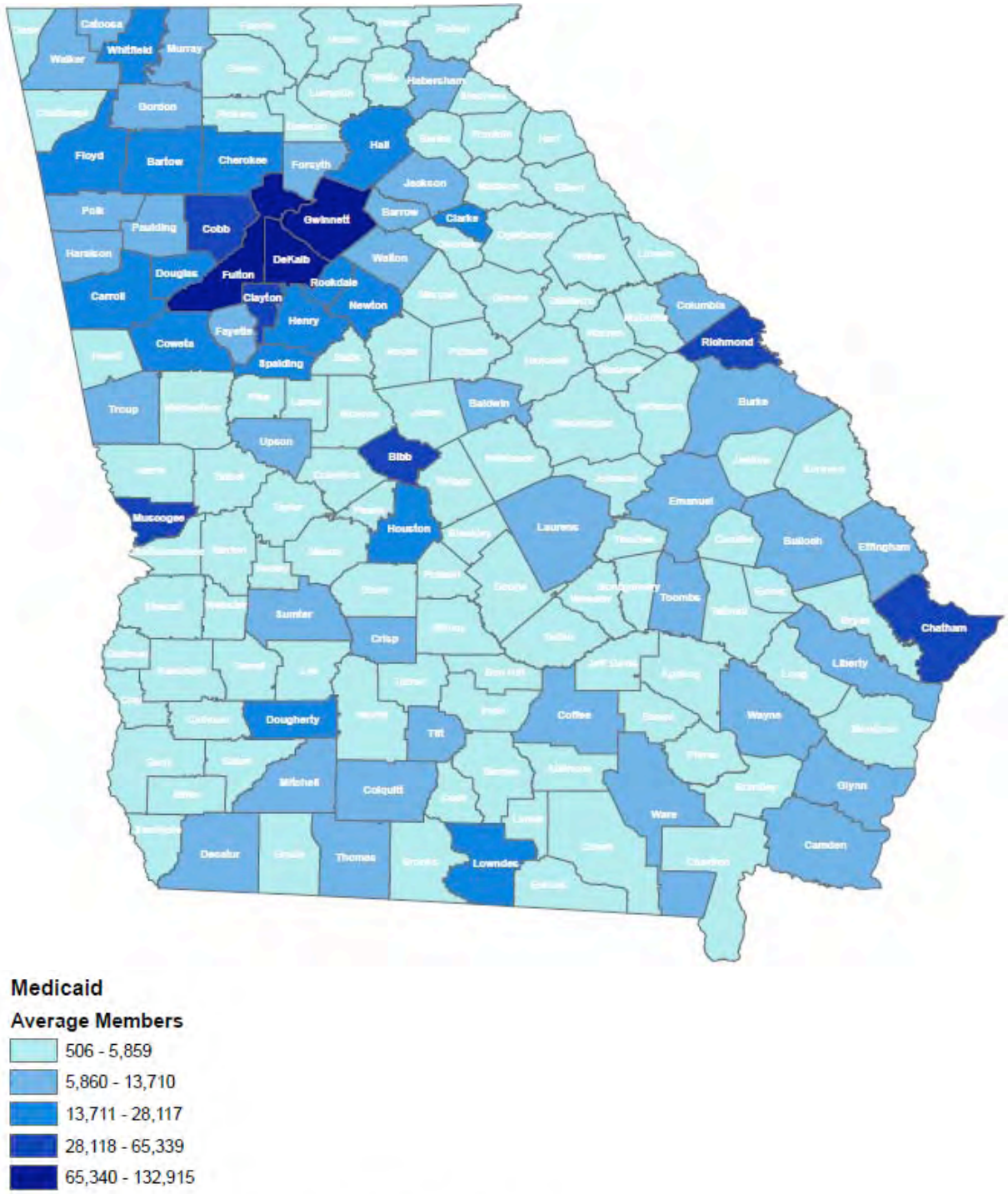
Health care for legal immigrants classified as refugees, asylums, Cuban/Haitian entrants, Vietnamese Americans and victims of human trafficking for Medicaid benefits during their first eight months in the United States, or after having been granted status in one of the above categories. Coverage of this group is federally required and 100 percent reimbursed by the federal government.

2.1.10 Emergency Medical Assistance

Health care for immigrants, including undocumented immigrants, eligible for Medicaid except for their immigrant status, and potentially eligible for Emergency Medical Assistance (EMA). This included the aged, blind, disabled, pregnant women, children or parents of dependent children who met eligibility criteria. Services rendered to EMA recipients were limited to emergency care only as described in the Federal Regulations (1903 (v) of the Social Security Act and the Code of Federal Regulation 42 CFR 440.255).

In summary, the Medicaid population in Georgia fits primarily within these major coverage groups: Low Income Medicaid (Adults and Children); Aged, Blind, Disabled Medicaid; Medically Needy; Right from the Start Medicaid (Children); Breast and Cervical Cancer Program (Medically Uninsured and Underinsured Women); Refugee Medicaid Assistance; and Emergency Medicaid Assistance. These Medicaid programs are dedicated to serving Georgia's most vulnerable populations.

Medicaid Population



Medicaid

Average Members

- 506 - 5,859
- 5,860 - 13,710
- 13,711 - 28,117
- 28,118 - 65,339
- 65,340 - 132,915

Source: Thomson Reuters Decision Support System - FY 2009 DCH Annual Report

Over the last six years, the average monthly enrollment for Medicaid and PeachCare for Kids™ reflect significant increases. The overall enrollment in Medicaid is expected to continue to rise

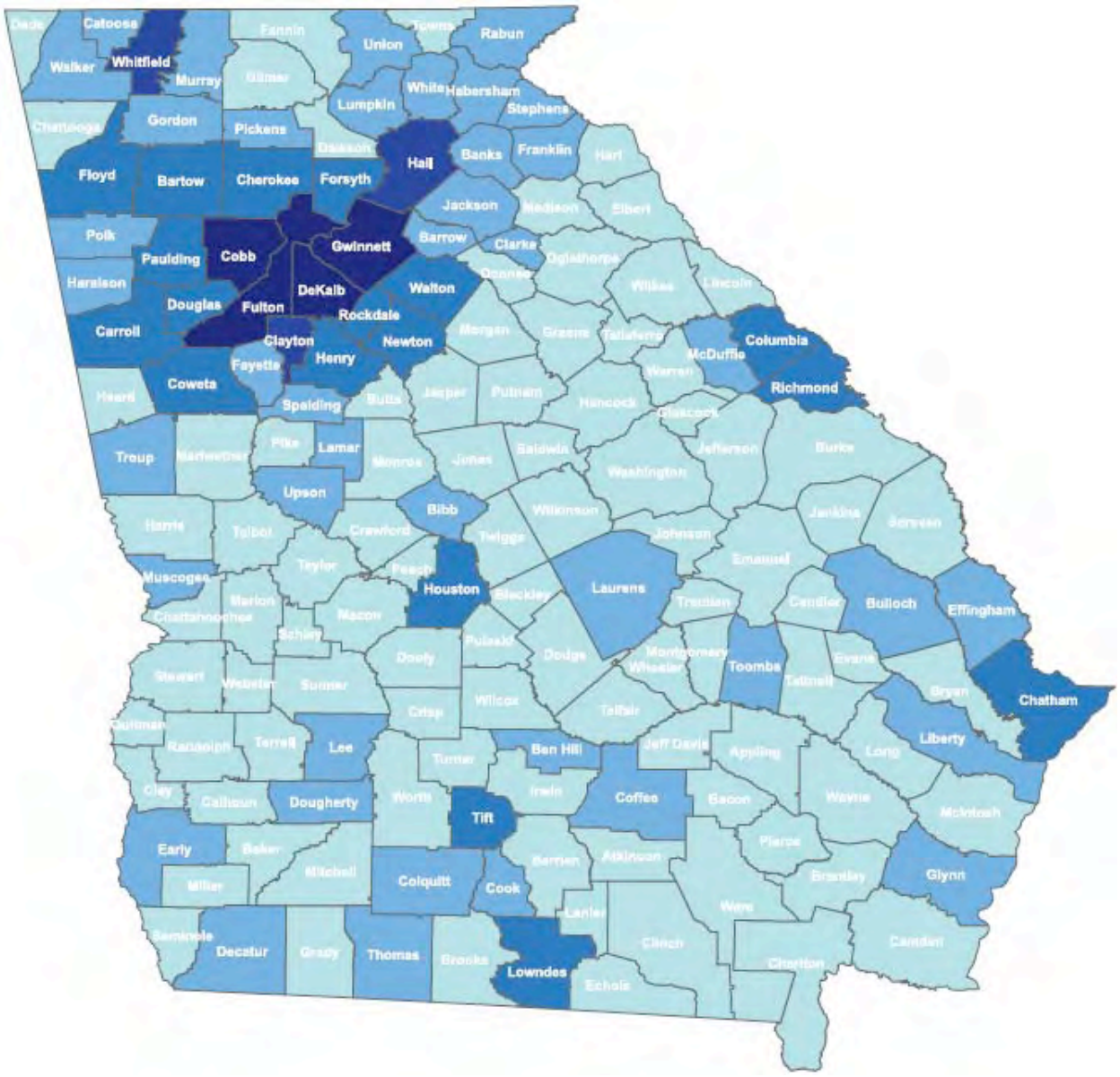
for the foreseeable future. For Medicaid and PeachCare, the enrollment numbers are shown below:

Fiscal Year	Medicaid	PeachCare for Kids™
2005	1,376,730	208,185
2006	1,389,692	239,033
2007	1,278,476	274,025
2008	1,261,031	250,055
2009	1,342,049	206,355
2010	1,444,085	202,861

In state FY 2011, fiscal projections reflect that Medicaid expenditures will exceed $6.5 billion, thereby consuming a significant portion of the entire state budget. Georgia's PeachCare for Kids™ a comprehensive health care program for uninsured children has the fourth largest enrollment in the nation.

Through its pharmacy programs, DCH spends more than $1.1 billion per year on prescription drugs for more than 1.4 million Georgians for outpatient drug prescriptions through Medicaid and PeachCare for Kids™. SXC, the Pharmacy Benefit Manager for the Medicaid Fee for Service Outpatient Pharmacy Program, links providers and members through a DCH website.

PeachCare for Kids™ Net Payment by County FY 2009



Legend

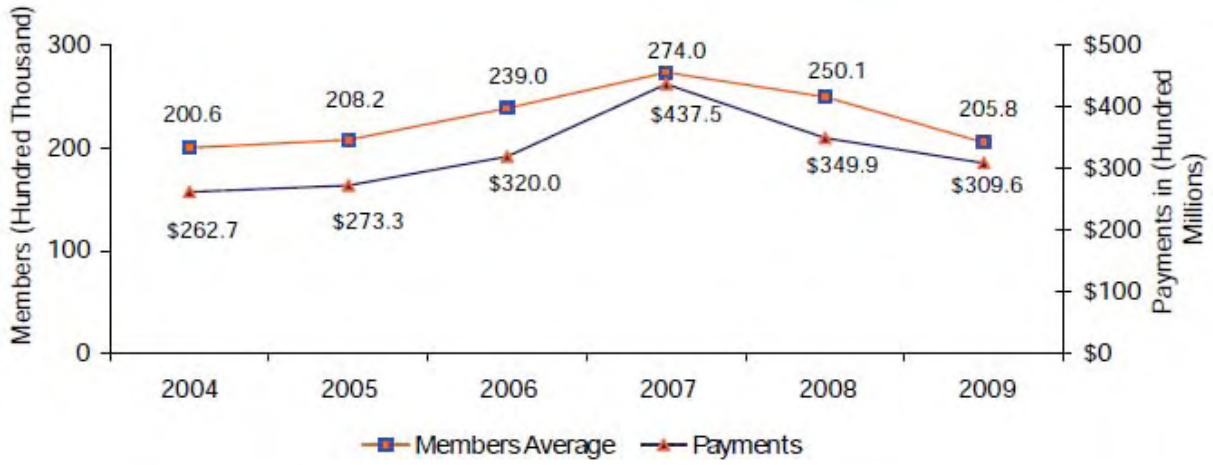
PeachCare for Kids™

Net Payment

- $712.77 - $59,660.51
- $59,660.52 - $161,870.45
- $161,870.46 - $324,217.57
- $324,217.58 - $639,079.17
- $639,079.18 - $1,771,782.25

Source: Thomson Reuters Decision Support System - FY 2009 DCH Annual Report

PeachCare for Kids ™ Average Number of Members and Average Payments by Fiscal Year



Source: FY 2009 DCH Annual Report data provided by Thompson Reuters

DCH is also responsible for oversight of the State of Georgia Health Benefit Plan, a self-insured state health insurance plan that provides health care coverage for state employees, state school systems employees, retirees, and their dependents. As of August 1, 2010, the State Health Benefit Plan was providing coverage to 684,548 people.

Georgia has experienced considerable success with the Georgia Immunization Registry (GRITS), a system designed to collect and maintain accurate, complete and current vaccination records to promote effective and cost-efficient disease prevention and control. Included among the goals of the Georgia Immunization Registry program are: assisting health care providers and public health officials with assessing and improving community immunization status and providing reminders when children need vaccinations or updates to vaccinations. The Registry enables providers to access up-to-date immunization records of Georgians and avoids duplicative and unnecessary immunizations. DCH expects the statewide HIE to eventually incorporate Georgia Immunization Registry into an electronic health care database

Another section of DCH, the State Office of Rural Health (SORH), operates the Georgia Farmworker Health Program (GFHP). GFHP provides health care services to 21 rural counties through six clinics located in central and south Georgia. In 2007, SORH created a technology solution to allow online access through a secure Internet browser. For more than two years, this HIE has been providing real time reports to the individual clinics and the SORH. Through this HIE, a clinic can obtain a patient's record, which includes a history of visits including diagnostic codes, treatment codes, and notes concerning the patient's medical history. In addition, the HIE allows for insurance billing. The GFHP HIE facilitates health reporting to accommodate health planning and trends.

DCH expects that the increased use of health information technology and health information exchange will improve the coordination of care for the state's Medicaid population as well as the medically indigent and underserved residents of Georgia. GFHP represents an example of such improved care. DCH believes that improved and timely sharing of medical information electronically will reduce emergency department visits, curtail duplicative testing, reduce adverse reactions to erroneous prescriptions and thereby result in better health outcomes and cost savings, especially for the state's Medicaid budget. In the long run, the statewide HIE is also expected to provide benefits to health care consumers, employers, insurers, and the health technology industry in Georgia.

2.1.11 Major Health Issues

Before discussing DCH's role in HIE facilitation, a brief synopsis of Georgia's progress and challenges in terms of providing health care in Georgia should provide some instructive guidance.

In 2008, DCH's Office of Health Improvement and the Minority Health Advisory Council completed a report entitled *Health Disparities Report 2008: A County-Level Look at Health Outcomes for Minorities in Georgia*. This report, often referred to as the "Georgia Health Equities Initiative," determined that minority health outcomes varied significantly across the state. The report entered findings for all 159 Georgia counties. The Health Equity Report listed the 16 counties having "the greatest health challenges for minorities," and listed the 14 counties having "the best minority health outcomes." Counties in both the best and worst categories were widely distributed across the state and not concentrated in any particular geographical area. Two of the report's key recommendations were to promote, develop, and invest in initiatives that work to eliminate health disparities and to "[e]mpower patients to access care and participate in treatment decisions." Obviously, both recommendations dovetail well with the furtherance of electronic health records and the increased exchange of electronic health information especially involving consumers.

According to the *National Healthcare Quality Report* prepared by the Agency for Healthcare Research and Quality, in 2009, Georgia's performance "for all measures is in the weak range." For 2009, the Agency rated Georgia's "Meter Score for Overall Health Care" as 39.81 with the median score for all states being 48.17. In terms of issues relating to individuals with low-income and pertaining to race/ethnicity, the Agency determined that Georgia had these disparities:

- Potentially preventable admissions;
- Inpatient mortality; and
- Potentially avoidable complications

A 2010 report by the American Public Health Association painted a somewhat more promising picture. The APHA determined that Georgia has made significant progress. The APHA gave Georgia an overall state health ranking for 2010 of 36, up 7 positions in ranking from the

previous year. The APHA's *2010 State Health Report* noted certain strengths and challenges. In terms of strengths, the report found:

- Low prevalence of binge drinking; and
- Few poor mental and physical health days.

In terms of challenges, the APHA found these:

- Low high school graduation rate;
- High incidence of infectious disease;
- High levels of air pollution; and
- High rate of uninsured population.

It is readily apparent that over the past few years, Georgia has been making steady overall progress in improving the quality of health care for its residents. It is equally apparent that Georgia is committed to continuing to make improvements, including in advancing health care technology.

2.1.12 Georgia at a Glance: Demographics

Population	9,829,211	• **Growth:** Georgia is the eighth fastest-growing state in the U.S. More than 100,000 people move to the state each year, and the population is expected to exceed 12 million people by 2030. • **Age:** Georgia's population is getting younger: more than half of Georgians are between the ages of 20 and 54. • **Place of Origin:** More than 30 percent of Georgia's population was born outside the state. • **Higher Education:** Georgia's university system is the fourth-largest in the country, totaling 13 state universities, four research universities, seven state colleges, two regional universities, nine two-year universities, plus an integrated network of 34 technical colleges with multiple campuses. • **Corporate HQs**: Many of the world's best-known blue-chip companies – including 14 Fortune 500 -- make their
Pop. under 18	26.3%	
Pop. 65 and over	10.3%	
Population Change 2000 –2009	20.1%	
Households & Income		
Total Households (HH)	3,006,369	
Median HH Income	$50,834	
Persons below poverty	14.7%	
Race		
White, non-Hispanic	57.5%	
Black	30.2%	
Hispanic/Latino	8.3%	
Asian	3%	
Multi-racial	1.3%	
Language		

Language other than English spoken at home **Education** High School Grads Age 25+ Bachelor's Degree or Higher	9.9% 78.6% 24.3%	home in Georgia. These include AFLAC, The Coca-Cola Company, The Home Depot, UPS, Delta Air Lines, Newell Rubbermaid and NCR. • **Georgia/National Media Outlets for Health Care Coverage**: Daily newspapers and news services (76+/-); weekly/monthly newspapers (26+/-); TV stations (28+/-); Radio stations (23 +/-); National Print Media (10+/-); Health IT National Print & Online (32+/-)
Geography Land area # Counties Largest cities	Mountains Piedmont Hills Coastal Plain & Islands 57,906 sq mi 159 Atlanta, Columbus, Savannah, Macon, Albany	***At-A-Glance Sources**: U.S. Bureau of Census; 2009, 2008 and 2000 data; Georgia Department of Economic Development. Statewide Media Lists compiled by Georgia Department of Community Health. InfoPlease, Georgia.*

2.2 HIE and Health IT Assessment Processes

To ascertain the specifics of the existing health technology landscape in Georgia, DCH recently executed a contract with the Enterprise Innovation Institute of the Georgia Institute of Technology. On August 11, 2010, the Enterprise Innovation Institute submitted its Final Report entitled "An Environmental Scan for the Health Information Exchange for the State of Georgia" (hereinafter "Environmental Scan" or "Final Report") to DCH. The following sections summarize the final report's key findings, including the wide range of readiness for participation in the statewide HIE.

2.3 Assessment Findings: Georgia Health IT

2.3.1 The Adoption of Health Technology in Georgia

Georgia's large geographical size, its widely dispersed pockets of poverty, the absence of broadband connections in certain isolated areas, and the lack of access to electronic technology pose significant challenges to the expansion and effective use of electronic health information technology. Notwithstanding these challenges, the adoption of electronic health record technology has been steadily progressing.

To understand Georgia's progress in the development of a statewide exchange, a brief recitation of some condensed history is instructive. For more than ten years, the State of Georgia largely through the efforts of DCH has been engaged in efforts to facilitate the use of EHRs and the formation of a statewide exchange of health information. In 2006, the Governor issued an Executive Order creating the Health Information Technology and Transparency Advisory Board to provide guidance, advice and support to DCH in these endeavors.

In 2006, Georgia Governor Sonny Perdue issued an Executive Order that created the State Health Information and Transparency (HITT) Advisory Board. This Executive Order tasked the HITT Advisory Board with facilitating the use of electronic health records, establishing a statewide Building a successful HIE requires considerable planning and collaboration among stakeholders to define and refine policies and develop an HIE that will be technically and financially sustainable because the HIE has value across a broad range of users. Four years ago the Georgia Department of Community Health began the process of strategizing the planning process for establishing a statewide HIE. Since 2006, the State HITT Advisory Board provided invaluable assistance and guidance to DCH, particularly through the efforts of the Advisory Board members and the workgroups that were formed.

The Advisory Board, an entity representing a wide cross-section of stakeholders, worked diligently toward achieving a viable health information exchange (HIE) strategy, and promoting marketplace transparency. The Advisory Board created specific workgroups to address the complex and difficult issues that are inherent in facilitating the use of electronic health records and establishing a statewide HIE. Major recommendations of the workgroups have been included in the HIE Strategic and Operational Plans and, more importantly they have been incorporated into the organizational framework of GHIE's underlying governance structure.

As a direct result of the Advisory Board's efforts and recommendations and DCH's collaboration with a broad range of stakeholders, DCH is supporting a governance model that will ensure representation and participation by a broad and inclusive range of stakeholders. After the governance structure is finalized, it is expected that DCH will implement a strategy that focuses on education and awareness activities designed to promote the increased adoption of HIT generally and, in particular, the adoption and use of certified EHRs throughout the state

Even before the inception of the HITT Advisory Board, DCH had undertaken steps toward facilitating the electronic exchange of health information. One example is the HIE created by the State Office of Rural Health (SORH), which operates the Georgia Farmworker Health Program (GFHP). GFHP provides health care services to 21 rural counties through six clinics located in central and south Georgia. In 2007, SORH created a technology solution to allow online access through a secure Internet browser. Over the last two and a half years, this HIE has been providing real-time reports to the individual clinics and the SORH. Through this HIE, a clinic can obtain a patient's record that includes a history of visits, diagnostic codes, treatment codes, and notes concerning the patient's medical history. In addition, the HIE allows for insurance billing and/or Medicaid billing. The GFHP HIE aligns six separate clinics across a large geographic area to improve the quality and delivery of health care.

In addition, DCH used a Medicaid Transformation Grant to create a website designed to assist health care consumers by providing up-to-date health information from the Mayo Clinic and quality comparison measures from the Georgia Hospital Association (GHA). DCH provided pilot funding by awarding grants to the Chatham County Safety Net Planning Council, Inc., Sumter Regional Hospital, Washington County Regional Medical Center and Extended Care Facility, and St. Joseph's East Georgia Hospital. Each of these DCH grantees has achieved either operational or planning success and their collective experiences have proven both instructive and informative.

In 2009, DCH successfully applied for and obtained a federal funding from the American Reinvestment and Recovery Act (ARRA). Using the ARRA seed money obtained through the State HIE Cooperative Agreement Program, DCH has been able to accelerate its efforts to facilitate the formation of a statewide HIE. Under the leadership and guidance of the State Health Information Technology Coordinator, DCH has been facilitating the expanded use of certified electronic health records (EHRs), the electronic exchange of health information and the formation of a statewide HIE.

To further the formation of this statewide HIE, DCH sought and obtained invaluable technical assistance and advice from the Enterprise Innovation Institute of the Georgia Institute of Technology. As will be discussed in considerable detail in various sections of this document, the ultimate success of the statewide HIE hinges on interoperability, utility to its stakeholders, and financial sustainability. The preliminary results of the "as is" environmental scan confirmed the existence of resources that could be brought into the statewide HIE.

At this point, there is no existing HIE system that operates on a statewide basis in Georgia. There are, however, several existing HIE substate or service area HIEs. DCH believes that the inclusion of these existing smaller HIEs and those systems that are already in the advanced stages of planning throughout the state is vital. Otherwise, health information and valuable health data would remain locked in regional or small HIEs and not be able to be exchanged.

The most significant objective is, of course, the formation of a statewide health information exchange that will serve the needs of all stakeholders and collaborators, be financially self-sustainable for the long term, and be interoperable with other states and federal agencies. As a

result of extensive collaboration among a broad range of stakeholders across the State, a statewide health information exchange is being formed under an established entity, the Georgia Health Information Exchange, Inc., a 501(c)(3), non-profit organization.

DCH envisions that when the statewide HIE becomes fully operational, it will enable the exchange of electronic health information across state agencies and divisions including Medicaid, Public Health, Behavioral Health, substate and regional HIEs, individual providers, federal health care agencies (DOD, VA, CDC), the Social Security Administration (for disability determination), as well as the National Level Repository (NLR) and health care providers in other states.

DCH recognizes that the absence of broadband access and the lack of use of EHRs, particularly in medically underserved communities, present additional challenges to a statewide HIE. The expansion of broadband to rural and more isolated areas is underway. The Georgia HIT Regional Extension Center (GA-HITREC) is aggressively seeking to provide assistance to primary care physicians working in individual and small medical practices, especially those located in remote and rural areas of Georgia.

There is much in Georgia in terms of health care technology development and deployment that is already good. Even so, there are significant challenges ahead and much remains to be accomplished. By leveraging what is already working in Georgia with the electronic exchanges that are in advanced planning stages, and by working with key stakeholders and supporters, DCH expects to facilitate the successful formation and operation of GHIE, an electronic health exchange that will continually expand and be financially sustainable for the long term.

Finally, it is important to note that the preliminary results of the environmental scan of the “as is landscape” in Georgia confirm the existence of health information exchange assets that are likely capable of being leveraged and incorporated into the statewide HIE. In addition, DCH expects that when the statewide HIE becomes fully operational, the HIE will enable the exchange of electronic health information across state agencies and divisions including state Medicaid, Public Health, Behavioral Health, the substate and regional HIEs, individual providers, federal health care agencies (DOD, VA, CDC), the Social Security Administration (for disability determination), the National Level Repository and health care providers in other states. The coordination with Medicare and other federally funded programs in Georgia is also essential to the successful deployment and utilization of a statewide HIE.

2.3.2 Plans to Accelerate the Adoption of HIT

To accelerate the adoption of HIT, DCH plans to leverage certain “assets” or resources. DCH either operates, controls, or maintains relationships with certain significant resources that DCH expects can be successfully leveraged into the statewide HIE system. By connecting these high value resources to the statewide HIE, DCH expects to further advance the adoption of health information technology. As discussed in greater detail in other sections of this document, these “assets” include (but are not limited to the following):

- The Division of Medicaid (a statewide system that provides health care for children, pregnant women, and others who qualify);

- PeachCare for Kids™ (comprehensive health care program for uninsured children living in Georgia; fourth largest enrollment in the nation);

- DCH pharmacy programs (DCH spends more than $1.1 billion per year on prescription drugs for more than 1.4 million Georgians for outpatient drug prescriptions through Medicaid and PeachCare for Kids™; SXC, the Pharmacy Benefit Manager for Medicaid Fee for Service Outpatient Pharmacy Program, links providers and members through a DCH website);

- The Medicaid Management Information System (MMIS) that processes claims for Georgia Medicaid members is being updated and was launched in November 2010;

- Substate HIEs that are already operational such as the Georgia Farmworker Health Program, the Chatham County Safety Net Planning Council's HIE, and other substate HIEs;

- The Georgia Partnership for TeleHealth (agency that increases access to health care through use of technology including telemedicine, health information exchange, and telehealth);

- The Georgia Health Partnership portal (electronic health care administration that gives patients, doctors, pharmacists, and other providers easy, secure, and efficient access to health care information);

- The DCH Division of Public Health's Laboratory Program;

- The DCH Division of Public Health's Acute Disease Epidemiology Section;

- DCH has oversight for Georgia's 18 Public Health Districts which encompass all of the state's 159 counties (See Appendix B);

- The Georgia Registry for Immunization Transactions and Services (universal statewide system that maintains current data bank of vaccination records to promote disease prevention and control);

- The Vital Records Registry (connected electronically with MMIS);

- Georgia's 84 Rural Health Clinics and 27 Federally Qualified Health Centers (providing health services at 121 sites); and

- The State of Georgia Health Benefit Plan (a self-insured state health insurance plan that provides health care coverage for state employees, state school system employees, retirees and their dependents; the SHBP was providing coverage to 684,548 people as of 8/1/2010).

Effective data sharing depends largely on the ability of providers to electronically access and maintain accurate and timely patient information across unaffiliated providers and health care systems. The statewide HIE must be capable of supporting such access while also meeting the needs of DCH and other state and local health entities.

2.4 Assessment Findings: Georgia HIE Landscape

Georgia's large geographical size, its isolated pockets of rural poverty, and the absence of broadband connections in certain areas present significant challenges to expanding the use of health information technology and to forming a statewide HIE. Even so, the formation of small and medium-sized operational HIEs in Georgia has been steadily progressing. These HIEs exist in varying forms and have a wide array of functionality.

2.4.1 Organization Type

The majority of the operational HIEs are 501(c)(3) not-for-profit corporations followed by three for-profit Independent Physician Associations (IPAs), two educational institutions, one partnership, two affiliations of providers, one coalition or temporary alliance of parties, and three informal collaborations of interested parties planning together.

This illustrates that while slightly more than half of the HIEs have a formal organizational framework, significant percentage remain at the exploratory level and will require additional development resources to achieve the type of formal organizational status required for development and operation of an HIE.

2.4.2 HIE Scope and Development

2.4.2.1 Operational HIEs in Georgia and the Exchange of Clinical Care Summaries

Currently, in Georgia, only a limited number of operational HIEs have the functionality to link unaffiliated organizations in the exchange of clinical care summaries or summary of care documents. Those that are actively participating in the electronic exchange of clinical care summaries or clinical data are the Central Georgia Health Network based in Macon, Georgia; the Georgia Farmworker Health Program based in rural areas in central and south Georgia, the ChathamHealthLink IT Consortium based in Savannah on the eastern seaboard coast of Georgia; and two HIE networks --the East Georgia HIE Network and the Urban Atlanta HIE, both of which form part of the Georgia Association for Primary Health Care's hub.

The Central Georgia Health Network (CGHN) is an HIE based in Macon, in central Georgia. CGHN encompasses one major hospital, the Medical Center of Central Georgia, and 450 physicians in 170 different medical practices. These 450 physicians actively exchange patient data and communicate with each other through an electronic hub that uses nationally recognized standards. Clinical data exchange is occurring which involves approximately 140,000 patients. Most CGHN members are fully integrated into the provider network and use eClinicalWorks EHRs with full patient data integration. One of the most significant features of CGHN is its ability to exchange comprehensive Continuity of Care Records and Continuity of Care Documents among its members.

The Georgia Farmworker Health Program (GFHP) is an electronic health information exchange developed by the State Office of Rural Health. GFHP provides health care services to 21 counties in rural central and south Georgia through 6 clinics. Through a secure Internet browser, the six clinics and providers have online access to patients' medical records. Through this HIE, a clinic is able to obtain a patient's medical record that includes a history of visits, diagnostic codes, treatment codes, and clinical notes on the patient's medical history. The GFHP electronically connects the six unaffiliated clinics, thereby enabling the secure electronic exchange of patient data, clinical care documents, and clinical records.

The ChathamHealthLink IT Consortium (CHL) is an active HIE that exchanges information between and among several unaffiliated clinics and two large hospital systems. The clinics include: the J. C. Lewis Health Center, Curtis V. Cooper Primary Health Care, Community Health Mission, St. Mary's Health Center, and Good Samaritan. The hospital systems are Memorial Health University Medical Center and St. Joseph's/Candler Health Systems. CHL's system is creating a central clinical data repository and building a Master Patient Index. Clinical data being stored and exchanged includes medical histories, encounter summaries, and lab orders and results. As of November 2010, 22% of CHL's unaffiliated member organizations were actively exchanging clinical care summaries between or among their organizations. CHL is presently actively at work in expanding the exchange of clinical care summaries.

The Georgia Association for Primary Health Care (GAPHC) is an operational HIE that includes 27 Federally Qualified Health Centers in Georgia. GAPHC operates a hub that includes two separate networks. The East Georgia HIE Network connects the East Georgia Healthcare Center, Tri-County Health System, and Community Health Care Systems. The Urban Atlanta HIE connects the West End Medical Center, Southside Healthcare, and the Oakhurst Medical Center. GAPHC supports the two HIE networks through a central data center known as the GAPHC Center Solution Data Center. It is DCH's understanding that 16 of the 27 FQHCs in GAPHC use eClinicalWorks as their EHR product and are thus able to engage in the exchange of clinical care documents or summary of care documents.

Organization	Data Exchange
Chatham County Safety Net Planning Council, Inc.[2] (CCSNPC)	Launched an HIE in May 2010. Its electronic health technology system includes medical records and e-prescribing. CCSNPC primarily serves the medically indigent. The HIE links the J.C. Lewis Health Center, a FQHC, and Memorial Health University Medical Center, a major hospital in Savannah. CCSNPC is actively working to expand its HIE to provide additional network services to other providers in the Savannah area.
Georgia Farmworker Health Program (GFHP)	Operated by the State Office of Rural Health (SORH), GFHP provides health care services to 21 rural counties through six clinics located in central and south Georgia. In 2007, SORH created a technology solution to allow online access through a secure Internet browser. For more than two years, this HIE has been providing real time reports to the individual clinics and the SORH. Through this HIE, a clinic can obtain a patient's record which includes a history of visits including diagnostic codes, treatment codes, and notes concerning the patient's medical history. In addition, the HIE allows for insurance billing. The GFHP HIE facilitates health reporting to accommodate health planning and trend monitoring. The HIE aligns six separate clinics across a large geographic area to improve the quality of health care.
Georgia Healthcare Systems, a Health Center Controlled Network	Connects Georgia's 27 Federally Qualified Health Centers (FQHC) electronically via a practice management system. (Environmental Scan, page 11) These FQHCs deliver services at 114 sites and 82 rural health clinics.
Memorial Medical Center Savannah	An anchor partner with the Chatham County Safety Net Planning Council, Memorial Medical Center Savannah provides access to its clinical systems network.
Children's Healthcare of Atlanta	An operational HIE, uses comprehensive EHRs to link its member hospitals in the system.
Central Georgia Health Exchange	Based in Macon includes the Medical Center of Central Georgia and 450 physicians in an affiliated physician hospital organization engaged in data exchange.
Harbin Clinic, Floyd Regional Medical Center	Currently are exchanging data elements related to patient care with Redmond Regional Medical Center, located in Rome, Georgia
Georgia Partnership for Telehealth	Provides collaborative telehealth across Georgia with an emphasis on rural health care and trauma care.
West Georgia Health	Located in LaGrange, Georgia, West Georgia Health System is

[2] Also referred to as Chatham Health Link IT Consortium.

Organization	Data Exchange
System	expanding its enterprise HIE into a service area HIE through agreements with community providers, an ambulatory EMR vendor, and a core infrastructure HIE vendor.
Veterans Administration	Operates 3 hospitals and 13 clinics in Georgia. All of these facilities are linked electronically to a national health data base through VistA, a health information exchange system.
Department of Defense	Operates two DOD hospitals, one Army Medical Center, and two Air Force Medical Groups in Georgia. These facilities are linked electronically through the DOD's HIE system.
The Georgia Cancer Quality Information Exchange	Based in Atlanta, launched an HIE focused on quality metrics in May 2010.

In addition, 100 percent of public health departments receive immunization, syndromic surveillance, and notifiable lab results electronically.

2.4.2.2 HIEs Currently Being Planned in Georgia

Organization	Description
Augusta Metro Health Information Exchange	Planning an HIE with the intention of serving east central Georgia. Current collaborators include the East Central Health District (DCH), Charlie Norwood VA Medical Center
Georgia Regional Health Information Organization (GARHIO)	Initially began planning to establish a health information exchange in Athens for ten counties in northeast Georgia. For financial sustainability reasons, GARHIO expanded its scope beyond Georgia Public Health District 10 to include Georgia Public Health District 2 which encompasses 12 additional counties anchored by a large regional medical center, Northeast Georgia Health System in Gainesville.
Sumter Regional Hospital (SRH)	Received a grant from DCH for the planning and implementation of electronic medical records system that would allow for communications between SRH and affiliated outpatient providers. In 2009, SRH merged with Phoebe Putney Health System, resulting in the Phoebe Sumter Medical Center.
Northwest Georgia Health Alliance	Continuing to expand its EHR adoption program and Health One Alliance information exchange in the northwest Georgia area as well as connecting to southeast Tennessee.
Children's Healthcare of Atlanta	Children's Healthcare is actively working with other health systems and the Atlanta Metro Chamber of Commerce to form a greater

	Atlanta metro HIE.
Columbus Regional Medical Center and St. Francis Hospital in Columbus	Both are engaged in early stage collaboration and outreach and education of physicians and other professionals in the southern west region of Georgia bordering Alabama. The strategic intent is to form an HIE serving this area which has been experiencing rapid growth attributable to the expansion of the Army facilities at Fort Benning.
Medical College of Georgia	Based in Augusta, the MCG is planning an academic HIE with Emory Hospital (Atlanta) and the Medical Center of Central Georgia (Macon).

In summary, the preliminary results of the environmental scan of the "as is landscape" in Georgia confirm the existence of health information exchange assets that are likely capable of being leveraged and incorporated into the statewide HIE. In addition, DCH expects that when the statewide HIE becomes fully operational, the HIE will enable the exchange of electronic health information across state agencies and divisions including state Medicaid, Public Health, Behavioral Health, the substate and regional HIEs, individual providers, federal health care agencies (DOD, VA, CDC), the Social Security Administration (for disability determination), the National Level Repository and health care providers in other states. The coordination with Medicare and other federally funded programs in Georgia is also essential to the successful deployment and utilization of a statewide HIE.

2.4.3 Health Plan Administrative Readiness for Data Exchange

Georgia has a strong history of administrative HIEs including electronic eligibility and claims transactions. The detail below describes this current environment:

Organization	Data Exchange
Blue Cross & Blue Shield of Georgia (BCBSGA)	Provides health care insurance to over 3.3 million members, making it the largest health insurer in Georgia. BCBSGA offers a web-based system called MD On-line that allows providers to view and transmit information electronically to health insurance payers. MD On-line offers electronic claim submission, patient eligibility and benefit verification, claim status verification, detailed tracking and reporting and electronic remittance advice.
United Healthcare of Georgia	Has the second largest market share in Georgia. United Healthcare of Georgia offers United Healthcare Online, a resource for physicians and health care professionals. This resource consists of four tools: patient eligibility and benefits section that allows providers to retrieve patient information including access to medical records and to determine patient eligibility; claims and payment section; notification section; and tools and resources section.
Kaiser Foundation Health	Actively deploys EHRs and related health information

Organization	Data Exchange
Plan of Georgia	technology. Kaiser Permanente offers My Health Manager, an on-line system that allows patients to create and update a profile, connect to their doctor and pharmacy, view test results and medical history, and manage appointments.
Coventry Health Care of Georgia	Serves over 155,000 Georgians with a network of more than 17,000 health care provider locations. Through directprovider.com, Coventry Health offers providers electronic claims submissions, status verification, and eligibility.

In addition to these private entities, the Division of Medicaid processes numerous claims through its MMIS. Nearly 100 percent of all health plans in Georgia conduct electronic transactions for claims and eligibility. It is expected that these private and public administrative systems will be leveraged into the statewide HIE and thus be able to achieve greater efficiencies, reduce duplicative testing, and improve health care delivery.

2.4.4 Governance Structure and Capacity

Building a successful HIE requires considerable planning and collaboration among stakeholders to define and refine policies and develop an HIE that will be technically and financially sustainable because the HIE has value across a broad range of users. Four years ago the Georgia Department of Community Health began the process of strategizing the planning process for establishing a statewide HIE. Since 2006, the State HITT Advisory Board provided invaluable assistance and guidance to DCH, particularly through the efforts of the Advisory Board members and the workgroups that were formed.

As a direct result of the Advisory Board's efforts and recommendations and DCH's collaboration with a broad range of stakeholders, DCH is supporting a governance model that will ensure representation and participation by a broad and inclusive range of stakeholders. After the governance structure is finalized, it is expected that DCH will implement a strategy that focuses on education and awareness activities designed to promote the increased adoption of HIT generally and, in particular, the adoption and use of certified EHRs throughout the state. The proposed governance structure is discussed in considerable detail in Section 4 of the Operational Plan in this document.

2.4.5 HIE Readiness: Existing Service Area Health Information Exchanges

Providers throughout Georgia have begun to exchange limited amounts of patient information electronically. Some Service Area Health Information Exchanges (SAHIEs) have emerged and others are still being planned. SAHIEs generally consist of providers in a select geographic area within a hospital system that shares patients across practices and settings. Among the core operating principles of a statewide HIE is providing value to the multiple stakeholders in

Georgia through a business model that aligns value to sources of ongoing funding. Another is the recognition that existing SAHIEs are potential assets for the statewide HIE and need to be supported and encouraged to participate in a manner that respects the financial investments and existing provider relationships of their sponsoring organizations.

Encouraging the increased use of health information technology that is interoperable and that has the capacity to connect existing SAHIEs to a statewide HIE system is essential. Otherwise, health information remains locked inside separate SAHIEs and remains inaccessible to other hospitals, clinics, and providers and cannot be utilized to improve health care and eliminate unnecessary duplication and inefficiencies. As part of DCH's plan to facilitate connectivity, DCH is advancing the adoption of health information technology that is interoperable and accessible to terms of affordability.

As noted earlier in this document, GHIE has executed written Documents of Commitment from several operational HIEs including three SAHIEs. GHIE has been working actively with the following organizations:

2.4.5.1 The ChathamHealthLink IT Consortium

Formerly known as the Chatham County Safety Net Planning Council, Inc., the ChathamHealthLink IT Consortium is an active HIE based in Savannah, Georgia on the east coast of the state. This IT consortium actively exchanges health information electronically on a county-wide basis in Chatham County, which encompasses the city of Savannah. This IT consortium is a non-profit organization whose partners include: the Chatham County Health Department; two federally qualified health centers: the Curtis V. Cooper Primary Health Care and the J. C. Lewis Health Center; volunteer medicine clinics: Community Health Mission and the two clinics associated with St. Joseph's/Candler Mission Services—St. Mary's Health Center and Good Samaritan. Two hospital systems, Memorial Health University Medical Center and St. Joseph's/Candler Health Systems are participating partners. Several community organizations and representatives from the City of Savannah and Chatham County are key participants on the Planning Council. The ChathamHealthLink IT Consortium is actively seeking additional partners to expand its HIE to other providers beyond the immediate Savannah area.
CHL uses Orion Health's Rhapsody Integration Engine, including the Catalyst Enterprise Master Patient Index, as the core architecture components. The Rhapsody Integration Engine provides secure patient data transmission via VPN to a central Oracle based clinical data repository (CDR). Data stored in the pilot configuration includes demographics, allergies and alerts, medications, encounter summary, medical history and lab orders and results.

2.4.5.2 The Central Georgia Health Network (CGHN)

The Central Georgia Health Network (CGHN) is an HIE based in Macon, in the central Georgia area. This HIE includes the Medical Center of Central Georgia and 450 physicians in an affiliated physician hospital organization engaged in an active data exchange involving approximately 130,000 patients. These 450 physicians are from 170 different medical practices. They communicate with each other through an electronic hub (Health Exchange). The Health

Exchange is financed completely by physician practices. The Health Exchange uses nationally recognized standards and the majority of the doctors' offices use eClinicalWorks™ for an electronic ambulatory medical system.

- CGHN consists of 450 physicians, Mercer University Medical School faculty and the Medical Center of Central Georgia. They established a Technology Committee to govern design, build and deploy CGHE.
- CGHN is financed through subscription fees that are included in the participating providers' membership fees. There are two primary levels of membership: local members (members that are included in the clinical network) and regional members (members that use some of the services but are not fully integrated in the clinical network).
- The Technical Committee and Governance Board chose eClinicalWorks Comprehensive Electronic Records Solution to support CGHN. Key components of the architecture include eEHX (to facilitate the electronic exchange of health information), EMR (an electronic medical record), a practice management system, and a patient portal. There are also 11 additional EMRs used within this architecture that support various members of the CGHN and their practices.
- Most CGHN members are fully integrated into the provider network and are eClinicalWorks EHR users with full patient data integration via eEHX. Regional members and local members that are not eClinicalWorks EHR users (eleven practices) have basic patient data exchange via secured messaging, including patient demographics and a Continuity of Care Record summary.
- e-Prescribing is offered with connection to Surescripts. Laboratory orders and results reporting are offered through connections to the Medical Center of Central Georgia and major reference labs (e.g., LabCorp).
- One of the features of GCHN is its ability to provide a comprehensive Continuity of Care Record and a Continuity of Care Document.

2.4.5.3 The Georgia Association for Primary Health Care (GAPHC)

The Georgia Association for Primary Health Care (GAPHC) is an operational HIE that includes 26 FQHCs. GAPHC is a hub that includes two networks. The East Georgia HIE Network includes Community Health Care Systems, East Georgia Healthcare Center, and Tri-County Health System. The Urban Atlanta HIE connects West End Medical Center, Southside Healthcare, and Oakhurst Medical Centers. These organizations and the other FQHCs are supported by a central data center.

- The GAPHC data center is located in Atlanta.
- 16 of the 26 organizations use eClinicalWorks as their EHR product.
- 4 of the 26 are in the process of EHR product transition.
- Palmetto Health Council uses Misys as its EHR.
- Curtis V. Cooper Primary Health Care is in the planning phase for possibly procuring a different EHR vendor.
- Georgia Mountains Health Services uses EHS for its EHR.
- MedLink Georgia uses NextGen as its EHR product.

- A co-located data center located outside of Atlanta provides disaster processes and procedures for GAPHC.

All of the 26 FQHCs are electronically connected to the GAPHC Center Solution Data Center in Atlanta. The East Georgia HIE Network which connects Community Health Care Systems, East Georgia Healthcare Center, and Tri-County Health System is arguably a model for a rural primary care HIE.

2.4.5.4 The Georgia Cancer Quality Information Exchange (GCQIE or the "Exchange")

The Georgia Cancer Quality Information Exchange (GCQIE or the "Exchange") is an HIE that actively exchanges quality metrics between unaffiliated organizations. The Exchange is a quality reporting initiative of the Georgia Cancer Coalition to exchange clinical metric data, a groundbreaking activity intended to reduce cancer deaths and improve cancer patient treatment. By sharing quality metrics in the form of de-identified patient data, GCQIE is striving to: reduce variations costs and errors through standardization of workflows, disseminate current scientific and best practice knowledge, and assist with organizing optimal treatment planning. The Exchange uses 52 quality measures developed by an independent panel of scientific experts. The purpose of the Exchange is to facilitate "the design, access and retrieval of clinical information and public health data for the purpose of measuring the quality of cancer care, enhancing adherence to standards of care, and improving patient-centered care and outcomes through process change." In addition, a major hospital system and the state medical university have executed Documents of Commitment:

2.4.5.5 Emory Healthcare

Emory Healthcare, one of the largest hospital systems in Georgia has signed a letter of commitment to participate in the Georgia statewide HIE.

2.4.5.6 Georgia's Health Sciences University

Georgia's Health Sciences University f/k/a the Medical College of Georgia has signed a letter of commitment to participate in the statewide HIE.

2.5 E-Prescribing Capacity

The importance of e-prescribing is to improve prescription accuracy, increase patient safety and reduce costs, as well as enable secure, bi-directional, electronic connectivity between physician practices and pharmacies.

2.5.1 E-prescribing Readiness

According to the Georgia Pharmacy Association, there are a total of 2,438 pharmacies in Georgia. Including 1,402 chain pharmacies and 447 independent pharmacies, 1,849 pharmacies are activated for e-prescribing. The Georgia Pharmacy Association reports that there are 3,603 active users of e-prescribing and that more than 3 million electronic prescriptions have been sent to Georgia pharmacies for the year-to-date. According to the Georgia Pharmacy Association, during the same period in 2009, 1.3 million e-prescriptions were sent to Georgia pharmacies. With 76 percent of all pharmacies already using e-prescribing, it is expected that the use of e-prescribing will continue to steadily increase throughout the state.

The Environmental Scan noted that pharmacies in Georgia are authorized by law to use e-prescribing. The scan found that 76 percent of all pharmacies actually use e-prescribing. According to the 2008 and the 2009 “State Progress Report on Electronic Prescribing” authored by Surescripts, the percent of physicians using e-prescribing and the percentage of prescriptions being routed electronically have been steadily increasing.

As outlined previously in Section 2 in the discussion of the Environmental Scan results, it is apparent that there is significant operational HIE activity already occurring in Georgia. When the operational HIE activity is considered in combination with the planning activity for additional HIEs, the substantial activity in the administrative HIE environment, and the ever-increasing level of e-prescribing, it becomes apparent that collectively these activities represent tangible and significant assets to be leveraged into the statewide HIE.

Although DCH included information from Surescripts in the August 30, 2010 version of Section A, it is supplementing that information with additional data from Surescripts and the Georgia Pharmacy Association. According to Surescripts’ analysis in 2009, Georgia’s 2009 national “Safe-Rx” ranking was 26. Surescripts tallied the total number of prescriptions being routed electronically for each of the years, 2007, 2008, and 2009. According to Surescripts’ “Georgia Progress Report on E-Prescribing,” the total number of prescriptions routed electronically in 2007 was 326,067; in 2008, it was 1,177,568, and in 2009, it was 4,481,480. These statistics reflect steady progress in the movement toward the increased use of e-prescribing. By Surescripts’ calculations, in 2009, 8% of all eligible prescriptions were routed electronically.

These numerical totals appear below:

Total Number of Prescriptions Routed Electronically	
2007	326,067
2008	1,177,568
2009	4,481,480

Percent of Eligible Prescriptions Routed Electronically	
2007	2%
2008	6%
2009	8%

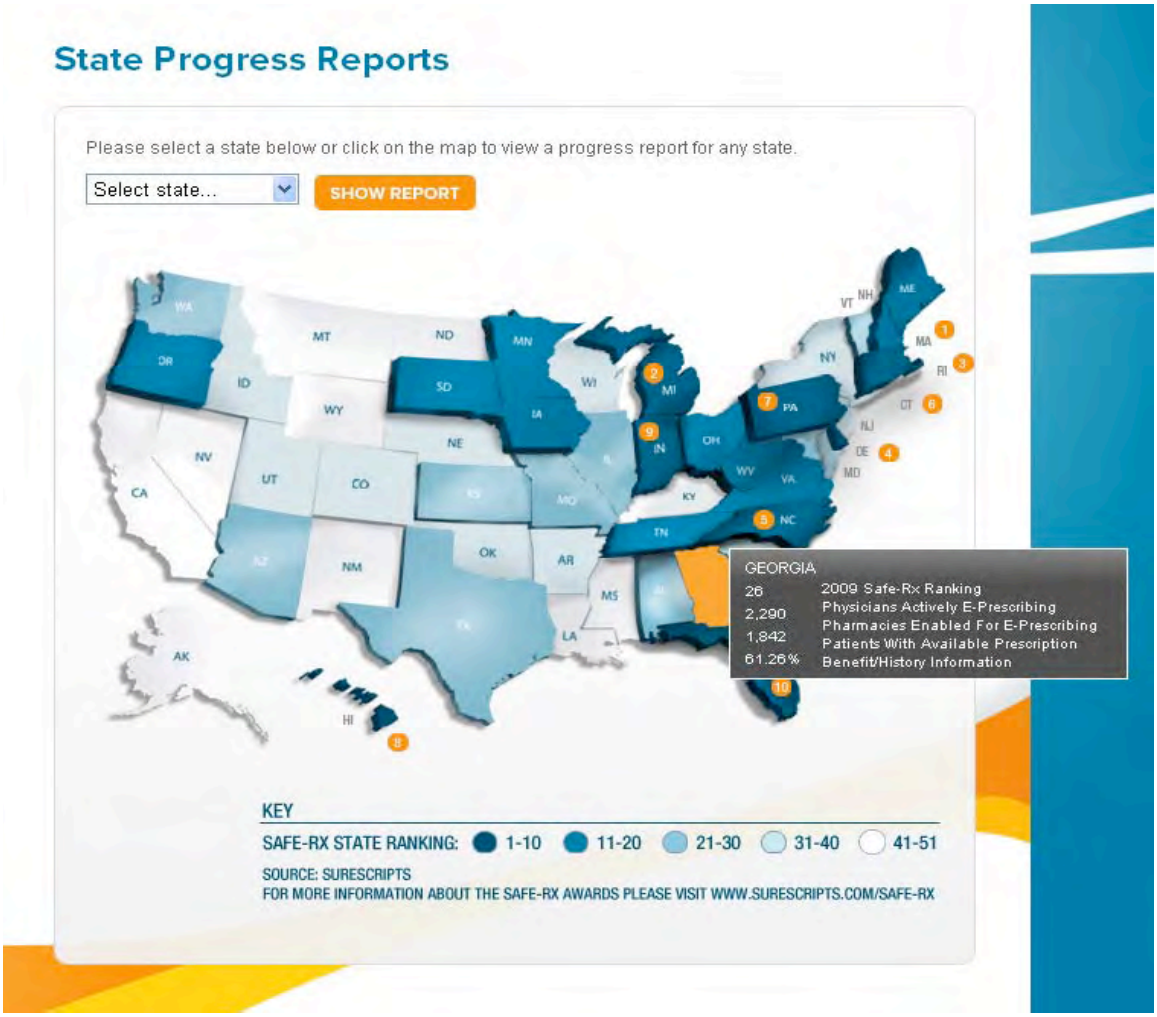
Percent of Prescriptions Represented by Renewal Response	
2007	24.32%
2008	24.69%
2009	20.43%

In addition, the report by Surescripts indicates that in 2009, approximately 17% of physicians in Georgia routed prescriptions electronically in Georgia. Also, according to the Georgia Pharmacy Association, in 2009, 76% of all pharmacies in Georgia accepted electronic prescribing and refilled requests electronically.

2.5.1.1 Pharmacy Details

Description	Total
Licensed Pharmacists in Georgia*	13,383
Pharmacies enabled for E-prescribing**	2,290
Current volume of E-prescribing transactions**	4,481,480
In-state pharmacies (Retail)**	2,479
In-state pharmacies (Total)**	4,943

**Source: Georgia Secretary of State as of 1/27/2010*
***Source: Georgia Board of Pharmacy as of 1/27/2010, www.soso.georgia.gov/plb/pharmacy/*



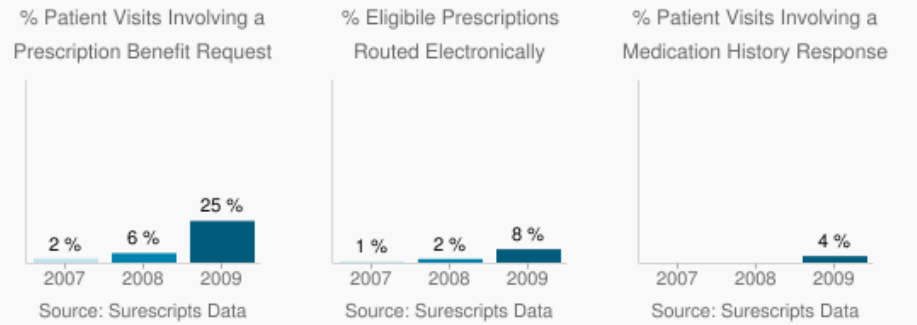
Source: http://www.surescripts.com/about-e-prescribing/progress-reports/state.aspx?state=ga

PART 2: E-Prescribing Utilization

Read Less

	2007	2008	2009
Prescription Benefit Requests	621,198	1,435,685	6,181,605
Rate of Response to Benefit Requests at Year-End	40.46%	76.24%	80.51%
Total Prescriptions Routed Electronically[1]	326,067	1,177,568	4,481,810
% of Total Prescriptions Represented by Renewal Response	24.32%	24.69%	20.43%
Total Estimated Responses to Medication History Requests[2]			969,487

Georgia Utilization Percentages



Source: http://www.surescripts.com/about-e-prescribing/progress-reports/state.aspx?state=ga

PART 3: E-Prescribing Adoption

	2007	2008	2009
Physicians Routing Prescriptions at Year End	298	946	2,290
Community Pharmacies Activated for E-Prescribing at Year-End[3]	1,437	1,644	1,842

Georgia Adoption Percentages

Source: http://www.surescripts.com/about-e-prescribing/progress-reports/state.aspx?state=ga

2.6 Laboratory Services

2.6.1 Georgia Laboratory Services

The exchange of laboratory information electronically is a major component in the success of an HIE. Electronic lab orders and results delivery inevitably will lead to more and better health care for all Georgians.

Georgia has 7,307(Source: www.hhs.cms.gov; CLIA Laboratory Demographic Information reports) Clinical Laboratory Improvement Act (CLIA) recognized laboratories. Of these 437 are CLIA accredited and an additional 736 labs are CLIA compliant. Approximately 94 percent of these labs are part of physicians' offices, single hospitals, hospital systems, university systems or government. The state of Georgia has three public laboratories.

The remaining 6 percent of laboratories in Georgia are independent labs. Four independent laboratories have approximately 75 percent of all independent laboratory business in Georgia. These are Quest Diagnostics, Inc., Laboratory Corporation of America, Inc., Bioreference Laboratories, Inc., and Pathology Laboratories, Inc. These four laboratory companies are currently sending laboratory results electronically. DCH anticipates that facilitating the electronic exchange of clinical laboratory results represents an opportunity for expansion. As a

result of increased EHR use, these exchanges should occur more frequently. DCH expects the electronic clinical laboratory statistics to mirror the EHR adoption rates in Georgia. In a recent report submitted to DCH, the Enterprise Innovation Institute estimated that 36.17% of all physicians in Georgia have EHRs with electronic laboratory transmission capabilities.

2.6.2 DCH Division of Public Health Laboratory Program

The DCH Division of Public Health Laboratory Program of DCH is actively involved in confidential clinical and non-clinical laboratory testing. The Georgia Public Health Laboratory provides screening, diagnostic and reference laboratory services through county health departments, public health clinics, physicians and other clinical laboratories, hospitals, and state agencies.

Currently, nearly all health departments in Georgia receive immunization, syndromic surveillance, and notifiable laboratory results electronically.

2.7 Care Summary Exchange

The ability to create, transmit, receive and interpret patient care summaries can enhance a wide range of health services, including continuity of care, accurate diagnosis and treatment, and patient and caregiver engagement.

In light of the current state of operational HIEs in Georgia, the potential for growth in the exchange of clinical care data and summary of care documents is significant and exciting. The Central Georgia Health Network, ChathamHealthLink IT Consortium, and the Georgia Association for Primary Health Care, the apparent leaders in forming successful HIEs among unaffiliated organizations, have agreed to participate in GHIE, the statewide HIE. In addition, Emory Healthcare, one of the largest hospital systems in Georgia, has also committed to participating in the statewide HIE.

Both GHIE and DCH seek to leverage the collective experience and operational knowledge gleaned from these successful HIE entities to help ignite further HIE growth and to expand the exchange of clinical data summaries and summary of care documents. GHIE and DCH expect GHIE to use the collective technical and clinical “know-how” of CGHN, the ChathamHealthLink IT Consortium, and the Georgia Association for Primary Health Care, in conjunction with Emory’s successful clinical data exchange between and among its geographically dispersed facilities to facilitate the growth of this type of exchange of clinical health information. Given the experiential success of these HIEs, their commitment to expand data exchange through GHIE as a “network of networks,” their willingness to help other fledgling HIEs, and in light of GHIE’s and DCH’s ongoing efforts to obtain other committed participants in the statewide HIE, the likelihood of successful expansion is not only realistic but also to be expected. Finally, the fact that Medicaid providers will need to demonstrate meaningful use of clinical care information in

order to qualify for Medicaid incentive payments should contribute additional momentum to the expanded exchange of clinical care data and summary of care documents.

2.8 Electronic Public Health Reporting

All 18 Public Health Districts in Georgia receive immunization, syndromic surveillance, and notifiable lab results and are actively exchanging data electronically with the DCH DCH Division of Public Health.

2.8.1 Public Health and Statewide Registries

DCH is working with Public Health and the 18 Public Health districts to assess their current readiness for participation in the HIE. DCH will identify gaps and provide assistance to the Public Health districts to ensure assure their readiness for Stage 1 meaningful use information exchange.

2.8.2 Notifiable Results

The State Electronic Notifiable Disease Surveillance System (SendSS) acquires, collects and analyzes syndromic surveillance data. The principal data source for SendSS is chief complaint data from participating emergency departments and ambulatory care centers. This information is collected from patient information systems and transferred electronically to SendSS.

2.8.3 Newborn Surveillance

The SendSS Newborn surveillance is a tracking system to identify and monitor at risk children throughout Georgia. A critical function of this system is to create unique child-based records by integrating electronic interfaces from diverse sources, including electronic records from the Vital Events Information System Birth Registry, the Public Health Laboratory Newborn Screening Information System and electronic interfaces with hospital hearing screening equipment.

The genetics portion of SendSS NB serves two main purposes: a data warehouse for all newborn screens performed in Georgia and a follow-up case management tool for abnormal newborn screens. SendSS NB receives a nightly HL7 file via PHIN-MS from the Georgia Public Health lab containing all final results of screens completed that day. This data populates SendSS NB and creates a new patient record. These records are available for searching and are queued to be matched to the electronic birth certificate data feed from Vital Records. Emory Genetics groups track abnormal metabolized, the Georgia Health Sciences University (formerly Medical College of Georgia) and Grady Hospital track abnormal hemoglobin and the Sickle Cell Foundation follows up on non-disease sickle cell trait carrying cases.

2.8.4 Georgia Registry for Immunization Status

The Georgia Registry for Immunization Status (GRITS) is the state's birth to death immunization registry designed to collect and maintain accurate, complete and current immunization records in compliance with state law and national health standards. GRITS is a system to promote effective and cost-efficient disease prevention and control through immunization collection. GRITS assists health care providers and public health officials to assess and improve community immunization status. GRITS enables medical providers to access up-to-date immunization records of Georgians and to avoid duplicative and unnecessary immunizations.

2.8.5 Vital Records

In 2005, the DCH Division of Public Health implemented the VEIS system to enable hospitals, coroners, funeral directors, and county registrars to enter vital event data. From 2008 forward, all births and fetal deaths in Georgia have been recorded electronically. All birth certificates are entered electronically at hospitals. Birthing clerks enter information as to whether or not an infant is at high risk to enable tracking of high-risk infants. Public Health uses this electronic information to track at-risk infants, detect emerging health problems, and also to prevent fraud. DCH believes that the eventual inclusion of this information in the statewide HIE represents a significant asset for inclusion.

2.8.6 Syndromic Surveillance and the DCH Division of Public Health

Currently, the Georgia Syndromic Surveillance Program of the DCH Division of Public Health tracks 24 separate events (syndromes) that are derived from chief complaints by means of a text parse algorithm that looks for the presence of key phrase components then maps the record to the appropriate syndrome. Once mapped the data then is processed through the CDC Developed Early Aberration Reporting System at three geographic stratifications (State, District, Facility) to look for statistically significant changes in expected counts.

2.8.7 Quality Reporting

DCH's Medicaid Division, Performance, Quality and Outcomes, has a standard format for performance measures. In CY 2009, DCH adopted thirty-two Healthcare Effectiveness Data and Information Set (HEDIS) performance measures. These HEDIS measures apply to Medicaid recipients enrolled in fee-for-service programs, as well as the Medicaid and CHIP populations enrolled in Georgia Families, Georgia's statewide Medicaid managed care program. Georgia's Medicaid Management Information System (MMIS) generates the performance measures and the results are then validated by the DCH External Quality Review Organization (EQRO). In the interest of transparency, the validated performance measures are posted on the DCH website.

Under the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009, the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Medicare & Medicaid Services (CMS) have been working together with the CHIPRA Federal Quality Workgroup to implement certain provisions related to children's health care quality. CMS has asked states to voluntarily report on the Initial Core Set of Children's Health Quality Measures for Medicaid and CHIP programs; states are currently providing comments on these measures. DCH intends to adopt the Core Set of Children's Measures once they are finalized; fourteen of the Children's Measures are already included in the DCH current HEDIS performance measures. GHIE and DCH recognize that accountable care and quality reporting is a requirement for Stage 2.

2.9 White Space in Georgia

Georgia's primary goal in participating in the State HIE Cooperative Agreement Program is to facilitate the development and expansion of an inclusive operational statewide HIE. The statewide HIE is being planned as a "network of networks" that eventually will connect health care providers throughout Georgia and beyond, including doctors' offices, hospitals, laboratories, and pharmacies. In addition, the statewide HIE is expected in future phases to connect employers, insurers, health care plans, and secondary and other users.

Fostering incremental growth and enhancing the value of the exchange and keeping the exchange affordable to participants in the network are essential elements of the success of the statewide HIE. Accordingly, GHIE with DCH's full backing and support has committed to enabling simple interoperability via NHIN Direct standards. The general terms, conditions and requirements for participation in the statewide HIE, as set forth in the Documents of Commitment, require GHIE "to implement an HIE technical architecture that will enable network to network connections using NHIN standards and HIE components that support patient and providers' directories services and provide secure and interoperable connections for HIEs." (Section A, Paragraph 1, Document of Commitment). Through the use of components that enable "simple interoperability," GHIE is encouraging and facilitating participation across Georgia.

These fundamental components are:

1. User verification and authentication that includes a digital certificate or some kind of assurance that the person is who they say that they are and that they are authorized to access the network (user id and password management);

2. Provider directory to look up information for the recipient (email / server address) to include both individual clinician identifier and entity-level (provider organization) information;

3. Secure transport—encrypted, conduit (SMTP, i.e. secure email); and

4. Tracking via an auditing system.

Filling the white space is a commitment of DCH, GHIE, and GA-HITREC. GA-HITREC is concentrating mainly on non-metropolitan Atlanta physicians who are solo practitioners or in small practices mostly in the rural areas of Georgia. By helping these physicians meet the requirements for the meaningful use of certified EHRs, GA-HITREC through its vendor selection process and technical assistance is enabling these physicians to participate in the statewide HIE via use of NHIN Direct standards.

As noted in Georgia's SMHP, there is considerable interest among Medicaid physicians in obtaining Medicaid incentive payments. This interest, coupled with GA-HITREC's work, supports incremental growth in physician participation in the statewide HIE.

Georgia has approximately 170 hospitals dispersed across the state except for the hospitals concentrated in the Atlanta metropolitan area. Large hospital systems like Children's Healthcare of Atlanta and the Piedmont Hospital System, two metro-Atlanta hospital systems, engage fully in self-contained electronic health information exchange among their various clinics and hospital facilities. Other metro-Atlanta area hospital systems engage in similar electronic exchange of health data on an internal basis within their organizations.

Even so, the electronic exchange of health data between and among unaffiliated hospital organizations is noticeably limited. The known universe of such exchange consists only of the participants in the Central Georgia Health Exchange, Georgia Farmworkers Health Program, Chatham Healthlink IT Consortium, Georgia's Health Sciences University (f/k/a the Medical College of Georgia), Emory Healthcare, the Georgia Cancer Coalition, and the Georgia Association for Primary Care. Not including individual clinics, the total number of hospitals involved in this known universe of health information exchange between unaffiliated organizations is 6 of 170 hospitals in Georgia or slightly less than four (4) percent.

This low percentage of HIE participation presents an opportunity for growth in the statewide HIE. To improve HIE participation by hospitals in the statewide HIE, the Board of Directors of GHIE, Inc. is being reconstituted to include voting representation for rural hospitals, urban hospitals, and teaching hospitals. In addition, the Technical Committee and Georgia Tech faculty will assist GHIE with designing the statewide HIE for interconnectivity and simple interoperability. Also, GHIE is committed to the use of open source technology to reduce costs, ensure affordability, and encourage access to the statewide HIE. DCH believes that every hospital, clinic, medical facility, or similar organization that wants to participate in the statewide HIE needs to be enabled to do so.

Finally, it is important to note that DCH's survey of hospitals completed in the last few months indicates that the majority of hospitals in Georgia are planning to implement certified EHRs within the next three years. The level of interest by hospitals, the Board representation for hospitals in GHIE, Inc., the financial incentives available to hospitals under the Medicaid and Medicare incentive programs, the use of affordable connectivity technology by the statewide HIE are expected to result in measurable and steady reductions in the amount of white space in Georgia.

Similarly, the number of physicians participating in the known universe of HIE between and among unaffiliated physicians and physician practices is low. According to the Medical Association of Georgia, there are approximately 18,500 physicians in Georgia. The number of physicians currently participating in the electronic exchange of health information with unaffiliated physicians, physician groups, or other organizations is very limited. By DCH's conservative calculation, this number is approximately 600 of 18,500 physicians or three (3) percent. As of January 2011, GA-HITREC has signed up nearly 1,000 physicians to participate in the regional extension program for Medicaid incentives. In addition, the GHIE Board of Directors is expanding to include a representative of physicians. This representative should be able to promote the interests of physicians across the state.

Filling the white space is a commitment of DCH, GA-HITREC, and GHIE. GA-HITREC is concentrating its efforts mainly on non-metro Atlanta area physicians especially sole practitioners or physicians in small practices in rural and remote areas of Georgia. By helping these physicians adopt certified EHRs and meet the requirements for meaningful use of EHRs, GA-HITREC through its vendor selection process and technical assistance is enabling these physicians to participate in the statewide HIE via the use of NHIN Direct national standards.

As discussed in Georgia's SMHP, there is considerable interest among Medicaid physicians in Georgia in obtaining Medicaid incentive payments. This interest coupled with GA-HITREC's work and the technical assistance provided by Georgia Tech will advance efforts to fill the white space.

Georgia has hospitals that utilize EHRs but do not participate in health information exchanges with an unaffiliated organization. These hospitals will not be able to demonstrate meaningful use without participation in the statewide HIE. GHIE is committed to enabling every provider who wants to participate in the statewide HIE to be able to do so. The use of NHIN Direct standards facilitate enhanced and meaningful participation in the exchange.

2.10 Telemedicine in Georgia

In November 2010, the Georgia Partnership for TeleHealth, Inc. (GPT) based in Waycross, Georgia, near the Georgia/Florida border obtained a 2010 Broadband Technology Opportunities Program (BTOP) award worth nearly $2.5 million for its TeleConnect Georgia for Better Health (TCGBH) program, which builds out broadband networks to support telemedicine applications in underserved and rural areas. The partnership will match some of the grant funds in order to connect via broadband 1,575 primary-care physicians, 6,000 nurses and 700 non-physician practitioners in 91 counties.

To serve Georgia's rural and underserved populations, GPT has been building a broadband network throughout Georgia's rural areas to carry telemedicine applications and health-education campaigns. Before the creation of this network, rural patients may have had to drive hours to see a specialist. The build out of a broadband network means doctors operating on the

network and patients visiting connected clinics can be examined virtually via live video conferencing — making better health care available to remote populations.

GPT is continuing to aggressively expand its network to include additional specialists, more patients, and increased access points. Using the BTOP award, GPT is working to expand its current telehealth broadband network from 133 access points to 197 access points. GPT is in the process of upgrading the network by adding a 40-bit Internet pipe which is expected to increase connectivity and enable use of existing Internet infrastructure.

2.11 EHR Adoption

2.11.1 Hospital Adoption

Using an American Hospital Association survey from 2009 and data from Georgia hospitals, the Environmental Scan extrapolated and projected EHR adoption rates for hospitals in Georgia. The results of that analysis are contained in the table below.

EHR Adoption in Hospitals, 2009

AHA EHR Survey Items	General Hospitals Only									
	All States inc GA		All States not GA		Georgi					
					ATL		Not ATL		Total	
	#	%	#	%	#MSA	%	#MSA	%	#GA	%
Total	3,29	100	3,21	100	2	33	5	67	8	100
Records	3	%	0	%	7	%	6	%	3	%
Hospitals with Comprehensive	13	4	12	4	3	11	1	2	4	5
EHR Hospitals with Basic EHR Clinician	143	43%	138	43%	1	52%	3	61%	4	58%
Notes Hospitals with Basic EHR No	085	26%	284	26%	47	26%	47	13%	8	17%
Notes Total Hospitals with any	242	74%	235	73%	2	89%	4	75%	6	80%
EHR	2	%	6	%	4	%	2	%	6	%

Source: AHA, 2009 and Georgia Institute of Technology

Comparing hospitals in the Atlanta Metropolitan Statistical Area (MSA) with those outside that area, the Environmental Scan reported a higher adoption rate for at least a basic EHR in the MSA. (Environmental. Scan, page 7) The report defined "basic EHR" as being "comprised of at least eight functionalities that had been implemented in at least one major clinical unit of the hospital (such as the emergency room)." It defined "comprehensive EHR" as being "comprised of 24 functionalities and which had been implemented in all major clinical units of the hospital." (Environmental Scan, page 6) The analysis in the report segmented Atlanta MSA hospitals and non-Atlanta MSA hospitals and determined that the latter "lag behind in adoption [of basic EHRs] by a full 14 percentage points." (Environmental Scan, page 14)

The Final Report noted that "the adoption of basic EHRs with clinicians' notes is somewhat higher in hospitals outside the Atlanta MSA." (Environmental Scan, page 14) The report found only two hospitals in the Atlanta MSA having a comprehensive EHR. One is Piedmont Health

Systems which has 100 percent use of CPOEs and clinical decision support. The other hospital is Children's Healthcare of Atlanta (CHOA) which consists of Children's Egleston, Children's Scottish Rite and Children's Hughes Spalding. The Final Report emphasized that "This system is Georgia's largest hospital based system focused on the pediatric needs of the state. CHOA has a comprehensive EHR based on EpicCare. CHOA provides basic electronic access for community physicians to the EHR as well as connectivity to Kaiser Permanente physicians." (Environmental Scan, page 8)

Significantly, the report entered these two important findings: (1) CHOA is actively working with the Atlanta Metro Chamber of Commerce and other health systems to form a greater Atlanta metro HIE and (2) CHOA "is also working through this HIE to collaborate with the Georgia Health Information Exchange and DCH in order for CHOA to be an active stakeholder in a statewide HIE." (Environmental Scan, page 8)

The report determined that only 20 percent of Georgia hospitals currently lack a basic EHR. (Environmental Scan, page 14) The report also noted, "In Georgia¸ the 2009 overall adoption rate was 58 percent for basic EHRs with clinician's notes and 5 percent for comprehensive EHRs. Hospitals in the Atlanta MSA had a rate 9 percentage points lower than non-Atlanta hospitals for basic EHRs." (Environmental Scan, page 15)

2.11.2 Physician Adoption

Using a study from SK&A, a private sector firm providing health care solutions and research, and its own research, the Enterprise Innovation Institute performed a customized analysis to estimate the adoption rates for EHRs among Georgia physicians. The results of that analysis are depicted in the table below.

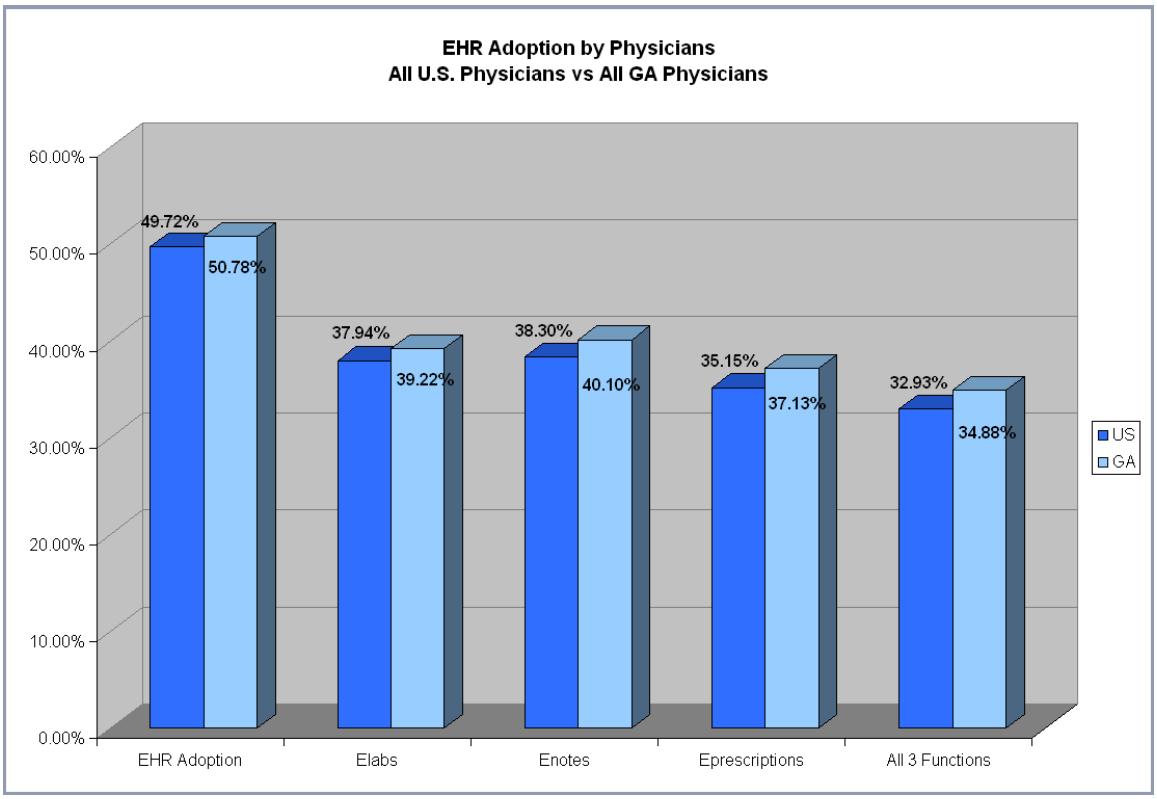
EHR Adoption by Physicians, 2010

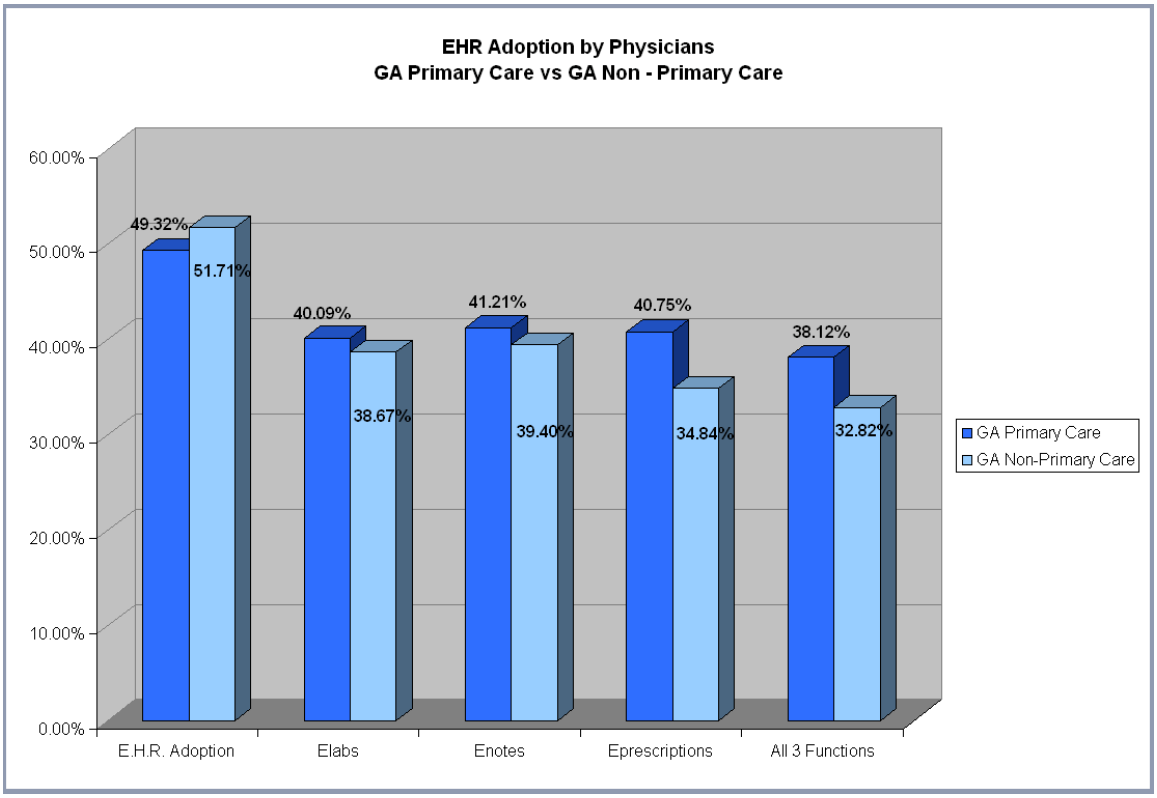
	E.H.R. adoption		Elabs		Enotes		Epresciptions		ALL 3 FUNCTIONS	
	Count	%	Count	%	Count	%	Count	%	Count	%
All U.S. physicians	244,877	44.38%	187,256	33.94%	190,872	34.59%	172,532	31.27%	162,567	29.46%
All GA physicians	6,727	46.97%	5,143	35.91%	5,351	37.36%	4,849	33.85%	4,573	31.93%
US primary care*	93,722	45.69%	77,272	37.67%	78,885	38.46%	77,226	37.65%	73,403	35.78%
US non-primary care	151,155	43.61%	109,984	31.73%	111,987	32.31%	95,306	27.49%	89,164	25.72%
GA primary care	2,504	46.17%	1,997	36.82%	2,065	38.07%	2,003	36.93%	1,899	35.01%
GA non-primary care	4,223	47.45%	3,146	35.35%	3,286	36.93%	2,846	31.98%	2,674	30.05%
Atlanta MSA	3,715	47.08%	2,881	36.51%	2,945	37.32%	2,692	34.11%	2,536	32.14%
GA, non-Atlanta MSA	3,012	46.83%	2,262	35.17%	2,406	37.41%	2,157	33.54%	2,037	31.67%
US by providers @ site										
1	26,604	21.44%	18,335	14.77%	19,807	15.96%	17,849	14.38%	15,955	12.86%
2	13,317	32.94%	10,038	24.83%	10,605	26.23%	9,662	23.90%	8,920	22.07%
3-5	17,827	39.80%	13,926	31.09%	14,419	32.19%	13,352	29.81%	12,401	27.69%
6-10	8,613	51.57%	6,994	41.88%	7,085	42.43%	6,442	38.57%	6,146	36.80%
11-25	4,230	61.44%	3,315	48.15%	3,288	47.76%	2,858	41.51%	2,737	39.75%
26+	1,040	63.45%	715	43.62%	696	42.46%	558	34.05%	535	32.64%
GA by providers @ site										
1	955	27.06%	700	19.84%	754	21.37%	681	19.30%	631	17.88%
2	499	39.92%	368	29.44%	402	32.16%	369	29.52%	343	27.44%
3-5	633	46.65%	492	36.26%	504	37.14%	472	34.78%	441	32.50%
6-10	279	58.13%	224	46.67%	232	48.33%	207	43.13%	195	40.63%
11-25	88	59.06%	68	45.64%	68	45.64%	62	41.61%	60	40.27%
26+	24	63.16%	16	42.11%	15	39.47%	11	28.95%	11	28.95%

The Final Report concluded that physician adoption rates in Georgia for "all EHRs and for three-function EHRs were slightly higher than the national average." (Environmental Scan, page 10)

It also reported that "Georgia primary care physicians had almost the same EHR adoption rate as their colleagues nationally, although the rate for non-primary care physicians was somewhat higher in Georgia than in the rest of the U. S." (Environmental. Scan, page 10) The report noted, "Much larger differences are seen when considering three-function EHRs, with Georgia primary care physicians' adoption rate a full five points higher than their non-primary care colleagues." (Environmental Scan, page 10) These findings were similar for within and outside of the Atlanta MSA. The report also found that "Adoption rates by practice size were similar to U. S. averages, and in general, tended to increase with practice size." (Environmental Scan, page 10).

The bar graphs shown below indicate that Georgia physician (primary care and non-primary care) adoption of EHR technologies is ahead of the national U.S. adoption rate.





2.11.3 EHR Adoption –Medicaid Specific Information

DCH supplemented the report by the Enterprise Innovation Institute through surveys directed specifically toward Medicaid providers. DCH obtained assistance from the following organizations: the Georgia Academy of Family Physicians, the Georgia Association for Primary Health Care, the Georgia Certified Nurse Midwives Association, the Georgia Chapter of the American Academy of Family Physicians, the Georgia Hospital Association, the Georgia Midwifery Association, the Georgia State Medical Association, and DentaQuest (a Medicaid dental network contracted with the Georgia Families CMOs).

By collaborating with key provider associations to survey their provider members across Georgia, DCH obtained information on EHR technology adoption and functionality. Most notably, the Georgia Hospital Association and the Georgia Academy of Family Physicians have been and continue to be significant supporters of EHR technology and the statewide HIE efforts.

DCH's survey, conducted in September 2010, concentrated on providers considered potentially eligible for Medicaid incentive payments. The table below shows respondents' plans to adopt certified EHRs and the table below shows the current extent of adoption by respondents.

Plans to Adopt Certified EHR

Provider Type	Within 12 Months	Within 24 Months	More than 24 Months	Undecided
Acute Care Hospitals	54	12	1	
Children's Hospitals	2	0	0	
Critical Access Hospitals	17	1	0	1
Dentists	12	5	1	
Nurse Practitioners	3	0	0	
Pediatric Physicians	43	10	1	
Physicians	114	13	3	

Current Extent of EHR Adoption by Practitioners and Hospitals

Provider Type	Total "Yes" Responses	% Adoption of Provider Group	% Adoption of Total
Acute Care Hospitals	41	75.9%	10.4%
Children's Hospitals	2	100.0%	0.5%
Critical Access Hospitals	11	55.0%	2.8%
Dentists	17	21.3%	4.3%
Nurse Practitioners	3	100.0%	0.8%
Pediatric Physicians	28	47.5%	7.1%

Provider Type	Total "Yes" Responses	% Adoption of Provider Group	% Adoption of Total
Physicians	99	61.9%	25.0%

DCH tabulated the survey responses by type of professional and type of hospital. In addition, DCH obtained estimates of eligible providers as calculated by Myers & Stauffer, an outside audit firm, who using historical claims and payment data prepared estimates of Medicaid professionals considered potentially likely to qualify for incentives. To project estimates as to 2011 Medicaid incentive payments, Myers & Stauffer also analyzed certain hospital data to calculate Medicaid incentive payments for qualifying hospitals. The results of this professional analysis are discussed in considerable detail in Section C of the State Medicaid HIT Plan, dated December 2, 2010. That discussion includes an analysis by category type of eligible professional and eligible hospital.

With respect to adopting EHRs, as shown in the table above, many of these hospitals have plans to adopt certified EHRs within 12 months. Very few hospitals remain in the undecided category. Similarly, many Medicaid physicians also displayed significant interest in adopting certified EHRs within 12 months. The exact types of EHRs that are currently being used by providers throughout Georgia who responded to the DCH survey are listed in Appendix A in the State Medicaid HIT Plan.

2.11.3.1 Level of EHR Adoption in Georgia Hospitals

Level of EHR Adoption	Percent
Implementation begun	37.9
Implementation planned in the next year	24.8
Implementation planned in the next two years	24.8
No implementation planned	37.3

2.11.3.2 EHR Adoption by Provider Type and Vendor Type

Provider Type	Vendor Type	Number of Installations
Acute Care Hospitals	Meditech	9
	CPSI	5
	Cerner Millennium Product Suite	3
	McKesson	3
	Siemens Soarian	3
	Meditech CS 5.64	2
	McKesson Paragon, McKesson Horizon Patient Folder	2
	Cerner	1
	Cerner – Millennium (for hospitals)	1

Provider Type	Vendor Type	Number of Installations
	Cerner Millennium	1
	Eclipsys	1
	Eclipsys, NextGen	1
	EMDS-HER	1
	EMSTAT	1
	GE-Centricity	1
	Healthcare Management Systems	1
	LSS Data Systems – MPM	1
	McKesson for IPs/AllScripts for Ambulatory	1
	Meditech Magic 5.64	1
	MEDITECH PCM (Physician Care Manager), part of ACS (Advanced Clinical Systems) Suite for inpatient care; AllScripts for ambulatory care at our clinics	1
	Meditech/eClinicalWorks/AllScripts	1
	Moving from CPSI to McKesson Paragon	1
	NextGen and GEMMS	1
	Siemens; NextGen	1
Children's Hospitals	EPIC (CPOE, Clinical Documentation, Inpatient, Ancillary (Radiology, Pharmacy, Surgical Services, Revenue Cycle)	2
Critical Access Hospitals	Health Management Systems (HMS) Patient Care including Electronic Medication Administration, Clinical View, Scheduling, Patient Accounting, General Ledger, Materials, Laboratory, NovaPacs outbound interface, Pharmacy with Medispan, Order communications)	3
	Healthland (Clinicals, Financials, etc.)	3
	CPSI	1
	CPSI CPOE, Escript, eClinical Works	1
	HSR	1
	Meditech	1
	Meditech CS 5.64	1
	NextGen	1
	Siemens Medical Soarian HER	1
	SRSsoft	1
Dentists	Dentrix	4
	Eagle Soft	2
	Easy Dental	2
	Henry Schein Dentrix Enterprise	2
	Patterson Dental, EagleSoft	2
	MOGO	1
	NEIC	1
	Patterson Dental	1
	Practiceworks/Kodak	1

Provider Type	Vendor Type	Number of Installations
Nurse Practitioners	AllScripts, Misys EMR	1
	Encounter Pro	1
	Practice Partners	1
Pediatric Physicians	AllScripts	6
	EncounterPro	6
	PRACTICE PARTNERS	4
	eClinicalWorks	3
	Centricity	2
	Connexin Software - Office Practicum	2
	Abraxas Medical Solutions	1
	Amazing Charts	1
	CPSI - Point-of-Care	1
	EPIC HealthConnect	1
	Greenway Primesuite	1
	Intergy-Sage	1
	NextGen	1
	Practice Fusion	1
Physicians	AllScripts	13
	eMDs	13
	eClinicalWorks	8
	NEXTGEN	5
	McKesson Practice Partner	4
	MISYS	3
	practice partner	3
	AllScripts PeakPractice	2
	amazing charts	2
	Cerner PowerWorks	2
	encounter pro	2
	encounter pro JMJ	2
	EPIC	2
	GE Centrcity, Health Systems	2
	Greenway Medical Technologies, PrimeSuite/Prime Chart	2
	Practice Fusion	2
	Allmeds	1
	AllScripts- A4	1
	AllScripts EMR	1
	Alma Information Systems TexTALK Enterprise	1
	AllScripts	1
	Alteer/Visionary Healthware	1
	AMERICAN MEDICAL SYSTEMS	1
	Athena	1
	BizMatics PrognoCIS	1

Provider Type	Vendor Type	Number of Installations
	Cerner Powerchart	1
	Encounter Pro/Elligence	1
	Greenway Medical Technologies, Prime Practice and Chart	1
	GROUP ONE/ECLINICAL WORKS	1
	Healthmatics (A4)	1
	Hyperspace	1
	Medicus	1
	Medicware	1
	Medisys HER,MEDISYS COMPANY	1
	MediTech LSS	1
	NextGen EMR	1
	Nightingale PWS	1
	NueSoft	1
	Office Practicum and same product	1
	Practice Partner/Automated Business Services	1
	Sage	1
	SAGE MEDWARE	1
	Soapware	1
	SpringCharts	1
	Vision Healthworks Alteer	1
	visionary - EHR is called dream	1
	XL-EMR	1

2.12 State Government Health IT Activities

2.12.1 State Readiness

For more than ten years, the State of Georgia largely through the efforts of DCH has been engaged in efforts to facilitate the use of EHRs and the formation of a statewide exchange of health information. In 2006, the Governor issued an Executive Order creating the Health Information Technology and Transparency Advisory Board to provide guidance, advice and support to DCH in these endeavors.

In 2007, DCH began its pursuit of HIE in Georgia by strategically awarding grants to four organizations to help develop health information exchanges and foster the adoption of EHRs. The four grantees were the Chatham County Safety Net Planning Council, Inc., East Georgia Health Care Center, Inc., Sumter Regional Hospital, and Washington County Regional Medical Center and Extended Care Facility. All four grantees have achieved some degree of success. DCH expects to leverage the lessons learned from these grantees in its efforts to facilitate the expansion of the statewide HIE.

In May 2008, DCH awarded a contract to IBM to build the infrastructure for the Georgia Transparency website targeted toward health care consumers. This website featured current health information provided by the Mayo Clinic and encouraged consumers to be proactive about their health care. In addition, the website enabled health care consumers to assess and compare current costs for prescription drugs and health care services. The site www.georgiahealthinfo.gov encouraged health care consumers to make informed decisions about their health through using computer technology as a tool.

Soon after the announcement that the National Center for Primary Care at the Morehouse School of Medicine had been selected as the regional extension center for Georgia, DCH began actively collaborating with the new REC. GA-HITREC plans to create 18 adoption centers that overlay the existing 18 DCH public health districts. GA-HITREC's approach should facilitate communication and coordinated planning for outreach, education, and promotional activities for EHRs between the extension center and DCH.

In 2009, the Advisory Board created four workgroups to develop plans for addressing critical issues and to assist in achieving a statewide consensus in forming a statewide HIE. These four workgroups consisted of Legal and Privacy, Governance and Finance, Business and Technical Operations, and Technical Infrastructure. In the spring of 2010, each of the four workgroups submitted a formal report and recommendations to the OHITT. The efforts of the Advisory Board and these four workgroups have been invaluable to DCH and stakeholders throughout Georgia who support the formation of the statewide HIE.

2.12.2 Overview of Georgia's Medicaid Program

The Department of Community Health (DCH) is the state agency responsible for administering the Medicaid and Children's Health Insurance Programs (CHIP) in Georgia. These programs serve Georgia's most vulnerable populations. In FY 2010, the Division of Medical Assistance provided access to health care for over 1.4 million Georgians at a cost of nearly $7.0 billion in capitation and fee-for-service claims payments. In state FY 2011, fiscal projections anticipate that Medicaid expenditures will exceed $7 billion.

Approximately 68% of Georgia's Medicaid and PeachCare for Kids™ (CHIP) recipients are enrolled in Georgia Families, a statewide managed care program. DCH contracts with three Care Management Organizations (CMOs) under a full-risk, captivated arrangement to provide health care services and care coordination for Georgia Families members. The fee-for-service (FFS) Medicaid program retains the Aged, Blind and Disabled (ABD) population, medically fragile children, children in foster care and adoptive assistance.

DCH expects that the increased adoption of certified electronic health technology and the statewide Health Information Exchange will promote the timely and efficient exchange of health information resulting in reduced inefficiencies in health care delivery, enhanced coordination of care and less waste as duplicative tests, reports and health care services are eliminated. The

overall impact on Georgia and the populations it serves will be seen in measurable improvements in health care outcomes and cost savings to the state.

2.12.2.1 Georgia Medicaid Management Information System (MMIS)

During 2011, DCH and GHIE will analyze systems, data sources and HIE needs to determine potential opportunities to connect the MMIS system to the statewide HIE. GHIE will further conduct system and policy analysis to determine whether it is necessary for Medicaid providers to participate in the statewide HIE.

2.12.2.2 Medicaid EHR Incentive Program

DCH, including the Office of Health Information and Technology (OHITT) and the Division of Medical Assistance (Medicaid), is responsible for the Medicaid EHR Incentive Program, including the development of procedures and processes to ensure the effective administration and oversight of the program. OHITT submitted a draft State Medicaid HIT Plan (SMHP) to CMS on December 2, 2010, which details DCH's plans to administer and oversee the incentive program in accordance with the HITECH Act and the Final Rule (42 CFR Parts 412, 413, 422 and 495 (Medicare and Medicaid Programs; Electronic Health Record Incentive Program). This plan describes how DCH will perform the following:

- Identification of potentially eligible professionals (EPs) and eligible hospitals (EHs), and calculation of incentive payments
- Provider outreach efforts to maximize the meaningful use of certified electronic health record (EHR) technology
- Validation of EPs and EHs to ensure that all incentive program requirements are met, including attestations so that providers commit in writing to complying with program requirements
- Oversight and audit activities to prevent waste, fraud and abuse
- Management of a multi-level provider appeals process
- MMIS modifications and development of a web-based application required to support the Medicaid Incentive Program

The SMHP developed by DCH relied on the collaboration of OHITT, the Divisions of Medical Assistance, Public Health, Information Technology, the Office of Rural Health, and the Office of the Inspector General, as well as the MMIS Fiscal Agent and external stakeholders, such as key statewide provider associations.

DCH is in close communications with the regional CMS office for feedback on the draft SMHP. Once the SMHP is approved by CMS, DCH intends to submit future iterations of the SMHP to CMS when the administration or oversight of the incentive program is modified or enhanced.

2.13 Broadband Programs

The absence of broadband connections in certain isolated areas of Georgia and the inability of certain existing broadband connections to support the electronic exchange of health information

represent challenges to the formation of a statewide HIE. The Georgia Technology Authority has subcontracted with a mapping company to conduct a complete assessment broadband access throughout the state. The mapping project is expected to be completed in the early part of 2011.

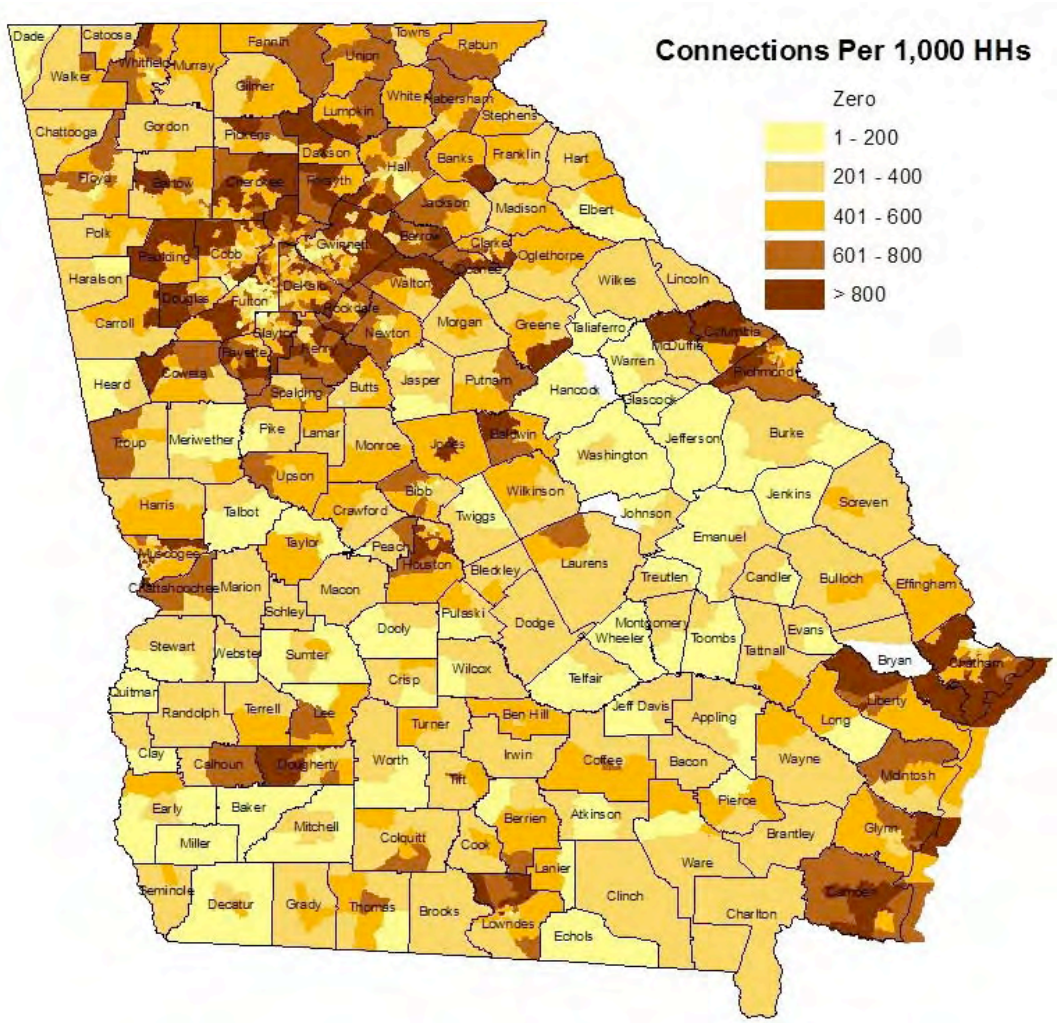
Deliverable Description	Planned Finish Date
Georgia Broadband Mapping and Tools Website Deployed	01/21/2011
Broadband Mapping Contract Renewal	01/31/2011
Georgia Broadband Mapping Website Deployed	02/11/2011
Georgia Broadband Mapping and Analysis - Semi-Annual Report #1	02/28/2011
Georgia Broadband Mapping Dataset 3	04/1/2011
Georgia Broadband Mapping Dataset 4	10/1/2011
Georgia Broadband Mapping and Analysis - Semi-Annual Report #2	11/1/2011

Georgia Households Served, Underserved and Unserved by Broadband Programs

	Served	Underserved	Unserved
Heart of Georgia	9.17%	65.13%	25.70%
Southern Georgia	32.64%	53.03%	14.34%
River Valley	59.34%	29.19%	11.46%
Southwest Georgia	53.02%	35.61%	11.37%
Georgia Mountains	48.48%	41.68%	9.84%
Central Savannah River Area	59.80%	30.76%	9.44%
Middle Georgia	45.54%	45.08%	9.38%
Northeast Georgia	49.72%	43.69%	6.58%
Coastal	39.44%	54.02%	6.53%
Northwest Georgia	37.80%	57.12%	5.09%
Three Rivers	67.29%	29.49%	3.22%
Atlanta Regional Commission	98.15%	1.75%	0.10%

Source: Atlanta Regional Commission

The most recent broadband map of the state is presented below.



Source : FCC 2008, http ://www.fcc.gov/wcb/iatd/comp.html.

3 GAP ANALYSIS

This section presents strategies to fill specific gaps in the Georgia HIE landscape. It is critical that the identified gaps be addressed in order to implement a successful HIE and for providers participating in Medicaid Incentive Program to meet stage one meaningful use requirements. DCH and the GHIE will address those gaps from the start in order to assure the capacity to meet meaningful use in late 2011.

The critical meaningful use requirements that depend on the successful implementation of the HIE are:

- E-prescribing
- Delivery of structured lab results electronically
- Exchange of patient care summaries

A multi-pronged approach will be used to address the existing gaps that would affect a provider's ability to meet the meaningful use requirements for stage one. The primary factor common to all requirements is that providers must implement a certified EHR with these capabilities to meet meaningful use.

Through the implementation of Medicaid Incentive Program Georgia is providing financial incentive to eligible Medicaid providers for implementation of certified EHR technology. It is expected that this program will result in a significant increase in the number of providers using EHRs. In order to ensure that the greatest number of eligible providers participate in this incentive program DCH is conducting extensive outreach and is working in conjunction with GA-HITREC as it prepares providers throughout the state for the electronic health records program.

The implementation of NHIN Direct standards will be the vehicle for exchange of information to meet the meaningful use requirements described next.

3.1 Electronic Prescribing

The Environmental Scan noted that pharmacies in Georgia are authorized by law to use e-prescribing. The scan found that 76 percent of all pharmacies actually use e-prescribing. According to the 2008 and the 2009 "State Progress Report on Electronic Prescribing" authored by SureScripts, the percent of physicians using e-prescribing and the percentage of prescriptions being routed electronically have been steadily increasing.

As outlined previously in Section 2 in the discussion of the Environmental Scan results, it is apparent that there is significant operational HIE activity already occurring in Georgia. When the operational HIE activity is considered in combination with the planning activity for additional HIEs, the substantial activity in the administrative HIE environment, and the ever-increasing

level of e-prescribing, it becomes apparent that collectively these activities represent tangible and significant assets to be leveraged into the statewide HIE.

According to the Georgia Pharmacy Association, there are a total of 2,438 pharmacies in Georgia. Including 1,402 chain pharmacies and 447 independent pharmacies, 1,849 pharmacies are activated for e-prescribing. The Georgia Pharmacy Association reports that there are 3,603 active users of e-prescribing and that more than 3 million electronic prescriptions have been sent to Georgia pharmacies for the year-to-date. According to the Georgia Pharmacy Association, during the same period in 2009, 1.3 million e-prescriptions were sent to Georgia pharmacies. With 76 percent of all pharmacies already using e-prescribing, it is expected that the use of e-prescribing will continue to steadily increase throughout the state.

3.1.1 E-Prescribing Strategies

E-prescribing requires a two-part approach since there are two primary target groups, pharmacies and providers, who must be addressed in order to see adoption rates improve. According to the Georgia Pharmacy Association all pharmacies in Georgia are legally authorized to use e-prescribing processes. Surescripts, one of the nation's largest e-prescription networks, reports that in 2009 approximately 17% of Georgia's physicians submitted prescriptions electronically and approximately 8% of all prescriptions for the same period were e-prescriptions.

DCH will work closely with GA-HITREC in outreach efforts to educate providers on e-prescribing. DCH will also collaborate with Georgia Pharmacy Association and physician associations, such as the Georgia Academy of Family Physicians, to promote e-prescribing and to educate providers. Further, the statewide HIE intends to expand the use of e-prescribing through the use of national interoperability standards. DCH will be scheduling meetings between the Georgia Pharmacy Association and physician associations and their members to identify specific needs and leverage opportunities to increase provider and pharmacy adoption of e-prescribing technologies.

Those pharmacies not currently providing e-prescribing will be targeted through the Georgia Pharmacy Association for outreach, education, and assistance.

3.2 Electronic Delivery of Structured Lab Results

The exchange of laboratory information electronically is a major component in the success of an HIE. Electronic lab orders and results delivery inevitably will lead to more efficient and better health care for Georgians.

As with e-prescribing electronic delivery of structured lab results requires a two-part approach since there are two primary target audiences, laboratories and providers, that must be addressed in order to advance the adoption of electronic delivery of lab results.

Georgia has 7,307 Clinical Laboratory Improvement Act (CLIA) recognized laboratories. Of these laboratories 437 are CLIA accredited and an additional 736 are CLIA compliant. Approximately 43 percent of the accredited and compliant labs are part of physician offices and clinics, independent hospitals or hospital systems. Independent laboratories form the next greatest category of laboratories, followed by university, CDC labs and government labs.

The four top independent labs comprise approximately 75 percent of all independent laboratory business in Georgia. These laboratories are Quest Diagnostics, Inc., Laboratory Corporation of America, Inc, Bioreference Laboratories, Inc., and Pathology Laboratories, Inc. These four laboratory companies are currently sending structured lab results electronically. The statewide HIE will work with these major laboratory companies to ensure they meet the required standards for exchange of lab results in keeping with standards developed by NHIN and DIRECT. DCH will be scheduling meetings with laboratories to assess barriers to exchange and encourage them to build DIRECT into their systems for exchange with GHIE. DCH may consider awarding a mini grant to help integrate labs into the statewide HIE.

Working with hospital and provider office laboratories will be included in the provider outreach and education efforts. As with e-prescribing, Georgia will work closely with GA-HITREC in outreach efforts to educate providers on the implementation, use, and benefits of electronic lab ordering and results delivery.

3.3 Clinical Care Summary Exchange

The exchange of clinical care summaries electronically is a major component in the success of an HIE. Electronic delivery of clinical care summaries between care providers will lead to better continuity of care, reduction in duplicate lab testing and overall more efficient and better health care delivery.

Unlike e-prescribing and electronic lab ordering and results, there is only one primary target audience, providers, for the exchange of clinical summaries. However, the exchange of clinical summaries will require an equally comprehensive program to address adoption. In general, most information is passed from one physician to another via facsimile, hard copy, or voice.

Changing the current landscape will require a significant effort by providers to change a process they are familiar and comfortable with. In order to accomplish this, DCH will work with GA-HITREC as well as physician associations to explain the benefits of electronic exchange of clinical care summaries and the benefits of using certified EHRs with that capability.

3.3.1.1 Electronic Transactions

Operating as a conduit, GHIE will eventually enable the exchange of eligibility and claims transactions in a future phase of operations. In general, these functions are currently being used by most if not all insurance companies operating in Georgia. Providers are used to regularly checking for insurance for eligibility of patients and for submitting electronic claims. The

percentage of providers not currently conducting electronic transactions is small and mostly from rural, underserved areas. DCH will again work closely with GA-HITREC to encourage those providers who have not yet adopted electronic transactions to do so.

3.3.2 Provider Adoption

Although the statewide HIE is beginning as a "network or networks," the long-term goal is to connect health care providers throughout Georgia, including doctors' offices, hospitals, laboratories, pharmacies and insurers. GHIE is committed to being inclusive, so that any willing provider or stakeholder who wants to participate in HIE activities can do so.

4 DOMAIN-SPECIFIC COMPONENTS

4.1 Governance

4.1.1 Building a History of Collaborative Governance

DCH has been coordinating efforts for the formation of a statewide HIE. Based on extensive collaboration with stakeholders across the state including consumers, hospitals, physicians, pharmacies, laboratories, state public health departments and agencies, the state Medicaid agency, private health plans, and interested employers, DCH has confirmed the existence of a statewide consensus for a very broad HIE governance structure.

GHIE, Inc. was originally incorporated on February 24, 2006 as a non-profit organization dedicated to "enhancing and promoting the quality and efficiency of health care through the development of a health data and information exchange for the State of Georgia." (quoted from Article VII of GHIE's Articles of Incorporation.) The selection of this organization to function as the governance entity for the statewide HIE is the culmination of much public/private community stakeholder cooperation and collaboration.

Effective data sharing depends largely on the ability of providers to electronically access and maintain accurate and timely patient information across unaffiliated providers and health care systems. The statewide HIE must be capable of supporting such access.

4.1.2 Membership Representation and Structure

As described by the ONC, governance addresses the convening of health care stakeholders to create trust and consensus on an approach for statewide HIE. Governance also addresses the provision of oversight and accountability of HIE to protect the public interest. One of the primary purposes of an HIE governance entity is to develop and maintain a multi-stakeholder process to ensure HIE among participants is in compliance with all applicable laws, regulations, and policies.

In working toward a recommendation for a governance model for the statewide HIE, the Governance and Finance workgroup of the HITT Advisory Board considered the following goals:

- Improve access to health information so health care providers and consumers can make better and more informed health care decisions;
- Advance the exchange of health information between providers to make sure patients receive well-coordinated care, thereby improving quality and cost efficiencies, no matter the setting or level of care; and

- Ensure security and privacy for consumers and health care providers, making sure a patient's confidential information is protected and shared with providers only in a secure manner.

The Governance and Finance workgroup considered three different governance models, the risks associated with each model, and the coordination of each model with the anticipated technical architecture of the HIE. After careful deliberation, this workgroup recommended that a public/private governance model be used to achieve an independent, neutral, secure, trusted, and broadly adopted statewide HIE for Georgia. More specifically, this workgroup recommended that DCH delegate the authority and financial support to form and operate the statewide HIE to an independent, non-profit, tax-exempt entity (the Governance Organization). Thus, the Georgia Health Information Exchange, Inc. clearly fits within the ambit of these recommendations.

Therefore, DCH adopted the recommendation of the Governance and Finance workgroup (and other stakeholders) to use a non-profit, tax-exempt entity (the Governance Organization) to govern the statewide HIE. GHIE is required to operate in accordance with the applicable Georgia law governing non-profit corporations and to continue to maintain its status as a tax-exempt entity under Section 501(c)(3) of the Internal Revenue Code.

4.1.3 Decision Making Authority

GHIE's Governance Organization is described in its organizational and governance documents. For example, such documents (including articles of organization, bylaws, and policies) describe the following:

- The number, appointment or election, qualifications, terms, and voting processes of Directors;
- The election of officers and their authority;
- Membership in the Governance Organization;
- Committees, which may used to provide subject matter expertise;
- Conflicts of interest and non-discrimination practices;
- The approval of financial expenditures;
- The frequency and location of meetings of the Board of Directors; and
- Staffing of the Governance Organization.

The Governance Organization will have some flexibility to alter its structure and governance, although any and all changes must be consistent with the best interests of the statewide HIE as well as all legal requirements.

DCH believes that structuring the Governance Organization in this manner best supports a private/public governance structure and the federated hybrid data model, which represent recommendations from the HITT Advisory Board as well as other stakeholders. Furthermore, this governance structure, because it is not controlled directly by the government, will encourage private sector input and collaboration. DCH also believes that this type of Governance Organization will be able to adapt quickly to ever-changing HIE requirements, standards, and best practices. However, as noted above, the governance model for the statewide HIE continues to evolve.

GHIE, through its Board of Directors, will approve all policies, procedures, and agreements relating to the statewide HIE. DCH, as well as other stakeholders, recognize that the regulatory environment in which the HIE operates will change as new requirements of the HITECH Act section of ARRA become effective and other laws are passed, other regulations are issued, and other guidance is provided.

GHIE like any other health information exchange will need to conduct on-going review and revision of HIE policies and procedures. It is expected that the Board of Directors of GHIE will carefully consider the recommendations of the Legal and Privacy Committee to ensure compliance by the HIE with ever-changing federal and state legal and policy requirements. GHIE may select a legal/privacy officer or may choose to consult with such legal advisors as may be approved by the HIE governing body.

The Board of Directors of GHIE has been created to include provider representatives, payer representatives, and other stakeholder representatives. In addition, the Board includes *ex-officio* or non-voting members.

The provider representatives on the Board include the following:

- Urban hospitals;
- Rural hospitals;
- Physicians;
- Nursing homes;
- Mental health;
- Pharmacies;
- Home health agencies; and

- Teaching hospitals.

The payer representatives on the Board include the following:

- Health insurance companies;
- Large employers;
- Small Employers; and
- Consumers.

The other stakeholders with representation on the Board are:

- Public Health;
- Quality Improvement organizations; and
- Medically underserved.

The ex-officio members of the Board of Directors of GHIE are: the Executive Director of GHIE, the Georgia Department of Community Health, GA-HITREC (the regional extension center for Georgia) and the Federal government (VA and CDC).

At this time, it is anticipated that the HIE Board will have the services of six committees.
These are three advisory committees and three policy committees. The three advisory committees are:

- Clinical;
- Service Areas HIEs; and
- Secondary Use.

The three policy committees are:

- Technical
- Finance
- Legal and Privacy.

4.1.4 Alignment with Emerging NHIN Governance

The emerging model for GHIE is being designed to be compatible with the developing Nationwide Health Information Network (NHIN) governance principles and functions. GHIE recognizes the importance of these key principles and functions needed for NHIN governance:

- Development of a strategic direction;
- Development and maintenance of statewide HIE policies, procedures, reference materials and support services;
- Development of a legal infrastructure;
- Management of participation in the NHIN;
- Dispute resolution;
- Governance of HIE support services; and
- Managing risks to confidentiality, privacy, and security.

It is expected that the Board of Directors will carefully consider the above principles and functions as it formulates its organizational and governance documents as well as the policies, procedures, and agreements relating to the operation of the statewide HIE. GHIE may choose to identify a designated resource to track and analyze any new requirements or protocols issued at the national level in order to keep the GHIE Board aware of potential changes and related impacts.

4.1.5 Role of the State HIT Coordinator

The ONC's Program Information Notice (PIN) provides direction, sets expectations, and ascribes duties for the role of the State HIT Coordinator. Under the PIN, the state HIT Coordinator has overall responsibility for ensuring that state agencies fully cooperate in the effort to move providers toward HIE and the meaningful use of electronic health records. The State HIT Coordinator is expected to drive integration of the statewide HIE and Medicaid EHR Incentives Program. According to the PIN, the state HIT Coordinator is responsible for providing leadership and coordination across federally funded state programs, including leading the collaboration necessary for the statewide HIE and supporting the development of the state's Medicaid Electronic Health Records Incentives Program. The Georgia HIT Coordinator bears the burden of coordinating with other programs and projects in such areas as the Georgia Health Information Technology Regional Extension Program and telemedicine. The HIT Coordinator's role is to develop and advocate strategies to achieve statewide goals, including collaborating with public and private health care stakeholders, leveraging state and federal program resources, and managing federal health care funding for economic stimulus for Georgia.

The ONC's PIN issued on July 6, 2010 specified the exact roles that it expects to be performed by the State Health Information Technology Coordinator. The ONC expressly stated that the HIT Coordinator is expected to fulfill two primary roles with subtasks assigned to each role.

According to the PIN, the Georgia HIT Coordinator is expected to develop and advocate for HIT policy to achieve statewide goals. The Georgia HIT Coordinator will need to focus and prioritize activities to make rapid progress to help state providers meet stage 1 meaningful use requirements.

- Collaborate with state health policy makers in establishing HIT strategies for reaching shared health care goals;
- Leverage state purchasing power such as establishing requirements for entities reimbursed by the state to participate in e-prescribing, electronic labs results delivery or electronically sharing care summaries across transitions in care;
- Address legal or policy issues to ensure the information may be shared securely and with appropriate privacy protections;
- Lead efforts to enable interstate HIE, such as harmonizing privacy policies and consent laws with neighboring states where appropriate;

The ONC expects the Georgia HIT Coordinator to coordinate HIT efforts with Medicaid, public health, and other federally funded state programs. Examples of the Coordinator fulfilling this role include:

- Advance operationally viable strategies that accelerate the success of the EHR incentive program in meeting shared meaningful use goals;
- Ensure state program participation in planning and implementation activities including, but not limited to Medicaid, behavioral health, public health, departments of aging; and
- Ensure that State Medicaid HIT Plans and State HIE plans are coordinated;
- Leverage various state program resources such as immunizations registries, public health surveillance systems, and CMS/Medicaid funding to ensure resources are being maximized (e.g., ARRA authorized Medicaid 90/10 match leverage to support HIE activities);
- Assure integration of other relevant state programs into the state's HIT governance structure; and;
- Identify, track and convene the various federal HIT grantees for cross-program coordination and to leverage program resources.

4.1.6 Accountability and Transparency

DCH anticipates that GHIE's Board of Directors will operate so as to assure accountability and transparency. When appropriate, meetings of the Governance Organization may be open to the public, and the agenda of and meeting notes from Governance Organization meetings will be available on the internet to any member of the public. In addition, the Governance Organization will work and share information with the GA-HITREC and other relevant organizations. Because

GHIE will seek to continue to qualify as a tax-exempt entity under Section 501(c)(3) of the Internal Revenue Code, the Board will have to file annual tax returns as required of all tax-exempt entities. Such annual tax returns (often referred to as Forms 990) will provide information on the Governance Organization's revenues, expenses, etc.

4.1.7 Activities to Strengthen Georgia Statewide HIE Governance

GHIE's governance structure will continue to evolve and grow as the statewide HIE gains experience and learns about barriers and best practices from its federal partners and other states.

GHIE recognizes that the statewide HIE needs to be designed for flexible growth and adaptation over time, especially adaptation to national interoperability standards as they support a wider array of quality and cost improvement initiatives. Attracting and retaining both private and public stakeholders, creating a level playing field, and caring for the needs of those with limited resources are critical elements to the statewide HIE. The architecture will be developed using national standards. Implementation of a standards-based solution offers immediate value that supports connectivity to the NHIN.

As part of the technology evaluation and procurement process, it is expected that the governance entity will require a complete assessment of the available commercial technologies for compliance with the standards endorsed by the ONC, and will only implement technologies that meet or exceed these requirements. Similarly, the statewide HIE will need ensure on-going compliance with and modification of the technical infrastructure whenever those standards are upgraded by the ONC. It is expected that the statewide HIE will use NHIN CONNECT wherever feasible to interface to other HIEs outside the state and with NHIN.

In general, a statewide HIE makes possible the appropriate and secure exchange of data, facilitates and integrates care, creates efficiencies, and improves outcomes. As discussed earlier, the HITT Advisory Board began the process of planning the implementation of a statewide HIE by engaging numerous stakeholders to address the fundamental policy issues and plan a course of action. The HITT Advisory Board's efforts have been targeted towards developing a widespread and sustainable HIE that supports the meaningful use definition that qualifies providers for CMS meaningful use incentive payments.

This strategy also supports state public health programs to ensure that public health stakeholders prepare for HIE and mobilize clinical data needed for consumer engagement and health reform in Georgia. It is anticipated that the statewide HIE will support high quality, safe, and effective health care; make certain that data is exchanged privately, securely, and reliably; ensure transparency and stakeholder inclusion; support connectivity regionally and nationally; achieve financial sustainability; and serve as the foundation for transforming health care in Georgia.

The technology specifications for the statewide HIE will be based on federally endorsed standards and integration protocols that bridge proprietary boundaries. Using approved standards mitigates vulnerability to vendor selection issues and risks, and ensures compatibility with other HIEs and federal initiatives. The infrastructure of the statewide HIE will be designed to enable flexibility while ensuring that the organization can respond to market changes and eventually support data sharing with the NHIN. Wherever feasible, the statewide HIE will use the NHIN standards to connect to other networks located in whole or in part outside the state of Georgia (e.g. VA, DOD Military Health, laboratory/pharmacy networks or HIEs in adjacent states). This strategy should not only accelerate the deployment of these connections but also minimize the need to develop and maintain costly and complex direct interfaces.

As previously noted, the Board of Directors of GHIE, not DCH, will establish policies for technical standards. GHIE is committed to using federally-endorsed standards and integration protocols that bridge proprietary boundaries. Making these standards a core statewide HIE principle will ensure that the HIE is not vulnerable to vendor selection issues and risks and is also compatible with HIEs developed by other states and the federal initiative..

4.2 Technical Infrastructure

4.2.1 Introduction

The statewide HIE is being developed to serve the widest possible group of stakeholders, including Georgia-based consumers. The statewide HIE is being governed by an independent, non-profit organization that is representative of the same stakeholders that it seeks to serve. It is based on a hybrid-federated architecture based on nationally accepted standards for data representation, exchange, privacy, and security.

The statewide HIE, in consultation with DCH where appropriate, will establish policies that embrace federal technical standards to ensure interoperability and privacy and security in the exchange of health information among all parties. The statewide HIE will monitor the work of the ONC's Health IT Policy Committee, the Health IT Standards Committee and other related groups to ensure that the technical infrastructure includes those standards endorsed by HHS.

The statewide HIE will facilitate connection to the existing health IT infrastructure in Georgia and will ensure that all providers who use an EHR, even those who have not yet achieved meaningful use, may access the statewide HIE. This will be accomplished in two ways: an NHIN CONNECT based core infrastructure will provide the means of interconnecting existing Service Area HIEs (SAHIE) and an NHIN Direct based service will facilitate information exchange for providers in the "white space" not covered by a SAHIE as well as providers who chose not to participate in an SAHIE in their area. If the provider does not have an EHR the provider must access the HIE through the provider portal to help ensure privacy and security of protected health information. GHIE expects that other entities, such as health plans and employers, will also be able to access the statewide HIE in future phases. This HIE will also

support data recording and access directly by consumers using Personal Health Record (PHR) technologies that meet accepted standards to ensure patient privacy and data security. The statewide HIE will utilize the NHIN wherever feasible to build connections to other health systems (such as the VA and DOD) including health systems in other states. GHIE and DCH both understand the importance of "leave no provider behind", an alternative access pathway is being planned to allow those providers without EHR technologies the ability to connect to the statewide HIE network.

4.2.2 Clinical and Technical Principles

The GHIE clinical and technical principles are currently being developed but will emphasize an open standards approach, maximum use of commercial hosting services and other commercial software capabilities not currently supported by the available open source solutions, openly availability of services, and an incremental development and deployment plan that assures the long term financial viability of the HIE. The final draft of clinical and technical principles will be reviewed by the GHIE, Inc. Board of Directors and State HIT Coordinator, and other stakeholders to provide feedback. The GHIE Board of Directors is responsible for final approval. GHIE will disseminate the approved GHIE clinical and technical principles and share them with the general public and interested stakeholders.

4.2.3 Interoperability

The statewide HIE is being designed for flexible growth and adaptation of national interoperability standards which support a wider array of quality and cost improvement initiatives. Attracting and retaining both private and public stakeholders, creating a level playing field, and caring for the needs of those with limited resources are critical elements to the statewide HIE. The architecture will be developed using national standards. Implementation of a standards-based solution will offer immediate value that supports nationwide exchange.

As part of the technology evaluation and procurement process, the governance entity will require a completion assessment of the available commercial technologies for compliance with the standards endorsed by the ONC, and will only implement technologies that meet or exceed these requirements. The statewide HIE will ensure on-going compliance with and modification of the technical infrastructure whenever those standards are upgraded by the ONC. The statewide HIE services will use NHIN Direct and CONNECT specifications wherever feasible to enable exchange with other HIEs outside the state and with federal agencies.
DCH expects the statewide HIE to conduct an annual independent audit to examine its financial, operational, and technical components and operations. As part of the process, the audit team would be required to validate that federally published standards are in place and are supported by the statewide HIE. The accountability for addressing concerns identified by the audit team rests with the Board of Directors of GHIE.

At the present time, Stage 1 of the federal requirements for meaningful use requires unaffiliated providers to exchange information. Providers will also need to work cooperatively with providers across state borders (probably through the NHIN) to coordinate patient care. The statewide HIE Governance Organization will work diligently to facilitate the necessary infrastructure and agreements required to support this exchange in a secure manner that respects patient privacy.

In addition, DCH will communicate lessons learned by the statewide HIE regarding the technical infrastructure and other aspects of data sharing directly with the ONC, with other states, and through collaboration with the GA-HITREC.

The statewide HIE is being built on a *hybrid-federated, standards-based model*. A *federated* model is a model in which health information is retained by each participating health care provider and is exchanged with other members as needed. A *hybrid-federated* model, as employed by the statewide HIE, incorporates some core services such as clinician and patient directories, secure routing of messages and files, and user identity verification and authorization to access. It may also enable components such as an Enterprise Master Patient Index (EMPI), a Record Locator Service (RLS), one or more data repositories and analytics tools housed in one or more data centers. Value-add services could be offered, including translation services (to convert non-standard data into standardized formats), e-prescribing functionality, encryption, or other features to support access for providers with less sophisticated technology and systems.

The statewide HIE will operate using Healthcare Information Technology Standards Panel (HITSP)-endorsed XDS (cross-enterprise document sharing) which is capable of supporting distributed data ownership and use, as well as PHRs for direct use by consumers. This flexible approach will accommodate the planned hybrid federated data model. The hybrid federated model ensures that data will be held where it is created, and avoids the negative perceptions and potential privacy and security consequences of storing all patient information in a centralized health information repository. A hybrid-federated model implies the need for monitoring capacity, system availability, storage and retrieval, and security response time. Technology performance goals and standards will be established during Q2 2011, for electronic medical records or other systems (such as PHRs) connecting to the statewide HIE.

For research and public health reporting, the Governance Organization will determine whether to include data repositories in later stages as part of the statewide HIE or whether the statewide HIE will connect to independent repositories. The Governance Organization will make this determination during Q3 2011. The flexible, standards-based, hybrid federated infrastructure will allow for the secure transfer of a defined set of clinical information among participating entities.

4.2.4 Technical Architecture / Approach

In general, a statewide HIE makes possible the appropriate and secure exchange of data, facilitates and integrates care, creates efficiencies, and improves outcomes. In 2007, the HITT

Advisory Board began the process of implementing of a statewide HIE by engaging numerous stakeholders to address the fundamental policy issues and plan a course of action. The HITT Advisory Board focused on targeted developing a widespread and sustainable HIE that supports the meaningful use definition, qualifying providers for CMS meaningful use incentive payments. This strategy also supports state public health programs, ensuring that public health stakeholders are prepared for HIE and mobilize clinical data needed for consumer engagement and health care reform in Georgia. The statewide HIE will support high quality, safe, and effective health care; employ mechanisms to make certain that data is exchanged privately, securely, and reliably; ensure transparency and stakeholder inclusion; support connectivity regionally and nationally; achieve financial sustainability; and serve as the foundation for transforming health care in Georgia.

When fully developed, the statewide HIE architecture will be a true "network of networks" capable of connecting approximately 170 hospitals, 34 health care systems and 2,000 physician practices throughout Georgia, as well as other participants, such as health plans and employers. In the short-term (before end of 2011), the infrastructure must support the meaningful use requirements and enable exchange with other HIEs regionally and nationally (using NHIN specifications, wherever feasible). The statewide HIE will provide core services in order to enable exchange between the existing Service Area HIEs in Georgia and will "fill in" to provide connectivity to providers and other participants outside any of those areas. The long-term vision for the statewide HIE will provide a mechanism for authorized individuals to perform sophisticated analytics and reporting for public health, biosurveillance, and other appropriate uses of aggregate data (sometimes called secondary use).

The statewide HIE has embraced a Service Oriented Architecture (SOA) approach which we believe to be necessary for the long-term viability of any HIE. Under this approach, the statewide HIE infrastructure will be comprised of numerous services that will run on an enterprise service layer and enable the core functions of the statewide HIE. By incorporating a SOA approach into the design, the statewide HIE will ensure that the exchange takes advantage of developing and advancing services and not rely upon a single service provider for all services.

The statewide HIE will act as a secure and trusted conduit rather than a centralized repository. The HIE will enable exchange under a distributed model that keeps data at its source facilities or provider locations and uses the statewide HIE services as the conduit for sharing. The hybrid federated system is conceived of one that consists of a set of core services that provide a platform for expanding functionality of the utility by adding different vendor applications to the core system. While the technical approach is still being developed GHIE recognizes the need for secure and reliable user verification and authorization, secure transport of messages and/or files and routing to providers via a secure and reliable directory (see 1.1.10). GHIE will conduct a solicitation for commercial solutions where they are needed to supplement the capabilities of the open source software.

In later phases, the core infrastructure may be expanded to include additional components or services. The Georgia HIE plans to develop and maintain a central Enterprise Master Patient Index (EMPI) and a separate Record Locator Service (RLS) of each record's location within the system. The design also supports the use of personal health record technologies that are controlled by the consumer. The hybrid federated model also allows the centralization of records when directed by consumers. This does not constitute a centralized record, but rather directory information that allows records to be identified and located throughout the distributed system. The hybrid federated model is less threatening to participants and individual consumers because it is less disruptive to existing, trusted relationships between individuals and their care providers and raises fewer issues in today's privacy and security focused regulatory environment. A disadvantage of a fully distributed approach is the absence of a single database that can be queried for health services research, public health reporting, post marketing surveillance and other approved uses of aggregate data (often called secondary use). This disadvantage can be minimized by efficient queries to the statewide HIE, long retention times on edge servers, and special purpose databases with privacy protections subject to the statewide HIE's controls and data sharing policies.

The statewide HIE will not provide PHR technologies but will integrate with them for direct data recording and use by consumers, provided that these functions meet appropriate technology, privacy and security standards and are connected in a way to ensure accurate patient identity. PHR technologies will enable consumers to have control over their personal health information with the ability to manage and share data with caregivers and others. PHR technologies will connect to the statewide HIE enabling consumers the ability to control data in consumer oriented edge devices separate from the central exchange infrastructure. The statewide HIE will also allow individuals to control the distribution of their personal health information as permitted under federal and state privacy regulations. Depending on the policies that exist at the federal and state levels, this may include the freedom to participate or not participate in the statewide HIE.

The statewide HIE will, in as timely a manner as possible, use -- but not necessarily be limited to the use of -- standards consistent with the then-current national technology standards. The statewide HIE will use federally-endorsed standards and integration protocols that bridge proprietary boundaries. Making these standards a core statewide HIE principle will ensure that the HIE is not vulnerable to vendor selection issues and risks and is also compatible with HIEs developed by other states and the federal initiative.

Each node on the statewide HIE will store data locally in either its own, or shared, edge devices that are, in turn, made available to the requestor via this HIE if an allowable request is received. Since the current level of EHR adoption in Georgia is not now, and may never be, 100 percent, the statewide HIE will offer properly certified providers a portal to allow for early access to the HIE even without an EHR. Such access will be controlled by accepted measures developed to ensure protections for privacy and data security.

The statewide HIE will use NHIN specifications where feasible to connect to other networks located in whole or in part outside the state of Georgia (e.g. VA, Military Health, laboratory/pharmacy networks or HIEs in adjacent states). This strategy will accelerate the deployment of these connections and promises to minimize the need to develop and maintain costly and complex direct interfaces.

The Record Locator Service (RLS) will capture the metadata of any information being stored locally on an edge device. The intent of the RLS is to maintain information about the location and type of documents that exist on the network. When a participant saves a document to the statewide HIE edge device, a standard transaction is initiated to register the document and sends the necessary document identification information to the RLS.

The statewide HIE will require that EHRs connecting to the utility meet the applicable technical requirements for EHR certification (e.g. privacy and security, data transmission). This does NOT preclude providers whose EHR does not yet meet the criteria for meaningful use from connecting to the statewide HIE. The provider portal will provide interim access to the statewide HIE for those providers who have not yet implemented an EHR in a manner consistent with accepted standards to protect both privacy and data security. Where feasible GHIE expects to offer translation services to turn non-standard files submitted by such providers into standardized formats. Nevertheless, the statewide HIE will employ practices to encourage provider adoption of certified EHR technology.

Over time providers who participate in the Medicaid or Medicare incentive programs will need to demonstrate that they are fully utilizing the functionality of their EHR system to achieve meaningful use. Universal provider compliance with meaningful use standards is the longer term goal since it serves the public interest by transforming a largely paper-based system into a private and secure electronic, interconnected system that is transparent, earns public trust, and helps address health challenges facing Georgia, including preventable medical errors, disparities in the quality of care, high costs, administrative inefficiencies, and the lack of care coordination among providers.

Retention of information in edge devices highlights the concept of control over health information and the ability for the information to be updated or deleted. Information in edge servers does not necessarily need an expiration/auto-delete date. If data were to be deleted from an edge device, the data in the originating system would still exist, and all logs of access to the previous data will persist in the HIE audit log. For primary clinical uses of the information, ancillary data will be routed from the processing facility (i.e., laboratory or imaging center) through the statewide HIE to the ordering physician. This HIE may consider leveraging Surescripts as a source of medication information derived from both pharmacy data and claims data If so, then the data would be accessed by routing provider requests through the HIE to Surescripts and locating the patient using that company's MPI service. As the statewide HIE evolves, the ability for consumers to maintain medication history information in their own PHR will be supported.

4.2.5 Technical Relationships Between Georgia and Others

DCH has been in communication with other states to discuss the strategies they have used for implementing their HIEs. This collaboration has provided a mechanism for Georgia to share lessons learned, identify the challenges, and discuss various unique policy-related issues. Discussions concerning technology evaluation, selection, and implementation have also occurred. It is expected that the statewide HIE Governance Organization will continue building communications with other states, will participate in meetings with representatives from bordering states to discuss interstate HIE connectivity, and will explore opportunities to share lessons learned as it moves forward with implementing the statewide HIE.

The GHIE Governance Organization will work closely with public agencies to establish connectivity for the exchange of electronic health information. Collaboration with Medicaid has already begun. The statewide HIE will continue discussions with the Department of Veterans Affairs (VA), the Department of Defense, and other state and federal agencies to identify opportunities for future collaboration, resulting in health technology related innovations.

The VA has successfully implemented a system-wide EHR in a health care system that serves nearly six million patients in more than 1,400 hospitals, clinics, and nursing homes. The Georgia VA Medical Centers, in addition to other organizations in the state, work together to form a comprehensive health care delivery system for Georgia veterans. It is anticipated that the statewide HIE will explore data sharing with the VA, possibly via the NHIN, and that implementation will occur as early as feasible, most likely on a use case basis.

4.2.6 Georgia and the Nationwide Health Information Network (NHIN)

The technology specifications for the Georgia Statewide HIE will be based on federally endorsed standards and integration protocols that bridge proprietary boundaries. Using approved standards mitigates vulnerability to vendor selection issues and risks, and ensures compatibility with other HIEs and federal initiatives. The infrastructure of the statewide HIE will be designed to enable flexibility while ensuring that the organization can respond to market changes and eventually support data sharing in accordance with NHIN specifications . Wherever feasible, the statewide HIE will use these standards to connect to other networks located in whole or in part outside the state of Georgia (e.g. VA, DOD Military Health, laboratory/pharmacy networks or HIEs in adjacent states). This strategy can accelerate the deployment of these connections and also to minimize the need to develop and maintain costly and complex direct interfaces.

4.2.7 Strategy to Assure HIE Capabilities for Any Provider in 2011

A secure NHIN Direct like provider-to-provider or provider-to-HIE service would require an infrastructure to assure both the privacy and security of protected health information and that

the transport of messages is, in fact, directed to the correct, authorized providers. This support must consist of at least the following components:

a. User verification and authentication (includes a digital certificate or some kind of assurance that a provider is who they say they are, and that they are authorized to access the network (user id and password management). GHIE will secure a commercial HISP (health information service provider) service to manage a provider directory to look up the address information for the recipient (e.g. email / server address). This directory must provide this information for both individual clinician providers as well as at the entity-level (provider organization).

b. Secure transport via encrypted (S-MIME), conduit (SMTP, i.e. secure email)

c. Tracking of all logons and messages via an auditing system.

Conversations with commercial HIE core infrastructure vendors suggest that the needed services will be commercially available well within GHIE's time frames.

In order to make HIE capabilities available to any provider and encourage adoption, GHIE will explore support options to establish a help desk making technical support available to providers.

In 2011, GHIE will implement secure messaging services in the statewide HIE to encourage greater provider adoption and enable labs to deliver results to any providers. GHIE will also begin to define data sources available from Medicaid, Georgia RHIOs, Public Health, licensure boards, etc. GHIE will seek commitment from these data sources to populate provider directories and develop processes to work with entities and vendors to get complete, accurate information.

4.2.8 Enterprise Master Patient Index (EMPI) and Record Locator Service (RLS)

An essential capability of health information exchange is to accurately match patients with their records in order to find and retrieve health care information on a particular patient where it resides. This is accomplished by implementing an Enterprise Master Patient Index (EMPI) that is comprised of a database of demographic information on patients and a set of algorithms for the purpose of matching patients with their records from disparate systems. The identifying information in the EMPI serves as the key for matching the records of patients from disparate data sources to enable the creation of a longitudinal patient record.

The Record Locator Service (RLS) works with an EMPI and maintains pointers to the location of health records. The RLS stores enough information to be able to match a pointer to a clinical record in a health care facility to a patient demographic record stored in the EMPI, as well as the information about where that record is located on the network. The RLS will provide directory and RLS services for the statewide health information network that supports interoperability among disparate health care information systems based on open standards and vendor neutrality.

4.3 Business and Technical Operations

4.3.1 Introduction

Created in 2006, the HITT Advisory Board established open, representative, volunteer workgroups to consider the governance, finance, policies, and technical operations for a statewide HIE. After extensive collaboration with stakeholders across Georgia, DCH endorsed the recommendations of these workgroups to designate a Georgia Statewide HIE Governance Organization that is both independent and widely representative of the stakeholders. As of this writing, that Governance Organization has not officially selected but most aspects of policy, business model, and technical operations are not yet finalized. To the extent possible, DCH addresses in this section the operating principles believed to be self-evident or required by regulation as a guide to the statewide HIE once it becomes operational.

Among the core operational principles is providing value to the multiple stakeholders in Georgia through a business model that aligns value to sources of ongoing funding. Another is the recognition that existing service area HIEs are potential assets for the statewide HIE and need to be supported and encouraged to participate in a manner that respects the investment and existing provider relationships of their sponsoring organizations.

The architecture, as described in the Strategic Plan, is based on a hybrid- federated model in which data is maintained at its source, but certain centralized services support data access on a statewide basis even for those providers who do not yet have an EHR. This model also supports PHR technologies. It is anticipated that GHIE will conduct a procurement seeking an infrastructure vendor to provide these core services and, possibly, other connectivity services for those providers who are not participating in an existing service area HIE or some other connectivity arrangement. Specific decisions about this procurement will be made as determined by the HIE Governance Organization.

4.3.2 Implementation

When fully implemented, this HIE architecture will enable connections among Georgia's approximately 170 hospitals, 34 health care systems, and 2,000 physician practices as well as other participants, such as health plans and employers. This HIE will provide a mechanism that enables appropriately authorized individuals to perform select analytical reporting. It will also allow use of aggregated data for public health, biosurveillance, and other appropriate uses of aggregate data (sometimes called secondary use). All of these services will be provided in a manner that is consistent with national standards and accepted policies and procedures to ensure patient privacy and data security.

While the development of a plan for specific services (use cases) will be an early priority of the statewide HIE, it is anticipated that these services might initially include services as described in the following paragraphs.

4.3.3 Electronic Administrative Transactions

Administrative health care transactions are federally regulated. Select networks that handle administrative transactions such as eligibility and claims are expected to collaborate with GHIE. It is anticipated that the appropriate group established by the HIE Governance Organization will engage in discussions with payers and networks to involve them in developing this use case.

4.3.3.1 Electronic Prescribing and Refill Requests

Georgia's rate of adoption for e-prescribing approximates the national norms. This use case would likely be designed to improve the adoption of e-prescribing among the more than 3,102 priority primary care practices in Georgia. This use case would be aligned with the incentive payments available under ARRA and would be implemented accordingly.

4.3.3.2 Electronic Clinical Laboratory Ordering and Structured Results Delivery

The rate of Georgia's adoption of computerized physician order entry (CPOE) is generally consistent with the national averages. The implementation of this use case would involve negotiating connectivity with national, local, and hospital clinical laboratories.

4.3.3.3 Clinical Summary Exchange

A Clinical Summary Exchange use case allows for the sharing of summary clinical data, such as a discharge summary, Continuity of Care Document (CCD), or Continuity of Care Record (CCR), to allow health information to be shared among authorized providers. The information contained in these electronic documents would be constrained by EHR system capabilities. This use case would ensure that data or an appropriate image is available to participating providers. This use case would be aligned with the incentive payments available under ARRA and would be implemented accordingly.

4.3.3.4 Electronic Public Health Reporting

Georgia has specific regulations governing public health reporting for a number of infectious or communicable diseases, such as meningitis, measles, mumps, and smallpox. Currently, providers are required to submit information to public health officials for monitoring and reporting purposes with variable requirements on the reporting timeframe. This use case would facilitate more timely and efficient reporting, in a consistent electronic format. The DCH Division of Public Health is part of DCH making coordination of this effort much easier.

4.3.3.5 Quality Reporting Capabilities

Quality reporting is an important component for achieving meaningful use. Interest in quality reporting continues to grow; however, a consistent mechanism for reporting does not exist. The statewide HIE is expected to make available quality reporting, as deemed appropriate, aligned with the incentive payments available under ARRA and would be implemented accordingly.

Other potential high priority use cases to be developed in Phase 2 will likely include vaccine reporting/registries, cancer registries and other analytics reporting to the state or other entities charged with protecting the public health.

4.3.4 Proposed Staffing Structure

The GHIE Board of Directors will likely identify a personnel committee to determine the initial staffing needs of the statewide HIE and implement personnel related policies.

4.3.5 Project Management

Implementing the statewide HIE will be a complex project consisting of integrating multiple systems that need to work together to ensure success. Many different types of evaluation tools exist. It is expected that these tools will be considered by HIE Governance Organization for tracking the performance of the HIE implementation activities. The majority of methods, techniques, and tools place particular emphasis on quantification.

GHIE's Board may choose to collaborate with Georgia Institute of Technology's nationally ranked School of Industrial and Systems Engineering (ISyE) to evaluate performance through a technique known as systems thinking. Ample evidence exists that suggests complex initiatives are better managed by the application of systems thinking. This would enable the HIE Governance Organization to seek out new and diverse perspectives while solving problems in a manner that considers complexity, environmental influences, policy, change, and uncertainty. Specific decisions about project management will be made by the appropriate group designated by the GHIE Board of Directors.

4.4 Finance

4.4.1 Financial Model Considerations

Like the ONC, DCH recognizes the importance of and challenges in developing a sustainable health information exchange capability. A statewide HIE must have a financial blueprint and functional business plan to sustain the HIE for the long-term. With that view in mind, the State HITT Advisory Board assigned the Governance & Finance Workgroup the task of developing the essential principles needed to achieve financial sustainability. In developing the driving principles, the workgroup noted that it was only considering ways to fund *ongoing* operations after an HIE is up and running. For purposes of analysis, the workgroup assumed that all start-up costs would be provided through unspecified channels yet to be determined. The workgroup further noted that in formulating its recommendations, it was examining categories from which ongoing funding would be possible and that it was not attempting to develop any type of financial pro forma statements with ramp-up costs or phasing in of different operational funding sources.

The workgroup decided on these driving principles:

- The HIE will be voluntary and must, therefore, be attractive enough in the marketplace that stakeholders will participate and be willing to pay for its services; and

- The extent of financial support needed for operations will depend upon the governance model and technology approach.

With those two principles in mind, the workgroup decided it was important to identify the potential sources of operational funds without attempting to quantify the need, either in terms of absolute dollars or what percentage would be needed from each source. Recognizing that not all of the following alternatives would be feasible, the Governance & Finance Workgroup nevertheless identified those options to ensure that all alternatives would be considered. The workgroup concluded that self-sustaining funding would be provided by the beneficiaries of the HIE system and that participants would recognize the value of the service and would be willing to pay to access it.

The workgroup considered three basic models:

- Transaction-based (pay per click);

- Subscription-based paid by health plans; and

- Subscription-based paid by providers.

The workgroup noted that the three basic models are not mutually exclusive and could be used in combination. In its report to the Advisory Board, the workgroup expressed concern that in view of the New England Healthcare Exchange Network's experience, a subscription model might be preferable "since a per-click model tends to suppress utilization." The workgroup also suggested that dues should be scaled to recognize the financial capabilities of each type of provider and payer. The workgroup also took special note of the recommendation by the New England network that provider and payer fees should be paid monthly rather than requiring an up-front capital investment because the up-front investment requirement tended to discourage participation. The workgroup stated that a more standards-based approach would require less infrastructure (and, therefore, smaller financial resources for ongoing operation). The workgroup recommended that any fee schedule should recognize the level of services being provided in order to avoid requiring providers from paying twice for the same services.
The workgroup created a list of significant stakeholders listing them in approximate descending order based on the estimated financial benefits that each category would derive from participating in a statewide HIE:

- Payers;

- Large self-insured employers;

- Commercial labs;
- Hospitals;
- Other institutional providers;
- Physicians; and
- Consumers for medical records and copying.

Having listed the key stakeholders to a statewide HIE, the Governance & Finance Workgroup assessed the potential financial benefits to be derived from participation in a statewide HIE. The workgroup not only considered projected cost savings to stakeholders but also areas of potential cost-avoidance. The workgroup's examples of potential cost-avoidance included:

- Potentially streamlining information technology operations for both providers and payers [so there would be fewer required interfaces];
- Potentially reducing the number of administrative reworks in the payment process as data is delivered in more standardized formats; and
- Potentially avoiding repeating labs and other tests as results are transmitted or delivered in a more timely way.

In addition, the workgroup expressed its belief that by transferring certain administrative functions (member eligibility, claims submission, electronic authorizations, and remittances), the transfer of these functions to the HIE could help underwrite the cost of the HIE's operation. The workgroup noted that the statewide HIE could potentially derive some secondary income from the sale of de-identified data used for research purposes.

GHIE has a Finance Committee that is being tasked with determining how financial sustainability can best be achieved. Depending upon the business model adopted by GHIE's Board of Directors and which stakeholders elect to participate in the statewide HIE and what utility and functionality the HIE system affords, commensurate funding contributions by key stakeholders are expected to follow.

Ultimately, financial sustainability may be enhanced by obtaining provider payment reforms and by requiring participation of key partners such as labs and pharmacies. Master patient indexes or authentication services may prove financially valuable to participants and thus generate income to the HIE.

DCH has been studying the results of the pilot projects launched by its grantees to ascertain the lessons learned and best practices relating to the grantees' financial issues. In addition, DCH is studying other states' approaches toward achieving and securing ongoing sustainable funding for a statewide HIE. Obviously, there are many costs associated with the start-up of a statewide

HIE. Without a continuing stream of financial support, a statewide HIE is not sustainable for the long-term. It is expected that eventually, the statewide HIE will likely include not only network services for a master patient index, but also lab reporting, e-prescribing, authentication services, eligibility determination, health claims processing, and other services. It is anticipated that the statewide HIE will be able to obtain financial commitments from several major hospital systems, the leading health plans, insurers, major employers, and other major stakeholders in Georgia.

In the short term, it is anticipated that some funds for the statewide HIE would come from transaction revenue, some from health plans and insurers, some from research fees, and some from secondary use researchers. Later, as the statewide HIE evolves into an operational HIE enterprise, it is expected that the statewide HIE will be funded by participants in the HIE who achieve cost savings, administrative efficiencies, and financial advantages that accrue from the use of HIE services.

At this point, it is not practical to discuss pricing models for HIE services, the amounts of stakeholder contributions, and direct versus indirect costs associated with HIE services because the GHIE Finance Committee has much analysis to undertake before the Board of Directors can vote. DCH and GHIE recognize the urgency in developing statewide HIE that will be capable of supporting HIE operations on a long-term basis. The development and oversight of a long-term funding strategy are responsibilities that ultimately lie with the Board of Directors of GHIE. Therefore, DCH expects to supplement and update this section after a consensus is reached by the governance entity and a business plan for the statewide HIE is adopted and implemented.

4.4.2 HIE Grant Program

DCH expects to use sub-awards to strengthen local or regional HIEs. DCH is considering offering Challenge or Innovation Grants for academics or disease-specific or other organizations for innovations that hold promise for rapid replication, strong utility to others, and have a broad value and impact to the state. Preference to quick-start HIE activities would be given. Subject to the ONC's approval, DCH may also provide assistance to emerging HIEs to help build their infrastructure and expand their components and functionality. Such sub-grants will include mandatory reporting requirements, quantitative and qualitative measures and strict adherence to the federal guidelines of the State HIE Cooperative Agreement program.

4.5 Legal and Policy

4.5.1 Establish Requirements

The DCH legal team (led by DCH Senior Deputy General Counsel and including a DCH attorney, the HITT Privacy and Security Officer, a private Georgia attorney who is conversant with the relevant federal and state laws and regulations, and a national attorney who is

conversant and experienced with the federal health care laws and regulations) is working to ensure that the HIE will operate in accordance with existing applicable laws and regulations addressing the privacy and security of health information.

The DCH legal team will develop appropriate policies, procedures, agreements, and consents relating to the privacy and security of HIE if requested by the Georgia Statewide HIE Governance Entity or by the Legal and Privacy Committee of GHIE. In doing so, DCH will consider the following:

- The following additional recommendations of the Legal and Privacy workgroup of the HITT Advisory Board:
    - Develop template contracts and agreements, as necessary and appropriate for creation of, participation in, and operation of statewide HIE;
    - Develop a robust HIE level compliance program, including, but not limited to, criteria for best practices, checklists, providers' attestation of compliance and criteria for monitoring and auditing, in accordance with a model of a best practices compliance program to address privacy and security requirements;
    - Develop a robust HIE level policy and procedure framework, including, but not limited to, development of a "floor" document that addresses recommended standards for authorization, user access, breach (including notification), and sanctions for noncompliance;
    - Research and recommend best practices related to data sharing agreements, system development, and harmonization of multi-state laws and regulations, with a focus on practices at existing, sustainable HIEs;
    - Identify potential consequences and mechanisms, contractual or otherwise, to address noncompliance with recommended standards; and
    - Provide education to consumers and providers to support public trust in privacy and security of HIE;
- Standards and best practices developed by or on behalf of the Nationwide Health Information Network (NHIN) and the need for the statewide HIE to connect to and participate in the NHIN;
- The HHS Privacy and Security Framework for the Electronic Exchange of Individually Identifiable Health Information which established guiding principles for entities and persons participating in health information exchange: (1) individual access; (2) right to correct errors; (3) openness and transparency; (4) individual choice as to whether or not to share information; (5) collection and use; (6) disclosure limitation; (7) data quality and integrity; (8) safeguards; and (9) accountability;

- The provision of appropriate education and outreach to build support and gain trust from various types of participants (such as health care providers and payers);
- The provision of appropriate education and outreach to engender trust on the part of individuals whose information will be available through the HIE, including education and outreach concerning the privacy and security measures taken by the HIE; and
- The need for technologies utilized by the statewide HIE to be flexible, scalable, and adaptable to future modifications, expansions, and legal and other requirements.

The initial privacy and security policies and procedures of the HIE must address numerous issues, including, but not limited to, the following:

- Policies and procedures describing the structure, purpose, and functionality of the statewide HIE, which will include policies and procedures governing participant compliance and auditing of same;
- Consents from individuals whose health information will be shared through the statewide HIE, which consents must be consistent with applicable federal and state law, and the process for obtaining such consents;
- Agreements with HIE participants governing the use, submission, transfer, access, privacy, and security of individuals' health information available through HIE, which agreements must also address the termination of a participant's right to use or access the statewide HIE if the participant fails to comply with applicable legal or contractual requirements or HIE policies and procedures;
- Privacy and security processes, including participants' obligations to maintain secure environments supporting HIE and specifically addressing role-based access, user authentication, encryption, and audit capabilities;
- Security incident policies and procedures that comply with applicable federal and state law; and
- Business Associate Agreements that comply with HIPAA requirements and provide a mechanism for amendment as may be required from time to time.

4.5.2 Methodology for the Development of Privacy and Security Policies and Procedures

The DCH legal team has completed reviewing all relevant Georgia law to determine if current state laws are consistent with and support the national level requirements and standards for implementation and operation of the statewide HIE. The DCH legal team found no barriers of

significance that would preclude the exchange of health information through this "network or networks" operation.

After development of the required privacy and security policies, GHIE's Legal and Privacy Committee will need to develop privacy and security procedures to provide an effective vehicle for policy compliance. When developing procedures, it is important to ensure that the procedures support effective privacy and security and harmonize with other operational procedures for the statewide HIE. The steps for the development of privacy and security procedures will include:

- A determination of the privacy and security procedures needed;
- An evaluation of current procedures being used and a comparison against best practice standards; and
- The harmonization of current procedures and the development of HIE procedures to meet all privacy and security requirements and best practice standards.

4.5.3 Monitoring and Enforcement of Privacy and Security Policies and Procedures

The key to effective privacy and security policies and procedures that maintain the trust of participants and the public is oversight (i.e., monitoring of compliance with, and enforcement of, such policies and procedures). The statewide HIE will need to build a monitoring and enforcement program that is transparent, uniform, and vigilant to protect the confidentiality and security of individuals' health information. DCH anticipates that the statewide HIE's monitoring and enforcement program regarding privacy and security will include the following:

- Automated auditing processes through use of appropriate auditing technology;
- Documentation and process audits;
- Clearly defined and transparent incident reporting available to both participants and the public;
- Incident response procedures;
- Breach notification procedures;
- Mitigation procedures; and
- Publication of procedures for participants and the public.

When, through the monitoring and enforcement program, the statewide HIE determines that a participant is not complying with applicable legal or contractual requirements or with the HIE policies and procedures, the HIE may take action as described in the agreement between the HIE and the participant and as provided by applicable law.

4.5.4 Technology Supporting Privacy and Security Policies and Procedures

The statewide HIE plans to use technology to support privacy and security that meets or exceeds federal standards established by NHIN and NIST. The technology will include appropriate tools for encryption, access control, authorization, deployed in a manner that will support data availability and integrity. For additional information on security technology refer to the Technical Infrastructure section.

4.5.5 Updating Privacy and Security Policies and Procedures

DCH, as well as other stakeholders, recognize that the regulatory environment in which the HIE operates will change as new requirements of the HITECH Act section of ARRA become effective and other laws are passed, other regulations are issued, and other guidance is provided. DCH recognizes the need for on-going review and revision of HIE policies and procedures and anticipates that the statewide HIE will designate an officer or committee with responsibility for compliance by the HIE with ever-changing federal and state legal and policy requirements. Such officer or committee may consult with the DCH legal team or other legal advisors as may be approved by the GHIE Board of Directors.

4.5.6 Privacy and Security Harmonization

Like many states, Georgia has state laws that result in heightened protections for certain types of health information, such as information relating to mental health, substance abuse, rape victims, sexually transmitted diseases, and AIDS/HIV information. DCH's legal team completed a detailed analysis of state law, performed a thorough assessment to examine any state law legal barriers to the exchange of health information, and determined whether any changes to state law will be needed. Now that the review of existing state laws is complete, the review has not discovered state law issues affecting the exchange of health information that will be likely to pose significant barriers to such an exchange.

The privacy and security policies of the statewide HIE will require each participant in the HIE to execute a specific participation agreement (likely modeled on the federal Data Use and Reciprocal Support Agreement (DURSA)). Participants will also be required to comply with other privacy and security policies and procedures of the HIE. Because the policies and procedures of the HIE will require participants themselves to comply with applicable privacy and security laws, it is likely that participation in the HIE will in fact cause participants throughout the state to refocus on their privacy and security efforts. In addition, DCH expects that through

education and outreach, the individuals whose information will be shared through HIE will encourage participants to take all necessary steps to appropriately protect information within the HIE. Therefore, the privacy and security practices of participants in the HIE will likely become more standardized, leading to greater privacy and security protections for patients and beneficiaries throughout Georgia.

Finally, the GHIE Legal and Privacy Committee will likely examine privacy and security issues associated with the sharing of health information across state borders. DCH currently participates in calls and meetings with neighboring states to discuss HIE in general, and DCH understands that Georgia's neighboring states are interested in addressing cross-border issues.

4.5.7 Federal Requirements

The Georgia statewide HIE anticipates exchanging health information with federal health care facilities in Georgia (and perhaps in other states as well) and is currently examining the relevant legal issues associated with the exchange of such information. For example, DCH has identified three VA Medical Centers in Augusta, Decatur, and Dublin, Georgia, and numerous VA outpatient clinics throughout the state whose patients could likely benefit from the use of HIE. In addition, Georgia is home to numerous military bases. DCH anticipates that military personnel and their families living in Georgia may want to participate in the statewide HIE.

5 Coordination

5.1 Medicaid Coordination

5.1.1 Medicaid Promotion of the Statewide HIE

The Division of Medicaid, an organizational component of DCH, has been actively working to promote health care technology efforts in conjunction with DCH's Office of HITT and the State HIT Coordinator. The Medicaid Director is a member of the DCH Health Information Technology and Transparency Steering Committee and provides a key leadership role to that committee by representing the interests of the Division of Medicaid. The HITT Steering Committee conducts regular meetings with the State HIT Coordinator to provide guidance to the Office of HITT. The Division of Medicaid and the Office of HITT regularly collaborate and communicate in order to align the state Medicaid program with efforts to promote health information technology. Significantly, the Steering Committee with crucial input from the state Medicaid Director is helping actualize the strategic direction and vision for all HIT activities.

As shown by the Medicaid Director's letter of support for this document, the Division of Medicaid is an active and enthusiastic supporter of a statewide HIE. The Medicaid Director is a strong endorser of the electronic exchange of clinical information, laboratory results, e-prescribing and other health information through a statewide HIE.

5.1.2 Medicaid Support and Promotion of EHR Technology

The Division of Medicaid has already demonstrated its support for the Medicaid Incentives Program by including banner notice information sent directly to Medicaid providers in Georgia. This notice promoted use of the CMS web site to encourage Medicaid providers to seek information about the Medicaid Incentives Program. The banner notice to Medicaid providers was part of a joint effort between state Medicaid and the Office of HITT to coordinate provider outreach and communication. These efforts will be continued and expanded with future banner notices and informative articles in the Medicaid provider's publication that is sent to providers quarterly. This effort also reflects state Medicaid's commitment to furthering the adoption, implementation, and upgrading of certified electronic health records by eligible Medicaid providers in Georgia.

The Division of Medicaid submitted its initial Planning-Advance Planning Document (P-APD) to the Centers for Medicare and Medicaid Services (CMS) in February 2010 and obtained federal funding to develop Georgia's State Medicaid HIT Plan (SMHP) and to prepare to implement the Medicaid Incentives Program that will administer incentive payments for the adoption and meaningful use of certified EHR technology. The Office of HITT, working in conjunction with the state Medicaid Director, has submitted an update to the P-APD to CMS to reflect planning activities associated with interfaces with the National Level Repository, pre-incentive payment

validation, incentive payment workflows and post-payment audit functions. Georgia submitted its State Medicaid Health IT Plan to CMS the first week of December 2010.

The objective of the SMHP is to advance the adoption and meaningful use of certified EHR technology on a statewide basis by Georgia's Medicaid providers. The SMHP outlines the strategic HIT vision of the Division of Medicaid and will serve as the foundation in achieving the HIT objectives over a five-year period. The SMHP provides information that is critical in reaching the HIT objectives:

- The "As-Is" landscape assessment of the current status of HIT in Georgia with a focus on Medicaid providers;
- A "To-Be" vision and Roadmap;
- Development of the Implementation Advance Planning Document (I-APD) to complete the activities needed to support the "To-Be" vision and the SMHP; and
- Plans for obtaining development and operational support, as well as audit services.

Both the Division of Medicaid and the Office of HITT recognize that educating Medicaid providers and promoting the Medicaid EHR incentives program are activities that are important to the success of Georgia's HIE initiatives and the successful development and operation of GHIE. Georgia Medicaid has used claims and encounter history, coupled with the environmental scan, to project which Medicaid providers may have sufficient patient volume to qualify for Medicaid EHR incentive payments. It is clearly apparent that the Division of Medicaid believes that the adoption and meaningful use of EHR technology by Medicaid providers will greatly enhance the success of the SMHP and also the viability of the GHIE.

Finally, it is important to emphasize that the Office of HITT has actively collaborated with the Division of Medicaid in the development of the new system for MMIS -- in anticipation of the need for future interfacing when the Medicaid Incentives Program becomes operational. After the first version of this document was submitted, DCH joined the multi-state Medicaid Assistance Provider Incentive Repository (MAPIR) collaborative. This collaborative is designed to align the efforts of Medicaid and the Office of HITT to meet the rules and obligations required to demonstrate meaningful use of certified EHRs in the Medicaid Incentives Program.

5.2 Coordination of Medicare and Federally Funded, State Based Programs

Coordinating the development of the GHIE with Medicare, Children's Health Insurance Program (CHIP), Health Resources Services Administration, and Substance Abuse and Mental Health Services Administration (SAMHSA) and other federally funded state programs is an essential aspect of the planning process. DCH readily acknowledges the importance of considering the unique needs of patient populations served by state Medicaid/CHIP, and Medicare. DCH will have a non-voting seat on the GHIE Board of Directors and Public Health will have a voting seat on the GHIE Board in addition to representation on all advisory committees. Efforts with Hewlett

Packard, the MMIS vendor and MAPIR developer to customize MAPIR for Georgia use are underway.

The goal is to maximize coordination efforts with Medicaid and Medicare on relevant federally-funded state programs to further the development of the GHIE as quickly and strategically feasible. DCH expects the statewide HIE to utilize the resources and tools developed by the Agency for Healthcare Research and Quality to assist Medicaid and the Children's Health Insurance Program, PeachCare for Kids™ in order to improve the coordination and delivery of care through the exchange of electronic health information. Medicaid currently shares data electronically using HIPAA EDI transactions for eligibility determinations and for crossover claims with Medicare. In addition, Medicaid uses regular electronic reporting for CHIP.

Georgia's 159 counties are divided into 18 public health districts. Many of these public health districts consist of largely underserved and widely dispersed populations. The DCH Division of Public Health hopes to leverage its existing health information technology resources to foster innovation and to support EHR adoption among relevant stakeholders in these public health districts. This will support and add to the exchange of information within the GHIE.

Identifying the requisite architecture, hardware, software and network configuration to connect the statewide HIE to publicly funded programs represents both a significant challenge and opportunity. Demonstrable improvements in public health will require access to data within the Medicaid MMIS program. DCH expects that the GHIE will engage in data sharing with federal programs and will build on the capacity of the DCH Division of Public Health to expand beyond the electronic system used for the Georgia Immunization Registry to exchange other health information including syndromic surveillance reporting from providers and reporting of notifiable diseases.

In addition, accomplishing the electronic exchange of health data with the Centers for Disease Control (CDC) represents a high value target for the GHIE. The DCH Division of Public Health, a vital part of DCH, already fully cooperates with the CDC in exchanging public health data. It is anticipated that the GHIE will work collaboratively with the CDC to facilitate providing public health reporting data electronically to the CDC. Georgia has experienced considerable success with the Georgia Immunization Registry (GRITS), a system designed to collect and maintain accurate, complete and current vaccination records to promote effective and cost-efficient disease prevention and control. Included among the goals of the Georgia Immunization Registry program are: assisting health care providers and public health officials with assessing and improving community immunization status and providing reminders when children need vaccinations or updates to vaccinations. The Registry enables providers to access up-to-date immunization records of Georgians and avoid duplicative and unnecessary immunizations. In future phases of its operation, DCH expects the statewide HIE to incorporate the Georgia Immunization Registry into an electronic health care database.

5.3 Participation with Federal Care Delivery Organizations

Coordinating the delivery of health care with the U. S. Department of Veterans Affairs' facilities is a high priority for the successful planning and deployment of the statewide HIE. For this reason, the Board of Directors of GHIE includes an ex-officio seat for representatives of the VA and CDC. Georgia has three major medical facilities for military veterans and their families. These facilities are the Atlanta VA Medical Center, the Carl Vinson VA Medical Center in Dublin, and the Charlie Norwood VA Medical Center in Augusta. In addition, the Veterans Health Administration operates many geographically dispersed facilities. These are: the Athens Clinic, Decatur Clinic, Albany Clinic, Columbus Clinic, East Point Clinic, Lawrenceville Clinic, Macon Clinic, NE Georgia/Oakwood Clinic, Newnan Clinic, Perry Outreach Clinic, Rome CBOC, Savannah Clinic, Smyrna Clinic, Stockbridge Outreach Clinic, Atlanta Vet Center, Lawrenceville Vet Center, Macon Vet Center, Marietta Vet Center, and Savannah Vet Center. Linking the statewide HIE to the VA health care system, a system that employs the electronic health record system known as VistA, is a high priority to the success of the statewide HIE. Not only has the VA successfully implemented a system-wide EHR, but also it is heavily engaged in e-prescribing. Connecting a statewide HIE with the VA is a matter of high importance, particularly since VistA is one of the most widely used electronic health record systems in the nation. Because Georgia has a high concentration of veterans and their families residing in this state, the electronic exchange of health information with VistA represents an undertaking of tremendous potential benefit.

In addition to having a significant presence of military veterans and retirees in Georgia, the state also has a strong active duty military presence. The U. S. Army, Navy, Coast Guard, and Air Force currently maintain facilities and have significant numbers of military personnel in Georgia. Military bases located in Georgia include Fort Benning, Fort Gillem, Fort Gordon, Fort McPherson, Fort Stewart, Hunter Army Airfield, Robins Air Force Base, Dobbins Air Reserve Base, the Coast Guard Air Station in Savannah, and the Naval Submarine Base at Kings Bay. The military facilities maintain a combination of hospitals and clinics. Most notably, the Dwight David Eisenhower Army Medical Center in Augusta provides health services to 48,489 persons-- 9,100 Active Duty Soldiers, 13,441 Active Duty Family Members, 20,063 Retirees and their Family Members, and 5,885 Active Duty Trainees. (Source: Eisenhower Army Medical Center Fact Sheet, 23 Feb 10) The Eisenhower Army Medical Center operates with an annual budget in excess of $215,980,000. In addition to the presence in Georgia of this major medical center, a coordinated network of military clinics crosses the state. Entering DOD health care information of military members and their families into a shared HIT data base represents an important opportunity to leverage an existing high-value resource into the GHIE.

Notwithstanding media reports that the EHR system currently in use by the Department of Defense for military personnel is not fully compatible with the Department of Veterans Affairs' VistA EHR system, the GHIE expects will be able to collaborate with both electronic systems. At present, there are pilot projects underway throughout the country designed to facilitate the interoperability and exchange of data between the VA and DOD EHR systems.

In Georgia, a regional pilot is likewise underway with similar interoperability goals for the exchange of health information. The Augusta Metro Health Information Exchange is planning an HIE to include major hospitals in east central Georgia including, among other facilities, the Charlie Norwood VA Medical Center, East Central Health District (DCH) and the Eisenhower Army Medical Center. Lessons learned from this collaborative effort among a DCH facility, a VA facility and DOD facility should provide invaluable practical information to facilitate an effective electronic exchange of health information among and between disparate end-users.

5.4 Coordination with Other ARRA Programs

In terms of health care technology, the major ARRA grant recipients in Georgia are DCH, the Morehouse School of Medicine's National Center for Primary Care (NCPC), as well as certain broadband projects which are not necessarily health care technology related. In addition, ARRA funds have been awarded to certain technical colleges in Georgia.

NCPC, a recipient of approximately $19.5 million in federal funding, created a statewide regional extension center that NCPC named GA-HITREC. DCH is actively collaborating with GA-HITREC to encourage the adoption of electronic health record technology that will be interoperable across electronic systems.

As discussed in considerable detail in the Operational Plan section of this document, DCH and GA-HITREC are engaged in joint efforts to facilitate the widespread adoption of certified EHR technology across this state. DCH and GA-HITREC routinely discuss how to leverage potential integration points or areas of commonality so that their separate efforts are not redundant or duplicative. DCH and GA-HITREC are mutually supportive of each other's activities in advancing the joint goal of encouraging the adoption of electronic health record technology by primary care providers, especially those serving the indigent or medically underserved.

As of August 4, 2010, Georgia was the recipient of in excess of approximately $109 million in ARRA funds for broadband expansion. The common goal of the various broadband projects is to develop the technical infrastructure to enable the expansion of broadband and wireless networks to enable the electronic exchange of information. Most of the ARRA funding for broadband projects is designed to bring high-speed Internet access to rural communities without such Internet access. DCH recognizes the vital importance of broadband connectivity as a prerequisite to the success of a statewide HIE and to the electronic exchange of health information.

DCH plans to leverage and integrate this expansion of broadband coverage, especially in rural and isolated communities, into its long term goal of making electronic health record technology more widely available and into its more immediate goal of encouraging the use of certified EHRs that will meet the requirements of meaningful use not only for Stage 1 but also for Stages 2 and 3.

Finally, it is important to note that the Technical College System of Georgia (TCS) is also the recipient of ARRA funding. DCH is planning to collaborate with TCS and other educational

institutions to develop educational and outreach programs geared toward health care consumers.

5.4.1 Georgia's Development of the Strategic Plan

Initially the HITT Advisory Board provided recommendations based on their health care industry knowledge and research to DCH to serve as basis for HIE plan development. As previously mentioned in this plan the HITT Advisory Board was composed of members from all sectors of the health care industry from across Georgia.

DCH acted on the recommendations of the HITT Advisory Board and formed new collaborative relationships with stakeholders from state and federal agencies, GA-HITREC, Southeast Regional Collaborative on Health (SERCH) states, health systems, providers and provider associations, and educational institutions from around the state. Input from these stakeholders was actively sought to develop the Strategic Plan.

The State HIT Coordinator held meetings with groups and individual stakeholders in addition to HITT Advisory Board and Town Hall meetings to gather stakeholder input. HIT staff was assigned to work with individual stakeholders such as GA-HITREC and DCH Division of Public Health. Input was gathered from stakeholders and surveys of providers were conducted and an environmental scan was completed. In addition, outside legal counsel was obtained for interpretation of federal and state laws.

DCH used the input from all sources to develop the Strategic Plan. DCH staff drafted the plan with the assistance and the expertise of Georgia Tech faculty members and the Georgia Enterprise Institute to address the technical infrastructure sections.

5.4.2 HIE Strategy as a Framework for Georgia's Medicaid Health IT Plan

DCH internal staff developed the State Medicaid HIT Plan (SMHP) in conjunction with the Georgia HIE Strategic and Operational Plans. The development of the two plans shared team members in order to ensure that the plans were compatible and that the appropriate elements were included in both plans as necessary.

The SMHP provides a framework for the implementation and operation of the Medicaid Incentives Program which is detailed in the SMHP. Through development of the statewide HIE, providers will have the necessary tools for the exchange of health information to meet the required meaningful use criteria. It is essential that any provider who wants to participate in the statewide HIE is enabled to do so. The Technical Committee of GHIE has been tasked with enabling broader participation in the statewide HIE.

5.4.3 Ongoing Strategy Development and Planning

GHIE will need an ongoing process for strategy development and for planning for future growth and enhancements. Rapid advancements in the health care and technology industries require the GHIE to regularly revisit its strategy to assure that all services and tools available through the GHIE are best-in-class and that best practices are used. Additionally, changes in federal laws and rules will likely require ongoing adjustments to strategy and planning for the HIE to assure compliance.

6 EHR Adoption

6.1 Strategy Framework for Supporting EHR Adoption

6.1.1 Georgia Medicaid Incentives Program

Through meetings with providers throughout Georgia, DCH has been working to advance the adoption, implementation and upgrading of certified electronic health records so that eligible Medicaid provides can meet the requirements for demonstrating meaningful use of such technology. On December 2, 2010, DCH submitted its State Medicaid Health Information Technology Plan (SMHP) to CMS for approval.

On November 1, 2010, DCH successfully converted its Medicaid Management Information System (MMIS). On November 15, 2010, DCH joined the multi-state Medical Assistance Provider Incentive Repository (MAPIR) collaborative as the thirteenth state. DCH will use MAPIR and the tools created by MAPIR to support the Medicaid EHR Incentives Program. DCH intends to leverage its MMIS to make the incentive payments to eligible Medicaid providers.

DCH expects to begin the Medicaid provider registration process during the second quarter of 2011 and to begin making payments to Medicaid providers in September 2011.

The meaningful use criteria and measures are designed to enhance the quality of health information exchange, improve the delivery and efficiency of health care, reduce costs, and promote patient safety and care. The federal requirements for demonstrating meaningful use are being phased in gradually over time in three separate stages. CMS has not yet released the meaningful use requirements for Stages 2 and 3. Stage 1 requirements have been promulgated and establish specific objectives and measures that providers must demonstrate in order to obtain Medicaid incentive payments beyond the initial adopt, implement, or upgrade certified EHRs phase.

For Stage 1, eligible providers (EPs) must satisfy 25 objectives/measures and eligible hospitals (EHs) must satisfy 24 objectives/measures. These objectives are divided into core set and menu set items. From the core set, EPs must meet all 15 objectives and EHs must meet 14 objectives. From the menu set, EPs may select certain objectives to satisfy meaningful use.

Also, for Stage 1, states are authorized to seek CMS approval to require up to four public health-related objectives to be considered for inclusion in the core set of requirements. These objectives may include patient specific conditions for quality improvement, and reporting by providers of immunizations, notifiable diseases, and syndromic surveillance. DCH is evaluating which public health requirements to include in the core set.

In their second year of participation in the Medicaid Incentive Program, EPs and EHs must demonstrate meaningful use of certified electronic health record technology—meaning that they must satisfy the criteria and measures for Stage 1. Whereas, for the first year of participation, EPs and EHs need only establish that they have adopted, implemented, or upgraded certified EHRs.

6.1.2 EHR Adoption Barriers

Adoption, implementation or upgrading of certified EHR technology is important to the viability of the statewide HIE and achieving the meaningful use objectives for the Medicaid and Medicare incentive programs. Without certified EHR technology, providers are not able to collect, maintain or exchange health care information in a meaningful manner. To this end, DCH contracted with the Enterprise Innovation Institute at the Georgia Institute of Technology to conduct a statewide environmental scan to determine the rate of EHR adoption. As previously discussed, the Environmental Scan identifies opportunities across Georgia for EHR adoption or upgrading to functionality that meets the meaningful use requirements. DCH will utilize this information to target communication and outreach efforts of the Medicaid EHR incentives program. Also, survey results from key provider associations and medical communities will be used to focus Georgia's efforts in targeting providers for EHR adoption, implementation or upgrading of certified EHR technology.

6.2 Promoting EHR Adoption

DCH believes that the Medicaid EHR incentives program will markedly increase EHR adoption and HIE participation by Medicaid providers across the state. In concert with Georgia Medicaid, OHITT will utilize key data to identify and fill provider gaps throughout Georgia. This data will come from the broadband mapping survey that is underway, the environmental scan, key provider associations, and Medicaid claims and encounter data history. These complementary efforts will help to ensure greater usage of certified EHR technology, compliance with meaningful use requirements and HIE participation.

6.2.1 Provider Associations

Along with the environmental scan, DCH leveraged relationships with key provider associations to survey provider members across the state on EHR technology and functionality. For example, the Georgia Hospital Association and the Georgia Academy of Family Practice are significant supporters of EHR technology and the statewide HIE efforts. These provider associations have facilitated the collection of survey data from their respective members. Future provider surveys will focus on potential barriers to EHR adoption and meaningful use of EHR technology. The survey feedback will provide continuous feedback to Georgia's EHR and HIE communication and education plans for providers across the state.

6.2.2 Medicaid Claims and Encounter Data History

As discussed at length in the SMHP, DCH utilized claims and encounter history to project which Medicaid providers may have sufficient patient volume to be eligible for Medicaid EHR incentives payments. An in-depth analysis of claims and encounter data is expected to help Georgia target those EPs and EHs for focused outreach and education. Using this data, Georgia intends to utilize relationships with provider associations and key providers within specific geographic communities to promote the Medicaid EHR incentives program and the statewide HIE.

In addition to the efforts above, DCH's collaboration with the GA-HITREC at the Morehouse School of Medicine is supporting efforts to conduct outreach and education with eligible professionals across the state.

6.3 Meaningful Use

6.3.1 Funding for Stage 1 Meaningful Use Requirements

DCH submitted an Update to the Implementation-Advance Planning Document (I-APD) to CMS for approval. CMS has approved that update. DCH is using the Medicaid claims and encounter data to project the funding needed for the Medicaid EHR incentives payments to eligible providers over the six year term of the program. DCH expects to provide funding estimates for enabling Stage 1 meaningful use requirements by March 2011.

6.3.2 Attaining Meaningful Use

In order to qualify for incentive payments under the Medicaid EHR Incentives Program, EPs and EHs must attest to adoption, implementation or upgrading of certified EHR technology. In addition to the attestations, DCH plans to conduct audits to verify providers' claims as to meaningful use.

OPERATIONAL PLAN

7 INTRODUCTION

This Operational Plan provides details for the technical, legal, and financing strategies for GHIE and state-related support, including:

- Data and Services Implementation;
- Proposed Milestones and Deliverables;
- Staffing Plans for the Statewide GHIE;
- Policy and Procedures Development; and
- Continuous Improvement

This Operational Plan outlines a coordinated policy development plan to support GHIE and health IT adoption. Building a successful HIE requires considerable planning and collaboration among stakeholders to define and refine policies and develop an HIE that is technically and financially sustainable because the HIE has value across a broad range of users. Four years ago the Georgia Department of Community Health began the process of strategizing the planning process for establishing a statewide HIE. From its inception in 2006, the State HITT Advisory Board has provided invaluable assistance and guidance to DCH, particularly through the efforts of the Advisory Board members and the workgroups that were formed.

As a direct result of the Advisory Board's efforts and recommendations and DCH's collaboration with a broad range of stakeholders, DCH supported a governance model that will ensure representation and participation by a broad and inclusive range of stakeholders. With the governance structure now finalized, DCH is focusing on education and awareness activities designed to promote the increased adoption of HIT generally and, in particular, the adoption and use of certified EHRs throughout the state. The governance structure for GHIE, Inc. is discussed in considerable detail in this document.

The Operational Plan outlines a coordinated communication plan to support GHIE and health IT adoption and use among providers and consumers. The Communication Plan focuses on the following to:

- Increase the adoption and application of health IT in Georgia;
- Improve consumer awareness regarding the benefits of health IT and HIE and the issues related to protections of health information privacy and security;

- Educate health care providers about their participation in the requirements of the ARRA Medicaid and Medicare incentives program; and

- Continuously engage consumers, health care providers, and news media, and other target audiences to promote the advances and successes of health IT in Georgia.

7.1 HIE in Georgia

7.1.1 Evolution of HIE Efforts in Georgia

As described in considerable detail in the Strategic Plan, the evolution of HIE efforts began as an incremental process facilitated by the Governor, DCH, and the State HIT Coordinator and enabled by the strong backing of stakeholders across Georgia.

Even prior to the issuance of the Governor's Executive Order in October 2006 that created the HITT Advisory Board, GHIE, Inc. was already in existence. In the Articles of Incorporation of GHIE, Inc. filed in February 2006, GHIE expressed its operational purpose as "enhancing and promoting the quality and efficiency of health care through the development of a health data and information exchange for the State of Georgia." (Articles of Incorporation, Article VII). Thus, in early 2006, GHIE and its founding members were already committed to the mission of promoting the exchange of health information to improve the quality and efficiency of health care in Georgia -- long before the enactment of ARRA and long before DCH obtained federal funds from the State HIE Cooperative Agreement Program.

7.1.2 Scope of GHIE's Operations

GHIE and the participants who executed the Documents of Commitment agreed that Phase One will include certain essential services. Thus, from the inception of the statewide HIE, this "network of networks" will have certain minimum services. During Phase One operations, the "Common Services" are the following:

1. Provider Directory;
2. Master Patient Index;
3. Secure Messaging Using NHIN Standards; and
4. Such other services as a majority of the Board of Directors of GHIE shall agree to develop and implement.

In addition, GHIE's participants agreed to develop an operational plan to enable these three HIE capabilities: e-prescribing, the receipt of structured lab results, and the exchange of patient care summaries across unaffiliated organizations. GHIE is "implement[ing] an HIE technical architecture that will enable network-to-network connections using NHIN standards and HIE components that support patient and providers' directories services and provide secure and interoperable connections for HIEs." (Document of Commitment)

Currently, GHIE and its committed participants include the Chatham HealthLink IT Consortium, the Central Georgia Health Network, the Emory Healthcare, the Georgia Cancer Coalition, Georgia's Health Sciences University f/k/a the Medical College of Georgia, and the Georgia Association for Primary Care, an operational HIE that connects 26 Federally Qualified Health Centers in Georgia. These organizations represent a broad spectrum of HIE users and encompass a wide geographical swath across the state.

7.1.3 Goals and Objectives

GHIE is committed to certain fundamental objectives. These include, but are not limited, to the following:

- Meet ONC technical requirements;
- Meet ONC data standards;
- Allow for optimum interoperability;
- Meet requirements that allow providers to demonstrate meaningful use in 2012;
- Provide services that create a foundation for financial sustainability; and
- Meet or exceed all requirements for Privacy and Security.

The statewide HIE is expected to evolve gradually and incrementally and thereby enable the inclusion of more unaffiliated health care providers, consumers, insurers, and others to engage in the secure, confidential, and reliable exchange of health information. This efficient and timely exchange of health information electronically will facilitate the improved care and treatment of patients throughout Georgia and surrounding states and enable Georgia residents and the residents of other states to obtain first rate medical treatment from Georgia's nationally recognized providers and medical facilities.

DCH expects the statewide HIE to improve patient care and treatment, reduce duplicative testing and redundant procedures thereby resulting in more efficient care and reduced costs. More efficient electronic exchange of health information enhances the quality of patient care, results in better coordinated care, and enables and empowers health care consumers to make more informed decisions about their health.

7.2 HIE Implementation Timeline: Key Activities and Tasks

7.2.1 Proposed HIE Implementation Timeline 2010 - 2012

The GHIE Operational Plan identifies and defines the processes and activities required in order to implement the statewide HIE in an effective and efficient manner. DCH seeks to create and use and a roadmap to show the pathway to:

- Meet ONC technical requirements;
- Meet ONC data standards;
- Allow for optimum interoperability;
- Meet requirements that allow providers to demonstrate meaningful use in 2012;
- Provide services that create a foundation for financial sustainability; and
- Meet or exceed all requirements for Privacy and Security.

The timeline in Figure 1-1 shows an overview of the sequence of planned activities that will allow the statewide HIE to meet these goals. This project is expected to be completed in five phases of grouped activities.

The first phase is underway in terms of planning and development which includes the following:

- Formal establishment of the Georgia Statewide HIE governance entity (completed);
- Development and implementation project standards and processes for documentation, communications, risk management, and change management;
- Putting in place appropriate staffing;
- Define required vendor services;
- Evaluate and select vendor services; and
- Begin contract negotiations with selected vendor.

The selected vendor will work with the GHIE to determine the criteria for the following:

- Business requirements definition including data standards;
- Technical requirements definition including ANSI standards, HL7 interface standards;
- Integration model for participating HIEs;
- Network of networks design approval by the GHIE Board;
- Selection of an HIE financial sustainability plan by the GHIE Board;
- Training plan will be developed and approved; and
- Participant and public outreach campaigns will be implemented.

It is important to note that all standards selected and used will in accordance with those required by the Nationwide Health Information Network (NHIN). Please refer to the Technical Infrastructure, Business and Technical Operations, and Financial Sustainability sections of this plan for additional information.

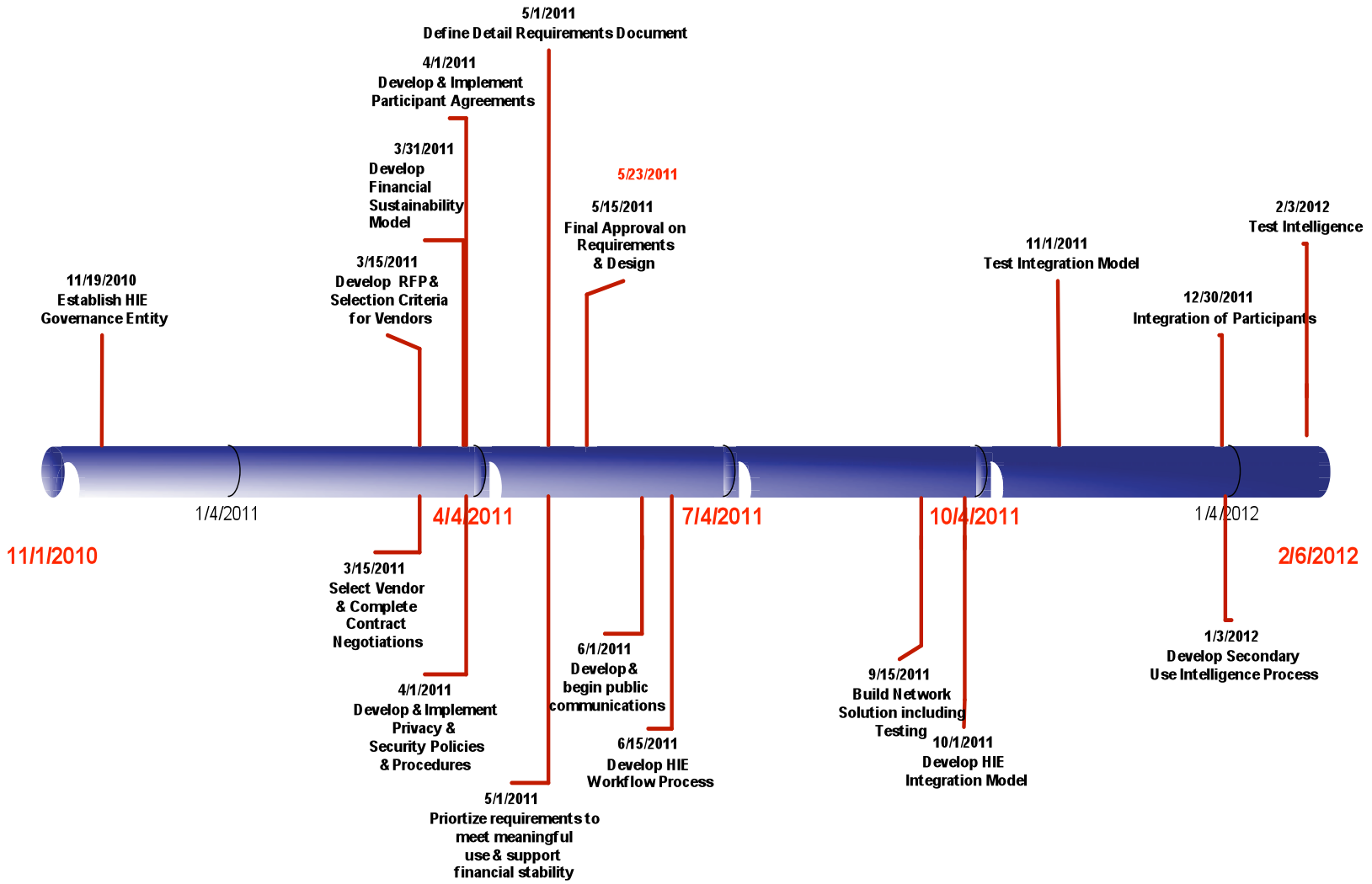
During the next phase the vendor will continue the network build while other critical project aspects are addressed by the HIE implementation team and HIE governance body. The following areas are expected to be addressed:

- Completion of the Privacy and Security Framework;
- Development of the HIE workflow; and
- Completion of performance measurement standards.

During the beginning of the next phase the vendor will complete the network build and integrations will begin. The following activities will occur during the third quarter.

- Privacy and Security policies and procedures will be completed and approved;
- Integrations will begin with CMS, Medicaid and existing regional HIEs in Georgia;
- Integrations will begin to meet e-prescribing and clinical lab results requirements; and
- Development of a network intelligence solution and testing for secondary data use.

HIE Activities Timeline



7.2.2 Georgia Statewide HIE Roadmap and Milestones

The current roadmap shown below is presented to GHIE, Inc., by DCH staff as a starting point for the ongoing development and definition of project tasks. This roadmap identifies key milestones from the overall HIE project plan. Both the project plan and the roadmap would need to be updated regularly to reflect progress made by both business and technical teams.

	2010		2011			
	Q3	Q4	Q1	Q2	Q3	Q4
General State Level Services		Establish HIE Governance Entity				
			Adopt Revised and Amended By-Laws			
			Develop RFP & Selection Criteria for Vendors			
			Select Vendor & Sign Contract			
Requirements, Design, and Build				Define Detail Requirements		Develop HIE Integration Model
				Prioritize requirements to meet meaningful use and support financial stability		Test Integration Model
				Final Approval on Requirements & Design		Integration of Participants Training
				Build Network Solution & Testing		

	2010		2011			
	Q3	Q4	Q1	Q2	Q3	Q4
Process, Finance, Participation, Training and Communications			Develop Financial Sustainability Model			Develop training program and coordinate training delivery with GA-HITREC
				Privacy & Security Policies & Procedures		
				Develop Participant Agreements		
				Develop HIE Workflow Process		
				Begin Public Communications		

7.2.3 Project Dependencies

The statewide HIE has a complex set of dependencies at multiple levels including national, state, and regional. The following provides a summary of the most significant dependencies identified at this time:

- At the national level the timely development and publication of complete NHIN standards and requirements is the most critical dependency for both the technical and business development of the GHIE.

- At the regional level there is the interdependence of the readiness of SAHIEs, hospital systems, and other providers, for integration into the statewide HIE.

7.3 Change Management

GHIE is committed to the use of best practices. Accordingly, the Change Management process will be developed in accordance with the PMI Body of Knowledge standards. A change management team will be put in place to assure that only those changes necessary to project success will be implemented throughout the project life cycle. The change management team will evaluate each change request to determine its necessity and impact on the project schedule and take steps to minimize or avoid delays in the project schedule.

8 COORDINATION WITH ARRA PROGRAMS

In terms of health care technology, the major ARRA grant recipients in Georgia are DCH, the Morehouse School of Medicine's National Center for Primary Care (NCPC), as well as certain broadband projects which are not necessarily health care technology related. In addition, ARRA funds have been awarded to certain technical colleges in Georgia.

NCPC, a recipient of approximately $19.5 million in federal funding, created the GA-HITREC, a statewide regional extension center. DCH is actively collaborating with GA-HITREC to encourage the adoption of electronic health record technology that will be interoperable across electronic systems.

As discussed in considerable detail in the Operational Plan section of this document, DCH and GA-HITREC are engaged in joint efforts to facilitate the widespread adoption of certified EHR technology across this state. DCH and GA-HITREC routinely discuss how to leverage potential integration points or areas of commonality so that their separate efforts are not redundant or duplicative. DCH and GA-HITREC are mutually supportive of each other's activities in advancing the joint goal of encouraging the adoption of electronic health record technology by primary care physicians, especially those serving the indigent or medically underserved.

Finally, it is important to note that the Technical College System of Georgia (TCS) is also the recipient of ARRA funding. DCH is planning to collaborate with TCS and other educational institutions to develop educational and outreach programs geared toward health care consumers.

8.1 Coordination with Medicaid HIT Planning and Other State Agency HIT Initiatives

8.1.1 ARRA Funding in Georgia for HIE in Georgia

In 2009, DCH submitted an application for the State Health Information Exchange Cooperative Agreement Program. In February 2010, the ONC selected DCH as a grantee of a cooperative award in the amount of $13,003,003. Under the terms of the Notice of Award for this ARRA funding, $1,000,000 was allocated for planning purposes only, $4,880,744 toward nationwide interstate HIE activities, and $7,122,259 for subnational/regional intrastate HIE activities.

In addition to the federal ARRA funds for the State HIE Cooperative Agreement Program obtained by DCH, other ARRA funds were awarded to Georgia entities for broadband expansion and a regional extension center for health information technology. These ARRA funding streams present the potential for significant improvements to the effective implementation of HIE and enable improvements in the health status of Georgians.

8.2 Coordination with Federal Health IT Initiatives

8.2.1 ARRA Funding for Broadband in Georgia

As of July 2010, 20 of Georgia's 159 counties had less than 50 percent access to broadband. Broadband access is particularly problematic in some of Georgia's rural areas. (See broadband map and discussion in Section 2.5 of the Strategic Plan.) In order for the electronic exchange of health information to occur, the broadband access issue must be resolved or a viable workaround alternative developed. Progress in resolving the broadband access problem is underway. In 2006, at Governor Sonny Perdue's behest, the state began funding to expand wireless broadband access to rural areas. The OneGeorgia Authority, established in 2006, operates a program separate from Wireless Communities Georgia to assist rural communities in establishing broadband networks. The Broadband Rural Initiative to Develop Georgia's Economy (BRIDGE) is continuing to provide financial assistance including grants and loans to support the deployment of high-speed broadband in rural areas in Georgia. Eligible recipients are typically cities, counties, and multi-county authorities. BRIDGE also provides low or zero interest loans to private sector entities to encourage broadband service in underserved rural areas.

Wireless Communities Georgia (WCG) is a separate program that is providing assistance to rural communities in establishing broadband networks. Under the WCG program, local governments are responsible for proposing, planning and implementing the wireless projects in their communities. The Georgia Technology Authority is responsible for managing the awards and monitoring project implementation.

In December 2009, the Georgia Technology Authority was awarded $2.2 million in federal funds for statewide broadband mapping. In February 2010, the Georgia Technology Authority selected the Sanborn mapping firm to complete a comprehensive mapping of broadband access throughout the state. As of February 9, 2011, the results still have not yet been completed.

On August 4, 2010, Governor Perdue announced three new broadband projects for Georgia that will receive almost $13 million in federal funding through ARRA. All three projects are designed to bring high-speed Internet access to underserved homes and businesses in rural communities. Financed in conjunction with private matching funds, the first of the three awards will extend Windstream Corporation's broadband network to 29,000 people, 750 businesses, and 50 community institutions in areas located in north Georgia. The second award will provide broadband services to 44,000 people, 2,000 businesses, and 120 community institutions in areas as geographically diverse as Canton, Dalton, Jasper, Irwinville, Manchester, Milledgeville, and Trion. Including these three latest awards, various broadband projects in Georgia have received more than $109 million in ARRA funding to expand broadband services throughout the state.

The common goal of the various broadband projects is to develop the technical infrastructure to enable the expansion of broadband and wireless networks to enable the electronic exchange of

information. Most of the ARRA funding for broadband projects is designed to bring high-speed Internet access to rural communities without such Internet access. DCH recognizes the vital importance of broadband connectivity as prerequisite to the success of a statewide HIE and to the electronic exchange of health information.

DCH plans to leverage and integrate this expansion of broadband coverage, especially in rural and isolated communities, into its long term goal of making electronic health record technology more widely available and into its more immediate goal of encouraging the use of certified EHRs that will meet the requirements of meaningful use not only for Stage 1 but also for Stages 2 and 3.

8.3 Coordination with Local Initiatives in Georgia

8.3.1 ARRA Funding for the Georgia Health Information Technology Regional Extension Center

The National Center for Primary Care (NCPC) located at the Morehouse School of Medicine is the recipient of approximately $19.5 million in ARRA funding for the creation of a statewide regional extension center. NCPC created the Georgia Health Information Technology Regional Extension Center (GA-HITREC). The foremost objective of GA-HITREC is to provide technical assistance to 5,200 primary care physicians toward adopting certified electronic health records and using interactive and interoperable health information technology.

The expansion of broadband access, particularly in rural and isolated communities, will help enable GA-HITREC to provide assistance to small primary practices in rural areas. Similarly, the expansion of broadband access will enable eligible Medicaid and Medicare providers to participate in their respective Medicaid and Medicare incentive programs. DCH plans to leverage the expanded broadband connectivity to facilitate the adoption and implementation of electronic health record technology. The expanded broadband access in rural and isolated communities will be instrumental in facilitating access to GHIE as the operational statewide HIE.

DCH and GA-HITREC are both committed to improving the safety, quality, accessibility, availability and efficiency of health care for Georgians. GA-HITREC describes its mission as to "use a community approach to assist Georgia's providers with the selection, successful implementation, and meaningful use of certified Electronic Health Records ("EHR") systems to improve clinical outcomes and quality of care provided to their patients." DCH and GA-HITREC seek to ensure that the state's indigent population and those who are medically underserved receive improved continuity of health care in order to effectuate better health outcomes for Georgians.

To achieve its objectives, GA-HITREC has begun activities focused on increasing its collaborative effort with communities. These activities include the following:

- Registering physicians and physician groups;

- Working with purchasing cooperatives;
- Developing technical partnerships;
- Facilitating training sessions in the community;
- Preparing to distribute communication pieces outlining the project;
- Using its Vendor Selection Committee to negotiate group purchasing discounts;
- Participating in DCH Town Hall meetings;
- Developing business partnerships within communities; and
- Co-sponsoring training and other outreach programs with DCH.

In addition to providing assistance to GA-HITREC through its DCH liaison person, DCH has engaged a communications specialist and a training and outreach coordinator to work with GA-HITREC. DCH and GA-HITREC are developing joint communications and training materials to encourage and facilitate the adoption and advancement of health information technology.

GA-HITREC's future goals include:

- Selecting HIT products that meet providers' needs;
- Providing equitable group purchasing agreements for Georgia's priority primary care staff;
- Continuing to build competent technical teams to obtain meaningful use of EHR;
- Continuing to work with DCH to help providers meet the meaningful use criteria;
- Providing excellent quality service to customers; and
- Co-facilitating trainings and programs with DCH to encourage the use and adoption of EHRs.

DCH recognizes the high value of these espoused goals of GA-HITREC and DCH plans to continue to coordinate with GA-HITREC to develop ways to advance these goals.

8.3.2 Workforce Development

GA-HITREC is collaborating with a wide consortium of partners spanning across the fields of academia, the health care industry and business and technology to maximize strategic efforts to provide assistance to primary care providers and to enhance the successful outcome of such providers transitioning toward the meaningful use of EHRs. GA-HITREC is forming Outreach and Education (O&E) teams to operate in the 18 public health districts in Georgia. Use of the O&E teams will enable GA-HITREC to:

- Coordinate with the HIE program objectives for meaningful use;
- Offer providers access to facilities for public forums without incurring additional costs;
- Achieve better use of each district's public health statistics for planning purposes; and
- Develop strategic plans that meet the disparate needs of specific communities.

GA-HITREC plans education and training activities in communities that will benefit providers by increasing their knowledge base and by allowing some providers to receive "preferred" status. This would potentially increase their patient base and "…open the practice to new funding pools."

The formation of O&E teams is expected to significantly impact the labor force in these communities.

GA-HITREC is also partnering with the state technical colleges to provide technical training and is hiring professionals to assist with establishing EHR programs throughout the state's 18 public health districts. These activities are expected to create jobs and expand workforce development.

Both DCH and GA-HITREC are exploring ways to use the services of the Technical College System of Georgia (TCS) to advance their agenda. The TCS is also a recipient of ARRA funding. The TCS operates Quick Start, an acclaimed workforce development program that provides training to new, expanding and existing businesses. One particularly noteworthy Quick Start project is occurring in the area of "Biotech and Health care" in which a bio-manufacturing training program was created to advance the business of bio-manufacturing in Georgia to create new jobs.

DCH supports such workforce activities not only because they create job opportunities but also because they will expand certificate and degreed programs for workforce members all over Georgia. DCH recognizes the potential to use the TCS to further the expansion of the use of health information technology to improve the quality of health care in Georgia.

9 COORDINATION WITH OTHER STATES

DCH has established collegial working relationships with other states in the southeast region, especially the states that border Georgia: Florida, Tennessee, Alabama, North Carolina and South Carolina. Inasmuch as the Georgia Division of Medicaid enrolls providers within a 50 mile radius of Georgia's border, it is particularly important as a practical matter to continue to coordinate with those five neighboring states.

DCH is actively collaborating with other states in the region on a regular basis through the Medicaid Multi-state Collaborative and the Southeast Regional Collaboration on HIE-HIT (SERCH) meetings and telephone conference calls. SERCH encompasses eleven states and routinely has participants in telephone conference calls from Alabama, Arkansas, Florida, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and, of course, Georgia. The regional membership in SERCH includes representatives from Medicaid, health information and technology state coordinators, regional extension center staffs, and health information exchange staff including technical coordinators. SERCH is a joint partnership that consists of regional partners from these eleven states and federal partners from CMS and ONC. SERCH seeks to facilitate the resolution of cross border issues between states as well as the exchange of ideas on how states can maximize their limited resources. The SERCH group conducts weekly conference calls that are typically organized around a particular topic of mutual interest or concern. The agenda is ordinarily established prior to the conference calls.

On May 26, 2010, DCH sent numerous attendees to participate in the Southeast Regional HIT-HIE Collaboration Workshop in Atlanta. The program at this all-day workshop included the presentation of reports from Kentucky on the status of its HIE; Florida on its progress on negotiations with laboratories and on e-prescribing; Tennessee's plan to maximize the use of MMIS and its difficulties in developing methodologies for attestation, patient volume verification, and auditing; and South Carolina's interaction with its regional extension center. States freely exchanged ideas and shared information with one another.

DCH recognizes the value in coordinating and collaborating with other states. DCH plans to continue to engage in the exchange of ideas, plans, and information with other states with respect to the electronic exchange of health information and the advancement of health information exchange. Through engaging in the exchange of such information, DCH hopes to leverage its limited ARRA funds to gain maximum traction while planning to coordinate its Medicaid program and to share its progress in expanding the use of health information technology with other states.

10 DOMAIN-SPECIFIC COMPONENTS: GOVERNANCE

10.1 Governance Entity

A governance mechanism is now in place for the statewide HIE. What remains to be done is to finalize the Revised and Amended Bylaws and to adopt and execute Participation Agreements and Data Sharing Agreements. GHIE is aware that its legal counsel needs to develop and finalize the Participation Agreements and Data Sharing Agreements. DCH expects that such agreements will use the federal DURSA model as a template.

10.1.1 Enforcement of Policies

The Board of Directors of GHIE, Inc., not DCH or any other governmental agency, is responsible for setting priorities, establishing policies, and operating the statewide HIE. The Board of Directors has sole authority and control over GHIE, Inc, a non-profit organization, and the Board is ultimately accountable to its members for the successful operation of the statewide HIE. Participation in the statewide exchange is completely voluntary. All participants in the HIE are required to execute Documents of Commitment and Participation Agreements with GHIE, Inc. Enforcement of those contractual agreements is a legal matter between GHIE and the signatories to those documents.

10.1.2 Oversight

GHIE, Inc., not DCH, is responsible for oversight of the statewide health information exchange. GHIE, Inc. plans to continue operating as a non-profit organization, a tax status it has successfully maintained since its incorporation in February 2006. The Board of Directors of GHIE will continue to file annual tax reporting documents as required by the Internal Revenue Service of all 501(c)(3) entities. To ensure accountability and transparency as the entity charged with oversight of the statewide HIE, GHIE is in the process of developing, adopting, and implementing policies to increase openness to the general public and to build trust among participants and providers who are considering being participants. Similarly, as will be discussed in detail below, GHIE is expanding its membership on its Board of Directors to enable the representation of virtually all sectors of health care in Georgia.

10.2 Board of Directors

GHIE, Inc.'s Board of Directors is broadly based and inclusive of virtually all sectors of health care in Georgia. As a result of the organizational restructuring of the Board of Directors, GHIE's Board now encompasses broad representation of stakeholders across Georgia. As

restructured, the Board includes representation from providers, payers, and other stakeholders. More specifically, the Board has "provider members" from: urban, rural, and teaching hospitals; nursing homes, home health agencies, mental health, pharmacies, and physicians. The Board has "payer members" from health insurance companies, large employers, small employers, and consumers. In addition, Public Health, the medically underserved, and quality improvement organizations have Board seats. The Board also has several *ex-officio* representatives. The list of *ex-officio* members includes the executive director of GHIE, DCH, GA-HITREC, the federal government, and the prison system. The Board of GHIE has responsibility for approving all policies, procedures, and agreements relating to the HIE and is responsible for conducting the review and revision of such policies, procedures, and agreements.

10.3 Advisory Board

In October 2006, Governor Sonny Perdue created the Health Information Technology and Transparency Advisory Board by issuance of an Executive Order. The Governor's Executive Order contained a sunset provision by which the terms of the members of the Board expired so presumptively the operation of the HITT Advisory Board likewise concluded. The Governor's Executive Order created the HITT Advisory Board for the limited purposes of "to advise the Department of Community Health in applying industry best practices for facilitating and encouraging the use of electronic health records and establishing a statewide strategy that will enable health information to be available across the full continuum of care."

10.4 Advisory and Policy Committees of GHIE

GHIE is forming six committees, three advisory committees and three policy committees. The three advisory committees are: Service Area HIEs, Clinical, and Secondary Use. The primary focus of each is as follows:

- Service Areas HIEs Committee—operational experience
- Clinical Committee—use cases, quality measures, and participation
- Secondary Use Committee—public health and biosurveillance

The three policy committees are: Technology, Legal and Privacy, and Financial. The primary focus of each committee is as follows:

- Technology Committee—architecture, standards, and interoperability
- Legal and Privacy Committee—policies and privacy and security processes and procedures
- Financial Committee—business operations and financial sustainability

Volunteer subject matter experts will help staff the three advisory committees and three policy committees. These committees are expected to provide advice and recommendations to the Board in their respective areas of focus. The Board is responsible for determining strategic

direction of the statewide HIE and for ensuring that the statewide HIE serves the interests of the entire Georgia health care community.

If requested, DCH may provide staff to the committees in such a way that ensures that the perspectives of all relevant constituencies are heard.

10.5 Governance and Policy Structures

As articulated by the ONC, governance addresses the convening of health care stakeholders to create trust and consensus on an approach for statewide HIE. Governance also addresses the provision of oversight and accountability of HIE to protect the public interest. One of the primary purposes of an HIE governance entity is to develop and maintain a multi-stakeholder process to ensure HIE among participants is in compliance with all applicable laws, regulations, and policies.

In working toward a recommendation for a governance model for the statewide HIE, the Governance and Finance workgroup of the HITT Advisory Board endorsed the following goals:

- Improve access to health information so health care providers and consumers can make better and more informed health care decisions;
- Advance the exchange of health information between providers to make sure patients receive well-coordinated care, thereby improving quality and cost efficiencies, no matter the setting or level of care; and
- Ensure security and privacy for consumers and health care providers, making sure a patient's confidential information is protected and shared with providers only in a secure manner.

The Governance and Finance workgroup considered three different governance models, the risks associated with each model, and the coordination of each model with the anticipated technical architecture of the HIE. After careful deliberation, this workgroup recommended that a public/private governance model be used to achieve an independent, neutral, secure, trusted, and broadly adopted statewide HIE for Georgia. More specifically, this workgroup recommended that DCH delegate the authority and financial support to form and operate the statewide HIE to an independent, non-profit, tax-exempt entity (the Governance Organization). HIE governance recommendations from other stakeholders were consistent with the above recommendations of the Governance and Finance workgroup.

Based on these reasons, DCH adopted the recommendation of the Governance and Finance workgroup (and other stakeholders) for the use a non-profit, tax-exempt entity (the Governance Organization) to govern the statewide HIE.

Since its inception in February 2006, GHIE has operated in accordance with Georgia law governing non-profit corporations and has qualified as a tax-exempt entity under Section 501(c)(3) of the Internal Revenue Code. To accommodate its new role as the statewide HIE, GHIE has adopted Amended and Restated Bylaws. The Amended and Restated Bylaws created a new structure for GHIE's Board of Directors.

In transitioning to its new role of as the governance organization for the statewide HIE, GHIE, Inc. adopted Amended and Restated Bylaws in January 2011 to expand upon GHIE's primary purpose. According to Article 1 of the Amended and Restated Bylaws,

"*The Corporation is organized for the purpose of improving the health of people served in Georgia using a public-private framework to coordinate and empower the sharing of appropriate health information through local and regional Health Information Exchanges, as well as in areas not yet covered by an exchange thereby improving quality, coordination of care, cost efficiency and public health*." (Amended and Restated Bylaws of GHIE, Article 1, 1.1, Purpose; emphasis added.)

Meetings of the Governance Organization are expected to be open to the public generally and the agenda of and meeting notes from Governance Organization meetings will be made available on the Internet to the general public. In addition, the Governance Organization plans to routinely share information with its committed networking participants as well as with GA-HITREC and other relevant organizations.

DCH believes that structuring GHIE in this manner best supports private/public collaboration and cooperation and that the federated hybrid data model best represents the consensus of the HITT Advisory Board and other stakeholders. Furthermore, this governance structure, because it is not controlled by the government, encourages private sector input and collaboration. DCH also believes that this type of Governance Organization will be able to adapt quickly to ever-changing HIE requirements, standards, and best practices

10.5.1 Maintaining and Updating Policies

The Governance Organization not DCH is solely responsible for approving, adopting, reviewing and revising the policies and procedures of the statewide HIE. GHIE, DCH, as well as other stakeholders, recognize that the regulatory environment in which the HIE operates is subject to change as new requirements of the HITECH Act section of ARRA become effective, other laws are enacted, other regulations are issued, and other guidance is provided. DCH recognizes the need for on-going review and revision of HIE policies and procedures and anticipates that the statewide HIE Governance Organization will designate an officer or committee with responsibility for compliance by the HIE with ever-changing federal and state legal and policy requirements. Such officer or committee may consult with the DCH legal team or other legal advisors as may be approved by GHIE's Board of Directors.

10.5.2 Evolving to Productive Use of Georgia Statewide HIE

After the public announcement on November 12, 2010 that GHIE would be the governing body of the statewide HIE, GHIE and DCH continued working with key stakeholders to obtain Documents of Commitment. Organizations who have already executed written Documents of Commitment with GHIE include: the Emory Healthcare, the Georgia Cancer Coalition, the Central Georgia Health Network, Chatham HealthLink IT Consortium, Georgia's Health Sciences University (formerly known as Medical College of Georgia), and the Georgia Association for Primary Care, an operational HIE that includes 26 Federally Qualified Health Centers.

Phase 1 of the statewide HIE involves connecting the above-mentioned existing, operational health information networks into a "network of networks." Collectively, the participating networks who have committed to GHIE as the statewide HIE represent wide geographic and operational cross-sections of Georgia. As a result of these commitments, medical facilities and professionals based in Macon, Savannah, Augusta, Atlanta, and throughout Georgia will begin exchanging certain health-related and health information electronically by July 2011. In future phases, the statewide HIE is expected to expand incrementally to include Behavioral Health, long-term care, and urgent care providers and many other stakeholders.

10.6 Organizational Structure and Staffing

GHIE's Governance Organization is a non-profit corporation formed in accordance with the Georgia non-profit corporation code. Because the governance structure reflects a true public/private partnership, it is clear that DCH will not have control of the Board of Directors. Through the mechanism of having dedicated representatives serving on the Board, the interests of Public Health, the medically underserved, and quality improvement organizations will be protected and considered. The Board, as a whole, is an inclusive entity that represents a wide spectrum of stakeholders, including employers, government, consumers, public health, hospitals, providers, insurers, and existing service area health information exchanges. As the Board is currently constituted, the State HIT Coordinator is serving on the Board in an *ex-officio* capacity. Having DCH representation on the Board of Directors of GHIE further ensures that the functional divisions of DCH are adequately represented and the health care interests of the general public in Georgia are safeguarded.

The precise structure of the Governance Organization is described in GHIE's organizational and governance documents. Such documents (including the articles of incorporation, amended and restated bylaws, and policies) describe the following:

- The number, appointment or election, qualifications, terms, and voting processes of Directors;
- The election of officers and the scope of their authority;

- Membership in the Governance Organization;
- Committees which will provide subject matter expertise;
- Conflicts of interest and non-discrimination practices;
- The procedural requirements for the approval of financial expenditures;
- The frequency and location of meetings of the Board of Directors; and
- Staffing of the Governance Organization.

GHIE has some degree of flexibility to alter its structure and governance. However, any and all changes must be consistent with GHIE's Articles of Incorporation and the Revised and Amended Bylaws of the corporation. In addition, such changes to the structure or operation of the Governance Organization are further restricted by GHIE's status as a tax-exempt entity.

To ensure accountability and transparency, GHIE is developing, adopting, and implementing policies on conflicts of interest and non-discrimination that demonstrate a commitment to fairness and openness. In addition to opening meetings of the Governance Organization's Board of Directors to the public, the Governance Organization is obligated to describe its activities in an annual activities report. Also, because GHIE plans to continue to qualify as a tax-exempt entity under Section 501(c)(3) of the Internal Revenue Code, GHIE will continue to file annual tax returns as required of all tax-exempt entities. Such tax returns (often referred to as Forms 990) will provide information on GHIE's revenues, expenses, business transactions, contracts, etc. and serve to increase transparency and openness.

10.7 Role of State Government

DCH through the efforts of the State HIT Coordinator, Ruth Carr, has brought together the appropriate individuals and entities for the purpose of establishing the statewide HIE. DCH has contacted, negotiated with, and obtained support from numerous stakeholders across Georgia. The stakeholders, not DCH, are responsible for sustaining the statewide HIE over the long term. If DCH decides to provide "seed money" to GHIE, it will do so subject to contractual terms agreed to between DCH and GHIE and also subject to federal grant requirements including federal audit and financial reporting requirements.

Efforts to engage additional entities and clinicians in the statewide HIE will be ongoing, at least until Georgia has achieved a high level of interoperability in its health care information system. The basic role of DCH going forward is to award and administer grants in accordance with ONC grant conditions and with ONC approval to organizations and providers who will serve the statewide interests in the HIE. All grants made by DCH must be approved by the ONC and will incorporate specific conditions, such as performance measures, reporting, and accountability.

Thus, in the event that DCH provides any "seed money" to GHIE, DCH will have more control of activities as a grantor than in a minority position on GHIE's Board of Directors.

DCH's primary objective is to maximize the use of federal funds from the State HIE Cooperative Grant Program to help form a sustainable statewide HIE that will be financially self-sufficient and completely independent of government assistance. Members of the statewide HIE will finance the network themselves through subscription fees, expected to be scalable and as affordable as possible by the use of open-source technology. GHIE is in the process of developing plans for gradual expansion of the network, financial self-sufficiency, and long-term sustainability. The statewide HIE is expected to evolve gradually and thereby enable the efficient and effective expansion of the electronic exchange of health information among unaffiliated providers, insurers, consumers, and other users.

The official role of state government in GHIE is limited by design based upon the clear preference of stakeholders. In terms of GHIE, the State HIT Coordinator, Ruth Carr, has an *ex-officio* role on the Board of Directors of GHIE. The interests of Public Health, Behavioral Health, Department of Corrections, Juvenile Justice, and Medicaid are represented by the broad membership of the Board. Thus, the public/private framework of GHIE is structured to be independent of government control while nevertheless protecting state interests by "improving quality, coordination of care, cost efficiency, and public health."

11 DOMAIN-SPECIFIC COMPONENTS: FINANCE

11.1 Financial Model and Sustainability

11.1.1 Model and Financing

GHIE is in the process of staffing a Finance Committee to formulate a business plan a financial sustainability strategy and approach. In this effort the estimated operational and capital budgets will be replaced with actual budgets. This financial and business modeling effort may be used to establish the ongoing process that will allow factors including those listed below to be fully analyzed and periodically reviewed to ensure that the selected funding mechanisms remain aligned with sound financing strategy and guiding principles, and that they continue to produce the required sustaining revenue as needed by the statewide HIE.

The following are examples of business and financial evaluation factors that the Finance Committee is likely to consider:

- The impact, appropriateness, acceptability, and timing of each of funding mechanism as it relates to each stakeholder group;
- The size and number of participants in each stakeholder group;
- The timing of the delivery of each of the identified service priorities;
- The extent to which the value of a given service can be determined and associated with one or more stakeholder groups; and
- The extent to which a given service has a directly associated return on investment that can be associated with one or more stakeholder groups.

The initial and ongoing results of this business and financial modeling could then be utilized by GHIE to finalize its revenue targets and establish the appropriate fee structures that will be incorporated into the stakeholder trust agreements thereby establishing the formal basis for financial support.

Additionally, this modeling activity could be used by the statewide HIE to finalize its business plan.

11.1.2 Achieving Operational Status

It is expected that the statewide HIE will utilize only those funding mechanisms that through an ongoing process of analysis and review achieve the following:

- Recognize that all who benefit from the values realized from the exchange of health information will equitably and proportionally participate in the financing and support of the statewide shared services network; and
- Optimize the use of the HIE by establishing a fee structure that encourages the adoption and use of HIT and the exchange of health information within and across sub-state HIEs, thus further assisting eligible providers in achieving "meaningful use," and
- Enable the extension and expansion of the capabilities, services, and benefits of the exchange of health information within the statewide HIE by ensuring that sustainable revenues are available to meet both current and future federal, state, and stakeholder service demands beyond the four years of the GA-HITECH grant funding (2010 – 2014).

DCH expects GHIE to institute an evaluation and review processes that will continually measure the appropriateness and effectiveness of the various funding mechanisms to ensure the operational sustainability of the HIE. The selected mechanisms will enable the equitable and proportional allocation of costs to the various stakeholders, and will ensure that the pricing structures reflect the relative value of each service and generate the required revenues.

11.2 Proposed Budget

During Q1 2011, the GHIE Finance Committee will draft a proposed budget based on core infrastructure and use cases. The GHIE will maintain a flexible budget with regular reviews to update amounts in accordance with market place cost adjustments.

11.2.1 Software/Hardware Purchase and Maintenance

GHIE will be responsible for the purchase and maintenance of any necessary software and hardware to support the statewide HIE. Estimates will be re-evaluated on an on-going basis until point of purchase.

11.2.2 Proposed Participant Cost and Sustainability Modeling

The key to the development of this cost model is a series of assumptions about the fees that various participants are willing to pay for services offered through the statewide HIE, and how fast those services could be deployed and subsequently adopted by the user community. The following are two examples of options being considered:

Option 1: Subscription Model – Providers
Establish a model whereby providers pay annual fees to access various HIE services. In building this sustainability model, the statewide HIE would consider developing tiers or bundles of HIE services allowing providers to select the type of services that best meet their needs. This model would present providers with low cost access options while creating a financially viable

and sustainable HIE. The key factor to establishing a successful provider-based subscription model is in attracting and retaining a sufficient number of long-term providers with satisfactory levels of utilization. Marketing and advertising efforts as well as developing additional HIE services will be critical components in successfully delivering this sustainability model.

Option 2: Subscription Model – Employers

The employer-based subscription model allows employers to sponsor basic consumer-controlled personal health record capabilities to support richer continuity of care data exchange. This model gives the employee access to the statewide HIE via an employer-sponsored electronic personal health record. Employees benefit from real-time data updates to their personal health information data which alleviates the need to request paper medical records from various sources or rely heavily on the accuracy of medical and prescription claims data. This real-time process would increase employee utilization of their personal health record features, resulting in greater individual engagement and awareness of their health status and opportunities to improve health outcomes. Employers would benefit from greater employee PHR utilization, deeper health-related engagement and improved health behaviors resulting lower health care cost outcomes. The key factor in establishing a successful employer-based model is the ability of the statewide HIE to attract high-profile employers and/or PHR vendor with a considerable clientele who would pay for employee access to the HIE services.

Note: Phase 1 of the Georgia Health Information Exchange will be available to its participants at no cost due to substantial in-kind contributions provided by a variety of resources.

11.3 Operating Costs

11.3.1 Staff Salaries, Benefits and Taxes

As a non-profit 501(c)(3) entity, the GHIE, Inc. does not expect to have any obligation for income taxes. The payment of individual taxes will be the responsibility of the individual contractor.

11.3.2 Overhead

11.3.2.1 Rent, Utilities, Office Expenses, and General Overhead

The budget for office expenses, rent, utilities, and other overhead expenses amounts to approximately 10 percent of human capital costs. The overhead budget will be broken down into the following categories: rent, utilities, outreach, communications, marketing, legal services, liability insurance, and general office expenses,.

11.3.2.2 Outreach and Communication Activities

The statewide HIE communication and marketing plan will cover the following:

- Position Georgia as a national leader of statewide HIEs;
- Provide transparency into the organization; and
- Coordinate provider outreach strategies with GA-HITREC, and the Medicaid Incentives Program.

11.3.2.3 Legal

The statewide HIE may need to retain independent legal counsel to provide support to the policy development framework, privacy and security requirements for system development and use, data sharing agreements, evaluation of existing laws and regulations, and assistance in multi-state policy harmonization activities. Approximate costs will be budgeted per year with an anticipated increase of 2-5% per year for subsequent years.

11.3.2.4 Liability Insurance

The GHIE will procure directors, officers, general liability, and workers' compensation insurance, and other types of policies as needed. Approximate costs will be budgeted per year with an anticipated increase of 2-5% per year for subsequent years.

11.4 Statement of Cash Flow

GHIE assumes that all of the services and infrastructure required to build the exchange are not acquired as assets, but rather leased or sourced as a service. The statewide HIE may need to consider lines of credit to fund certain aspects of the operations. This is not anticipated but, should it occur, there will be minor impact to the cash flow statement.

12 DOMAIN-SPECIFIC COMPONENTS: TECHNICAL INFRASTRUCTURE

12.1 Overview

DCH and the HITT Advisory Board Workgroup developed recommendations to develop an implementation strategy for statewide HIE built around the following:

- Identification of principles to guide design and development;
- The selection of a technical approach to achieve statewide interoperability;
- The definition of clinical functions to be enabled by statewide HIE services; and
- The identification of core and value-added hosted shared services.

12.2 Approach to Implementing Standards and Certifications

12.2.1 Final Standards and Certification Rule

GHIE will comply with all national standards as defined in the HITECH Act, and the Final Standards and Certification Criteria established by ONC to support the Final Rule on Meaningful Use, including all specified content, vocabulary, and privacy and security standards. In addition, the GHIE will ensure its HIE services conform to the requisite certification if and when a nationally accredited HIE certification program is available.

A main principle of the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule is to limit the use and disclosure of a patient's protected health information (PHI) to specific uses defined by law or as designated by the patient. "A major purpose of the Privacy Rule is to define and limit the circumstances in which an individual's protected heath information may be used or disclosed by covered entities. A covered entity may not use or disclose protected health information, except either: (1) as the Privacy Rule permits or requires; or (2) as the individual who is the subject of the information (or the individual's personal representative) authorizes in writing." (From http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html, General Principle for Uses and Disclosures).

The Legal and Privacy Committee is responsible for developing policies and procedures with respect to consumer participation for biosurveillance, aggregate reporting, and other allowable uses of aggregate data. The Legal and Privacy Committee's recommendations will require approval by GHIE's Board of Directors.

In addition to security measures to block intruders from accessing the network or system, privacy from unauthorized users is likely to be provided by a commercially available user

directory solution. Such a directory provides user role and user workgroup creation, configuration, and administration tools. When users access the system, configured roles and workgroups should be cross-checked against an access control database. This database defines the users that can access particular clinical database, the data that can be accessed by those users, and the actions that they can perform on that data.

Mark Braunstein, M.D., a professor at Georgia Institute of Technology has advised DCH and GHIE of the following:

1. PHI should be further protected by a commercial EMPI technology. Such an index can find and return patients' information based on specific items of patient information. Furthermore, patient index search engine restrictions should be highly configurable. By configuring strict search parameters that require multiple items of patient information for the return of results, the statewide HIE could reduce the chance of providers accessing PHI for patients they are not treating and of other participants accessing PHI when not permitted.

2. A suitable solution must provide a robust auditing capability for all access obtained to PHI. There will always be some cases where users may make unauthorized use or disclosure of clinical data, despite hardware security and configurations in the user directory. In the case of such unauthorized use or disclosure, the vendor must provide the ability to audit users for the clinical information they have accessed, and when and from where they accessed it (please see Framework Components – EUA). As a result, an HIE may inform patients of all PHI that was compromised.

3. The vendor must deploy appropriate hosting and network practices for any systems related to PHI. These must include a high level of physical machine security through Tier 4 data centers that can pass the internationally recognized SAS 70-II standard requirements. They must also include physical precautions such as HVAC units, fire retardant measures, strict host and guest authentication/sign in policies, and more.

4. Network security must be addressed through measures such as multiple firewalls configured for high availability and minimal vulnerability and the latest versions of OS and antivirus protection. OS security and virus definition updates are performed regularly. Finally, network transfer security should be established. Secure network connections and protocols must be responsible for the transfer of PHI outside the network. Web standards such as VPN tunnels, WANs, HTTPs, and SFTP greatly reduce the threat of third party interception of sensitive data. For web services, secure network transport must be supported through components such as SAML, the X.509 token profile, XML encryption, and XML digital signature. To verify that these location and network security measures are effective, the vendor must regularly perform internal security audits and penetration testing, in addition to bringing in outside firms to perform full audits of the system.

5. Beneath network security lays platform and application security measures. The vendor must provide an NRPC key encryption on all data that passes through any transfer port.

This encryption makes intercepted data useless to offenders for lack of an appropriate decryption key

6. The vendor must support flexible user authentication including more specific user role and access definitions that may be configured. These specific role configurations should allow a range of access levels to the system. Moreover, each user should only see certain views, forms, fields, and documents based on user type. In the case of users who may require access to data without prior patient authorization (e.g. emergency users), customizable consent forms may be configured for presentation to users. Although it may be easy to "click through" these forms, the confidentiality and legality warnings displayed should serve as a serious deterrent. By using these challenge forms, users are forced to question whether they are legitimately accessing PHI. If not, they are subject to audit and legal scrutiny.

7. The vendor must provide an exchange with all the necessary tools to add and manage system users. System administrators should be able to easily add users with a host of configuration options at their fingertips. These options should determine and limit what may be accessed, viewed, and modified by users, in addition to establishing some basic user preferences and demographic details. The various configuration options should allow a great level of detail for user access roles and privileges.

8. Within each configuration, users should be assigned to a specific workgroup. For a typical end user, this workgroup consists of all users in a particular practice. As such, each user shares a practice specific database, allowing providers and staff to manage patient workflow easily and efficiently. It is important to note that practice workgroup information is cross referenced before patient summary data is displayed. In other words, patient summary data that is displayed may be practice specific unless consent has been otherwise set by the patient. For web services, authentication and authorization security should be provided by WS-security components such as SAML, the X.509 token profile, XML encryption, and XML digital signature.

9. The vendor should support single sign on (SSO) so that where portal integration is required, users may be able to access all systems through an SSO based portal, without the requirement of multiple authentication entries. The vendor should be agnostic with regard to portal technology; and should be able to be integrated with any portal that supports SSO.

10. Auditing services must be provided at a number of levels. All audit data should be easily exported for analysis and reporting. Audit logging should be configurable, all events should be auditable (login/logout, lockouts, records viewed, data accessed, web services use, etc.) and reporting tools should be configurable to easily track event trails. The vendor should be able to provide de-identified/pseudo-anonymized data to interfaced systems, such as public health population surveillance systems. If necessary, the pseudo-anonymization can include identifiers that will enable appropriate users to link back to identified patient records.

11. Additionally, the vendor should provide usage, performance, access, and security reporting for activity within an exchange that encompasses all data related to user web requests. As such, administrators may easily break down user activities, the time it takes the system to receive web requests, and the time it takes the system to respond. This kind of data allows for detailed analysis of overall system performance, specific component performance, specific user performance, most common user activities, and more.

12. Beyond system performance, tools should be provided for user audit and investigation into the misuse of PHI. Administrators with appropriately configured security roles may access restricted views, configure and run security audits, and view audit reports to determine what information was accessed by which user. This information can then be relayed for HIE staff to address appropriately. The audit tools provide the ability for users to both proactively and reactively report against audit information. If desired, audit reports may be run for up to the minute access of the system or specific data. As such, audit report data may be used to identify users who have accessed PHI.

13. Various system components should support a variety of log levels, and system audit tools. Custom audit rules should be easy to generate, as the reporting module for generating audit reports should be highly flexible. The vendor should provide automated alerting for audit exceptions.

14. The vendor should provide such capabilities as support for users to request “break the glass” one time access, for patients to set consent to share data (including what data is available when “the glass” is broken”), and for patients to give consent to disclose records. The consent to share data component should be flexible, so it can be configured to accommodate community wide sharing, or practice/user specific sharing. The consent to disclose records component enables patients to specify which records they want to submit to the HIE, and which they do not. The way the system behaves based on known consent conditions should be configurable.

15. The vendor must use the NHIN to connect to standards based personal health record technologies (within a period to be proscribed) after Georgia connects to the NHIN. Some level of identity management and authentication services must be built into this connection so as to ensure any exchange of health data is assured to be by and for the patient using the PHR.

12.3 Technical Architecture Approach

The functional statewide HIE is described as a “network of networks” or a collection of nodes that work together to achieve common purposes based on an agreed upon set of priorities, policies, and technical specifications. Within the “network of networks,” there are multiple entities (i.e., validated individual health professionals using EHRs, regional networks using multiple systems, state agencies, inter and intra-state entities, and national organizations that provide health consumer data).

These disparate entities have their own health IT systems and networks which at any point in time will be in different stages of their life cycles, will be built on many different technologies, and have competing priorities.

GHIE is establishing statewide HIE services to facilitate the exchange of information for Qualified Organizations that voluntarily participate in the statewide HIE. Qualified Organizations are entities who execute Participation Agreements with GHIE to adhere to GHIE's standards, protocols, and procedures for data exchange. It is assumed that Qualified Organizations will exchange health information among their own system participants and that the GHIE will build a pathway and processes for secure exchange with several Qualified Organizations.

GHIE will embrace a SOA approach, which is necessary for the long-term viability of the statewide HIE. The HIE infrastructure will be comprised of numerous services that will run on an enterprise service layer and enable the core functions of the HIE. By incorporating an SOA approach into the design, the HIE will ensure that the exchange takes advantage of developing and advancing services and does not rely upon a single service provider for all services. These services include the following:

- Enterprise Master Patient Indexing (EMPI);
- Provider Identity Management Services;
- Record Locator Services (RLS);
- Repository Services;
- Authentication Services;
- Audit Services;
- Nomenclature Normalization Services;
- Consent/Authorization Management Services; and
- Network Monitoring Services.

GHIE plans on using a hybrid federated standards-based model that supports distributed data maintained at its source facility or provider location and centralized EMPI and RLS services as well as technologies for collecting personal health data that will allow statewide availability for the secure transfer of a defined set of clinical information between appropriate participating entities.

The proposed model under development considered for the HIE is a hybrid federated system that consists of a single core infrastructure vendor (the "vendor") that serves as a platform for expanding functionality of the utility by adding different vendor applications to the core system. For instance, the core infrastructure selected may consist of an exchange utility with an Enterprise Master Patient Index (EMPI). The EMPI in most solutions lacks the robust features necessary to support advanced matching of consumers' to their health information. This advanced matching is accomplished by implementing an EMPI that is comprised of a database of demographic information on patients and a set of algorithms for the purpose of matching patients with their records from disparate systems. The identifying information in the EMPI serves as the key for matching the records of patients from disparate data sources to enable the creation of a longitudinal patient record.

The Board of Directors of GHIE will establish the technical performance requirements for providers and others connecting to the statewide HIE. The infrastructure should be flexible to allow for market development in consumer control of health information and should accommodate an EMPI and a RLS to locate records within the HIE. The RLS will capture the metadata of any information being stored locally on an edge device. The intent of the RLS is to maintain information about the location and type of documents that exist on the network. When a participant saves a document to the HIE edge device, a standard transaction is initiated to register the document and sends the necessary document identification information to the RLS.

The distributed model ensures that data is held where it is created, therefore avoiding the negative perceptions and potential privacy and security consequences of storing all patient information in a large centralized HIE repository. In some cases such as laboratory results, radiology reports, pathology reports, and medication histories, clinical data will not be held in edge servers, but rather routed from the laboratory or imaging center to the ordering provider.

The Secondary Use Committee will help determine when and how data from the HIE will be available for biosurveillance, public health and other appropriate uses of aggregate data (sometimes called secondary use). The Secondary Use Committee will deliberate on data repositories for research and public health reporting. The architecture of the HIE will be compatible with NHIN core services.

12.4 Technology Deployment

The deployment of the statewide HIE is being planned to grow incrementally. This incremental strategy is rooted in the knowledge that moving too quickly in an environment as nascent as the HIE field could lead to unintended consequences for the HIE and its participants. However, incrementalism does not negate the HIE's ability to be progressive, forward thinking, and to produce results at a faster rate than previously observed in other efforts. Efforts to align functionality of the statewide HIE will closely parallel the planned activity of the NHIN. It is anticipated that the HIE will begin sharing select electronic patient information with the committed participants via the NHIN DIRECT standards. Where direct connections are needed as an interim solution, they should be migrated to the NHIN as soon as possible. This strategy is intended to avoid the need to develop and maintain costly and complex direct connections.

The Technology Committee is tasked with developing specifications and questions for technology vendors. These specifications and questions will relate to infrastructure capabilities, data and security standards, use of HIE Integration Profiles, and ability to support specific use cases. GHIE's Board of Directors will be responsible for vendor selection decisions. These vendors will represent a spectrum of HIT companies, ranging from off-the-shelf product vendors, component vendors, to systems integrators that can meet the challenges of data sharing in the private and public sectors and enable other appropriate uses of aggregate data.

12.5 Interoperability Standards

As previously noted, the Governance Organization, not DCH, will establish policies for technical standards. Nevertheless, DCH believes that the standards used by the statewide HIE infrastructure will include but not be limited to: Health Level 7 (HL7), Digital Imaging and Communications in Medicine (DICOM), SNOMED CT, LOINC, IHE, Electronic Data Interchange X12 (EDI X12), National Council on Prescription Drug Plans (NCPDP), Standard Object Access Protocol (SOAP), electronic business Extensible Mark-up Language (ebXML), Secure Socket Layer (SSL), and Transport Layer Security (TLS). DICOM and NCPDP provide for messaging standards around imaging and medication information, respectively.

The Technical Committee is currently developing and defining use cases that will leverage these standards. Examples may include the delivery of image and drug information. The American National Standards Institute Accredited Standards Committee X12 (ANSI ASC X12) is a standard that will be used in the exchange of administrative health care transactions. It is anticipated that the statewide HIE will use the Continuity of Care (CCD) C32 as a document standard with the recognition that further definition and constraints within that document will need to be applied. The use of the CCD standard is built upon and reinforced by the CCHIT identifying the CCD as a document standard in its 2008 certification criteria.

Technology deployed by the statewide HIE will meet or exceed existing standards recognized by the ONC. The approach leverages a number of HITSP endorsed IHE profiles, as well as ensuring emerging standards and interoperability specifications that have been endorsed by the appropriate oversight committee.

The statewide HIE Governance Organization will monitor the work of ONC's Health IT Policy and Standards Committees to ensure that the technical infrastructure includes at least those standards that are federally endorsed. Lessons learned regarding the technical infrastructure and other aspects of data sharing will be communicated directly with ONC and through collaboration with GA-HITREC.

The first step for provider participation in the statewide HIE is the authentication of that individual as a health care provider. The HIE will query the existing Georgia Composite Medical Board database to authenticate the existence and status of state licensure. The GHIE Governance Organization anticipates the development of authentication processes for other participants as well. Also, the Governance Organization will utilize a participation agreement that will codify the relationship with various participants. Providers (and others) interested in participating in the HIE will have the ability to review the terms and conditions of the participation agreement. The GHIE Governance Organization will align the statewide participation agreement with the NHIN.

The logic behind arriving at a consistent participation agreement that is entered into by each participant without substantial or material modification is to ensure that "transitive trust" can be maintained across the entire exchange. Transitive trust is the mutual trust between HIE

participants rooted in the knowledge that each participant has entered into a consistent participation agreement that defines appropriate usage and requirements for participation, thereby avoiding the participant-to-participant need to know every individual provider and employee accessing the exchange. This approach acknowledges understanding of the terms and conditions in a participation agreement for future development, establishes of a robust electronic exchange (including any potential data types), and gain community-wide agreement by each participant. The statewide HIE Governance Organization is expected to develop a mechanism to certify credentialing for providers participating in the HIE. A mechanism for consumer credentialing will also be provided.

Through participation agreements respect to consumer consent, the Governance Organization will seek to assure that the consumer consent utilized by the HIE covers the special requirements for types of health information afforded heightened protection (for example, drug and alcohol treatment information protected by 42 CFR Part 2) and will exclude certain health information for which specific consent is required and not obtained.

13 DOMAIN-SPECIFIC COMPONENTS: BUSINESS & TECHNICAL OPERATIONS

13.1 Introduction

DCH and its collaboration of stakeholders agreed that the statewide HIE needs a Governance Organization that is both independent and widely representative. Although the Governance Organization has been established, most aspects of policy, the business model, and technical operations are not yet finalized.

Among the core operational principles of the statewide HIE will be providing value to the multiple stakeholders in Georgia through a business model that aligns that value to sources of ongoing funding. Another core operational principle is the recognition that existing service area HIEs in Georgia are important assets for the GHIE and must be supported and encouraged to participate in a manner that respects the investment and existing provider relationships of their sponsoring organizations.

13.2 State Level Shared Services and Repositories

The Board of Directors is being structured to be representative of the stakeholders throughout Georgia who have interest in participating in the statewide HIE. Among those stakeholders is DCH, which operates both Division of Medicaid and the DCH Division of Public Health. DCH will have an ex-officio seat on the Board of Directors.

The DCH Division of Public Health (DPH) currently maintains registries and/or other surveillance, epidemiologic, and other activities and projects for various acute and chronic diseases and for maternal and child health. DPH provides important data, information, and input into public health policy decisions through its Office of Health Indicators for Planning (OHIP) and its monthly publication, the Georgia Epidemiology Report.

The DPH is expected to work closely with GHIE to define and implement the necessary edge servers or other means to ensure that it can fully utilize the potential of the statewide HIE to improve the accuracy, efficiency, and timeliness of these public health programs, especially the programs discussed below.

13.2.1 Public Health in Georgia

13.2.1.1 Notifiable Disease/Condition Reporting

Notifiable Condition Reporting in Georgia is mandated by law and, as such, presumably all physicians report certain conditions to the DCH Division of Public Health. Most of the reporting

is done electronically via different processes ranging from direct entry into the Public Health web-based system to paper cards that are mailed to Public Health then later keyed into that same web-based system.

13.2.1.2 Electronic Laboratory Reporting

Electronic laboratory reporting involves the system to system electronic communication of the results of laboratory tests. The test results that are reported are determined by the list of notifiable conditions defined by Public Health. Most notifiable conditions require laboratory confirmation to be counted as a case and it is often from a positive laboratory test result that a case is identified. Public Health receives reports from Quest and LabCorp and the Georgia Public Health Laboratory.

13.2.1.3 Syndromic Surveillance

Electronic laboratory reporting is part of the process for syndromic surveillance. However, electronic laboratory reporting is only part of the surveillance process since there are many aspects to surveillance that are not captured via an electronic laboratory reports. Syndromic surveillance has been implemented to augment traditional surveillance by providing earlier detection and awareness of seasonal illness trends, potential outbreaks or disease trends of public health significance, natural or man-made. Time is paramount to stopping outbreaks from spreading. Confirming a presumptive diagnosis takes time for laboratory tests. In addition, if laboratory testing does not occur, cases may go undetected. Additional purposes for syndromic surveillance include:

- Characterizing outbreaks detected by traditional or syndromic surveillance;
- Reassuring that no outbreak or trend of public health significance has occurred during high-profile events;
- Detecting seasonal infectious disease trends;
- Detecting non-infectious disease trends; and
- Improving communications between public health practitioners and health care providers such as infection control professionals, emergency medicine clinicians, occupational health, and school nurses.

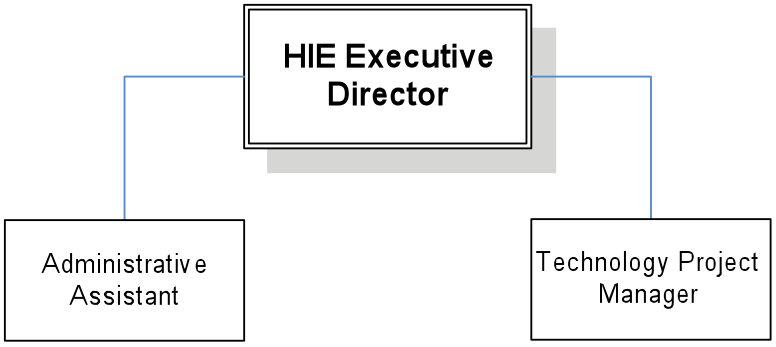
Biosurveillance of the population is another important responsibility for Public Health. DPH will likely seek to include the development of uniform electronic reporting mechanisms to improve the accuracy and timeliness of reporting by the over 30,000 physicians, nurses, laboratories, and public health officials in the state while, at the same time, reducing the administrative and cost burden on those reporting entities.

13.3 Standard Operating Procedures for HIE

GHIE will be responsible for developing the statewide HIE Standard Operating Procedures. The standard operating procedures will support the statewide HIE use cases developed by the Technical Committee that are identified based upon both ONC requirements and market driven forces. The standard operating procedures will be initiated in during Q2 and Q3 2011.

13.4 Proposed Staffing Plan for GHIE

The GHIE will likely create a Personnel Committee to identify specific employees to manage the operations and implementation of the exchange. These employee roles will be based upon short and long-term business needs. It is anticipated that GHIE's staffing structure will have an Executive Director, Administrative Assistant, and Technical Project Manager. Below is a proposed organizational chart and staffing plan.



13.4.1.1 Roles and Responsibilities

Position	Description
Executive Director	Responsible for carrying out GHIE's mission, vision, and leads its overall strategic direction in all areas including communications, finance, technology and policy. Oversees day-to-day operations of the GHIE and is accountable for HIE program implementation milestones, timelines, performance measurement and evaluation, and expenditures. Supports the State HIT Coordinator by providing timely information and reports for submission to the ONC. With the GHIE chair, enables the Board to fulfill its governance function. Provides direction and leadership toward the achievement of the GHIE strategy, the annual goals and objectives of the statewide HIE.
Administrative Assistant	Under the supervision of the Executive Director, the Administrative Assistant oversees and manages all office procedures and other tasks as assigned by the Executive Director to support the statewide HIE.
Technology Project Manager	Provides technical direction for the development, design, and systems integration for client engagement from definition phase through implementation. Applies significant knowledge of industry trends and developments to improve service of the statewide HIE. Easily recognizes system deficiencies and implements effective solutions.

14 DOMAIN-SPECIFIC COMPONENTS: LEGAL AND POLICY

14.1 Georgia HIE Legal and Policy Framework

Based on the consensus of the stakeholders and the recommendations of the State HITT Advisory Board, GHIE, Inc., was selected to govern the statewide HIE. GHIE is in the process of transitioning from its original goals of February 2006 when it was incorporated to its new role as the governance entity for the statewide HIE. GHIE has obtained legal advice from outside counsel. Revised and amended bylaws for GHIE, Inc. are currently being drafting by legal counsel. After the drafting process is completed, the Board of Directors of GHIE, Inc. will then vote on the revised and amended bylaws. This vote is expected to occur at the Board's meeting in late 2011.

14.2 Review and Analysis of State Laws

The DCH legal team consists of two DCH attorneys, two Special Assistant Attorneys General, and the OHITT privacy officer. The DCH legal team conducted an exhaustive review of state law and determined that there are no current state laws and regulations that present barriers to GHIE serving as the governance entity for the statewide HIE. The statewide HIE is a conduit or ("network of networks") and will not operate as a data repository. The DCH legal team has not found any barriers or impediments under Georgia law or federal law that would adversely impact the operation of the statewide HIE as a conduit or connecting mechanism for various HIE networks.

14.3 Georgia HIE Policies and Procedures

The GHIE Legal and Policy Committee is expected to develop policies and procedures that align with the following central policy structure for the GHIE.

- **Level 100 (100-199) General Internal Business Practice Policies**
    - Audit Policies
    - Conflict of Interest Policy
    - Contracting Policy
    - Document Management and Retention Policy
    - Policy Exception Policy
    - Ethics Policy
    - Finance and Accounting Policies
    - Information Security Policy

        - Since the GHIE does maintain PHI but serves as conduit for the exchange of PHI this will be one policy that details how the GHIE will meet any Security obligations in its vendor and participant relationships.
    - Nondisclosure Policy
    - Privacy Policy
        - Since the GHIE does maintain PHI but serves as conduit for the exchange of PHI this will be one policy that details how the GHIE will meet any Privacy obligations in its vendor and participant relationships.
    - Personnel Policies
    - Purchasing Policies

- **Level 200 (200-299) Vendor and Contractor Policies**

    - Business Documentation Requirements Policy (Liability Insurance, etc.)
    - Vendor and Contractor Invoicing Policy
    - Information Security Policies
        - Policies will include; Compliance with HIPAA and Other Applicable Laws, User Account Creation and Maintenance, Auditing of User Accounts, etc.
        - Not all Security policies will apply to all vendors
    - Breach Notification Policy
        - This policy will only apply to a vendor or contractor maintaining PHI or other protected information as dictated by state and federal law.
    - Privacy Policy
        - This policy will require vendors and/or contractors that have access to PHI to meet the appropriate privacy requirements under HIPAA and other applicable state and federal laws.

- **Level 300 (300-399) HIE Participant Policies**

    - Payment of Fees Policy
    - Access Termination Policy
    - Verification of Identity Policy
    - Georgia HIE Usage Policy
    - User Account Audit Policy
    - Privacy Policy
        - This will be one policy requiring participants to meet the appropriate privacy requirements under HIPAA and other applicable state and federal laws.
    - Security Policies
        - Policies will include; Compliance with HIPAA and Other Applicable Laws, User Account Requirements, Access Control, etc.

After each policy and procedure has been developed and approved by the Board of GHIE it will be disseminated to the public to demonstrate the GHIE commitment to transparency. The Board of Directors is responsible for ensuring compliance with HIE policies and procedures.

All policies and procedures are expected to be in place by the end of the third quarter of 2011. Privacy and Security policies at each policy level are the first priority.

14.4 Policy Completion Timeline

The following table provides a timeline for completion of planned policies for the Georgia HIE.

Policy Completion Timeline

Policy Level	Policies	Start Date	End Date
100	General Internal Business Practice Policies	1/4/11	**6/30/11**
200	Vendor and Contractor Policies	7/1/11	**9/15/11**
300	**HIE Participant Policies**	**3/1/11**	**8/1/11**

14.5 Privacy and Security

As an organization dedicated to the secure electronic exchange of information, the statewide HIE is fully committed to the privacy and security of protected health information. GHIE and its participating entities executed written Documents of Commitment. Included in that document and incorporated by reference as “Exhibit A”, is the following “Statement of Privacy Principles.”

Statement of Privacy Principles

The Georgia Health Information Exchange, Inc. (GHIE) believes that the privacy of individually identifiable health information is of primary and critical importance in the exchange of information between health care-related entities. This Statement of Privacy Principles establishes a core framework to be used throughout the development and operation of the GHIE. Exhibit A is as follows:

- Privacy and protection of individually identifiable information is implicit in all activities of the exchange, both operational and technical.

- Only that individually identifiable information which is necessary for the specific health care-related purpose(s) will be collected, used, or disclosed.

- All health care consumers have a right to access their health information maintained by the GHIE or any of its participants in a convenient and timely manner.

- The knowledge and authorization of the health care consumer is required for participants to use the individual's identifiable information for any other purpose than its originally intended purpose.

- Accuracy, completeness, and currency of individual's information will be central to GHIE operations.

- The protection of individual's health information through appropriate administrative, technical, and physical safeguards will be a primary component of all functions and activities.

- Policies and procedures governing the privacy and protection of health information will be published.

- Accountability to these principles will be implemented through monitoring and auditing for adherence to policies, establishment of appropriate enforcement mechanisms, published procedures for reporting, and establishment of mitigation strategies.

- GHIE requires all participants to follow these same principles.

Because the statewide HIE is a conduit for exchange of protected health information the statewide HIE is not a covered entity or a business associate of HIE participants. However, as shown in the list of policies earlier in this section, GHIE intends to ensure that privacy and security are addressed at all three levels of policy; internal business policy, vendor/contractor policy, and participant policy. These policies and procedures are part of the overall privacy and security program. In addition, each of the following is an integral consideration in the development of the privacy and security program:

- Standards and best practices developed by or on behalf of the Nationwide Health Information Network (NHIN) and the need for the statewide HIE to connect to and participate in the NHIN;

- The HHS Privacy and Security Framework for the Electronic Exchange of Individually Identifiable Health Information which established guiding principles for entities and persons participating in health information exchange: (1) individual access; (2) right to correct errors; (3) openness and transparency; (4) individual choice as to whether or not to share information; (5) collection and use; (6) disclosure limitation; (7) data quality and integrity; (8) safeguards; and (9) accountability;

- The experiences of the existing service area HIEs discussed in more detail in other sections of this Strategic and Operational Plans;

- The provision of appropriate education and outreach to build support and gain trust from various types of participants (such as health care providers and payers);
- The provision of appropriate education and outreach to engender trust on the part of individuals whose information will be available through the HIE, including education and outreach concerning the privacy and security measures taken by the HIE; and
- The need for technologies utilized by the statewide HIE to be flexible, scalable, and adaptable to future modifications, expansions, and legal and other requirements.

Upon request, the DCH legal team will assess privacy and security issues associated with the sharing of health information across state borders. DCH currently participates in calls and meetings with neighboring states to discuss HIE in general, and DCH understands that Georgia's neighboring states are interested in addressing cross-border issues.

14.6 Consent

The Georgia Health Information Exchange is a conduit or pass through for protected health information. It will not create, maintain, store, or have access to, any health information which will remain stored at its original source. In this construct it is seen as a transport medium like the postal service. In evaluating these factors, the GHIE is not a covered entity and not a business associate and no consent will be required at the HIE level.

GHIE's Legal and Privacy Committee is responsible for advisory issues relating to patient consent. The HIE will provide information for providers and patients that outline privacy and security of protected health information in the HIE environment.

If a patient does not want his or her information to be available through the statewide HIE, the provider will have responsibility for ensuring that the information created or maintained by the provider is not made available to the HIE. This will be accomplished through security features available through certified EHRs.

The DCH legal team considered the Georgia HIE governance structure and business model, and the recommendations of the HITT Advisory Board Privacy and Security Committee when developing an approach to consent. The legal team determined that the exchange of health information across the Georgia HIE network does not require specific consent from the patient. However, based on its commitment to safeguard individuals' protected health information the Georgia HIE adopted a detailed Statement of Privacy Principles to which all participants must agree. In addition to this Statement of Privacy Principles GHIE requires all participants to abide by all requirements dictated by the Health Insurance Portability and Accountability Act and any other applicable federal and state laws.

In order to assist participants in addressing the issue of consent, GHIE's Legal and Privacy Committee is responsible for developing educational materials for providers and patients and sample language to be included in the provider's Notice of Privacy Practices.

Additional consent issues already addressed by the DCH legal team include:

Consent Issue	Determination
Consent for research	This does not require any additional law or regulation and does not require change to any notices or authorizations.
Consent for treatment	This is allowed under HIPAA without authorization and the HIE does not impact this issue
Consent for payment	This is allowed under HIPAA without authorization and the HIE does not impact this issue
Consent for operations	This is allowed under HIPAA without authorization and the HIE does not impact this issue
Consent for public health purposes	This is allowed under current law and the HIE does not impact this issue

14.7 Participation and Trust Agreements

GHIE is in the process of finalizing participation agreements. The participant agreement being developed obligates participants in the HIE to comply with applicable laws and regulations in addition to the policies and procedures adopted by GHIE. The participation agreement that is being drafted also incorporates the required basic elements of data sharing and use agreements.

14.7.1 Oversight of Georgia HIE and Enforcement

GHIE is responsible for establishing the parameters for participating in the statewide HIE through the participation agreement. GHIE Usage Policy and the Access Termination Policy provide further detail on acceptable usage and consequences of misuse or failure to comply with privacy and security policies and procedures. Audit and enforcement oversight will be the responsibility of the Board of GHIE. GHIE is expected to minimize the occurrence of breaches and misuse of data through appropriate policies, systems monitoring, security, training, and reporting requirements. In the event of a breach of PHI or security protocols, appropriate sanctions will be enforced against any provider or workforce member who violates proper

procedures and action will be taken in accordance with the requirements of HIPAA, other applicable law, and contractual agreements.

15 Risk Mitigation Strategies

A standard risk identification, prioritization, and management process developed in accordance with the Project Management Institute (PMI) Body of Knowledge standards will be used. The Risk Management Process (RMP) will include risk identification, qualitative risk analysis, risk prioritization, risk mitigation and contingency planning, and risk monitoring.

All risks identified throughout the project life cycle will be escalated to issues for prompt resolution. An issue log will be maintained throughout the project life cycle and will include corrective actions to resolve the issue, estimated level of effort, schedule impact and actionable steps.

The Board is likely to contract for a technical project manager or business analyst who will be responsible, as part of the project management process, for all risk processes and issue resolution.

15.1 Risk Management

As noted in the Program Information Notice dated July 6, 2010, managing risk is an important element of successfully building HIE capacity to support meaningful use. DCH staff created the following table for possible use by GHIE. This table presents DCH staff's current risk assessment for the GHIE and provides guidance for ongoing risk management.

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
GOVERNANCE			
Obtaining consensus in the development and execution of GHIE responsibilities	Medium probability High severity	Lack of consensus with respect to GHIE responsibilities would delay the development and implementation of the HIE	**1. Maintain GHIE transparency** **2. Develop and approve key policies** **3. Establish broad representation on the Board of Directors**
Participation in GHIE	Low probability Medium severity	Potential liability for directors of the GHIE	**1. Provide protection in formation and governance documents to the maximum extent allowed by law** **2. Develop adequate policies and procedures**
Timely procurement by GHIE of vendor	Medium probability High severity	Failure by the GHIE to obtain needed vendors and resources would delay the development	**1. Adhere to board processes** **2. Learn from procurement by other states; HIEs**

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
and resources		and implementation of the HIE	
Political Opposition	High probability High severity	Governmental and political opposition to implementation of the statewide HIE	**Engage government stakeholders to provide transparent and communication regarding HIE status**
Rural Communities' Mistrust	High probability High severity	Rural areas of Georgia may have concerns that the statewide HIE is being built by and for the Atlanta area only, thus creating a potential disadvantage for rural communities	**1. Develop strategies to cover white space areas such as Broadband expansion, Telehealth, and providing HIE services for those providers without an EHR.** **2. Use outreach strategies that include resources at Georgia Tech and GA-HITREC to engage with rural providers and give leadership roles in defining statewide HIE.**
Inadequate Project Management	Medium probability High severity	Inadequate project management would delay the development and implementation of the HIE	**1. Ensure participation of experienced project managers with the appropriate health care industry experience and technical expertise.** **2. Use appropriate recognized tools and processes for project management**
FINANCE			
Insufficient Start-up Funding	Medium probability High severity	Failure to obtain sufficient development funding would delay the development and implementation of the statewide HIE	**1. Ensure communication between stakeholders and participants and GHIE with respect to start-up funding** **2. Confer with various stakeholders regarding alternate funding sources**
Sustainable Financial Model Not Viable	Medium probability High severity	Failure to develop a sustainable financial model would result in the failure of the GHIE on an	**1. Develop and approve viable business plan based upon proven business strategies and well-founded assumptions.**

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
		on-going basis	2. **Depending upon the model selected, develop solid marketing plan with proven strategies to engage target consumers', providers, and employers to pay for HIE services.**
Inadequate Cost Structure Development	Medium probability Medium severity	Failure to develop an equitable participation cost structure would result in some participants reluctance or refusal to participate in the HIE	1. **Develop flexible and adaptable participation packages** 2. **Develop participation policies and costs with input from various stakeholders**
Marketplace changes	Medium probability Medium severity	A changing marketplace may result in decreased or increased GHIE participation	1. **Plan revenue structure that is adaptable** 2. **Remain aware of marketplace and environmental changes**
Cost Control	Medium probability High severity	Costs exceed revenue from participants, resulting in a lack of funding to operate the GHIE	1. **Conduct ongoing assessment of staffing requirements** 2. **Implement flexible architecture solution**
BUSINESS & TECHNICAL OPERATIONS			
Vendor Readiness Problems	Medium probability High severity	Specifications in vendor readiness regarding DIRECT exchange won't be in place until later in 2011.	1. **Define requirements in Q1** 2. **Develop RFP process in Q2** 3. **Ensure vendor uses NHIN Direct specification and requirements in testing phase.**
Network Reliability	Medium probability Medium severity	Lack of network reliability could result in diminished use by participants	1. **Obtain sufficient technical and human resources to ensure network reliability** 2. **Develop policies and procedures for participants that support reliability**
Staffing resources	Medium probability Medium severity	Availability of appropriate resources	1. **Identify and document resource constraints** 2. **Encourage collaboration among stakeholders to identify**

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
			additional resources
Competing Priorities	Medium probability Medium severity	High priority projects with the same pool of resources	**1. Prioritize projects to the extent possible** **2. Encourage collaboration among stakeholders to identify additional resources**
Inadequate Provider Adoption	High probability High severity	Lack of provider adoption could result in poor participation and lack of funds	**1. Work with GA-HITREC to assure provider readiness and adoption** **2. Conduct vendor fairs and information sessions targeting providers to encourage adoption** **3. Use dedicated staff to focus on communication and outreach** **4. Develop policies and procedures and participation agreement with stakeholder input**
Consumer awareness and participation are insufficient	High probability Medium Severity	Lack of consumer awareness may result in lack of trust and selection of non-participation	**1. Develop major consumer awareness campaign** **2. Monitor participation and identify ways to build trust**
Credentialing process inadequate	Medium probability Moderate severity	Failure to properly credential potential participants may result in unauthorized access to the GHIE	**1. Design a uniform process to verify participant identity before granting access** **2. Include audit trails in architecture**
Vendor business failure	Low probability High severity	Vendor business failure could result in business operation interruption	**The GHIE must adhere to policies and procedures for vetting all potential vendors to ensure proof of financial status**
Timely procurement by GHIE of vendor and resources	Medium probability High severity	Failure by the GHIE to obtain needed vendors and resources would delay the development and implementation of the HIE	**1. Adhere to Board processes** **2. Learn from procurement by other states' HIEs**

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
Architecture Solution	Low probability Medium severity	Must be adaptable and flexible to the changing marketplace or cost will be increased	**1. Implement a flexible architecture solution** **2. Monitor changing standards and marketplace**
Broadband	Medium probability High severity	Lack of adequate and affordable broadband access could result in lack of participation in certain areas of the state	**1. Work with other federally and state funded programs to ensure broadband availability** **2. Work with broadband vendors to encourage expansion of broadband access**
Evolving Standards	High probability Medium severity	Standards are still evolving for NHIN and DIRECT	**Monitor government standards on an ongoing basis**
Interoperability issues	Medium probability Medium severity	Lack of interoperability could result in poor participation	**1. The GHIE Board will monitor the development of the architecture to ensure interoperability** **2. Monitor ongoing interoperability standards**
Lack of NHIN Readiness	Low probability Low severity	NHIN readiness will have a direct impact on the success of the HIE (as it impacts the ability of networks to connect with each other)	**1. Georgia Tech Information and Security Center monitors NHIN development** **2. Confer with existing service area HIEs about NHIN readiness**
GHIE Network Failure	Low probability High Severity	Network failure would result in unavailability of patient care information and have serious consequences	**Confirm that the network vendor has appropriate back-up equipment onsite and at alternate site to seamlessly transfer network operation with minimal if any interruption**
Consumer Consent	Low probability Medium severity	Failure to understand the law and the function off of the GHIE may lead to lack of consumer participation	**Develop outreach and education plan for consumers**
PHI Breach	Low s probability High severity	A major breach could result in consumer and provider loss of trust as well as financial penalties	**1. Develop secure architecture in keeping with NHIN and Direct standards** **2. Develop appropriate and enforceable privacy and**

Risk Event	Probability and Severity	Risk Impact Assessment	Mitigation
			security policies and procedures **3. Participant education** **4. Develop appropriate audit capabilities** **5. Design and implement authentication protocols to reduce the risk of unauthorized use.**
Compliance – ongoing	Low probability Low severity	Changing requirements will impact operational and technical areas	**1. Monitor and audit conducted on an ongoing basis** **2. Periodically revise policies and procedures and training programs**
Privacy and Security	Medium probability High severity	HIE privacy and security that does not meet national standards presents a significant risk of loss of trust by participants and consumers	**1. Development of a secure architecture in keeping with DIRECT and NHIN standards** **2. Development of appropriate and enforceable privacy and security policies and procedures** **3. Monitoring of ongoing changes to privacy and security laws and regulations**
Conflict of Interest	Low probability Low severity	A potential conflict of interest between the Governance Organization and vendors or stakeholders may diminish trust among participants and other stakeholders	**1. Address conflicts of interest in Governance Organization formation and governance documents** **2. Monitor applicable non-profit law**

16 EVALUATION PROCESS & CONTINUOUS IMPROVEMENT

16.1 Introduction

The Georgia Health Information Exchange will evaluate its processes on an ongoing basis to assure continuous improvement and accountability. The guiding principles of the Georgia HIE include:

- To encourage and support the adoption of health information technology for all providers in Georgia
- To provide a health information exchange environment with maximum interoperability
- To encourage broad participation in the statewide HIE
- To assure that the health information technology environment in Georgia addresses the privacy of health care consumers and complies with all relevant state and federal laws for the privacy and security of protected health information
- To meet or exceed standards developed by NHIN
- To ensure interstate health information exchange availability and quality

The Georgia HIE will provide access to all providers with basic EHR functionality that request participation and sign the Georgia HIE Participant Agreement..

DIRECT standards are being included in the GHIE configuration as the standards are developed. The expectation is to allow all providers who have basic EHR functionality that utilize DIRECT standards to be able to participate in the statewide HIE.

The Georgia HIE is not addressing research as a primary service in 2011. The functionality of the HIE will be expanded based on stakeholder consensus. The broad representation on the Georgia HIE Board of Directors assures that the interests of all participants including health care consumers are served.

16.2 Ongoing Accountability

GHIE will have ongoing accountability to its Board of Directors and participants in the HIE. To ensure accountability GHIE is planning policies and procedures that require auditing for compliance on a regular basis.

APPENDICIES

APPENDIX A: Abbreviations and Glossary of Terms

ABBREVIATIONS

CCSNPC: Chatham County Safety Net Planning Council, Inc.

DCH: The [Georgia] Department of Community Health

GAPHC: Georgia Association for Primary Health Care

GA-HITREC: The Georgia Health Information Technology Regional Extension Center located at the Morehouse School of Medicine

GARHIO: Georgia Regional Health Information Organization

GFHP: Georgia Farmworker Health Program

GRITS: Georgia Registry of Immunization Transactions and Services

GSLP: Georgia Strategic Local Implementation

HITT Advisory Board: Health Information Technology and Transparency Advisory Board

NCPC: National Center for Primary Care at the Morehouse School of Medicine

OHITT: Office of Health Information Technology & Transparency

SAHIE: Service Area Health Information Exchange

SMHP: State Medicaid Health Information Technology Plan

SORH: State Office of Rural Health

GLOSSARY

American Recovery and Reinvestment Act of 2009 (ARRA): A $787.2 billion stimulus measure, enacted into law in February 2009, that provides financial assistance to states and cities, funding for infrastructure projects and the expansion of Medicaid and health information technology among other provisions.

American National Standards Institute (ANSI): The U.S. standards organization that establishes procedures for the development and coordination of voluntary national standards.

Architecture: Term that refers to the structure of an information system and how its pieces communicate and work together.

Clinical Data Repository (CDR): A real-time database that consolidates data from a variety of clinical sources to present a unified view of a single patient.

Data Warehouse (DW): Data warehouse is a repository of an organization's electronically stored data. It is designed to facilitate reporting and analysis.

Electronic Health Record (EHR): As defined in ARRA, means an electronic health record of an individual's health-related information that includes patient demographics and clinical health information, such as medical history and problem lists; and has the capacity to provide clinical decision support; to support physician order entry; to capture and query information relating to health care quality; to exchange health information; and to integrate such information from other sources.

Encryption: Translation of data into a code in order to keep the information secure from anyone but the intended recipient.

Enterprise Architecture: A strategic resource that aligns business and technology, leverages shared assets, builds internal and external partnerships, and optimizes the value of information technology services.

Enterprise Master Patient Index (EMPI): Is an index that includes all patients whose records are maintained in the enterprise record system.

e-Prescribing (eRX): Computer technology in which physicians use handheld or personal computer devices to review drug and formulary coverage and transmit prescriptions to a pharmacy, electronic health record system or printer.

Federally Qualified Health Center (FQHC): A type of provider organization as defined by Medicare and Medicaid that provides health care to the medically underserved; generally includes community health centers, migrant health centers, and other similar entities.

Health Alert Network (HAN): The CDC's network that provides information about urgent health events to state and local public health practitioners, clinicians, and public health laboratories.

Health Data Intermediary (HDI): An entity that provides the infrastructure to connect computer systems or other electronic devices used by health care providers, laboratories, pharmacies, health plans, third-party administrators or pharmacy benefit managers to facilitate the secure

transmission of health information, including pharmaceutical electronic data intermediaries. Term does not include health care providers engaged in direct health information exchange.

Health Information Exchange (HIE): The electronic transmission of health-related information across organizations according to nationally recognized standards.

Health Information Organization (HIO): An organization that oversees, governs, and facilitates the exchange of health-related information among organizations according to nationally recognized standards.

Health Information Technology (HIT): The combination of technology and connectivity required to meaningfully use and exchange electronic health information, including EHRs.

Health Information Technology for Economic and Clinical Health (HITECH) Act: It is a section in ARRA ("an act within an act") that provides approximately $34 billion in federal funding aimed at promoting the adoption and use of health information technology and furthering the electronic exchange of health information across health systems.

Health Information Portability and Accountability Act of 1996 (HIPAA): A federal law intended to improve portability of health insurance and simplify health care administration; HIPAA sets standards for the electronic exchange of claims-related information and for ensuring the security and privacy of all individually identifiable health information.

Health Record Bank: A community organization that provides a safe, secure location to automatically store health records where the patient is in charge of all personal, private health information.
Interface: A means of interaction between two devices or systems that handle data.

Interoperability: The ability of two or more systems or components to exchange information and to use the information that has been exchanged. Typically, interoperability is understood to have three components: technical, semantic, and process.

Master Patient Index (MPI): A central index of patient records used for the purpose of matching records from different sources and accurately relating that data to the same patient. An MPI usually does not have medical data contained with it and may or may not point to medical data found elsewhere.

Meaningful Use: Under the HITECH Act, an eligible professional or eligible hospital is considered a meaningful EHR user if the EP or EH uses certified EHR technology in a manner consistent with criteria established by federal rules, including e-prescribing through an EHR, and the exchange of information for the purposes of quality improvement, such as care coordination.

Medicaid Information Technology Architecture (MITA): A national framework to support systems development and health care management for the Medicaid enterprise.

Medicaid Management Information System (MMIS): MMIS consists of an integrated group of procedures and computer processing operations (subsystems) developed at the general design level to meet principal objectives, including Medicaid program control and administrative costs; service to recipients, providers, and inquiries; operations of claims control and computer capabilities; and management reporting for planning and control.

National Level Repository (NLR): A nationwide data repository maintained by CMS to provide support for the electronic administration of incentive disbursements to eligible providers and eligible hospitals under the Medicaid and Medicare incentive programs.

National Provider Identifier (NPI): A 10-digit, intelligence free numeric identifier that replaces all other health care provider identifiers.

Nationwide Health Information Network (NHIN): Technologies, standards, laws, policies, programs and practices that enable health information to be shared among health decision makers, including consumers and patients, to promote improvements in health and health care.
Office of the National Coordinator for Health Information Technology (ONC): An agency within HHS that oversees and encourages the development of a national, interoperable health information technology system to improve the quality and efficiency of health care.

Open Source: Practices in production and development of software that promote access to the end product's source code. Open source products are usually developed collaboratively with the software freely distributed to anyone willing to abide by the rules of its use and distribution.

Participating Providers: For the purposes of this document are providers who have signed all required agreements to participate in the Georgia statewide HIE.

Participation Agreements: For the purposes of this document are those agreements that the governance entity for the statewide HIE determines are required as a condition for participation by providers.

Patient Record Locator: The electronic means by which patient files are located to assist patients and clinicians to find test results, medical history, prescription data, and other health information.

Personal Health Record (PHR): An electronic application through which individuals can maintain and manage their health information (and that of others for whom they are authorized) in a private, secure, and confidential manner.

Practice Management System (PMS): That portion of the medical office record which contains financial, demographic and non-medical information about patients.

Provider Portal: For the purposes of this document, it is the point of access for all participating providers in the statewide HIE.

Record Locator Service (RLS): An index containing patient demographic information and the location of a patient's medical records. It generally does not contain clinical information. Participating entities decide whether or not to put record locations into the RLS. Designed to take a query in the form of demographic details and return only the location of the matching records.

Regional Extension Center (REC): As a recipient of ARRA funding, each REC is required to serve a geographically defined area and is supposed to provide on-site technical assistance in the selection of certified EHRs, to enhance clinical and administrative workflow, and to comply with privacy and security requirements. Each REC is required to focus its efforts on individual or small group practices and providers in public and critical access hospitals, community health centers, and other safety net providers.

Regional Health Information Organization (RHIO): A multi-stakeholder organization that enables the exchange and use of health information in a secure manner for the purpose of promoting the improvement of health quality, safety and efficiency.

Scalability: The ability to add users and increase the capabilities of an application without having to make significant changes to the application software or the system on which it runs.

Service Level Agreement: A contract between a service provider and a user that specifies the level of service expected during a contract term. Service level agreements determine how performance will be measured and, in the event of underperformance, how the penalties will be calculated and paid.

Service Oriented Architecture (SOA): A building-block approach to application development which emphasizes the reuse of software components that are built to perform individual functions and which interact with each other through clearly-defined interfaces.

Shared Directory: A service that enables the searching and matching of data to facilitate the routing of information to providers, patients, and locations.

State Designated Entity (SDE): A not-for-profit organization with broad stakeholder representation on its governing board designated by the state as eligible to receive awards under the Cooperative Agreement.

Workforce Development: Funding to develop programs and curricula to prepare a skilled workforce for the deployment of HIT and statewide HIE.

APPENDIX B: HITT Advisory Board

Mike Adloo
Regional Manager
Wal-Mart Pharmacy

Jack Chapman, M.D.
President/Physician
Medical Association of Georgia

Laura Franzke
Scientist
Centers for Disease Control

Judson Hill
Senator
Georgia State Senate

Patricia Lavely
Vice-President & Chief Information Officer
Memorial Health University Medical Center

Pam Matthews
Senior Director Healthcare Information Systems
Healthcare Information Systems Society

Richard Novack
President and General Manager
CIGNA

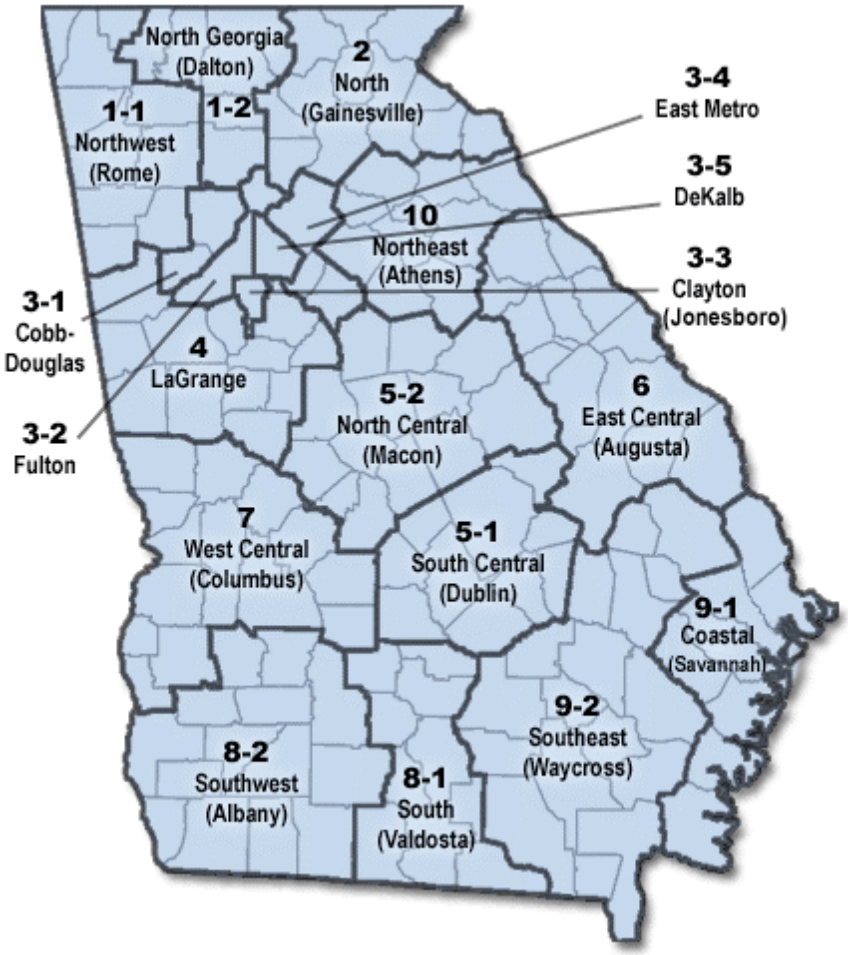
Joel Schuessler
Staff Attorney
DeKalb Medical Center

Diane Turcan
Director / Healthcare Marketing
AT&T

Allie Wall
Executive Director
Georgia Watch

Denise Watson
Account Executive
Quest Diagnostics

APPENDIX C: Map – Georgia's Public Health Districts



APPENDIX D: Letters of Support

[Attached]

THE SATCHER HEALTH LEADERSHIP INSTITUTE
at
MOREHOUSE
SCHOOL OF MEDICINE

August 25, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce my support for the Georgia Statewide Health Information Exchange. As Director of the Satcher Health Leadership Institute at the Morehouse School of Medicine, it is a privilege to be a part of this outstanding project.

The goals and objectives of the project are aligned with those of my organization. We share the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

We support the collaborative relationships that emerge as a result of this innovative effort. New positive relationships will be developed with critical stakeholder organizations as well. In addition, we anticipate improved meaningful use possibilities that will converge through participation in this innovative process.

We look forward to our associated partnership with the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

David Satcher, MD, PhD
Director, The Satcher Health Leadership Institute
Morehouse School of Medicine
16th Surgeon General of the United States of America

720 WESTVIEW DRIVE ▪ ATLANTA, GEORGIA 30310-1495 ▪ TELEPHONE: 404.752.8654 ▪ FAX: 404.752.1040

GEORGIA DEPARTMENT OF
COMMUNITY HEALTH

Clyde L. Reese, III, Esq., Commissioner Sonny Perdue, Governor

2 Peachtree Street, NW
Suite 15-470
Atlanta, GA 30303-3142
www.dch.georgia.gov

August 17, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a Provider of Public Health Programs and Services, it is with great excitement that I announce our support for the Georgia Statewide Health Information Exchange. As a service provider, we recognize the value of promoting the exchange of clinical data reporting, both statewide and nationally, receiving and sharing lab results with providers and hospitals, reporting syndromic surveillance data, and sharing immunization data. These health information exchanges remain critical to our unwavering pursuit of positively changing health outcomes.

We truly value the opportunity to more easily connect with other health care entities in the State of Georgia -- and the nation -- through the Nationwide Health Information Network (NHIN). We share a common passion for the innovative vision and goals of this strategic initiative, which includes secure, private, and interoperable health information exchange.

We embrace this collaborative effort and look forward to working with you and other health information exchange organizations through a seamless and efficient process integration.

Sincerely,

M. Rony Francois, MD, MSPH, PhD

M. Rony Francois, MD, MSPH, PhD

Division of Public Health
M. Rony Francois, MD, MSPH, PhD, Director of Public Health and State Health Officer ♦ Phone: 404-657-2700 ♦ Fax: 404-657-2715

Equal Opportunity Employer

GEORGIA DEPARTMENT OF
COMMUNITY HEALTH

Clyde L. Reese, III, Esq., Commissioner

Sonny Perdue, Governor

2 Peachtree Street, NW
Atlanta, GA 30303-3159
www.dch.georgia.gov

August 17, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

I am pleased to document my support for the Georgia Statewide Health Information Exchange. As the State Medicaid Agency, we look forward to creating the infrastructure that will allow the exchange of health information that is vitally important to the delivery of cost-effective and clinically appropriate care for our members. Additionally, this initiative will place Georgia in an excellent position to promote the adoption and meaningful use of electronic health records.

The Medicaid Agency stands ready to support the efforts of this very important initiative. We look forward to working with your team as we make this important next step in the health information technology arena.

Sincerely,

Jerry Dubberly,
State Medicaid Director

MOREHOUSE
SCHOOL OF MEDICINE
National Center for Primary Care

August 11, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce my support for the Georgia Statewide Health Information Exchange. As the Georgia Health Information Technology Regional Extension Center (GA-HITREC), it is indeed a privilege to be in partnership with the Georgia Department of Community Heath on this outstanding project.

The goals and objectives of the HIE project are aligned with those of GA-HITREC. Our organization shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

It is our intention to closely coordinate the proposed GA-HITREC services with the HIE initiative where we can together promote the adoption and meaningful use of EHRs and leverage each other's efforts.

We are looking forward to the synergy and countless possibilities that will certainly unfold by this outstanding effort.

Sincerely,

Dominic H. Mack MD, MBA
Deputy Director/Assistant Professor, National Center for Primary Care
Project Director, GA-HITREC

Metro Atlanta Chamber

August 9, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear ~~Ms. Carr:~~ Ruth

The Metro Atlanta Chamber on behalf of the Georgia HIE Consortium, acknowledge our support for the Statewide Health Information Exchange Project at the Georgia Department of Community Health, in Atlanta, Georgia. The collaborative private, public partnership will be a value-added entity that can bring positive benefits for the economic and business community in Georgia.

We support the project goals and objectives, which involve collaborative efforts with stakeholders and citizens of State of Georgia. We too support the collaborative partnership environment – and the focus on improved patient outcomes, improved process efficiency and strategic access to healthcare information.

We look forward to our partnership in the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Sam Williams
President, Metro Atlanta Chamber

COLLABORATIVE TRANSFORMATIONS, LLC

August 5, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms Carr:

It is a pleasure for me to confirm my strong support for the Georgia Statewide Health Information Exchange. For over 31 years I served as a physician and health IT leader in the U.S. Department of Veterans Affairs and the U.S. Department of Health and Human Services. As a consultant working with government and non-profit organizations, it is a privilege to be a part of this outstanding project.

I share your vision of improved health and health care outcomes, improved process efficiency, and strategic access to health care information. The goals and objectives of the project are aligned with those that I worked for during my years of federal service.

I have great expectations for the collaborative relationships that will emerge as a result of this innovative effort. New positive relationships will be developed with critical local and national stakeholder organizations. In addition, Georgia residents will experience better health and health care as a result of improved meaningful use possibilities that will emerge for Georgia health care providers as a result of this innovative process.

I look forward to my associated partnership with this private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Robert M Kolodner MD

Robert M. Kolodner, MD
President
Collaborative Transformations, LLC

6115 Dry Leaf Path
Columbia, MD 21044

WELLSTAR®

August 5, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is with great optimism that we announce our support for the Georgia Statewide Health Information Exchange efforts. The critical stakeholder relationship that exists today between the Georgia Department of Community Health and WellStar will most assuredly become more important and the enhanced collaborative spirit will produce beneficial outcomes for both organizations.

We have looked forward to an opportunity to participate in a Statewide Health Information Exchange Project for many years. The creativity, innovation, and leading-edge systems and processes that will become a part of the new architecture will provide new opportunities for data sharing, health care research, and myriads of other critical factors that will positively impact patient outcomes and reduce health care costs.

We value the partnership that is associated with this endeavor and look forward to many years of collaborative shared services. The emerging "network of networks" will enable an infinite set of possibilities. We look forward to this very positive journey and to enhanced opportunities that will emerge that enable positive outcomes for the citizens of Georgia.

In Partnership,

Ron Strachan
Senior Vice President and Chief Information Officer
WellStar Health System

Georgia Health Information Exchange

business, government and healthcare working together for better health outcomes and value

August 9, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As an organization whose mission is to facilitate a health information exchange to improve public health, quality of care, and the efficiency of health services through the more effective use of automated personal health information, it is with optimism that we announce our support for the Georgia Statewide Health Information Exchange. Georgia Health Information Exchange is a broad coalition of healthcare stakeholders representing such organizations as the Cobb County Community Services Board, Georgia Health Care Association, Georgia Hospital Association, Georgia Medical Care Foundation, Georgia Pharmacy Association as well as representatives from the physician and vendor community. The collaborative private, public partnership of the Georgia Statewide Health Information Exchange will be a value-added entity that can bring positive benefits for the economic and business community in Georgia.

We value the opportunity to more easily connect with other health care entities in the State of Georgia -- and the nation -- through the Nationwide Health Information Network (NHIN). The goal and vision of this strategic initiative, which includes secure, private, interoperable health information exchange is indeed a goal that we have in common.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

We also value the possibilities that can emerge through this relationship -- and look forward to working with citizens and stakeholders across the State of Georgia.

Sincerely yours,

Dennis L. White
President & CEO
GMCF
Chairman GHIE
dwhite@gmcf.com

Glenn E. Pearson FACHE
Executive Vice President
GHA
Officer, GHIE
gpearson@gha.org

OPEN HEALTH TOOLS

August 5, 2010

National Organizations & Providers
Canada Health Infoway
Hartford Hospital
Indian Health Service
Mayo Clinic
National Cancer Institute
National Health Service (NHS, U.K.)
National eHealth Transition Authority (NEHTA, Australia)
Veterans Health Administration (VHA, U.S.).

Standards & Open Source Organizations
Eclipse
Health Level 7 (HL7)
Health Services Specification Project (HSSP)
International Health Terminology (IHTSDO
Object Management Group (OMG)

Organizations Supplying: products, services, education & research
B2International
Black Duck
BT Health
BXI
Cambio Healthcare Systems
Carnac
Collaborative Software Initiative
Collaborative Transformations
CollabNet
DSS
Georgia Tech
Global Center for Medical Innovation
Discovery machine
IBM
Incremental Technology Group
Innoopract
Inpriva
International Technology Group
J P Systems
Linkoping University
Misys
Mohawk College
MyCare Team
Oregon State University
NexJ Systems
Ocean Informatics
Oracle
Red Hat
Sage
TBS
Tolven
Vangent
Vigent
Visumpoint
YouMed
5am Solutions

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms Carr:

Open Health Tools is a global community of open-source developers and health professionals dedicated to the development of a worldwide health information exchange system that will improve patient safety and patient care while improving health administrative efficiencies. Our membership includes national health agencies for several countries, clinical standards groups, end users, clinicians, software / technology vendors, and service companies. We envision the day when all people have the health information they need whenever and wherever they desire to improve their health and well-being.

As a global supplier of technology and clinical expertise, we support the Georgia Statewide Health Information Exchange Project at the Georgia Department of Community Health, in Atlanta, Georgia. We support the collaborative goals and objectives between the diversified stakeholders and the citizens of State of Georgia. We look forward to deliver improved patient outcomes, improved process efficiency, and strategic access to healthcare information.

We value the relationship we currently have with Georgia Tech, and look forward to working with you and other health information exchange organizations.

Sincerely,

Skip McGaughey
Open Health Tools, Inc.
Executive Director

www.OpenHealthTool.org

Open Health Tools, Inc.
825 C Merrimon Ave Box 258.,
Asheville, NC USA Zip 28804-2404

Tele. 01-919-349-3426
Fax 01-828-707-9508

gmcf

August 9, 2010

Ruth Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW – 40th Floor
Atlanta, Georgia 30303

Dear Ms. Carr:

The Georgia Medical Care Foundation (GMCF) is the 501(c) 3 Medicare Quality Improvement Organization (QIO) for Georgia and is submitting this letter of support for the Georgia Statewide Health Information Exchange Project at the Georgia Department of Community Health. GMCF supports the project goals and objectives, which involve collaborative efforts with stakeholders and citizens of the State of Georgia.

GMCF has worked with Georgia stakeholders and providers in all settings for over 38 years to improve the health care delivery system and as the QIO have recent extensive experience in working with providers on the adoption, implementation, and use of Health Information Technology. Additionally, GMCF is a HHS designated "Community Leader for Value Driven Health Care" and has been a member of HL7 since 1998. Our organization shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

We value the partnership and synergy that is enabled by this innovative endeavor and look forward to a continued relationship that will produce countless positive outcomes through coordination and continuity of care and better health care services.

Sincerely,

Dennis L. White
Chief Executive Officer

1455 Lincoln Pkwy.
Suite 800
Atlanta, GA 30346
404 982-0411
800 982-0411
fax 404 982-7591
www.gmcf.org

Georgia Tech Enterprise Innovation Institute

August 11, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is with optimism that I announce my support for the Georgia Statewide Health Information Exchange. As an academic institution, we look forward to creating new opportunities for economic revitalization and workforce development in Georgia.

The services that will be enabled through the strategic, secure, interoperable "network of networks" – throughout the State of Georgia – will empower the economy and make life better for Georgia stakeholders and citizens.

We value the partnership and synergy that is enabled by this innovative endeavor and look forward to a continued relationship that will produce countless positive outcomes through coordination and continuity of care and better health care services.

We look forward to this exciting journey.

Sincerely,

Stephen Fleming, Vice President
Enterprise Innovation Institute

August 10, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

Georgia Hospital Association (GHA) is the statewide organization that represents approximately 170 member hospitals and 34 health systems. We are pleased to announce our support for the Georgia Statewide Health Information Exchange. GHA has been working on health information exchange issues for many years and is very pleased with the opportunity to collaborate with other stakeholders to further this emerging aspect of healthcare delivery.

The Georgia Department of Community Health has undertaken an extensive and inclusive process for developing the statewide health information exchange plan. The resulting approach outlined in the plan will help to further interoperable communication among Georgia's providers, payers, and other stakeholders. Ultimately, the health status of our population will increase as crucial information becomes available at the critical point of patient care.

We value the partnership that is associated with this endeavor and look forward to many years of collaborative shared services. The emerging "network of networks" will enable many possibilities. We look forward to this very positive journey and to enhanced opportunities that will emerge that enable positive outcomes for the citizens of Georgia.

Sincerely,

Joseph A. Parker
President

Georgia Hospital Association
1675 Terrell Mill Road, Marietta, Georgia 30067 | Phone: 770-249-4500 | Fax: 770-955-5801 | www.gha.org

GEORGIA ACADEMY OF
FAMILY PHYSICIANS
SPECIALIZING IN ALL OF YOU

Northlake Commons
3760 Lavista Road ~ Suite 100 ~ Tucker, GA 30084-5641
Phone: 404.321.7445 Fax: 404.321.7450 Toll Free: 800.392.3841
www.gafp.org

Leonard D. Reeves, MD, FAAFP
President

August 10, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is with pleasure that the Georgia Academy of Family Physicians (GAFP) announces its support for the Georgia Statewide Health Information Exchange (HIE). As healthcare providers, it is a privilege to be a part of this outstanding project.

The GAFP represents 93 percent of all board certified/board eligible family physicians in the state of Georgia and believes it is imperative that we support initiatives for our members that foster communication about burgeoning technology. Our organization shares the HIE's vision of improved health care outcomes, improved process efficiency, and strategic access to health care information, and supports the collaborative relationships that emerge as a result of this innovative effort.

We look forward to our associated partnership with the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Please let me know if the GAFP can be of further assistance as we move towards improved meaningful use possibilities.

Sincerely,

Leonard D. Reeves, MD, FAAFP
President
Georgia Academy of Family Physicians

Georgia Health Care Association
Serving Georgia's Elderly Since 1953

Jon S. Howell
President & CEO

GHCA Officers

Mark Todd
Chair of the Board

Debbie Meade
Vice Chair

Lucy M. Rogers
Secretary

Chris Bryson
Treasurer

Jim Gilliam
Past Chair

Neil Pruitt, Jr.
AHCA Representative

Board Members

Chuck Brown

Terry Cook

Bill Davis

Roxanne Galloway

George T. Hunt, III

Hunter Hurst

Davis King, Jr.

Joshua Leonard

Laura Amos Lines

Barbara Mitchell

Norma Jean Morgan

Pat Osterhout

Suzanne Stanley

Gary Westbury

August 10, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce my support for the Georgia Statewide Health Information Exchange. As a health care association serving members in 158 of Georgia's 159 counties, it is a privilege to be a part of this outstanding project.

The goals and objectives of the project are aligned with my organization. The Georgia Health Care Association (GHCA) shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

GHCA supports the collaborative relationships that emerge as a result of this innovative effort. I am sure that new positive relationships will be developed with critical stakeholder organizations. In addition, I look forward to improved meaningful use possibilities that will converge as I participate within this innovative process.

I look forward our associated partnership with the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Jon S. Howell

160 Country Club Drive • Stockbridge, GA 30281 • 678-289-6555 • FAX 678-289-6400
Email: jhowell@ghca.info • web: www.ghca.info

Georgia Association of Community Service Boards, Inc.

August 11, 2010

Robyn Garrett-Gunnoe
Georgia Association of Community Service Boards
201 17th Street, Suite 300
Atlanta, GA 30363

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a Georgia Healthcare Stakeholder, we acknowledge our support for the Statewide Health Information Exchange Project at the Georgia Department of Community Health, in Atlanta, Georgia.

The GACSB supports the project goals and objectives, which involve collaborative efforts with stakeholders and citizens of the State of Georgia. Too, we support the collaborative partnership environment – and the focus on improved patient outcomes, improved process efficiency, and strategic access to healthcare information.

We look forward to our partnership in the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Robyn Garrett-Gunnoe
Director

Cobb County Community Services Board
Douglas County Community Services Board

Providing Mental Health, Mental Retardation and Substance Abuse Services

Tod Citron, Executive Director

Administration Building
3830 South Cobb Drive, Suite 300
Smyrna, GA 30080
Phone: 770-429-5000 Fax: 770-438-5136
www. cobbcsb.com

August 10, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW – 40th floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr,

Please accept this letter of support for the Georgia Statewide Health Information Exchange. As we approach the future, the importance of electronic health information exchange is critically important. As a public provider of community based behavioral healthcare services and as an organization that has utilized EMR technology since 2001, we know firsthand how health information exchange can lead to improved patient health outcomes. I congratulate the Department of Community Health (DCH) for engaging this important and necessary challenge.

As a provider of safety-net healthcare services, we value the services that will be enabled through secure and interoperable networks throughout Georgia. The collaborative partnerships to be garnered by this innovative endeavor will help fuel its success. Our agency has had an active interest in electronic health information exchange for a long time now. We stand prepared to participate and to be an active partner.

Please feel free to contact me should the need arise. We look forward to this exciting and important journey.

Sincerely,

Tod Citron
Executive Director/CEO

EAST GEORGIA
HEALTH
COOPERATIVE

P.O. Box 5706
Sandersville, GA 31082
478.553.2497 phone
478.553.2499 fax

August 10, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

The East Georgia Health Cooperative enthusiastically supports the Georgia Statewide Health Information Exchange initiative. The goals and objectives of the project are aligned with our organization. The initiative shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

The East Georgia Health Cooperative is a rural health network composed of hospitals, rural health clinics and Federally Qualified Health Centers in eighteen rural counties in east central Georgia – Bulloch, Candler, Emanuel, Glascock, Hancock, Jefferson, Jenkins, Johnson, Laurens, Montgomery, Taliaferro, Tattnall, Toombs, Treutlen, Twiggs, Warren, Washington, and Wilkinson. As a network, we work to support efforts that enhance the access, scope and viability of our Members. Due to the strong relationship with our Members, we are fully aware and supportive of the need to exchange health information in a meaningful way. We understand this will involve multiple stakeholders in the region and are fully committed to participate in any manner we can given the constraints of the current economic environment and other factors.

We look forward to an opportunity to participate in a Statewide Health Information Exchange Project. The creativity, innovation, and leading-edge systems and processes that will become a part of the new architecture will provide new opportunities for data sharing, health care research, and myriads of other critical factors that will positively impact patient outcomes and reduce health care costs.

We value the partnership that is associated with this endeavor and look forward to many years of collaborative shared services. The emerging "network of networks" will enable an infinite set of possibilities. We look forward to this very positive journey and to enhanced opportunities that will emerge that enable positive outcomes for the citizens of Georgia.

The East Georgia Health Cooperative supports the collaborative relationships that emerge as a result of this innovative effort. I am sure that new positive relationships will be developed with critical stakeholder organizations. In addition, I look forward to improved meaningful use possibilities that will converge as I participate within this innovative process.

Tara Cramer

Tara Cramer, Executive Director
East Georgia Health Cooperative

The Georgia Association
For Primary Health Care

August 11, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

I am pleased to announce my support for the Georgia Statewide Health Information Exchange. The collaborative relationship that exists today between the Georgia Department of Community Health and the Georgia Association for Primary Health Care will most assuredly become more important and the enhanced collaborative spirit will produce beneficial outcomes for both organizations.

We value the opportunity to more easily connect with other health care entities in the State of Georgia and the nation through the Nationwide Health Information Network (NHIN). The goal and vision of this strategic initiative, which includes secure, private, interoperable health information exchange is indeed a goal that we have in common. The creativity, innovation, and leading-edge systems and processes that will become a part of the new architecture will provide new opportunities for data sharing, health care research, and myriads of other critical factors that will positively impact patient outcomes and reduce health care costs.

We value the partnership that is associated with this endeavor and look forward to many years of collaborative shared services. The emerging "network of networks" will enable an infinite set of possibilities. We look forward to this very positive journey and to enhanced opportunities that will emerge that enable positive outcomes for the citizens of Georgia.

Sincerely,

Duane Kavka
Executive Director
Georgia Association for Primary Health Care

315 West Ponce de Leon Avenue • Suite 1000 • Decatur, GA 30030 • (404) 659-2861 • Fax (404) 659-2801 • www.gaphc.org

Center for Telehealth
Office of the Director

August 13, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

I am pleased to attest my support for the Georgia Statewide Health Information Exchange with enthusiasm and optimism. The critical stakeholder relationship that exists today between the Georgia Department of Community Health and my institution, through my work in the Medical College of Georgia Center for Telehealth, will undoubtedly become more important as your efforts progress. The visibly enhanced collaborative spirit evidenced in recent meetings can only increase the likelihood of beneficial outcomes for both organizations.

I personally, and my Center for Telehealth, have looked forward to the opportunity to participate in a Statewide Health Information Exchange Project for many years. The creativity, innovation, and leading-edge systems, processes and policies that are promised by the new architecture will provide new opportunities for data sharing, health care research, and myriads of other critical contributory elements that should positively impact both patient outcomes and reduce health care costs.

I value the potential for partnership that is associated with this endeavor and look forward to many years of collaboration. The emerging "network of networks" should enable meaningful real statewide benefits while preserving local relevance and priorities. I look forward to the opportunity to both participate in and serve the needs of this journey. I also look forward to the enhanced opportunities to enable and promote positive outcomes for the citizens of Georgia that should emerge.

In Anticipation,

Max E. Stachura

Max E. Stachura, MD
Director, Center for Telehealth
Professor, Schools of Medicine
Nursing & Graduate Studies
Medical College of Georgia

Georgia Research Alliance
Eminent Scholar in Telemedicine

David C. Epstein, MD, MBA
Senior Market Medical Executive

CIGNA HealthCare

Two Securities Centre
3500 Piedmont Road
Suite 200
Atlanta, GA 30305
Telephone 404.443.8800

August 16, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a Georgia Healthcare Stakeholder, I acknowledge my support for the Statewide Health Information Exchange Project at the Georgia Department of Community Health, in Atlanta, Georgia.

I support the project goals and objectives, which involve collaborative efforts with stakeholders and citizens of State of Georgia. Too, I support the collaborative partnership environment – and the focus on improved patient outcomes, improved process efficiency, and strategic access to healthcare information.

I look forward to our partnership in the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

David C Epstein, MD

David C. Epstein, MD, MBA
Senior Market Medical Executive

GPhA™ GEORGIA PHARMACY ASSOCIATION, INC.
50 Lenox Pointe NE • Atlanta, Georgia 30324
404-231-5074 phone • www.GPhA.org

August 13, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce my support for the Georgia Statewide Health Information Exchange. As a healthcare provider, it is a privilege to be a part of this outstanding project.

The goals and objectives of the project are aligned with my organization. My organization shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

My organization supports the collaborative relationships that emerge as a result of this innovative effort. I am sure that new positive relationships will be developed with critical stakeholder organizations. In addition, I look forward to improved meaningful use possibilities that will converge as I participate within this innovative process.

I look forward our associated partnership with the private, secure, interoperable "network of networks" -- and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

James R. Bracewell
Executive Vice President & CEO

Garland R. Hunt Esq., Commissioner

DEPARTMENT OF JUVENILE JUSTICE
3408 Covington Highway • Decatur, Georgia • 30032-1513
Telephone: (404) 508-6500 • Fax: (404) 508-7210

August 19, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is with optimism that I announce my support for the Georgia Statewide Health Information Exchange. As Medical Director for the Georgia Department of Juvenile Justice, we look forward to creating new opportunities for economic revitalization and workforce development in Georgia.

The services that will be enabled through the strategic, secure, interoperable "network of networks" – throughout the State of Georgia – will empower the economy and make life better for Georgia stakeholders and citizens.

We value the partnership and synergy that is enabled by this innovative endeavor and look forward to a continued relationship that will produce countless positive outcomes through coordination and continuity of care and better health care services.

We look forward to this exciting journey.

Sincerely,

Michelle Staples-Horne, MD, MPH
Medical Director
Department of Juvenile Justice

Praveen Chopra
Children's Healthcare of Atlanta
1639 Tullie Circle, NE
Atlanta, GA 30329

Children's®
Healthcare of Atlanta

1639 Tullie Circle NE
Atlanta, Georgia 30329
www.choo.org

August 20, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure to share our support for the Georgia Statewide Health Information Exchange. As the largest provider of pediatric services in the state of Georgia, this initiative is of the utmost importance to our organization. The goals and objectives of this initiative are aligned with those of our organization, relating to overall HITT issues. In addition, the vision for improved health care outcomes, improved process efficiency, and strategic access to health care information seems consistent between our organizations.

It is our hope that the services that will be enabled through the strategic, secure, interoperable "network of networks" – throughout the State of Georgia – will empower the economy and make life better for Georgia stakeholders and citizens. In addition, we see tremendous value in the creation of the collaborative relationships that will emerge as a result of this innovative effort.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

Sincerely,

Praveen Chopra
Chief Information Officer

EMORY HEALTHCARE

INFORMATION SERVICES

August 24, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a Health Information Exchange Organization, it is with optimism that I announce our support for the Georgia Statewide Health Information Exchange. The collaborative private, public partnership will be a value-added entity that can bring positive benefits for the economic and business community in Georgia.

We value the opportunity to more easily connect with other health care entities in the State of Georgia -- and the nation -- through the Nationwide Health Information Network (NHIN). The goal and vision of this strategic initiative, which includes secure, private, interoperable health information exchange is indeed a goal that we have in common.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

We also value the possibilities that can emerge through this relationship -- and look forward to working with citizens and stakeholders across the State of Georgia.

Sincerely,

Dedra L. Cantrell, R.N.
Chief Information Officer
Emory Healthcare, Inc.

GDA GEORGIA DENTAL ASSOCIATION
Suite 200 • Building 17 • 7000 Peachtree Dunwoody Road N.E. • Atlanta, Georgia 30328-1655
(404) 636-7553 • (800) 432-4357 • Fax (404) 633-3943

August 24, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce the support of the Georgia Dental Association (GDA) for the Georgia Statewide Health Information Exchange. The critical stakeholder relationship that exists today between the Georgia Department of Community Health and the GDA will most assuredly become more important and the enhanced collaborative spirit will produce beneficial outcomes for both our organizations.

Dentistry is especially supportive of the use of electronic health records and the electronic exchange of patient records that are an important component of the state's plan for Health Information Exchange. The creativity, innovation, leading-edge systems and processes that will become a part of the new architecture will provide new opportunities for data sharing, health care research, and a myriad of other critical factors that will positively impact patient outcomes and reduce health care costs.

We support the collaborative relationships that will emerge among all healthcare providers as a result of this innovative effort and the "network of networks" that will enable an infinite set of possibilities and enhancements for healthcare in Georgia. We look forward to this very positive journey and to improved opportunities that will emerge to enable positive health outcomes for the citizens of Georgia.

Sincerely,

John F. Harrington, Jr. DDS

John F. Harrington, Jr. D.D.S.
President, Georgia Dental Association

Patrick J. Counihan
Vice President
Health Care Systems

Merck
351 N Sumneytown Pike
UG3A-86
North Wales, PA 19454-2505
T 267 305 2410
F 215 616 2804
patrick.counihan@merck.com

August 16, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

Merck is pleased that Georgia is developing the Statewide Health Information Exchange Project at the Georgia Department of Community Health, in Atlanta, Georgia. As you know, Merck is a pharmaceutical company and our fundamental responsibility is discovering, developing and delivering innovative medicines and vaccines that can make a difference in people's lives and create a healthier future. Merck appreciates the state's efforts to implement an initiative to better the health of Georgians through the increased use of health technology.

Merck supports the project goals and objectives, which involve collaborative efforts with stakeholders and the citizens of Georgia. Additionally, we welcome the partnership environment including the focus on improved patient outcomes, improved process efficiency, and strategic access to healthcare information.

Merck looks forward to the partnership that is associated with this endeavor and to the coming years of collaboration with the Georgia Department of Community Health. The emerging "network of networks" will enable an expanding set of possibilities to enable positive outcomes for the citizens of Georgia.

Sincerely,

Patrick J. Counihan

MOREHOUSE
SCHOOL OF MEDICINE
Division of Information Technology

August 25, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce my support for the Georgia Statewide Health Information Exchange. As a school of medicine responsible for training physicians and scientists, conducting community focused research, and proving healthcare services, it is a privilege to be a part of this outstanding project.

The goals and objectives of the project are aligned with my organization. Morehouse School of Medicine (MSM) shares the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

MSM supports the collaborative relationships that emerge as a result of this innovative effort. I am sure that new positive relationships will be developed with critical stakeholder organizations. In addition, I look forward to improved meaningful use possibilities that will converge as I participate within this innovative process.

I look forward to our associated partnership with the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Cigdem Delano
Chief Information Officer
Morehouse School of Medicine

Memorial
HEALTH

August 15, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a member of a Health Information Exchange Organization, it is with optimism that I announce our support for the Georgia Statewide Health Information Exchange. The collaborative private, public partnership will be a value-added entity that can bring positive benefits for the economic and business community in Georgia.

We value the opportunity to more easily connect with other health care entities in the State of Georgia, and the nation, through the Nationwide Health Information Network (NHIN). The goal and vision of this strategic initiative, which includes secure, private, interoperable health information exchange, is indeed a goal that we have in common. ChathamHealthLink, the Health Information Exchange for The Chatham County SafetyNet Planning Council, will be an enthusiastic supporter of your vision and goals.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

We also value the possibilities that can emerge through this relationship, and look forward to working with citizens and stakeholders across the State of Georgia.

Sincerely,

Patricia A. Lavely
Sr. Vice President and CIO
Chair, ChathamHealthLink IT Consortium

SAINT JOSEPH'S

5665 Peachtree Dunwoody Rd. • Atlanta, GA 30342
www.saintjosephsatlanta.org
A member of Catholic Health East, sponsored by the Sisters of Mercy

August 26, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure for me to announce Saint Joseph's Health System's support for the Georgia Statewide Health Information Exchange (GSHIE). As a leading healthcare provider, it is a privilege to be a part of this outstanding project. The goals and objectives of the project are aligned with Saint Joseph's. We share the same vision of improved health care outcomes, improved process efficiency, and strategic access to health care information.

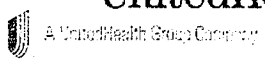
Saint Joseph's supports the collaborative relationships that will emerge as a result of this innovative effort. We are sure that new positive relationships will be developed with critical stakeholder organizations. In addition, we look forward to improved "meaningful use" possibilities that will converge as Saint Joseph's and our 850 doctors participate within GSHIE.

We look forward to many HIE related partnership, including that with DCH, toward the private, secure, interoperable "network of networks" – and the synergy and countless possibilities that will certainly be enabled by this outstanding effort.

Sincerely,

Kirk G Wilson, FACHE
President/CEO
Saint Joseph's Health System
Saint Joseph's Hospital, Atlanta
Saint Jospeh's East Georgia, Greensboro, GA

UnitedHealthcare®



Richard A. Elliott
3720 DaVinci Ct Suite 300
Norcross GA 30092
Tel 770 613 4798 Fax 877 940 1995

August 26, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

On behalf of UnitedHealthcare (UHC), I am pleased to support Georgia's planning for statewide Health Information Exchange. UnitedHealthcare looks forward to building on the critical stakeholder relationship that exists today with the Georgia Department of Community Health and to enhancing our existing collaboration to produce beneficial outcomes for both our organizations.

UnitedHealth Group has a strong history of engaging with market-based health information exchange collaboratives through UnitedHealthcare, our commercial insurance company. These engagements include existing health information exchange projects of UnitedHealthcare such as CareSpark (Southeastern Tennessee and Western Virginia), Indiana Health Information Exchange, CORHIO, as well as planning underway in many other states. Nationally, we are working on many levels to develop and implement standard data sets and interoperable information systems to speed adoption of health information exchange, as well as standard measures to objectively determine long term impact on quality and value. We use our experience thoughtfully to advance projects that have the possibility of improving and reducing the cost of care.

We have looked forward to an opportunity to help develop the Statewide Health Information Exchange Project in Georgia. The creativity, innovation, and leading-edge systems and processes that will become a part of the new architecture will provide new opportunities for data sharing, health care research, and myriads of other critical factors that will positively impact patient outcomes and reduce health care costs.

We value the partnership that is associated with this endeavor. The emerging "network of networks" will enable an infinite set of possibilities. We look forward to this very positive journey and to enhanced opportunities that will emerge that enable positive outcomes for the citizens of Georgia.

In Partnership,

Richard A. Elliott
President & CEO
UnitedHealthcare of Georgia

Georgia

GEORGIA DEPARTMENT OF CORRECTIONS
OFFICE OF HEALTH SERVICES
2 MARTIN LUTHER KING JR. DR., S.E.
SUITE 952 EAST TOWER
ATLANTA, GEORGIA 30334-4900
PHONE: 404/656-6538
FAX: 404/463-1861

Sonny Perdue
Governor

Brian Owens
Commisioner

August 25, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

As a Health Information Exchange Organization, it is with optimism that I announce our support for the Georgia Statewide Health Information Exchange. The collaborative private, public partnership will be a value-added entity that can bring positive benefits for the economic and business community in Georgia.

We value the opportunity to more easily connect with other health care entities in the State of Georgia -- and the nation -- through the Nationwide Health Information Network (NHIN). The goal and vision of this strategic initiative, which includes secure, private, interoperable health information exchange is indeed a goal that we have in common.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

We also value the possibilities that can emerge through this relationship -- and look forward to working with citizens and stakeholders across the State of Georgia.

Sincerely,

Wesley O. Landers
Healthcare Administrator
GDC Office of Health Services

Praveen Chopra
Children's Healthcare of Atlanta
1639 Tullie Circle, NE
Atlanta, GA 30329

1639 Tullie Circle NE
Atlanta, Georgia 30329
www.choa.org

August 20, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

Dear Ms. Carr:

It is a pleasure to share our support for the Georgia Statewide Health Information Exchange. As the largest provider of pediatric services in the state of Georgia, this initiative is of the utmost importance to our organization. The goals and objectives of this initiative are aligned with those of our organization, relating to overall HITT issues. In addition, the vision for improved health care outcomes, improved process efficiency, and strategic access to health care information seems consistent between our organizations.

It is our hope that the services that will be enabled through the strategic, secure, interoperable "network of networks" – throughout the State of Georgia – will empower the economy and make life better for Georgia stakeholders and citizens. In addition, we see tremendous value in the creation of the collaborative relationships that will emerge as a result of this innovative effort.

We value the relationship and look forward to working with you and other health information exchange organizations through seamless, efficient process integration.

Sincerely,

Praveen Chopra
Chief Information Officer

Worldwide Public Affairs and Policy
Pfizer Inc
325 7th Street, NW, Suite 1200
Washington, DC 20040
Tel 202 783 7070 Fax 202 347 2044
Email melissa.bishop-murphy@pfizer.com

Melissa Bishop-Murphy
Senior Director
National Government Relations
Multicultural Affairs

August 25, 2010

Ruth A. Carr
Senior Deputy General Counsel
State Health Information Technology Coordinator
Georgia Department of Community Health
2 Peachtree Street, NW - 40th Floor
Atlanta, Georgia 30303-3159

RE: Letter in Support of Georgia Statewide Health Information Exchange

Dear Ms. Carr:

I am thrilled to write this letter of support for Georgia's Health Information Exchange Strategic and Operational Plan ("Georgia Plan") on behalf of Pfizer, Inc.

The Georgia Plan is very inclusive and seeks to coordinate health information technology ("HIT") across the State. The primary strength of the Pan is that it allows various stakeholders, like Pfizer, and other constituents in Georgia to participate in the process of the development of the health information network. This will allow HIT programs to be established with the best care of the patients in mind in an open and neutral platform.

As health care providers take advantage of this opportunity, it is imperative that the HIT infrastructure protects patients, physicians and their access to health care. Georgia's Plan focuses on designing a network that is responsive to the individual HIT needs of Georgia's communities which will allow for that protection.

In addition, the Department of Community Health has put together an Office of Health Information Technology Transparency work team that will be responsible for creation of the interoperable statewide health information exchange. This team is another important piece of the puzzle to bring health information technology to the forefront in Georgia.

Pfizer supports the Georgia Plan and looks forward to working with the Department of Community Health and other stakeholders to help eliminate health disparities and improve the quality of patient care through the use of health information technology.

Sincerely,

Melissa Bishop-Murphy

Melissa Bishop-Murphy, Senior Director

APPENDIX E: Georgia's HIT Landscape

The Georgia statewide HIE will benefit from, and contribute to, a business environment in Georgia that is particularly focused on HIT. The leaders of the Georgia statewide HIE look forward to working with HIT industry leaders for the benefit of the HIE and believe that, as demonstrated below, Georgia is in a position to become the HIT capitol of the United States.

Impact of economic clusters

"Geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field, such as health care information technology are considered to increase the productivity with which companies can compete, nationally and globally. Clusters typically impact competition within a given market in the following ways…" [1]

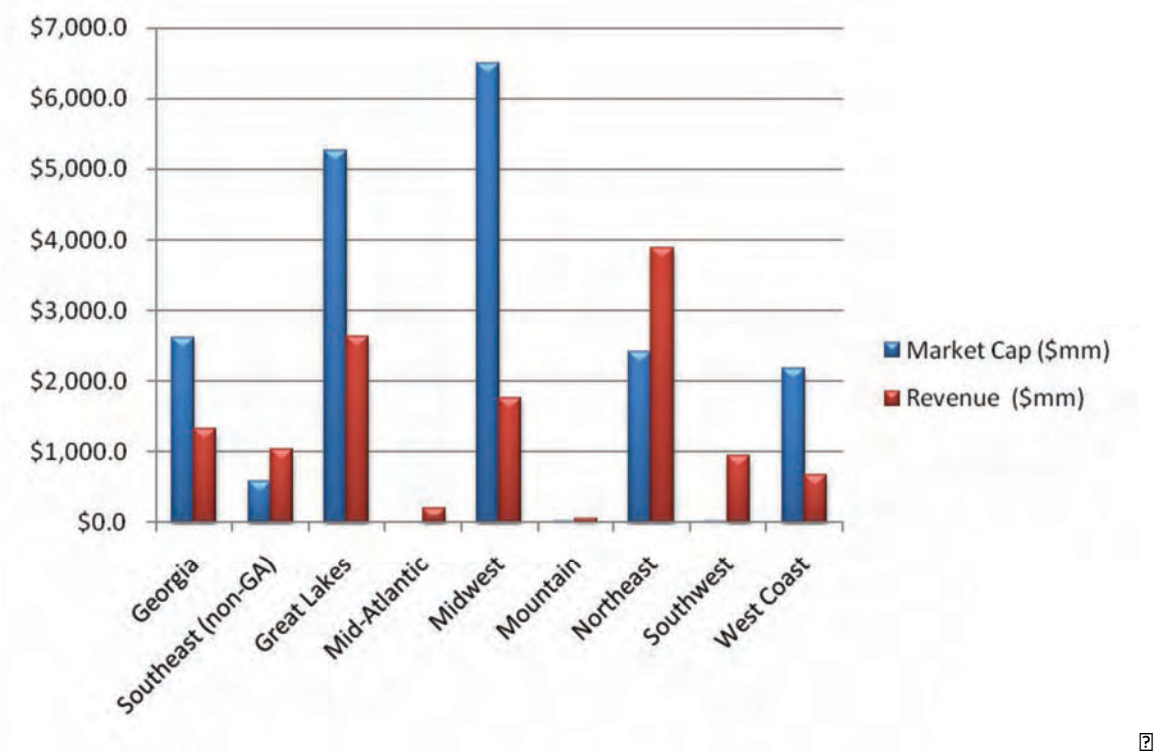
- Increasing productivity of companies involved
- Driving innovation within industry / sector
- Stimulates new businesses within the field

Geographical / Regional clusters emerge when …

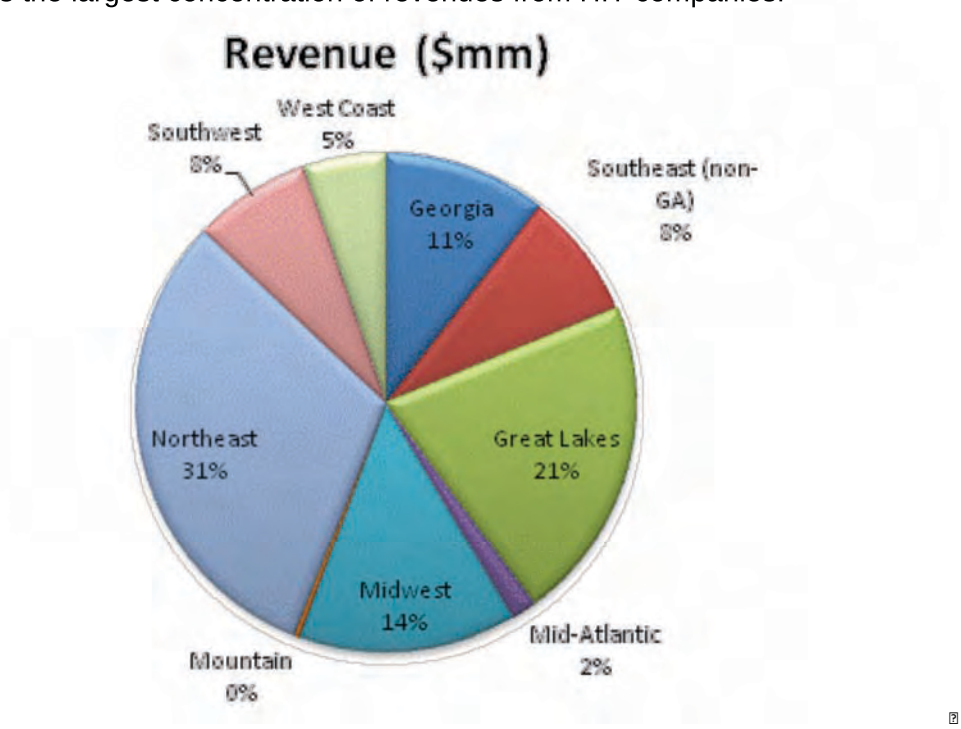
- There are enough resources and competences amassed to reach a critical threshold;
- The cluster represents a key position in a given economic branch of activity;
- There is a decisive sustainable competitive advantage over other places, or even a world supremacy in that field.

[1]Michael Porter (*The Competitive Advantage of Nations,* 1990).

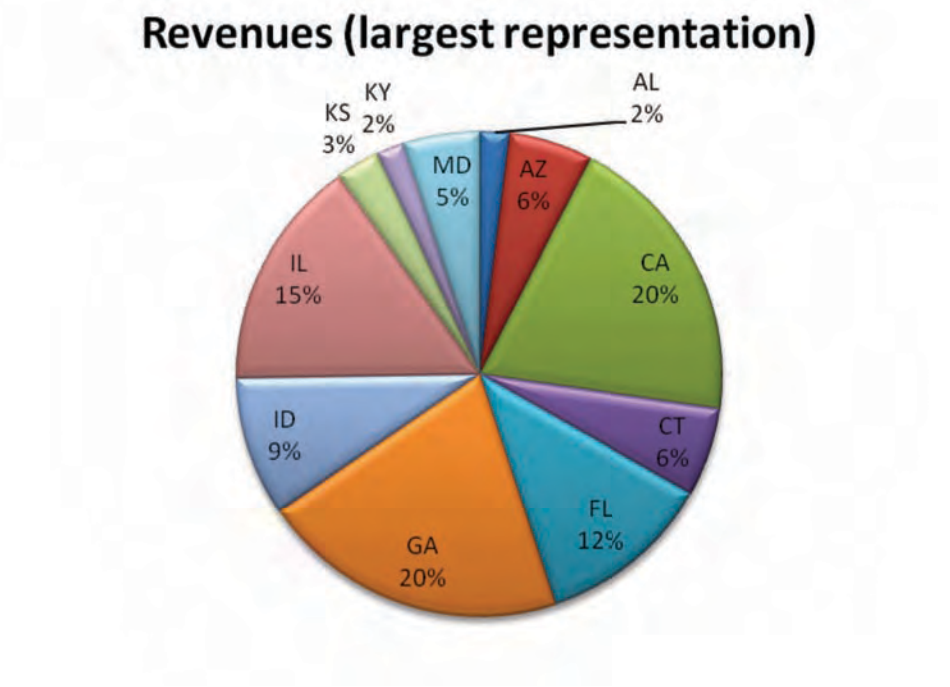
The value of Georgia's HIT industry compared with entire regions:



Georgia represents the largest concentration of revenues from HIT companies:



Twenty percent of the largest publicly-traded HIT firms are based in Georgia:



As a region, Georgia ranks 3rd in terms of market cap and 4th in revenues. As a state, Georgia comprises the most market cap and revenues among US-based HIT companies. None of these data points account for or include those companies with headquarters outside of Georgia but with significant operations (and revenues) in the State. This also does not include smaller growth companies, startups, incubation-stage companies, academic and government affiliated entities.

Market Cap	Rank
Midwest	1
Great Lakes	2
Georgia	3
Northeast	4
West Coast	5
Southeast (non-GA)	6
Southwest	7
Mountain	8
Mid-Atlantic	9

Revenue	Rank
Northeast	1
Great Lakes	2
Midwest	3
Georgia	4
Southeast (non-GA)	5
Southwest	6
West Coast	7
Mid-Atlantic	8
Mountain	9

Over $25 billion market cap concentrated in Georgia. Over $35 billion in revenues allocated to HIT in Metro Atlanta area. Approx. 18-25% of HIT revenues and over 80% of all health care industry revenues

By these measures, Georgia is the HIT capital of the U.S. Georgia ranks as the No. 1 for health care IT company revenues according to the HCI-100. Headquarters for four of the top 25 HCI-100 companies are in Georgia . The Healthcare Information and Management Systems Society (HIMSS), the world's largest Health care IT organization, originated in Atlanta at Georgia Tech. Leading universities – Georgia Tech, Emory University, Georgia State University, Morehouse School of Medicine and nearby University of Georgia are among the nations leaders in

bioinformatics. A recent research study he results showed that the Georgia-based HIT sector employs some 10,000 people in the state, a statistic calculated by Brani Vidakovic, Professor in the School of Biomedical Engineering at Georgia Tech. They also revealed that the sector's primary businesses are growing at a 40 percent rate; 57 percent of the firms anticipate expanding over the next two years, with 75 percent expecting to add Georgia-based employees. More than a dozen enterprises have been acquired by larger firms in recent years.

APPENDIX F: An Epicenter for Health Information Technology

[Attached]

ATLANTA

The Nation's Healthcare IT Capital

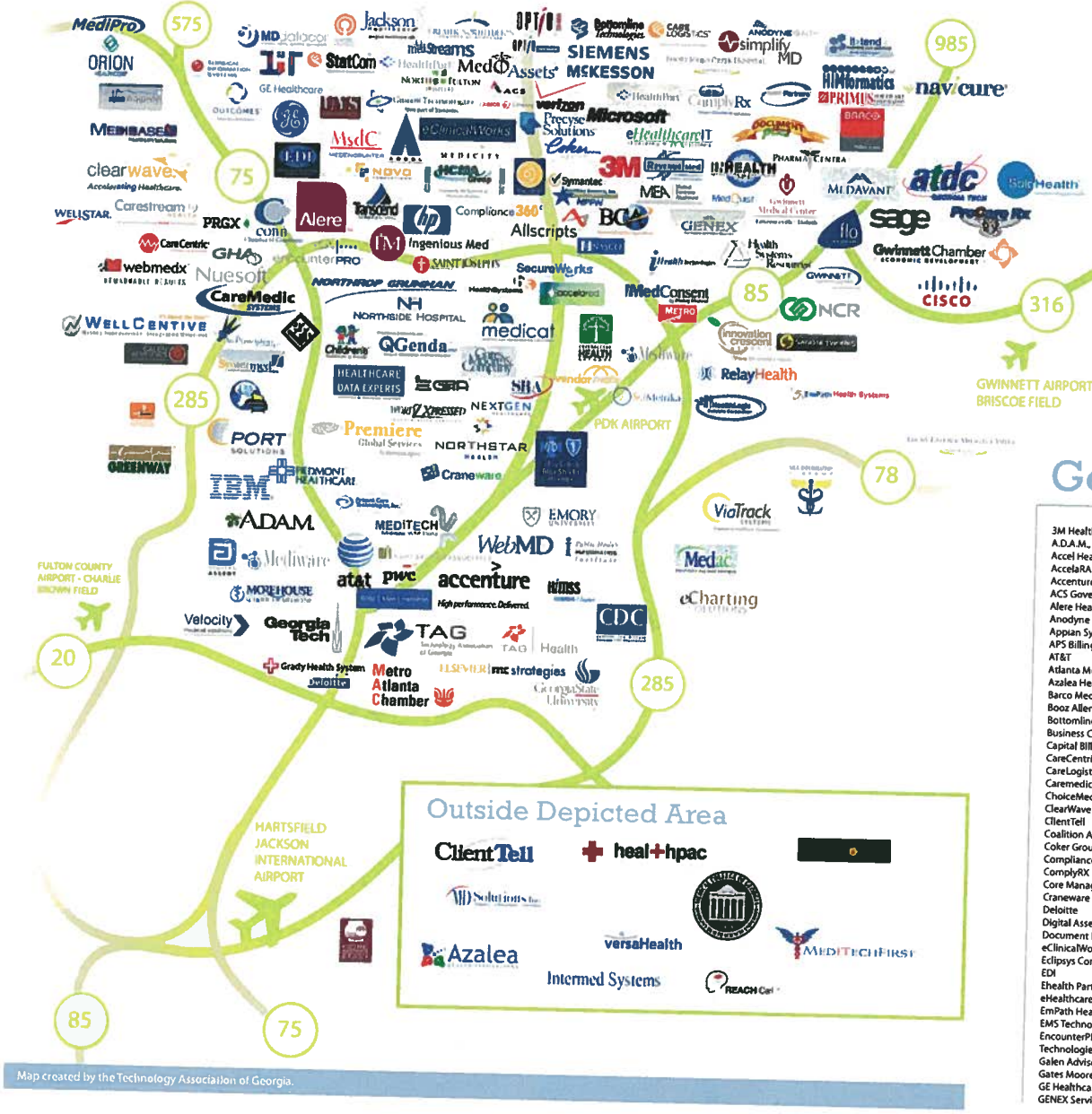
Atlanta is often referred to as the healthcare information technology (HIT) capital of the U.S., and is at the forefront of consumer digital health. There are more than 135 healthcare IT companies in Georgia and that number continues to rapidly rise. Atlanta-based companies include McKesson Technology Solutions, ranked as the world's largest by *Healthcare Informatics* in their annual HCI-100 List.

According to the magazine's survey, Atlanta companies have the highest cumulative revenues of any state in the nation, totaling more than $4 billion.

This notable achievement is due to the vast assets of the city's numerous HIT corporations, served and supported by the diverse resources of Georgia academic institutions and healthcare providers. Another vital component of the city's strength is the highly trained professional HIT workforce provided by nationally prominent universities and medical schools, technical colleges and other training programs throughout Georgia.

THE HCI 100 LIST (Georgia-based companies)

rank	company
1	McKesson Technology Solutions
13	Eclipsys (Allscripts)
26	MedAssets, Inc.
30	HealthPort Technologies, LLC
65	Greenway Medical Technologies, Inc.
71	Webmedx, Inc.
79	Surgical Information Systems
83	Navicure, Inc.
96	The Coker Group



Georgia Healthcare IT

3M Health Information Systems
A.D.A.M., Inc.
Accel Healthcare Resources LLC
AccelaRAD (formerly Neurostar)
Accenture
ACS Government Healthcare LLC (a Xerox company)
Alere Health LLC (formerly Matria Healthcare)
Anodyne Health
Appian Systems
APS Billing
AT&T
Atlanta Medical Dictation
Azalea Health Innovations, Inc
Barco Medical
Booz Allen Hamilton
Bottomline Technologies (formerly Optio Software)
Business Computer Applications
Capital Billing Services
CareCentric, Inc.
CareLogistics
Caremedic
ChoiceMed
ClearWave
ClientTell
Coalition America
Coker Group/Coker Technology
Compliance 360
ComplyRX
Core Management Resources Group
Craneware
Deloitte
Digital Assent
Document Plus Technologies inc.
eClinicalWorks
Eclipsys Corporation (Allscripts)
EDI
Ehealth Partners Inc
eHealthcareIT
EmPath Health Systems
EMS Technology Solutions
EncounterPRO Healthcare Resources (formerly JMJ Technologies)
Galen Advisors
Gates Moore & Co
GE Healthcare
GENEX Services inc
Georgia Medical Care Foundation
Greenway Medical Technologies inc.
Health Systems Resources
Healthcare Data Experts
HealthLogic Systems
HealthNovation
Healthpac Computer Systems Inc
HealthPort Technologies
HealthSystems
Himformatics LLC
Ihealth Technologies Inc.
Imedconsent LLC (Dialog Medical)
Info Pro Group
Ingenious Med
Inhealth Record Systems
Interactive Health Network LLC
Intermed Systems Inc
InterMetro Industries Corp. / Metro Flo
ITXtend
Jackson Healthcare Solutions
Kurt Salmon Associates
Maestro Strategies
MC Strategies
McKesson Provider Technologies
MD Datacorp Inc
MD Solutions Inc
Med Easy Software
Medac Inc.
MedAssets, inc.
MediBase Healthcare Solutions
Medical Asset Management
Medical Billing SVC
Medical Electronic Attachment
Medical Management Associates Inc
Medical Systems Development Corp.
Medical Transription Associates
Medicat
Medipro
Meditech (formerly Patient Care Technologies Inc)
Mediware (formerly SciHealth)
MedQuist
Microsoft Greater South East District
NASCO
NA-Technologies
Navicure
nextFrequency
NextGen Healthcare
North Star Health
Northrop Grumman
Novo Innovations
Nuesoft Technologies
Oliver F Cobb & Associates LLC
Orion HealthCorp, Inc.
Outcomes Health Information Solutions
PharmaCentra LLC
Philips Healthcare
PracticeWorks
Precision Software
Precyse Solutions
Premiere Global Services
PRGX
PricewaterhouseCoopers
Primus Software Corporation
Procare RX
REACH Call, Inc.
RelayHealth
RevenueMed
Sago Networks
Sainice
Scimetrika
SecureWorks Inc
Siemens Healthcare
Silk Information Systems
SimplifyMD
SoloHealth
SRA International
Surgical Information Systems
Symantec
Syntermed
The Poseidon Group, inc.
Transcend Services, Inc.
UYS Inc
Velocity Medical Solutions
VendorMate
VersaHealth
ViaTrack Systems
Web MD
Webmedx
Wellcentive
WiFi Med Holdings Company
Wordzxpressed Inc

Strong Growth in Atlanta's HIT Sector

According to a recent study, the Georgia-based HIT sector employs some 15,000 people in the state and the sector's primary businesses are growing at a 40 percent rate. Of companies included in the study, 57 percent anticipate expanding over the next two years, with 75 percent expecting to add Georgia-based employees. More than a dozen enterprises have been acquired by larger firms, further boosting capital investment in Georgia.

Georgia companies have the highest cumulative revenues of any state in the nation according to the *Healthcare Informatics* HCI 100 list. Metro Atlanta claims scores of small and medium-sized product and services companies, many tracing their heritage to the early industry pioneers that invested in and grew their firms in the Atlanta technology community.

Workforce Development

Nearly half a century ago, a group of HIT pioneers at the Georgia Institute of Technology formed the organization that would become the Healthcare Information and Management Systems Society (HIMSS). The mission of the group: improving patient services and reducing healthcare costs.

Today, Georgia Tech continues to provide leadership and education in developing HIT systems, and has been joined by resources statewide, including Emory University, Georgia State University, the University of Georgia, Georgia Health Sciences University and Morehouse School of Medicine. The Technical College System of Georgia has created programs to educate and train HIT professionals.

Building on Atlanta's Strengths

Atlanta is among the fastest growing technology metro areas in the nation, with 13,000 technology companies employing nearly 200,000 technology workers. And the potential for new growth is stellar. With a solid base of software, Internet, medical device, vaccine development and telecommunication companies and more than 20 incubators, Atlanta is a hotbed for innovation and a hatchery for new technology startups.

The city's bioscience community is equally active, and has grown substantially since being ranked #6 nationwide by Ernst & Young in 2006. Atlanta benefits from the headquarters presence of national and global organizations including the Centers for Disease Control and Prevention (CDC), American Cancer Society, the Arthritis Foundation and CARE.

As attention to healthcare IT escalates, Atlanta has unmatched talent, corporate strength, university expertise and a rich history in HIT. Facilitating growth of existing and relocating companies is the collaboration between entities committed to enhancing the city and state's growth, which includes the Georgia Department of Economic Development, the Metro Atlanta Chamber and the Technology Association of Georgia.

Georgia®
www.georgia.org

Metro Atlanta Chamber
www.metroatlantachamber.com

TAG Technology Association of Georgia
www.tagonline.org

© All Rights Reserved Metro Atlanta Chamber 2010. (v1-110910)

APPENDIX G: Georgia Farmworker Health Program

Overview of GFHP

The Georgia Farmworker Health Program (GFHP) is a state based Migrant Voucher Program that was established in 1990 to improve the lives, health and health status of Georgia's migrant and seasonal farmworkers by providing cost effective, culturally appropriate primary health care services. The GFHP is in its 19th year of providing health care services to Georgia's MSFW population. The GFHP is housed within the Georgia Department of Community Health, State Office of Rural Health (DCH/SORH). Being a Migrant Voucher Program the **GFHP is not a typical community health center model**, it is comprised of various health care agencies that utilize a combination of a nurse practitioner model and a voucher program model to provide direct primary health care and preventive health services through six project sites in Central and South Georgia covering 21 rural counties. **The six (6) clinic sites consist of two health department based clinics; one hospital based rural health clinic, two community health centers, and one freestanding migrant clinic.**

Migrant and Seasonal Farmworkers (MSFWs) face significant barriers to accessing primary health care services. This often leads to crisis management of health conditions and costly trips to the emergency room. GFHP is committed to breaking down those barriers. GFHP strives to insure that Georgia's MSFW population continues to have affordable and culturally appropriate access to health care services by employing bilingual staff, providing hours of service convenient to them and by arranging for other levels of health care through collaboration and advocacy to workers and their families.

The Uniform Data System (UDS) Report for 2008 shows GFHP registered 20,145 MSFW patients into the program, administered care to 13,630 medical users with 19,537 medical encounters, 852 dental encounters and 22,470 enabling encounters. The 2008 UDS Trend data shows that the GFHP continues to be the most cost effective Voucher Program when compared to the other twenty (20) Migrant Voucher Programs in the US in that the average cost per medical user is $194.00.

GFHP Tracking System – A Creative and Resourceful Foundation

The Georgia Department of Community Health/State Office of Rural Health (DCH/SORH) prepares annual Uniform Data Systems (UDS) reports to measure delivery and monitor health trends. In order to generate the reports, the Health Resources and Services Administration (HRSA) Bureau of Primary Health Care provided an application written in Microsoft Access. Most Farmworker Health Programs across the nation have a single location. GHFP has six locations spread across a large geographic region. Prior to the development and implementation of the Access Database program maintenance of data was a manual process where each clinic created a CD on a weekly basis of activity in their location. The clinics shipped the CD to the Office of Rural Health where the six databases were synchronized into a single local database.

In 2007, the SORH created a solution that allows **on-line access through an internet browser with secure authentication**. SORH owns the code for the application and therefore has **no on-going licensing costs**. SORH has been using the system for approximately two and a half years. The staff members at the clinics and the SORH have been very pleased with the ease of use and simplicity of the application. The state has saved time and money by eliminating the

cumbersome manual process of updating the database weekly. Real time reports are available to the individual clinics and the Office of Rural Health.

When an individual arrives at any of the six clinics, the registration process determines if the individual has been a patient in the system. If the individual has been a patient in the system, the clinic can easily obtain a record of the history of visits including International Classification of Diseases 9th edition (ICD-9) clinical modification codes, Current Procedural Technology (CPT) codes, and notes regarding the patient's history. The system allows for **billing to insurance and/or Medicaid and the individual**.

The system can easily generate various UDS reports for reporting and analysis. Reports may be generated by individual clinics for the services provided at that clinic or by the SORH for services provided at all locations.

Users of the system **require no specialized software or hardware** outside of an internet browser and access to the internet. Security is maintained by unique user id with password. The unique user id is assigned to groups which determine the level of access.

Alignment with ONC Principles and 2011 Objectives

The July 6, 2010 Office of the National Coordinator for Health Information Technology (ONC) Program Information Notice (ONC-HIE-PIN-001 – Page 2) pointed out that ONC, "will work with states to be **creative and resourceful**, identifying ways to use these critical but scarce resources to fill gaps in a thoughtful and reality-based way….. We encourage states to focus on targeted actions to **ensure that all eligible providers have options to meet meaningful use information exchange requirements."**

ONC further outlined six principles for work in health information exchange:

- Support privacy and security
- Focus on desired outcomes, especially meaningful use of EHRs.
- Support HIE services and adoption for all relevant stakeholder organizations, including providers in small practices, across a broad range of uses and scenarios
- Be operationally feasible and achievable, building on what is already working
- Remain vigilant and adapt to emerging trends and developments
- Foster innovation

The GFHP Tracking System is in alignment with these six principles. It operates through secure log-in. It focuses on desired outcomes in that it not only provides health information available for patients at **clinics across a large geographical region**, but it also provides valuable UDS reports to allow **health planning and trend monitoring**. It supports adoption for relevant stakeholder organizations across a **broad range of users including county health departments, regional hospitals, community health centers, rural health clinics and free standing clinics**. It is operationally feasible based on the proven track record of over two years of success and high utilization by SORH and diverse users in the GFHP. The fact that SORH took the initiative to develop the GFHP Tracking System is evidence of the commitment of SORH to **remain vigilant, adapt to emerging trends, and foster innovation**.

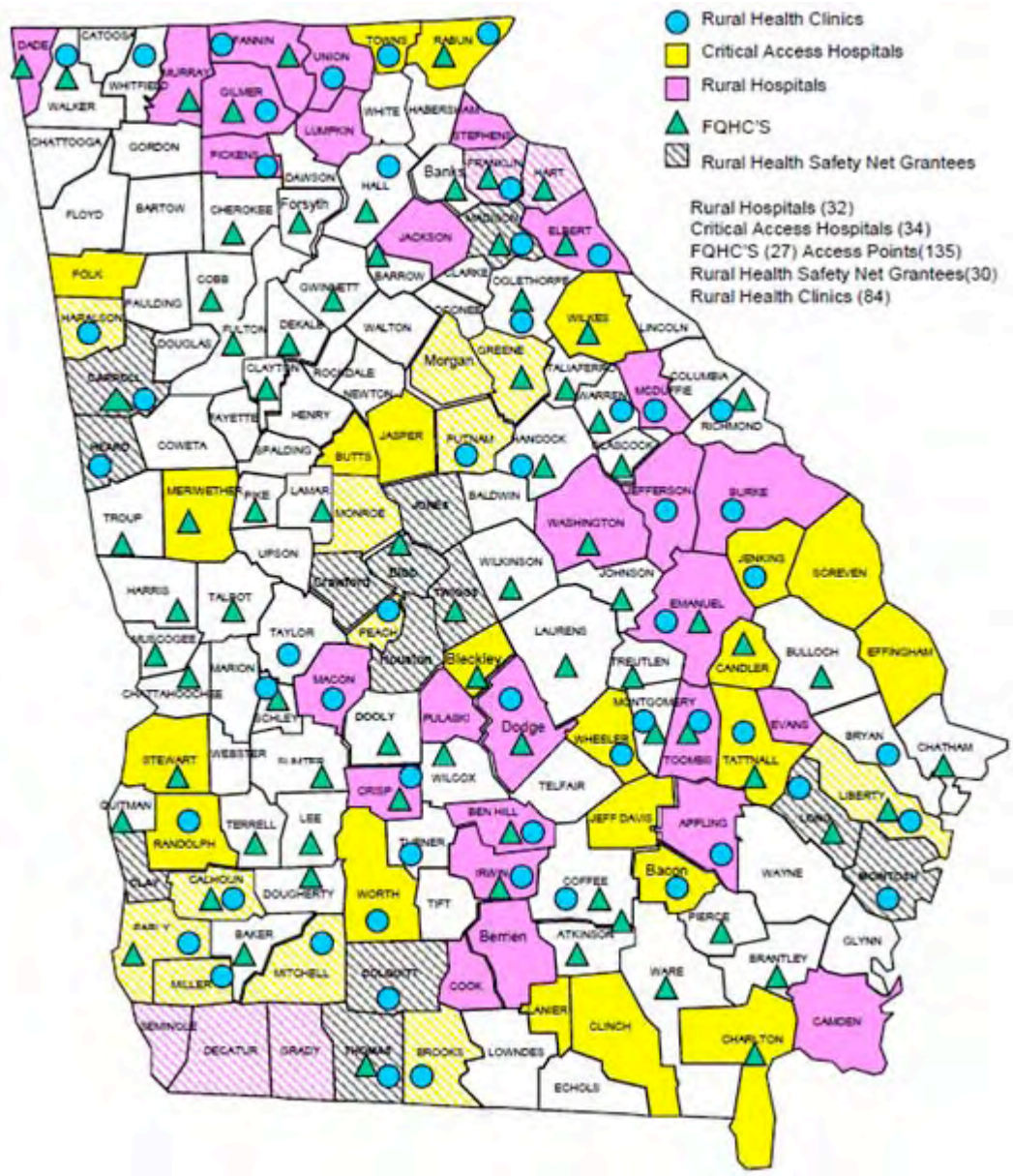
Strategy to Meet Meaningful Use

The GFHP is in a unique position to meet strategic goals toward meaningful use. It already coordinates the exchange of health information across unaffiliated organizations. The tracking system is utilized by two county health departments and could easily be expanded beyond the current uses for GFHP to include tracking and exchanging:

- Data on immunizations and other services provided by public health departments
- Lab results from public and private laboratories
- E-prescribing
- Expanded UDS reports to assist in health planning, notifiable diseases, and syndromic surveillance reporting

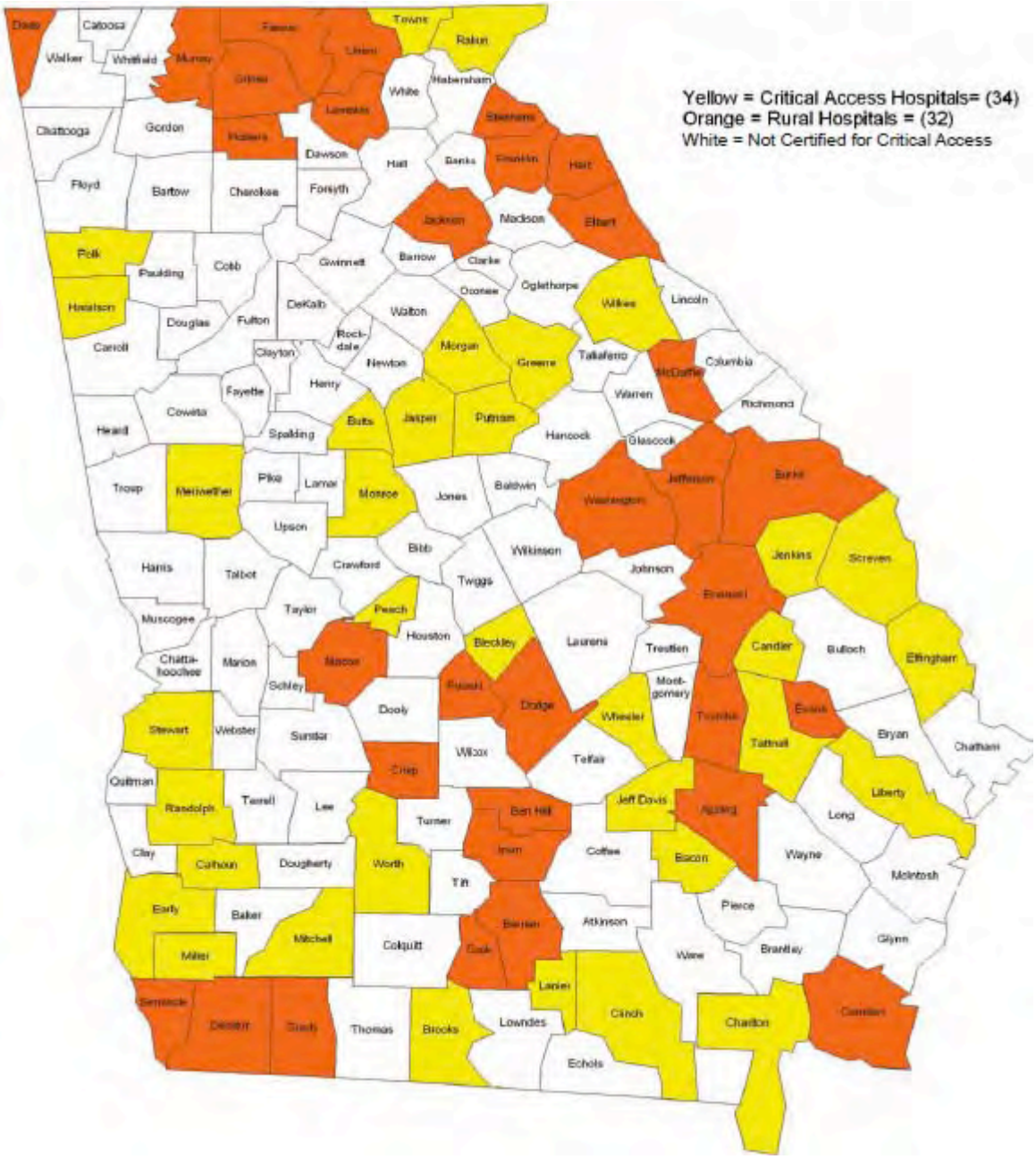
The expansion of the GFHP Tracking System is a sustainable and worthwhile partnership in the investment of funds under the State Health Information Exchange Cooperative Agreement Program. The system would meet the needs of not only the GFHP but also County Public Health Departments, rural health centers, community clinics, and small health providers in the public and private sector. The expanded system would provide an affordable alternative and meet the goal of assuring that "**all eligible providers have options to meet meaningful use information exchange requirements."** (ONC-HIE-PIN-001 – Page 2).

APPENDIX H: Map – Georgia Rural Hospitals, CAHs, and FQHCs



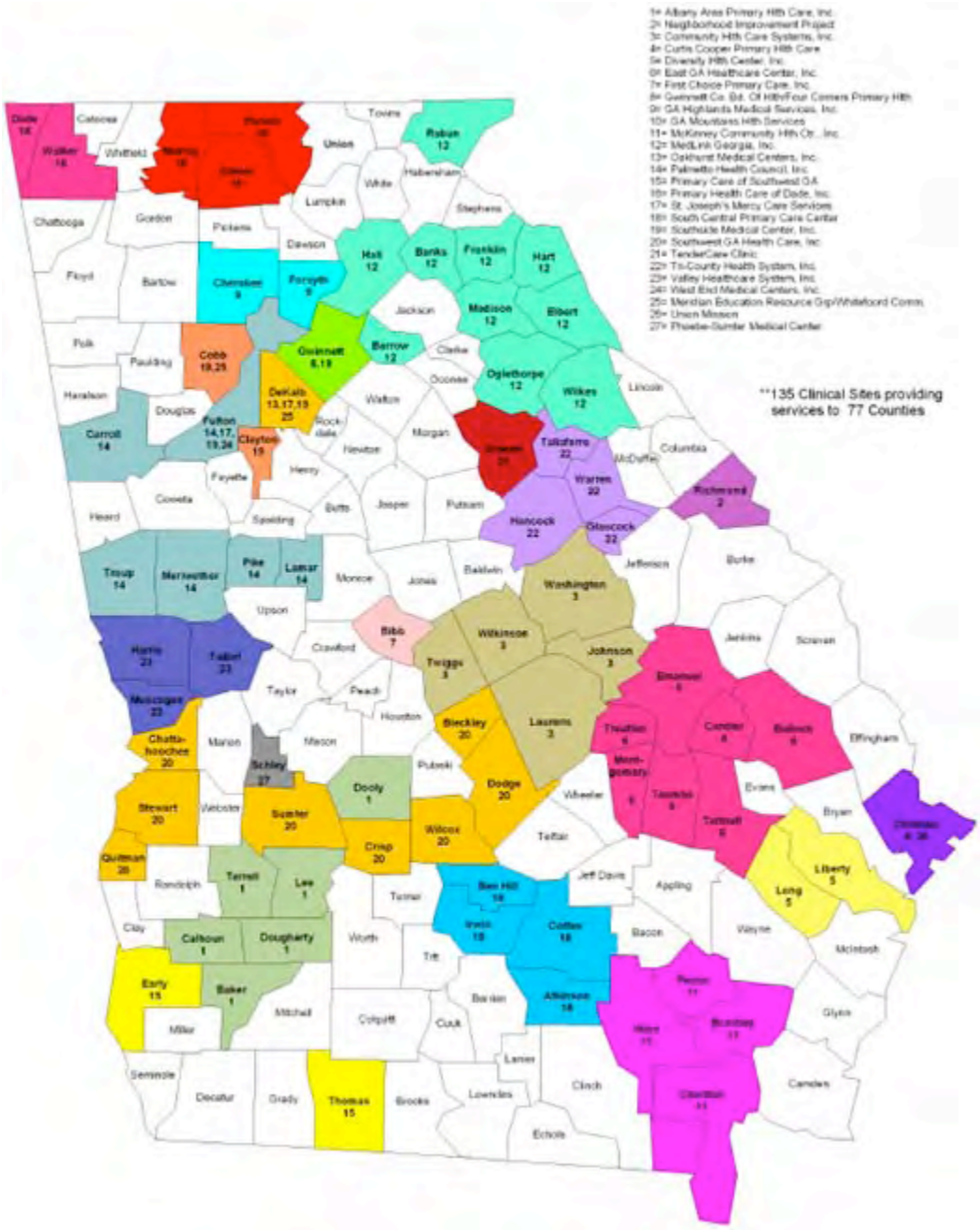
Georgia Department of Community Health
State Office of Rural Health
502 South 7th Street
Cordele, GA 31015
Ph: 229-401-3090
August 2010

APPENDIX I: Map – Critical Care Access Hospitals



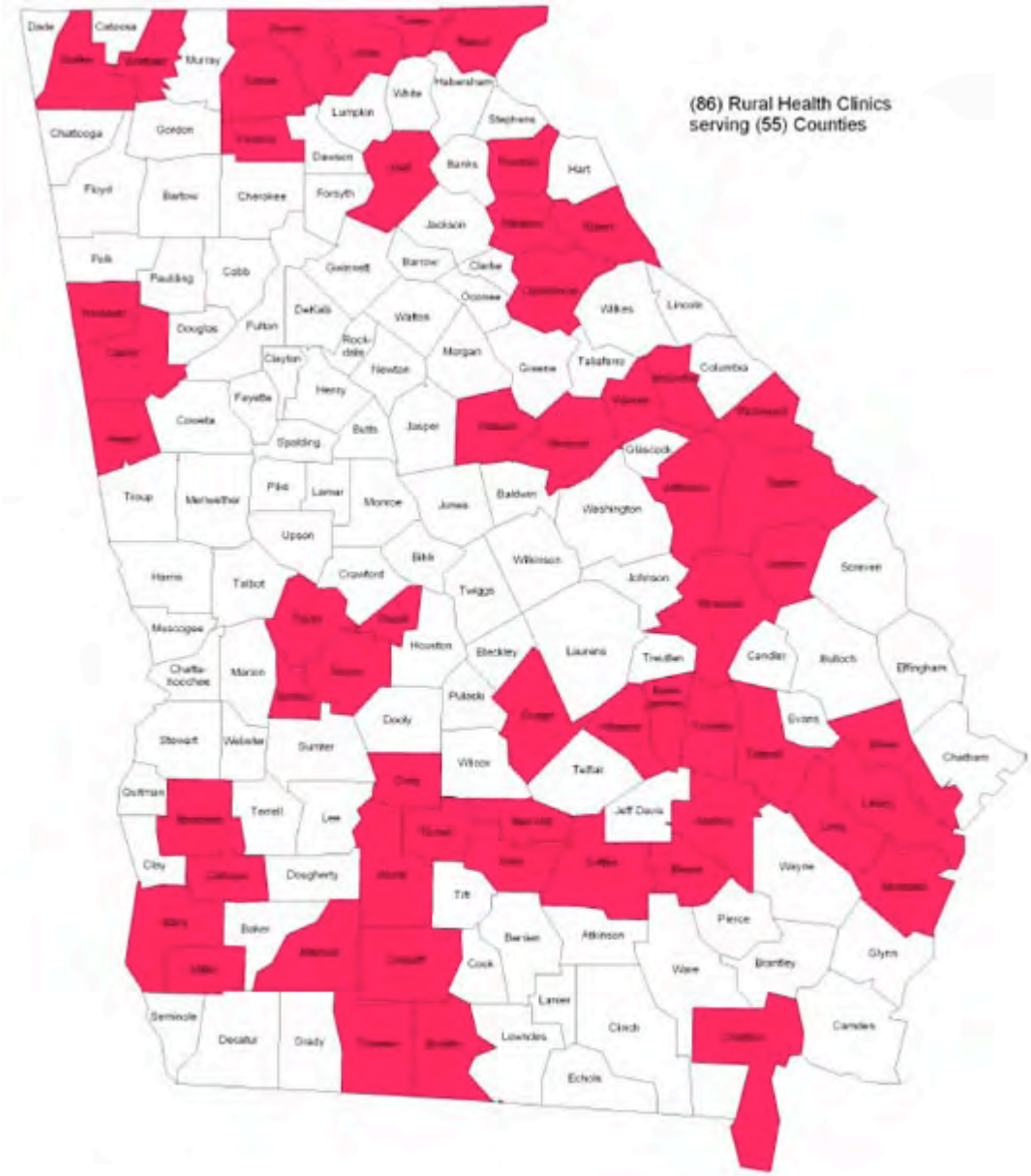
SORH
Georgia State Office of Rural Health

APPENDIX J: Map – Federally Qualified Health Center Sites in Georgia



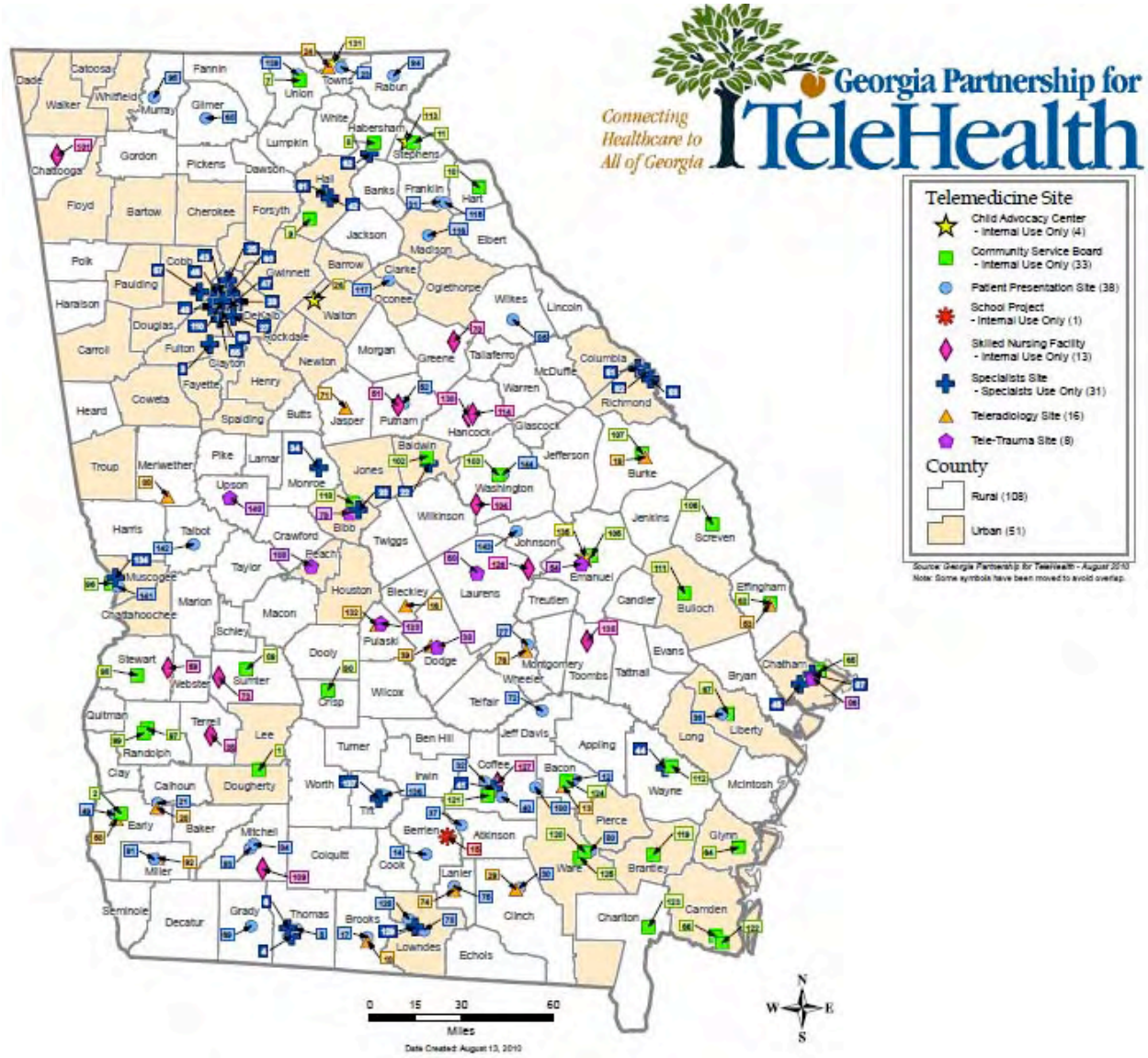
SORH
Georgia State Office of Rural Health

APPENDIX K: Map – Rural Health Clinics in Georgia



Source: http://167.193.144.216/
December 31, 2010

APPENDIX L: Map – Georgia Partnership for Telehealth



APPENDIX M: 11/5/2010 Supplement to the Georgia Statewide HIE Strategic and Operational Plans

SUPPLEMENTAL INFORMATION SUBMITTED ON NOVEMBER 5, 2010

After submitting the HIE Strategic and Operational Plans to the ONC on August 30, 2010, DCH obtained some additional information to supplement Section A, "Environmental Scan" of the Strategic Plan. This information serves to fill in areas identified in the gap analysis of the environmental scan. It also provides more specific information that aligns with the requirements of the Program Information Notice issued on July 6, 2010. With those purposes in mind, DCH submits the following additional information to the ONC.

SECTION A. ENVIRONMENTAL SCAN

Additional Information for Overview of Current HIE Activities in Georgia

As noted in the environmental scan previously submitted, Georgia has two large hospital systems that engage in the active electronic exchange of health data in multiple formats--Children's Healthcare of Atlanta and Piedmont Hospital. Outside of internal hospital systems like these and others, the active electronic exchange of health information in an HIE system between and among disparate organizations is relatively uncommon. The principal unaffiliated organizations that are currently engaged in HIE activity are as follows:

1. **The ChathamHealthLink IT Consortium,** formerly known as the Chatham County Safety Net Planning Council, Inc., is an active HIE. It exchanges health information electronically on a county-wide basis in Chatham County which encompasses the city of Savannah. This IT consortium is a non-profit organization whose partners include: the Chatham County Health Department; two federally qualified health centers: the Curtis V. Cooper Primary Health Care and the J. C. Lewis Health Center; volunteer medicine clinics: Community Health Mission and the two clinics associated with St. Joseph's/Candler Mission Services—St. Mary's Health Center and Good Samaritan. Two hospital systems, Memorial Health University Medical Center and St. Joseph's/Candler Health Systems are participating partners. Several community organizations and representatives from the City of Savannah and Chatham County are key participants on the Planning Council. The ChathamHealthLink IT Consortium is actively seeking additional partners to expand its HIE to other providers beyond the immediate Savannah area.

    a. Grants from DCH and the Health Resources and Services Administration provided start-up financing to Chatham HealthLink IT Consortium (CHL). This funding was combined with federal funding to J.C. Lewis Primary Healthcare Center (FQHC) to acquire and implement EHR technology. Memorial Health University Medical Center provided significant in-kind contributions of technical assistance to CHL. An ongoing business model is under development by CHL.

b. CHL selected Orion Health's Rhapsody Integration Engine, including the Catalyst Enterprise Master Patient Index, as the core architecture components. The Rhapsody Integration Engine provides secure patient data transmission via VPN to a central Oracle based clinical data repository (CDR). Data stored in the pilot configuration includes demographics, allergies and alerts, medications, encounter summary, medical history and lab orders and results. Authorized user access to the CDR is provided by Orion's Concerto Physicians' Portal.
c. The pilot project is transmitting patient data from J.C. Lewis' Healthport EHR and MUMC's Emergency Department's AllScripts EHR to the CDR.
d. CHL defined HL7 v2.4 as its interoperability standard.

As of October 29, 2010, 22% of the CHL member organizations were exchanging clinical laboratory results electronically across organizations (2 of 9). As of that same date, clinical summary exchanges were being sent electronically across organizations by 22% of the member organizations (2 of 9).

2. **The Central Georgia Health Network (CGHN)** is an HIE based in Macon, This HIE includes the Medical Center of Central Georgia and 450 physicians in an affiliated physician hospital organization engaged in data exchange involving approximately 130,000 patients. These 450 physicians are from 170 different medical practices. They communicate with each other through an electronic hub (Health Exchange). The Health Exchange is financed completely by physician practices. The Health Exchange uses nationally recognized standards and the majority of the doctors' offices use eClinicalWorks™ for an electronic ambulatory medical system.

a. CGHN consists of 450 physicians, Mercer University Medical School faculty and the Medical Center of Central Georgia. They established a Technology Committee to govern design, build and deploy CGHE.
b. CGHN is financed through subscription fees that are included in the participating providers' membership fees. There are two primary levels of membership: local members (members that are included in the clinical network) and regional members (members that use some of the services but are not fully integrated in the clinical network).
c. The Technical Committee and Governance Board chose eClinicalWorks Comprehensive Electronic Records Solution to support CGHN. Key components of the architecture include eEHX (to facilitate the electronic exchange of health information), EMR (an electronic medical record), a practice management system, and a patient portal. There are also 11 additional EMRs used within this architecture that support various members of the CGHN and their practices.
d. Most CGHN members are fully integrated into the provider network and are eClinicalWorks EHR users with full patient data integration via eEHX. Regional members and local members that are not eClinicalWorks EHR users (eleven

practices) have basic patient data exchange via secured messaging, including patient demographics and a Continuity of Care Record summary.

e. e-Prescribing is offered with connection to Surescripts. Laboratory orders and results reporting are offered through connections to the Medical Center of Central Georgia and major reference labs (e.g., LabCorp).
f. CGHN maintains a data warehouse that extracts data from eEHX for quality analytics and reporting.
g. One of the features of GCHN is its ability to provide a comprehensive Continuity of Care Record and a Continuity of Care Document.
h. CGHN is 100 percent physician financed.
i. CGHN is actively soliciting new members and is seeking to expand geographically across the state.
j. CGHN averages 1,124 electronic lab transactions per month and 5,796 e-prescriptions per month.

3. **The Georgia Association for Primary Health Care (GAPHC)** is an operational HIE that includes 26 FQHCs. GAPHC is a hub that includes two networks. The East Georgia HIE Network includes Community Health Care Systems, East Georgia Healthcare Center, and Tri-County Health System. The Urban Atlanta HIE connects West End Medical Center, Southside Healthcare, and Oakhurst Medical Centers. These organizations and the other FQHCs are supported by a central data center.

a. The GAPHC data center is located in Atlanta.
b. 16 of the 26 organizations use eClinicalWorks as their EHR product.
c. 4 of the 26 are in the process of EHR product transition.
d. Palmetto Health Council uses Misys as its EHR.
e. Curtis V. Cooper Primary Health Care is in the planning phase for possibly procuring a different EHR vendor.
f. Georgia Mountains Health Services uses EHS for its EHR.
g. MedLink Georgia uses NextGen as its EHR product.
h. A co-located data center located outside of Atlanta provides disaster processes and procedures for GAPHC.

All of the 26 FQHCs are electronically connected to the GAPHC Center Solution Data Center in Atlanta. The East Georgia HIE Network which connects Community Health Care Systems, East Georgia Healthcare Center, and Tri-County Health System is arguably a model for a rural primary care HIE.

4. **The Georgia Cancer Quality Information Exchange (GCQIE or the "Exchange")** is an HIE that actively exchanges quality metrics between unaffiliated organizations.[3] The Exchange is a quality reporting initiative of the Georgia Cancer Coalition to exchange clinical metric data, a groundbreaking activity intended to reduce cancer deaths and improve cancer patient treatment. By sharing quality metrics in the form of de-identified patient data, GCQIE is striving to: reduce

[3] The Georgia Cancer Coalition was the source of this detailed information. GCC provided this information to DCH on November 1, 2010.

variations costs and errors through standardization of workflows, disseminate current scientific and best practice knowledge, and assist with organizing optimal treatment planning. The Exchange uses 52 quality measures developed by an independent panel of scientific experts. The purpose of the Exchange is to facilitate "the design, access and retrieval of clinical information and public health data for the purpose of measuring the quality of cancer care, enhancing adherence to standards of care, and improving patient-centered care and outcomes through process change."

Participating providers are currently the John B. Amos Cancer Center of the Columbus Regional Healthcare System and the Harbin Clinic in Rome. These providers transmit monthly to the Exchange clinical and public health information through a robust application of electronic health records, health information exchange and portal technologies. The information comes from two primary sources, clinical data from medical records and cancer registries. Individual patient information is de-identified and the clinical data is aggregated for comparison to established benchmarks and other targets. Data exchange occurs between the participating providers (clinical and public health information) and the Georgia Cancer Coalition.

The Exchange is collecting and aggregating clinical and public health data including:

(1) Patient demographics – name, date of birth, patient identification number, address, phone number, social security number, gender, ethnicity, and financial class.
(2) General clinical information – service date, service location, diagnosis code, diagnosis date and time, procedure code, discharge date, and discharge disposition.
(3) Specific clinical information – smoking status, smoking advice given, pharmacotherapy offered, height, weight, body mass index, pain assessment status, pain level, clinical trial status, and reason for clinical trial rejection, if applicable.
(4) Cancer specific clinical information (patient pathologies) – tumor site, cancer diagnosis date, first date of treatment, first date of chemotherapy, first date of surgical procedure, first date of radiation therapy, surgical procedure treatment indicator, pathology report ID, stage of disease, date of pathology staging, date of clinical staging, clinical state of disease, class of case, and number of nodes examined.
(5) Other information – cancer survival rates and cancer mortality rates (breast, prostate, lung, and colorectal).

<u>Public health data:</u>

(1) Cancer incidence rates (breast, prostate, lung and colorectal); and
(2) Cancer screening rates (breast and colorectal).

The Exchange's technology platform is built upon (the NOVO grid from Medicity, Inc.) and has the capacity to be expanded to incorporate the exchange of patient care summaries and real-time test results, including lab results. Because quality reporting has been the focus of the Exchange, the Georgia Cancer Coalition has not engaged Medicity to deploy all the technology's capabilities. According to the Georgia Cancer Coalition, Medicity has existing

customer relationships with nine hospital systems which equates to 16-17 individual facilities in Georgia. As a result, interfaces with electronic medical records that would be necessary to pilot the technology enhancements for a full exchange of patient care summaries and lab results have already been created.

One of the participating providers in the Exchange, the Harbin Clinic, exchanges clinical information with community hospitals in Rome, Georgia. Floyd Medical Center, Redmond Regional Medical Center, and the Harbin Clinic are connected to each other via fiber-optics for the purpose of sharing access to various systems, including radiology Picture Archiving Communication Systems (PACS), cardiology PACS, dictation provider EMRS, etc. via a "hub and spoke" configuration in a co-location facility through a local fiber optic provider.

Further plans are currently underway to expand the scope of health information being exchanged. The Georgia Cancer Coalition is working to increase the number of participating providers.

Clinical Laboratories Sending Results Electronically

The exchange of laboratory information electronically is a major component in the success of an HIE. Electronic lab orders and results delivery inevitably will lead to more efficient and better health care for all Georgians.

Georgia has 7,307[4] Clinical Laboratory Improvement Act (CLIA) recognized laboratories. Of these 437[5] are CLIA accredited and an additional 736 labs are CLIA compliant. Approximately 94[6] percent of these labs are part of physicians' offices, single hospitals, hospital systems, university systems or government. The state has three public laboratories.

The remaining 6 percent of laboratories in Georgia are independent labs. Four independent laboratories have approximately 75 percent of all independent laboratory business in Georgia. These are: Quest Diagnostics, Inc., Laboratory Corporation of America, Inc., Bioreference Laboratories, Inc., and Pathology Laboratories, Inc. These four laboratory companies are currently sending laboratory results electronically. DCH anticipates that facilitating the electronic exchange of clinical laboratory results represents an opportunity for expansion. As a result of increased EHR use, these exchanges should occur more frequently. DCH expects the electronic clinical laboratory statistics to mirror the EHR adoption rates in Georgia. In a recent report submitted to DCH, the Enterprise Innovation Institute estimated that 36.17% of all physicians in Georgia have EHRs with electronic laboratory transmission capabilities.

DCH Division of Public Health Laboratory Program

[4] www. hhs.cms.gov; CLIA Laboratory Demographic Information Reports.
[5] Ibid.
[6] Ibid.

The DCH Division of Public Health Laboratory Program of DCH is actively involved in confidential clinical and non-clinical laboratory testing. The Georgia Public Health Laboratory provides screening, diagnostic and reference laboratory services through county health departments, public health clinics, physicians and other clinical laboratories, hospitals, and state agencies.

Currently, all health departments in Georgia (100 percent) receive immunization, syndromic surveillance, and notifiable laboratory results electronically.

Georgia Pharmacies and E-Prescribing

Although DCH included information from Surescripts in the August 30, 2010 version of Section A, it is supplementing that information with additional data from Surescripts and the Georgia Pharmacy Association. According to Surescripts' analysis in 2009, Georgia's 2009 national "Safe-Rx" ranking was 26.[7] Surescripts tallied the total number of prescriptions being routed electronically for each of the years, 2007, 2008, and 2009. According to Surescripts' "Georgia Progress Report on E-Prescribing," the total number of prescriptions routed electronically in 2007 was 326,067; in 2008, it was 1,177,568, and in 2009, it was 4,481,480.[8] These statistics reflect steady progress in the movement toward the increased use of e-prescribing. By Surescripts' calculations, in 2009, 8% of all eligible prescriptions were routed electronically. These numerical totals appear below.

TOTAL NUMBER OF PRESCRIPTIONS ROUTED ELECTRONICALLY:

2007	326,067
2008	1,177,568
2009	4,481,480

PERCENT OF ELIGIBLE PRESCRIPTIONS ROUTED ELECTRONICALLY:

2007	2%
2008	6%
2009	8%

PERCENT OF PRESCRIPTIONS REPRESENTED BY RENEWAL RESPONSE:

2007	24.32%
2008	24.69%
2009	20.43%

[7] www.surescripts.com/about-e-prescribing/progress-reports/state.aspx?state=ga&x+
[8] Id.

In addition, the report by Surescripts indicates that in 2009, approximately 17% of physicians in Georgia routed prescriptions electronically in Georgia.[9] Also, according to the Georgia Pharmacy Association, in 2009, 76% of all pharmacies in Georgia accepted electronic prescribing and refilled requests electronically.

[9] See id.

APPENDIX N: 3/16/2011 Supplement to the Georgia Statewide HIE Strategic and Operational Plans

The following information is submitted to the ONC, in response to the letter from the ONC dated March 1, 2011 that noted several positive aspects of Georgia's Statewide Health Information Exchange Strategic and Operational Plans and three issues needing clarification. DCH addresses each of the three issues below. In addition, at the request of the ONC, DCH is submitting updated information that describes several of the key components of Phase 1 and that briefly describes the current status or current capabilities of the organizations that have committed to participate in Phase 1 of the Georgia Statewide Health Information Exchange.

Meaningful Use Attainment—No Eligible Provider Left Behind

The overall strategy for statewide deployment of the HIE is to enable eligible providers to meet the meaningful use criteria for stage one during 2011, DCH is committed to using every reasonable means available to assist and support any willing provider to connect and exchange information in 2011.[1] We expect to accomplish this by use of a provider directory, a record locater service and secure messaging at the outset.

The Georgia Health Information Technology Regional Extension Center (GA-HITREC) has signed up more than 1,025 physicians and its preferred vendors' products all utilize DIRECT standards which enable e-prescribing, the exchange of clinical labs and patient care summaries. The capacity for the HIE infrastructure is being planned to be able to handle those providers signed up by GA-HITREC. Other providers who wish to connect to the HIE that are not targeted by GA-HITREC (i.e. providers who already have EHRs, providers that are not eligible for incentives, etc.) may access the statewide HIE through a web-based user interface allowing them to be authenticated and to securely exchange data with other entities.

In addition, GA-HITREC was recently awarded additional grant funds of $1.5 million to enable it to extend technical assistance to rural hospitals, including critical access hospitals in Georgia.

Since the submission of Georgia's Statewide HIE Strategic and Operational Plans, DCH and GA-HITREC have participated in several joint activities with stakeholders including Rural Health Day at the State Legislature, the Office of Health Information Technology & Transparency Town Hall Meeting, and meeting with HomeTown Health, the organization that represents rural hospitals in Georgia. These activities are indicative of continuing efforts by DCH and GA-HITREC to further the momentum toward achieving meaningful use by providers in Georgia. Among the approaches to such assistance and support are:

- On-going coordination with GA-HITREC, including shared appearances and materials, publicizing the program and identifying for providers the appropriate resources within DCH for more information

- Communications to professional associations and organizations to inform their memberships about the incentives and the availability of technical assistance from GA-HITREC and DCH,

[1] The Business and Technical Operations Subcommittee of the Health Information Technology Advisory Board provided assistance to DCH. That subcommittee was chaired by Jack Chapman, MD and co-chaired by Sundaresan Jayaraman, Ph.D. The Business and Technical Operations Subcommittee which included more than 25 representatives from a broad range of stakeholders reached a consensus that the "business and technical specifications [be] required to ensure all providers are capable of meeting the meaningful use criteria." DCH remains committed to actualizing that core principle.

including the hosting of special programs, presentations at meetings and events, and the provision of media packages for use and further distribution

- Additional Outreach and Education to include consumer audiences, in order to drive understanding and acceptance of electronic health records

As health care consumers become increasingly aware of the tangible benefits of the use of EHRs including the convenience, time savings, improved accuracy, and rapid exchange of information especially in emergency situations, it is expected that consumer demand and interest in EHRs will help drive market forces toward increased use of EHRs. As the use of certified EHRs in Georgia continues to expand, DCH and GHIE are continuing their efforts toward enabling providers to engage in e-prescribing and to exchange clinical labs and patient care summaries across unaffiliated organizations--so that no eligible provider is left behind.

Strategies, Timelines, Funding and Needed Support

During 2011, funding requirements will be developed in detail by the Finance Committee of the Georgia Health Information Exchange, Inc. (GHIE), the governing body for the statewide HIE. The Chairperson of the Finance Committee is a voting member of the Board of Directors of the GHIE. The Finance Committee's charter includes researching and recommending a detailed budget and designing the specific means of ensuring financial sustainability for the HIE over a multi-year period, independent of support from ONC via the State HIE Cooperative Agreement.

All participants in the Georgia HIE understand that it will be statewide but not state-run. The Finance Committee has been tasked with developing a viable business model that will enable the statewide HIE to survive for the long-term regardless of fluctuations of state or federal funding. The members of the Finance Committee are expected to include experienced health care industry and business professionals with experience in marketing and business operations.

The Finance Committee is primarily responsible for developing a business model, informed by comparable experiences of other HIEs and related businesses. It is expected that significant support will come from in-kind contributions of expertise and resources, as have been provided during the planning phase of the HIE. Initial direction by the Finance Committee indicates that:

- The initial staffing plan consists of three full-time employees: (1) an Executive Director as the administrator and operations manager, paid a competitive market salary and incentivized by a financial bonus based upon business development and other job performance; (2) an Administrative Assistant to support the daily office functions; and (3) a Project Manager to drive the progress of the HIE technical and business development

- The Finance Committee is responsible for overseeing accounting and audit duties including oversight of contracted services with review by the GHIE Board of Directors. Such services may be donated as in-kind contributions

- Financing will likely be based upon subscription fees, rather than transaction fees. One of the existing, service area HIEs that will be participating in Phase One of the statewide HIE has been financially self-sustaining for several years and continues to thrive. That organization's successful experience will help inform the future plans for long-term funding of statewide HIE services

- To the extent that products and services, including but not limited to information technology and public relations / advertising, become available at no charge, such donations and service offerings will be evaluated in terms of total value to the statewide HIE and will be based upon negotiated agreements that anticipate long term solvency

- All services to the HIE will comply with applicable state and federal laws, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA)

- The key to long-term sustainability of the statewide HIE is providing financial value to participants, employers, consumers, payers, providers, and all other users

The Finance Committee is expected to review the recommendations of the Governance and Finance Subcommittee (a/k/a Workgroup) that considered how best to achieve financial sustainability for the statewide HIE and analyzed various funding models. In addition, the Finance Committee has access to business models from other states and can select the most viable and appropriate business plan adaptable for Georgia stakeholders in the statewide HIE. It is expected that GHIE's Finance Committee will have a fully developed sustainability plan by the fourth quarter of 2011.

Privacy and Security

DCH has been a leader nationally in the implementation of privacy and security standards, setting benchmarks in 2007 and 2008 for breach notification. Performance based contracting that mandates compliance with all applicable standards of privacy and security is standard practice in DCH and is expected to be adopted by the GHIE.

A brief history will show the evolution of privacy in the DCH contract administration practices. Following a breach of privacy and security in 2007 by a business associate that affected 2.9 million individuals, DCH implemented thorough corrective actions. Those actions initiated notification procedures that were a precursor to the proposed federal regulations for breach notification. As a result of an incident in 2008 by another business associate, extensive corrective actions by DCH included the imposition of contract damages paid by the business associate in the then-historic amount of $725,000 due to the violation of privacy and security. Those experiences and others led to the contract administration process in DCH today.

Performance based contracting in DCH includes procurement. The request for proposal requires evidence of compliance with HIPAA privacy and security and the agreement to compliance monitoring, random audits upon reasonable notice, and liquidated damages for violations. The overall process of performance based contracting - including procurement or invitation for proposals - requires assurances of privacy and security as a qualification at the outset and as continuing terms of the contract.

The Chair of the Legal and Privacy Committee of the GHIE Board is an attorney who will be a voting member of the Board. The focus of the Committee's charter is privacy. Additionally, the DCH Privacy and Security Officer is an attorney, who is also Georgia's State HIT Coordinator. A non-voting member of the GHIE Board, she will continue to oversee the state's commitment to privacy and security of individuals' health information. DCH and the GHIE are committed to ensuring and maintaining strong privacy protections in the statewide HIE. Without question, privacy and security are paramount to operating a successful statewide HIE and maintaining the confidence of providers and health care consumers. GHIE will utilize the industry's best

practices in ensuring that its contractors, subcontractors, and users are fully HIPAA-compliant and satisfy all privacy and security requirements.

GHIE has tasked its Legal and Privacy Committee with responsibility for developing:

- A robust HIE level policy and procedure framework, including, but not limited to, development of a "floor" document that addresses recommended standards for authorization, user access, breach (including notification), and sanctions for noncompliance

- Best practices related to data sharing agreements, system development, and harmonization of multi-state laws and regulations, with a focus on practices of existing, sustainable service area HIEs

- Specific requirements for individual's authorization, including areas that require additional authorization for specific types of information, for example, HIV/AIDS, mental health, and alcohol and drug treatment

- Alignment with standards and policies developed and adopted by the ONC workgroups

- Education and outreach to consumers and providers to support and encourage public trust in privacy and security of health information exchange

- Recommendations for future legislative action as appropriate depending upon the experiences of early participants in the statewide HIE

GHIE's Legal and Privacy Committee will explore the need to have a contract infrastructure obligating participants and vendors to manage their own obligations and risks associated with the participants' perimeters. In addition, the Legal and Privacy Committee can utilize and align with the lessons learned and recommendations of the ONC Communities of Practice.

The Legal and Privacy Committee's recommendations are expected to be adopted by the GHIE Board during the third quarter of 2011. The procurement process of GHIE will mandate that vendors and their subcontractors adhere to specific privacy and security requirements and be HIPAA-compliant.

Updated Information as of March 16, 2011

Phase 1 of the Georgia Statewide Health Information Exchange includes the implementation of Direct, open Provider Directory, and open HISP.

At or near the conclusion of Phase 1 and before proceeding with Phase 2, GHIE will stop and assess the implementation process and procedures to confirm and ensure that an environment has been created so that all Georgia providers can achieve meaningful use through secure messaging.

At the request of the ONC, DCH obtained current information and compiled the following data. This descriptive information incorporates the Phase 1 participants' responses to DCH.

This list succinctly describes the Present Activities of the Phase 1 Participants and presents a Brief Description of their Current Capabilities (what each is capable of exchanging electronically):

- **Chatham HealthLink IT Consortium**

The Chatham HealthLink IT Consortium (CHL) is using Orion Health's Rhapsody Integration Engine which includes the Catalyst Enterprise Master Patient Index as the core architecture component. The Rhapsody Integration Engine is providing secure patient data transmission via VPN to a central Oracle based clinical data repository. Data stored in the pilot configuration includes demographics, allergies and alerts, medications, encounter summaries, medical histories, and lab orders and results. CHL is using HL7 v2.4 as its interoperability standard. Some CHL members are already exchanging clinical laboratory results across unaffiliated organizations and some exchange of clinical summaries is also occurring.

- **Central Georgia Health Network**

This operational network includes 450 physicians from 170 different medical practices who communicate with each other via an electronic hub or Health Exchange. The Health Exchange uses nationally recognized standards and the majority of the doctors' offices are using eClinicalWorks for their ambulatory medical system. Most CGHN members are fully integrated into the provider network and are eClinicalWorks users with full patient data integration via eEXH. Eprescribing is being accomplished through a connection with Surescripts. According to the most recent data provided to DCH, CGHN is averaging 1,124 electronic lab transactions per month and 5,796 eprepreprescriptions per month.

- **Georgia Association for Primary Health Care (FQHCs)**

On March 16, 2011, the Georgia Association for Primary Health Care reported the following, "Since the end of 2010 the GAPHC HIT Team has continued to work toward implementation of EMR for GAPHC members not operating an EMR and conversion of our members using an EMR which is not conducive to HIE. This year we have three member Federally Qualified Community Health Centers in Georgia that have signed agreements with EMR companies. Two of those are with eClinicalWorks and one is with GE Centricity. All three of these products are easy to tie into HIE. We are also working with four member centers to convert them from an EMR system that is not as compatible with HIE to one that has excellent compatibility. All four of those Centers are considering NextGen and eClinicalWorks. These are two of the strongest products from an HIE compatibility perspective on the market. When the work is completed with these new implementations and conversions all twenty-seven Federally Qualified Community Health Centers in Georgia will be equipped with HIE ready EMR and at least six of those participating in an HIE Community. This will bring to one hundred percent implementation of HIE ready EMR for GAPHC members."

- **Georgia Cancer Quality Information Exchange**

The Georgia Cancer Coalition's Cancer Quality Information Exchange uses health information and portal technologies. Participating providers submit patient data from both clinical documentation and registry sources. Public health data is retrieved and incorporated. Data is matched, de-identified, aggregated and benchmarked against established guidelines and reported to providers and to the Coalition. The purpose of the Cancer Quality Information Exchange is to measure the quality of cancer care which in turn can enhance adherence to standards of care and improve patient-centered care and outcomes.

- **Georgia Division of Public Health**

The Georgia Division of Public Health submitted the following information as of March 16, 2011, "The Georgia Division of Public Health currently manages a communications network built on top of CDC's PHINMS platform for secure transmission of protected health data over public networks. This capacity is partnered with the use of an integration broker capable of supporting a range of formats including HL7 v2.3.x and 2.5.1. We are currently pursuing increasing our capability to support CDA and CCD. We stand ready to receive Syndromic Surveillance messages developed along the provisional messaging guidelines issued by the International Society for Disease Surveillance in cooperation with CDC. We anticipate full support for Laboratory Results messaging as outline in the MU final rule to be in place by January 2012."

- **Cobb Douglas Community Service Board**

The Cobb & Douglas Community Service Boards (CSB) is a non-profit community based behavioral healthcare organization serving indigent and disabled clients. The agency provides an array of clinical, support, and residential services to approximately 12,000 people per year. The organization employs approximately 300 staff operating out of 20 different locations. The agency has utilized electronic medical record (EMR) technology since 2001. The CSB built an internal EMR system in 2001. The home grown system, CADIS (Cobb And Douglas Information System), is a web-based product deployed over the internet utilizing a CITRX farm that was built on a Magic platform. The agency moved to a commercial off-the-shelf product in 2008, and now utilizes an applications services platform (ASP) product called CareLogic, manufactured by Qualifacts Systems Incorporated. The Cobb/Douglas CSB is recognized amongst community behavioral healthcare organizations as being a leader in the EMR environment, locally and nationally.

- **Emory Healthcare of Atlanta**

Emory Healthcare reported the following to DCH on March 15, 2011, "We have today an internal to Emory exchange with our physicians. We are on certified EHR and we are already producing CCDs."

- **Georgia Health Sciences University**

The Georgia Health Sciences University submitted the following information to DCH on March 15, 2011, "The Georgia Health Sciences University is fully prepared to engage in the Georgia Health Information Exchanges efforts. Our Cerner EMR is capable of producing a CCD and handing if off to the HIE. Additionally we are working MCCG and Emory on the creation of an academic based HIE and data should be moving between the organizations in the June time frame. Finally, in Augusta, several healthcare providers including GHSU are discussing the creation of a greater Augusta HIE."

Updated Information as of March 21, 2011

The following update addresses issues raised on March 21, 2011 by the ONC.

Direct Strategy

Before proceeding with Phase 2, GHIE will assess the implementation process to ensure that all Georgia providers can achieve meaningful use through secure messaging in 2011. The priority for making the statewide HIE open and accessible depends upon the Direct standards of secure messaging. GHIE will ensure that the Direct standards are employed to the extent necessary

and appropriate to enable every willing and qualified provider to use secure messaging, prior to the implementation of more robust services or standards. We recognize that many smaller or more rural providers may not have the capability in 2011 of using more robust standards and, therefore, the use of secure messaging will enable them to exchange patient health information with the lowest investment of resources, cost and time.

The Document of Commitment signed by the partners in Phase One includes the use of secure messaging using NHIN standards. At the time of drafting the document, the Direct Project and its secure messaging standards were often referred to as "NHIN standards," as in the signed commitments. The networks in Phase One will engage in secure messaging, using Direct standards.

Statewide HIE Contract

The statewide HIE will be open and accessible to any willing and qualified provider, as ensured by specific contract terms between the GHIE and its HIE vendor or vendors. The contract now in preparation will be provided to the ONC within twenty-one (21) business days after approval of the Strategic and Operational Plans. The following matters will be included among other terms in the main contract and in related contracts, as applicable, along with performance measures and liquidated damages for noncompliance:

- A focused procurement will be conducted by the GHIE, in part to identify those services and solutions offered by multiple entities nationally, including but not limited to efficient and effective sources to populate the HIE's Provider Directory;

- The priority for the use of Direct standards will be incorporated into the contract or contracts used by the GHIE and its statewide HIE vendors;

- Compensation of the Executive Administrator will be based upon a salary and a performance bonus, related to the growth of participation in the statewide HIE;

- The Provider Directory will be owned by the Georgia Department of Community Health, the state agency that is responsible for Medicaid provider enrollment and credentialing and that is administratively attached to the licensing authority for physicians and others (the Georgia Medical Board), and that includes the licensing and inspection authority for hospitals and other health care facilities (the DCH Division of Health Facility Regulation);

- The Provider Directory will be open to all qualified providers seeking access to the statewide HIE for the purposes of exchanging data simply and securely;

- The Operational Plan will ensure adequate staffing, or "boots on the ground," to engage with labs statewide, including support by staff and engagement with the GA-HITREC, in order to reach labs statewide, with a plan to be provided to the ONC within sixty (60) days from approval of the Strategic and Operational Plans, with staff to support outreach to labs: the HIE Project Manager, the Project Coordinator, two Business Analysts and contracted services, as set forth in the Budget Narrative of December 2009;

- The GHIE, Inc. will provide for any qualified and willing providers at least one means to achieve meaningful use in 2011.