

State of New Hampshire
**Department of Health and Human
Services**

**Cancer Data Mart for the
New Hampshire Environmental Public
Health Tracking Network**

DHHS RFP 2011-013

RFP ISSUED.....September 15, 2010

VENDOR CONFERENCE.....10:00 AM (EDT) September 29, 2010

AT:Department of Health and Services
29 Hazen Drive
Concord, NH 03301

STATE CONTACT..... Matthew Cahillane
mcahilla@dhhs.state.nh.us
603-271-4072

CONTRACT TYPE.....Not To Exceed

PROPOSALS DUE.....2:30 PM (EST) 10/27/2010

AT:.....State of NH
DEPARTMENT OF ADMINISTRATIVE SERVICES
ROOM 102, 25 CAPITOL STREET
CONCORD, NH

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CANCER DATA MART FOR THE NH ENVIRONMENTAL PUBLIC
HEALTH TRACKING NETWORK
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1. INTRODUCTION

The State of New Hampshire, acting through the Department of Health and Human Services, is releasing this RFP to procure Vendor Services to lead the design, development, Implementation, and post Implementation of an integrated System for the storage and reporting on NH Cancer Registry records within the Environmental Public Health Tracking (EPHT) Data Mart. The Department plans to add additional health statistics and functions to this Data Mart in future phases of this Project.

Cancer incidence records from the NH State Cancer Registry are to be integrated into the existing Environmental Public Health Tracking Program (EPHT) Data Mart schema and subsequently made available to the ad-hoc reporting system, IBM Cognos business intelligence (BI) software that extracts data, analyzes it, and assembles reports. The Data Mart will contain all NH Cancer Registry records for each unique tumor. The reporting System will further model and utilize the Data Mart in order to create robust capabilities to analyze cancer incidence counts, rates, and ratios, and accompanying measures of statistical uncertainty. The reporting System should be ready for report authors employed by the State of NH, including any necessary training, which may be required by the Vendor. Reports will be made available to internal Department secure users, external secure users, and public users. The completed System will support cancer surveillance, policy development and management.

The scope of this Project includes the loading of cancer incidence Data from an existing Data transport feed and/or single existing production database, into a dimensionally modeled Data Mart, which also contains hospital discharge Data (existing). A modeled IBM Cognos package will then sit between the Data Mart and report authoring tool. The modeled package will facilitate the calculation of business reports that satisfy the business needs of The Program.

The Project consists of four phases. Phase I is a readiness assessment of existing infrastructure. Phase II will be the design and Implementation of the proposed Data Mart, including Knowledge Transfer. Phase III is the design and Implementation of the reporting System, including Knowledge Transfer. Phase IV is the Warranty Period.

Detailed requirements and Deliverables for the Cancer Data Mart within the EPHT Program are further defined in **Appendix C: Requirements and Deliverables**.

The goals of this Project are to:

- Deploy a dimensionally modeled Data Mart, which integrates cancer incidence facts and dimensions into an existing Data Mart containing hospital discharge facts and dimensions. Common dimensions should be shared and non-common dimensions appropriately modeled.
- Create a Data Mart which is a secure and stable platform for reporting and analysis;
- Create a reporting System, which speeds the development of reports, which contain counts, rates, and ratios of cancer incidence as well as measures of their uncertainty.

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- Create a reporting System, which allows cancer incidence reports to interact with hospital discharge reports through invoking common dimensions.
- Increase accessibility of cancer incidence Data to The Department's staff
- Increase the reporting capacity of the Department to stakeholders including the public, policymakers, and researchers.
- Increase the capacity for the Department to track spatial, temporal, and demographic trends in cancer incidence.
- Allow the Department to meet increasing demand for public and secure users to develop and view reports in a timely manner;
- Allow for future expansion and integration with other health, environmental, and financial Data sets.

The State Project Team includes three key staff members, Project Manager, Business Analyst and Systems Development Specialist, assigned to work directly with the selected Vendor's staff to meet the Deliverables of this Project. The Vendor shall work closely with the State Project Team and provide training and support so that the State Project Team will be sufficiently prepared to continue the expansion of the Data warehouse. Expansion will include additional types of Data that are not included in this RFP.

Any Contract awarded as a result of this RFP will be 100% federally funded as part of the National Environmental Public Health Tracking grant from the Centers for Disease Control (CDC) to the New Hampshire Department of Health and Human Services.

It is expected that the selected Vendor will complete contracted Deliverables for Phase I, Phase II, Phase III, and Phase IV of this Project by the grant program end date of July 31, 2011.

1.1 Contract Award

A Contract award by the State will be based upon criteria, standards, and weighting identified in this RFP. Each Vendor Proposal will be considered as a whole Solution, without limitation, including all Services proposed, qualifications of the Vendor and any Subcontractor, and cost.

1.2 Contract Type

The State plans to execute a Firm Fixed Price (FFP) Contract as a result of this RFP.

1.3 Contract Term

The Vendor shall be fully prepared to commence work within 30 days of Contract approval and to fully execute the requirements of this RFP no later than July 31, 2011.

The Vendor's initial term will start February 8, 2011 and run through July 31, 2011 with an option to extend, at the discretion of the State, for one (1) year, which shall not extend beyond June 30, 2013.

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1.4 High Level Scope of Work/Services

(For a complete list of requirements and Deliverables please refer to Appendix C: Requirements and Deliverables.)

The Vendor will be responsible for reviewing the existing EPHT Data Mart design, the functionality of the existing reporting System, and all related information (e.g., Data dictionaries, Metadata etc.) that have been compiled. The Vendor shall meet with State Project Team and Department of Information Technology staff to gain a clear understanding of the current status of the Department's Data and provide recommendations for the direction of the Data Mart as stated below. The Vendor will be responsible for all aspects of the Project, including, but not limited to the following high-level requirements:

I. Overall - Design Documents for the Extraction, Transformation and Loading (ETL), Data Mart, and Reporting System

The Vendor shall prepare and submit analysis and design documents for the Data Mart Design and any ETL processes, and IBM Cognos v. 8 Framework Manager Model design for the reporting System for Department approval.

II. Extraction, Transformation and Loading (ETL) Component

The Vendor must propose and implement an automated Extract, Transformation, and Load (ETL) tool and processes to move Data from the cancer incidence Data sources to the Data Mart. This component shall include the following minimum requirements:

Must have capability to clean Data entering the Data Mart (e.g., identify invalid codes, duplicate records, etc.) Data cleansing will be handled via the ETL process (PL/SQL);

- a. Must have error logging (failed load messages etc.);
- b. Include the existing hospital discharge Data Mart ETL process;
- c. The ETL process must run efficiently (e.g., smart loads which update only new records)
- d. The Vendor will work with appropriate personnel from the Department to develop and test the ETL System.

III. Data Mart Component (Oracle Data base)

All Services and software configuration and development associated with the design, architecture and Implementation of a comprehensive Data Mart. This component shall include the following minimum requirements:

- a. Must include both hospital discharge and cancer incidence data
- b. Must be designed using industry best practices in terms of modeled Data Mart.
- c. Must include Metadata for Data Mart objects
- d. Must implement a process for (ETL) Data conversion and Scheduled routines
- e. Must have automated processes to ensure Data quality

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IV. Business Intelligence (BI) Reporting System (Cognos-Based Cancer Reports)

Integration with an existing reporting System that will allow Report Developers to perform analysis, visualization and reporting of cancer incidence data.

- a. Must use IBM Cognos business intelligence software for Data modeling and reporting. The subsequent State of NH Cognos administrators and report authors will be responsible for creating all report content, administering security and access for all users, and ensuring the security of the reporting System.
- b. Must provide Metadata (i.e., file and element definitions as described in the Data Mart section) that will be available to Report Developers to assist them in selecting the correct elements for analysis. Reporting System must support lengthy file/element names. Metadata integrated within the reporting System tool is strongly preferred.
- c. Must allow secure authorized users to report on all aspects of hospitalization and cancer data, to the record level, including as many applicable source Data fields as is possible while avoiding redundancy.

V. System Administration and Security:

- a. The capacity to monitor refreshment of Data within the Data Mart;
- b. Tools for performance management.
- c. The proposed Solution must prohibit the disclosure of personally identifiable information to any unauthorized person. All personally identifiable information must be transferred securely to and from health entities over the Internet or network infrastructure;
- d. The proposed Solution must implement security to ensure that the information in the Data Mart is protected against unauthorized disclosure, transfer, modification, or destruction, whether accidental or intentional;

VI. Training

The Vendor shall work closely with the State Project Team and provide training and support so that the State Project Team will be sufficiently prepared to continue with future expansion, daily operation and maintenance of the Data Mart. Transfer of knowledge must be provided for each component of the Solution.

VII. Documentation

Documentation shall be provided to facilitate Knowledge Transfer. End-user, design, code, maintenance, and administration Documentation must be provided.

VIII. Location

The State requires that the completed Solution physically reside at a DoIT designated facility within the State of NH. The Vendor shall provide a comprehensive architectural diagram of the proposed Solution.

XI. Testing and Tuning

The Vendor will be responsible for testing and performance tuning. The scope of performance testing is to measure the System level metrics critical for the development of the applications infrastructure and operation of the applications in the production

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environment. It also includes the measurement of response rates of the application for end-user transactions and resource utilization (of various servers and network) under various load conditions. These response rates become the basis for changes and retesting until optimum System performance is achieved.

1.5 Subcontractors

The Vendor may employ Subcontractors to deliver required Services subject to the terms and conditions of this RFP, including but not limited to, in Section 6: *General Contract Requirements* herein and Appendix G-4: *State of New Hampshire Terms and Conditions* of this RFP. The Vendor shall remain wholly responsible for performance of the entire Contract regardless of whether a Subcontractor is used. The State will consider the Vendor to be the sole point of contact with regard to all contractual matters, including payment of any and all charges resulting from any Contract.

1.6 Schedule of Events

The following table provides the Schedule of Events for this RFP through Contract finalization and Notice to Proceed.

EVENT	DATE	TIME
RFP released to Vendors (on or about)	9/15/10	
Vendor inquiry period begins (on or about)	9/15/10	
Notification to the State of the number of representatives attending the Vendor Conference	9/27/10	
Vendor's Conference; location identified in General Instructions, Section 4.3	9/29/10	10:00 AM
Vendor inquiry period ends (Final inquiries due)	10/1/10	
Final State responses to Vendor inquiries	10/8/10	
Final date for Proposal submission	10/27/10	2:30 PM
Invitations for oral presentations and delivery of Data files and demonstration requirements.	11/5/10	
Vendor presentations/discussion sessions/interviews, if necessary	11/11/10 - 11/18/10	
Anticipated Contract Finalization	tbd	
Anticipated Notice to Proceed	tbd	

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2. DEFINITIONS OF TERMS

The Terms and Definitions, located in Appendix H: *Terms and Definitions*, apply to this RFP and any resulting contract.

3. SOFTWARE, SERVICES, REQUIREMENT AND DELIVERABLES

Each Proposal must present the total Solution and must address the following areas.

3.1 Software

Each Proposal must present a software development Solution that can fully support the required functionality listed in Section 1.4 High Level Scope of Work/Services and Appendix C: *Requirements and Deliverables*.

3.2 Service and Requirements

The State seeks to procure Information Technology Services as specified in Appendix C: *Requirements and Deliverables*.

3.3 Technical Requirements

- 3.3.1 Appendix B: Minimum Standards for Proposal Consideration**, compliance with System Requirements, use of proposed software, Vendor Implementation experience, and proposed Vendor Project Team;
- 3.3.2 Appendix C: Requirements and Deliverables**, requirements broken down by mandatory or optional.
- 3.3.3 Appendix D: Topics for Mandatory Narrative Responses**, descriptions of software, technical, service, and Project management topics;
- 3.3.4 Appendix E: Standards for Describing Vendor Qualifications**, corporate, team organization and key staff, Project Manager, and other key staff candidates' qualifications.

3.4 Deliverables Overview

The State classifies Deliverables into three (3) categories: Written Deliverables, Software Deliverables, and Non-Software Deliverables. Pricing and scheduling information requirements are provided in Appendix F: *Pricing Worksheets*. A set of required Project Deliverables organized by category is detailed in Appendix C: *Requirements and Deliverables*. Appendix D: *Topics for Mandatory Narrative Responses* solicits responses, which will expound on the Vendors' understanding of the Implementation process, the manner of Service delivery and experience with similar Projects related to the software, technical, Services, and Project management topics.

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4. INSTRUCTIONS

4.1 Proposal Submission, Deadline, and Location Instructions

Proposals submitted in response to this RFP must be received by the Department of Administrative Services, Bureau of Purchase and Property, no later than the time and date specified in Section 1.6: *Schedule of Events*. Proposals must be addressed to:

State of New Hampshire
Bureau of Purchase and Property
c/o Matthew Cahillane
25 Capitol Street, 1st Floor
Concord, New Hampshire 03301

Cartons containing Proposals must be clearly marked as follows:

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CANCER DATA MART FOR THE NH EPHT
RESPONSE TO DHHS RFP 2011-013

Vendors are permitted to submit up to two (2) proposals in response to this RFP describing two different conforming Solutions.

Late submissions will not be accepted and will remain unopened. Delivery of the Proposals shall be at the Vendor's expense. The time of receipt shall be considered when a Proposal has been officially documented by the Department of Administrative Services, in accordance with its established policies, as having been received at the location designated above. The Department of Administrative Services accepts no responsibility for mislabeled mail. Any and all damage that may occur due to shipping shall be the Vendor's responsibility.

All Proposals submitted in response to this RFP must consist of one (1) original and ten (10) clearly identified copies of the Proposal, including all required attachments, and one (1) electronic copy on CD Rom in MS WORD format, accompanied by the transmittal letter described in Section 4.20.2: *Transmittal Form Letter*, herein. The original and all copies shall be bound separately, delivered in sealed containers, and permanently marked as indicated above. One (1) copy of the Proposal Transmittal Form Letter shall be signed by an official authorized to legally bind the Vendor and shall be marked "ORIGINAL." A Vendor's disclosure or distribution of its Proposal other than to the State will be grounds for disqualification.

4.2 Proposal Inquiries

All inquiries concerning this RFP, including but not limited to, requests for clarifications, questions, and any changes to the RFP, shall be emailed, citing the RFP title, RFP number, Page, Section, and Paragraph and submitted to the following RFP Point of Contact:

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Matthew Cahillane, MPH
DHHS, EPHT
Program Manager
29 Hazen Drive
Concord, NH 03301
Email: mcahilla@dhhs.state.nh.us

Vendors are encouraged to submit questions via email; however, the State assumes no liability for assuring accurate/complete email transmission/receipt and is not responsible to acknowledge receipt.

Inquiries must be received by the State's RFP Point of Contact (see above) no later than the conclusion of the Vendor Inquiry Period (see Section 1.6: *Schedule of Events*). Inquiries received later than the conclusion of the Vendor Inquiry Period shall not be considered properly submitted and will not be considered.

The State intends to issue official responses to properly submitted inquiries on or before the date specified in Section 1.6: *Schedule of Events*; however, this date may be subject to change at the State's discretion. The State may consolidate and/or paraphrase questions for sufficiency and clarity. The State may, at its discretion, amend this RFP on its own initiative or in response to issues raised by inquiries, as it deems appropriate. Oral statements, representations, clarifications, or modifications concerning the RFP shall not be binding upon the State. Official responses will be made in writing.

4.2.1 Restriction of Contact With State Employees

From the date of release of this RFP until an award is approved by the Governor and Executive Counsel (G&C) and announced regarding the selection of a Vendor, all communication with personnel employed by or under Contract with the State regarding this RFP is forbidden unless first approved by the RFP Point of Contact listed in Section 4.2: *Proposal Inquiries*. State employees have been directed not to hold conferences and/or discussions concerning this RFP with any Vendor during the selection process, unless otherwise authorized by the RFP Point of Contact.

4.3 Vendor Conference

A **non-mandatory** Vendor Conference will be held at the following location as identified in Section 1.6: *Schedule of Events*:

Department of Health and Human Services
29 Hazen Dr.
Room 312
Concord, New Hampshire 03301

Vendors are requested to RSVP via email by the date identified in Section 1.6: *Schedule of Events*, indicating the number of individuals who will attend the Vendor Conference.

Vendors will have an opportunity to ask questions about the RFP and the State will make a reasonable attempt to answer questions it deems appropriate. Questions may include,

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without limitation, a request for clarification of the RFP; a request for changes to the RFP; suggestions or changes to the RFP that could improve the RFP competition or lower the offered price; and to Review any applicable Documentation.

Vendors are encouraged to email inquiries at least twenty-four (24) hours prior to the Vendor Conference. No responses will be given prior to the Vendor Conference. Oral answers will not be binding on the State. The State's final response to Vendor inquiries and any requested changes to terms and conditions raised during the Vendor Inquiry Period will be emailed by the date specified as the Final State responses to Vendor Inquiries as specified in Section 1.6: *Schedule of Events*. Vendors are responsible for any and all costs associated with attending the Vendor Conference.

NOTE: The State will NOT distribute a list of Vendor Conference Attendees.

4.4 Alteration of RFP

The original RFP document is on file with the State of New Hampshire, Department of Administrative Services. Vendors are provided an electronic version of the RFP. Any alteration to this RFP or any file associated with this RFP is prohibited. Any such changes may result in a Proposal being rejected.

4.5 RFP Amendment

The State reserves the right to amend this RFP at its discretion, prior to the Proposal submission deadline. In the event of an amendment to this RFP, the State, at its sole discretion, may extend the Proposal submission deadline, as it deems appropriate.

4.6 Non-Collusion

The Vendor's signature on a Proposal submitted in response to this RFP guarantees that the prices, terms and conditions, and Services quoted have been established without collusion with other Vendors and without effort to preclude the State from obtaining the best possible competitive Proposal.

4.7 Validity of Proposal

Proposals must be valid for one hundred and eighty (180) days following the deadline for submission of Proposals in Section 1.6: *Schedule of Events*, or until the Effective Date of any resulting contract, whichever is later.

4.8 Property of the State

All material received in response to this RFP shall become the property of the State and will not be returned to the Vendor. Regardless of the Vendor selected, the State reserves the right to use any information presented in a Proposal.

4.9 Confidentiality of a Proposal

A Proposal must remain confidential until the Effective Date of any resulting Contract as a result of this RFP. A Vendor's disclosure or distribution of Proposals other than to the State will be grounds for disqualification.

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4.10 Public Disclosure

Subject to applicable law or regulations, the content of each Vendor's Proposal shall become public information upon the Effective Date of any resulting contract.

4.11 Security

The State must ensure that appropriate levels of security are implemented and maintained in order to protect the integrity and reliability of its Information Technology resources, information, and services. State resources, information, and Services must be available on an ongoing basis, with the appropriate infrastructure and security controls to ensure business continuity. The State will evaluate the degree to which the proposed System is designed and architected to ensure the confidentiality and integrity of its valued asset, Data.

4.12 Non-Commitment

Notwithstanding any other provision of this RFP, this solicitation shall not commit the State to award a contract. The State reserves the right, at its sole discretion, to reject any and all Proposals, or any portions thereof, at any time; to cancel this RFP; and to solicit new Proposals under a new acquisition process.

4.13 Proposal Preparation Cost

By submitting a Proposal, a Vendor agrees that in no event shall the State be either responsible for or held liable for any costs incurred by a Vendor in the preparation of or in connection with the Proposal, or for work performed prior to the Effective Date of a resulting contract.

4.14 Oral Presentations/Interviews and Discussion

The State reserves the right to require Vendors to make oral presentations of their Proposals and/or to make available for oral presentations/interviews the Vendor personnel proposed to develop the specified software. Any and all costs associated with oral presentations/interviews shall be borne entirely by the Vendor. The Project Manager should be in attendance at the oral presentation.

4.15 Required Contract Terms and Conditions

By submitting a Proposal, the Vendor agrees that the State of New Hampshire Terms and Conditions, contained in Appendix G: *General Standards and Requirements* and RFP Section 6: *General Contract Requirements*, herein, shall form the basis of any Contract resulting from this RFP. In the event of any conflict between the State's Terms and Conditions and any portion of the Vendor's Proposal, the State's Terms and Conditions shall take precedence and supersede any and all such conflicting terms and conditions contained in the Vendor's Proposal.

4.16 Award

The State plans to execute a Firm Fixed Price Contract, as a result of this RFP. Potential future Enhancements will be priced separately according to Appendix F: *F-4 Future Vendor Rates Worksheet*.

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The State reserves the right, at its discretion, to award by item, part or portion of an item, group of items, or total Proposal. The State reserves the right to purchase all or some of the hardware, software, and/or licenses either directly from this procurement or from a State of NH statewide procurement contract, whichever is determined to provide the best value for DHHS and meets the State requirements.

If a Contract is awarded, the Vendor must obtain written consent from the State before any public announcement or news release is issued pertaining to any Contract award. Such permission, at a minimum, will be dependent upon approval of the Contract by Governor and Executive Council of the State of New Hampshire.

4.17 Proposal Submission Requirements

Vendors are permitted to submit up to two (2) Proposals in response to this RFP describing two different conforming Solutions.

4.18 Proposal Format

Proposals should follow the following format:

- A Proposal should be provided in a three-ring binder.
- A Proposal should be printed on white paper with dimensions of 8.5 by 11 inches with right and left margins of one (1) inch.
- A Proposal should use Times New Roman font with a size of eleven (11).
- Each page of a Proposal must include a page number and the number of total pages and identification of the Vendor in the page footer.
- Tabs should separate each Section of the Proposal.

Exceptions for paper and font sizes are permissible for: Graphical exhibits, which may be printed on white paper with dimensions of 11 by 17 inches; and material in appendices.

4.19 Proposal Organization

Proposals should adhere to the following outline and should not include items not identified in the outline.

- **Cover Page**
- **Transmittal Form Letter**
- **Table of Contents**
- **Section I:** Executive Summary
- **Section II:** Glossary of Terms and Abbreviations
- **Section III:** Responses to Requirements and Deliverables
- **Section IV:** Narrative Responses
- **Section V:** Corporate Qualifications
- **Section VI:** Qualifications of Key Staff
- **Section VII:** Cost Proposal

4.20 Proposal Content

Proposals must contain the following:

STATE OF NEW HAMPSHIRE
Department of Health and Human Services
Cancer Data Mart for the NH Environmental Public Health Tracking Network
DHHS -RFP 2011-013

4.20.1 Cover Page

The first page of the Vendor's Proposal must be a cover page containing the following text:

STATE OF NEW HAMPSHIRE
Department of Health and Human Services
NH Environmental Health Tracking Network

RESPONSE TO RFP 2011-013

**CANCER DATA MART FOR THE NH ENVIRONMENTAL PUBLIC
HEALTH TRACKING NETWORK**

The cover page must also include the Vendor's name, contact person, contact telephone number, address, city, state, zip code, fax number, and email address.

4.20.2 Transmittal Form Letter

The Vendor must submit a manually signed Transmittal Form Letter with their response using the Transmittal Form Letter Template provided herewith. Any electronic alteration to this Transmittal Form Letter is prohibited. Any such changes will result in a Proposal being rejected.

Remainder of this page intentionally left blank

STATE OF NEW HAMPSHIRE
Department of Health and Human Services
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State of New Hampshire Proposal Transmittal Form Letter

Company
Name _____

Address _____

To: NH Department of Health and Human Services Point of Contact:
Matthew Cahillane
Telephone (603) 271-4072
Email: mcahilla@dhhs.state.nh.us

RE: Proposal Invitation Name: Cancer Data Mart for NH EPHT
Proposal Number: DHHS RFP 2011-013
Proposal Opening Date and Time: 09/07/2010 at 2:30 PM (EST)

Dear Sir:

Company Name: _____ hereby offers to sell to the State of New Hampshire the Services indicated in RFP NH DHHS 2011-013 Cancer Data Mart for the NH Environmental Public Health Tracking (EPHT) at the price(s) quoted in Vendor Response Section VII: *Cost Proposal*, and Appendix F: *Pricing Worksheets*, in complete accordance with all conditions of this RFP and all Specifications set forth in the RFP and in the State of New Hampshire Terms and Conditions outlined in RFP Section 6: *General Contract Requirements* and Appendix G-4: *State of New Hampshire Terms and Conditions*.

Company Signor: _____ is authorized to legally obligate
Company Name: _____.

We attest to the fact that:

The company has reviewed and agreed to be bound by all RFP terms and conditions including but not limited to the *State of New Hampshire Terms and Conditions* in Appendix G-4 and *Contract Requirements* in Section 6, which shall form the basis of any Contract resulting from this RFP. No new terms and conditions have been added and no existing terms and conditions have been deleted in this RFP Proposal.

The proposal is effective for a period of 180 days or until the Effective Date of any resulting contract, whichever is later;

That the prices quoted in the proposal were established without collusion with other eligible Vendors and without effort to preclude the State of New Hampshire from obtaining the best possible competitive price; and

The Vendor has read, signed, and included this RFP and any subsequent addendum (a).

Our official point of contact is _____,
Title _____
Telephone _____, Email _____
Authorized Signature Printed _____
AuthorizedSignature _____

- **Important Note:** Vendors are provided an electronic version of the RFP Transmittal Letter. Any electronic alteration to this Transmittal Letter template is prohibited. Any such changes will result in a Proposal being rejected.

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4.20.3 Table of Contents

The Vendor must provide a table of contents with corresponding page numbers relating to its Proposal. The table of contents must conform to the outline provided in Section 4.19: *Proposal Organization*, but should provide detail, e.g., numbering, level of detail.

4.20.4 Section I: Executive Summary

The Executive Summary, which must not exceed five (5) pages, must identify how the Vendor satisfies the minimum standards for consideration, which are described in Appendix B: *Minimum Standards for Proposal Consideration*, to this Request for Proposals. The executive summary will also provide an overview of the Vendor's proposed Solution and services. Vendors are encouraged to highlight those factors that they believe distinguish their Proposal.

4.20.5 Section II: Glossary of Terms and Abbreviations

The Vendor must provide a glossary of all terms, acronyms, and abbreviations used in its Proposal.

4.20.6 Section III: Responses to Requirements and Deliverables

Requirements and Deliverables are provided in Appendix C: *Requirements and Deliverables*, included in this RFP.

Requirements are designated as *Mandatory Phase I* ("M") and *Mandatory Phase II* (MP2) or *Optional* ("O") features of the proposed Solution Software.

Using the Table C.1 *Requirements and Deliverables - Vendor Response Checklist* in Appendix C, the Vendor must document the ability to meet the requirements and Deliverables of this RFP. Using the Table C.2 *Deliverables in Appendix C*, the Vendor must document anticipated Deliverable types and dates.

4.20.7 Section IV: Narrative Responses

Section IV solicits narrative responses describing the Software, Technical, Services and Project Management topics defined for this RFP Project. Appendix D: *Topics for Mandatory Narrative Responses* is organized into sections, which correspond to the different Deliverables of the Proposal. Discussion of each topic must begin on a new page.

4.20.8 Section V: Corporate Qualifications

Section V should provide corporate qualifications of all firms proposed to participate in the Project. Specific information to be provided is described in Section E-1: *Required Information on Corporate Qualifications* of Appendix E: *Standards for Describing Vendor Qualifications*.

4.20.9 Section VI: Qualifications of Key Staff

To evaluate qualifications of key staff, the State will consider three (3) factors:

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- a. Proposed team organization and designation and identification of key staff;
- b. Qualification of candidates for Project Manager; and
- c. Qualifications of candidates for key Vendor staff roles.

Section VI must be used to provide required information on these topics. Specific information to be provided is described in Sections: E-2: *Team Organization and Designation of Key Vendor Staff*; E-3: *Candidates for Project Manager*; and E-4: *Candidates for Key Vendor Staff Roles*, of Appendix E: *Standards for Describing Vendor Qualifications*.

4.20.10 Section VII: Cost Proposal

The Cost Proposal must include the following:

- The *Activities/Deliverables/Milestones Pricing Worksheet* prepared using the format provided in Table F-1-1 of Appendix F: *Pricing Worksheets* and any discussion necessary to ensure understanding of Data provided;
- A *Proposed Position – Initial Contract Term Vendor Rates Worksheet* prepared using the format provided in Tables F-2.1 and F-2.2 of Appendix F: *Pricing Worksheets* and any discussion necessary to ensure understanding of Data provided;
- A *Proposed Vendor Staff and Resource Hours Worksheet* prepared using the format provided in Tables F-3.1 and F-3.2 of Appendix F: *Pricing Worksheets* and any discussion necessary to ensure understanding of Data provided;
- A *Future Vendor Rates Worksheet* prepared using the format provided in Table F-4 of Appendix F: *Pricing Worksheets* and any discussion necessary to ensure understanding of Data provided;

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5. PROPOSAL EVALUATION PROCESS

5.1 Scoring

The State will use a scoring scale of 100 points, which shall be applied to the Solution as a whole. Points will be distributed among four (4) factors:

- 30 Points - Proposed Development Solution;
- 25 Points - Vendor's Technical, Service, And Project Management Experience;
- 20 Points - Vendor Company And Staffing Qualifications; And
- 25 Points - Solution Cost (Rates And Pricing)
- 100 Points - Total Possible Score.

5.2 Rights of the State in Evaluating Proposals

The State reserves the right to:

- Consider any source of information in evaluating Proposals;
- Omit any planned evaluation step if, in the State's view, the step is not needed;
- At its sole discretion, reject any and all Proposals at any time; and
- Open Contract discussions with the second highest scoring Vendor, if the State is unable to reach an agreement on Contract terms with the highest scoring Vendor.

5.3 Planned Evaluations

The State plans to use the following process:

- Initial screening;
- Preliminary evaluation of the Proposals and reference and background checks;
- Oral interviews and product demonstrations;
- Best and Final Offer (BAFO), if appropriate, and
- Final evaluation of Proposals.

5.3.1 Initial Screening

The State will conduct an initial screening step to verify Vendor compliance with submission requirements and to confirm that the Proposal satisfies the following:

- Submission requirements are addressed in Section 4: *Instructions*.
- Minimum standards are defined in Appendix B: *Minimum Standards for Proposal Consideration*.
- Agreement to the State's Terms and Conditions and provisions as defined in the RFP without exception.

A Proposal that fails to satisfy either submission requirements or minimum standards may be rejected without further consideration.

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5.4 Proposal Evaluations

The State will select a Vendor based upon the criteria and standards contained in this RFP and from applying the following weightings. Oral interviews, product demonstrations, and reference checks will be used to refine and finalize preliminary scores.

5.4.1 Scoring of the Proposed Development Solution

The Vendor's Proposed Software Development Solution will be allocated a maximum score of thirty (30) points. These points will be distributed among three (3) sub-factors for the Software Development Solution: Overall Fit, Software Topic Narratives, and Usability.

5.4.2 Scoring of Vendor Technical, Service, and Project Management Experience

Vendor proposed Services, distributed among three (3) sub-factor narratives on: Technical Topics; Service Topics; and Project Management Topics, will be allocated a maximum score of twenty-five (25) points.

5.4.3 Scoring of Vendor Company and Staff Qualifications

Vendor qualifications (including any Subcontractors) will be allocated a maximum score of twenty (20) points which will be distributed among four (4) sub-factors: Corporate Qualifications; Organization and Size of the Vendor's Proposed Project Team; Qualifications of the Proposed Project Manager; and Qualifications of Proposed Key Staff.

5.4.1 Scoring the Software Development Solution Cost

The Vendor's Software Development Solution Proposal will be allocated a maximum score of twenty-five (25) points. The State will consider both Implementation of Phase I and Phase II and subsequent five (5) year license and maintenance costs, provided in Tables F-1: *Activities/Deliverables/Milestones Pricing Worksheet*, F-5: *Software License, Maintenance, and Support Pricing Worksheet*, F-6: *Hardware Pricing Worksheet for proposed Solution* and F-7 *Additional Costs*. Cost information required in a Proposal is intended to provide a sound basis for comparing costs.

The following formula will be used to assign points for costs:

Vendor's Cost Score= (Lowest Proposed Cost / Vendor's Proposed Cost)
times twenty five (25)

For the purpose of this formula, the lowest proposed cost is defined as the lowest cost proposed by a Vendor who fulfills the minimum qualifications.

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5.4.2 Preliminary Evaluation of Proposals and Reference and Background Checks

The State will establish an evaluation team to evaluate Proposals, conduct reference checks, and background checks.

5.4.3 Oral Interviews and Product Demonstrations

Preliminary scores from the evaluation of the Proposals will be used to select Vendors to invite to oral interviews and product demonstrations.

The purpose of oral interviews and product demonstrations is to clarify and expound upon information provided in the written Proposals. Vendors are prohibited from altering the basic substance of their Proposals during the oral interviews and product demonstrations.

For each invited Vendor, the oral interview and product demonstrations are anticipated to be no more than two (2) hours in length. A highly structured agenda will be used for oral interviews and product demonstrations to ensure standard coverage of each invited Vendor. The State may provide each invited Vendor with ER Diagrams and sample Cognos Reports and specific analysis and reporting scenarios for the Vendor to demonstrate the ability of the proposed Solution to meet the requirements provided in Appendix C: *Requirements and Deliverables*, of this RFP. This information will be provided in advance of the oral interview and product demonstration to allow the Vendor to prepare ahead of time.

Information gained from oral interviews and product demonstrations will be used to evaluate the Vendors Proposal.

5.4.4 Best and Final Offer

The State may, at its sole option, either accept a Vendors initial proposal by award of a Contract or enter into discussions with Vendors whose proposals are deemed best qualified to be considered for an award. After discussions are concluded a Vendor may be allowed to submit a "Best and Final Offer" for consideration.

5.4.5 Final Evaluation

The State will conduct final evaluations as a culmination of the entire process of reviewing Vendor Proposals and information gathering. After making a preliminary determination of award, the State may request to conduct site visits to a Vendor location and/or government site(s), which utilizes the Vendor software.

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6. GENERAL CONTRACT REQUIREMENTS

6.1 State of NH Terms and Conditions and Contract Requirements

The Contract requirements set forth in Section 6: *General Contract Requirements*, herein and the *State of New Hampshire Terms and Conditions* contained in Appendix G-4 shall constitute the basis for any Contract resulting from this RFP.

6.2 Contract Term Dates

See Section 1.3: *Contract Term*.

6.3 Non-Exclusive

Any resulting Contract from this RFP will be a non-exclusive Contract. The State reserves the right, at its discretion, to retain other Vendors to provide any of the Services identified under this procurement.

6.4 Vendor Selection

Each Proposal will be evaluated and considered with regard to the Services proposed, qualifications of the Vendor and any Subcontractors, experience and qualifications of proposed candidates, and cost.

The State will issue intent to award letter to a Vendor based on these evaluations. Should the State be unable to reach agreement with the Vendor during Contract discussions, the State may then undertake Contract discussions with the second preferred Vendor and so on. Such discussions may continue at the sole option of the State, until an agreement is reached, or all proposals are rejected.

6.5 Vendor Responsibilities

The Vendor shall be solely responsible for meeting all requirements and terms and conditions specified in this RFP, its Proposal, and any resulting contract, regardless of whether or not it proposes to use any Subcontractor.

The Vendor may subcontract Services subject to the RFP, including but not limited to, the terms and conditions in Section 6: *General Contract Requirements* herein and Appendix G-4: *State of New Hampshire Terms and Conditions*. The Vendor must submit with its Proposal all information and Documentation relating to the Subcontractor necessary to fully respond to the RFP, which must include terms and conditions consistent with this RFP. The Vendor shall remain wholly responsible for performance of the entire Contract regardless of whether a Subcontractor is used. The State will consider the Vendor to be the sole point of contact with regard to all contractual matters, including payment of any and all charges resulting from any Contract.

6.6 Project Budget/Price Limitation

The State has funds budgeted for this Project, subject to Section 2: *Conditional Nature of Contract* of the *State of New Hampshire Terms and Conditions* contained in Appendix G -4: *State of New Hampshire Terms and Conditions*.

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6.7 State Contracts

The State of New Hampshire intends to use, wherever possible, existing statewide software and hardware contracts to acquire supporting software and hardware.

6.8 HIPAA

The State intends to protect the privacy and provide for the security of any protected health information disclosed to the Vendor in accordance with the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191 ("HIPAA") and any other applicable laws or regulations. **To the extent HIPAA applies**, the Vendor shall at no additional cost to the State, enter into Contractual agreements with the State required to comply with HIPAA, as applicable and deemed necessary by the State, including but not limited to a *Business Associate Agreement (BA)* substantially in the form attached hereto as Appendix G-5, as applicable and deemed necessary by the State. If HIPAA applies and the parties are unable to reach agreement on the BA, the State may reject the Vendor at its sole discretion and proceed with Vendor selection in accordance with Section 6.4: *Vendor Selection*, of this RFP.

6.9 Vendor Staff

In their Proposal the Vendor shall assign and identify a Project Manager and key Vendor Staff, in accordance with the requirements and Deliverables of Appendix C: *Requirements and Deliverables* and Appendix E: *Standards for Describing Vendor Qualifications*. The State would like the option of having one key Vendor staff member on site for the duration of the Project. The on site staff member may change based on the Deliverable in progress.

The Vendor's selection of a Project Manager will be subject to the prior approval of the State. The State's approval process may include, at the State's discretion, Review of the proposed Project Manager's resume and qualifications, and an interview. The Project Manager must have full authority to make binding decisions under the Contract, and shall function as the Vendor's representative for all administrative and management matters. The Project Manager must be available to promptly respond within two (2) hours to inquiries from the State, and at the site as needed. The Vendor must use his or her best efforts on the Project. The Vendor's Project Manager must be qualified to perform the obligations required of the position under the Contract.

The Vendor shall not change key Vendor Staff and Project Manager commitments (collectively referred to as "Project Staff") unless such replacement is necessary due to sickness, death, termination of employment, or unpaid leave of absence. Any such changes to the Vendor's Project Staff shall require the prior written approval of the State. Replacement Project Staff shall have comparable or greater skills with regard to performance of the Project as the staff being replaced and be subject to the provisions of this RFP and any resulting Contract.

The State reserves the right to require removal or reassignment of the Vendor's Project Staff found unacceptable to the State.

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The State may conduct reference and background checks on the Vendor's Project Staff. The State reserves the right to reject the Vendor's Project Staff as a result of such reference and background checks.

Notwithstanding anything to the contrary, the State shall have the option to terminate the Contract, at its discretion, if it is dissatisfied with the Vendor's replacement Project Staff.

6.10 Work Plan

Vendor shall submit a preliminary Work Plan, in its Proposal. The Work Plan shall include, without limitation, a detailed description of the Schedule, tasks, Deliverables, critical events, task dependencies, and payment Schedule. A finalized Work Plan will be due ten (10) business days after Contract award and approval by Governor and Executive Council.

The Vendor shall update the Work Plan as necessary, but no less than bi-weekly to accurately reflect the status of the Project Schedule, tasks, Deliverables, critical events, task dependencies, and payment Schedule. Any updates to the Work Plan shall require the prior approval of the State. Unless otherwise agreed in writing by the State, changes to the Work Plan shall not relieve the Vendor from liability to the State for any damages resulting from the Vendor's failure to perform its obligations under the Contract.

In the event the Vendor requires additional time to correct Deficiencies, the Schedule shall not change unless previously agreed in writing by the State. In the event of a delay in the Schedule, the Vendor must immediately notify the State in writing. The written notification will identify the nature of the delay, i.e., specific actions or inactions of the Vendor or State causing the problem; its estimated duration period to reconciliation; specific actions that need to be taken to correct the problem; and the expected Schedule affect the Project. The Schedule shall automatically extend on a day-to-day basis to the extent that the State's execution of its major tasks takes longer than described in the Work Plan.

Notwithstanding anything to the contrary, the State shall have the option to terminate the Contract for default, at its discretion, if it is dissatisfied with the Vendor's Work Plan or elements within the Work Plan.

Major changes to the Work Plan may be made by written Change Order. The Vendor shall advise the State, in detail, of any impact on cost (e.g., increase or decrease), the Schedule, or the Work Plan.

The Vendor may request a change within the scope of the Contract by written Change Order, identifying any impact on cost, the Schedule, or the Work Plan. The State must approve all change orders in writing. The State shall be deemed to have rejected the Change Order if the parties are unable to reach an agreement in writing.

All Change Order requests from the Vendor to the State, and the State acceptance of the Vendor's estimate for a State requested change, will be acknowledged and responded to, either acceptance or rejection, in writing. If accepted, the Change Order(s) shall be subject to the Contract amendment process, as determined to apply by the State.

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6.11 Deliverables

The Vendor shall provide the State with the Deliverables in accordance with the requirements, terms of the Contract. All Deliverables shall fully meet and perform in accordance with the Specifications of the RFP and resulting Contract(s). Upon its submission of a Deliverable, the Vendor shall represent that it has performed its obligations under the Contract associated with the Deliverable. Descriptions of the Deliverables are provided in Appendix H.

Unless otherwise stated in the Contract documents, the State's Review of all Deliverables will be in accordance with the periods set forth in the Work Plan. For each rejection, the Acceptance Period shall be extended at least one time, and thereafter may be extended, at the option of the State, by the corresponding time required to correct any identified Class A or Class B Deficiency, retest or review, as applicable, provided however, that the Vendor shall not be obligated to continue performance if it reasonably believes that it cannot correct the Deficiency, in which case it shall promptly notify the State thereof and the State may immediately declare Vendor in Default, avail itself of the remedies available to it in law and in equity.

Once an individual Deliverable is accepted, all sums due and payable relating thereto are non-refundable and non-cancelable; however, notwithstanding the foregoing, in the event the State rejects a Deployment, the State shall have the right to pursue all remedies under the Contract, at law and in equity, including but not limited to, the right to replacement and re-Implementation costs. Refer to Appendix G-4 Section 8: Termination for Default.

6.11.1 Software Deliverables Review

Software Deliverables Review is further described in Section 6.11.5 below.

6.11.2 Non-Software Deliverables Review

The State will Review Non-Software Deliverables to determine whether any Deficiency exists and notify the Vendor in writing of its Acceptance or Non-Acceptance of the Non-Software Deliverable. The Vendor must correct the Deficiencies within five (5) business days, or within the period identified in the Work Plan, as applicable. Following correction of the Deficiency, the State will notify the Vendor of its Acceptance or rejection of the Deliverable.

6.11.3 Written Deliverables Review

Prior to the commencement of work on Written Deliverables, the Vendor shall provide to the State a Table of Contents, template, draft or sample document for Review and prior written approval by the State.

The State will Review and either approves the proposed content for the Written Deliverable or not accept it and specify what the State requires. The finalized Table of Contents, template, or a draft or sample document, will then be utilized to subsequently Review the Deliverable to ensure it has met the State's expectations and can be accepted or not accepted based on previously agreed upon criteria.

After receiving Certification from the Vendor that a Written Deliverable is final, complete, and ready for review, the State will Review the Deliverable and the State will notify the Vendor in writing of its Acceptance or rejection of the Deliverable. If the State

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rejects the Deliverable, the State will notify the Vendor, in detail, of the nature and class of the Deficiency and the Vendor must correct the Deficiency within five (5) business days, or within the period identified in the Work Plan, as applicable.

Upon receipt of the corrected Deliverable, the State will have five (5) business days to Review the corrected Deliverable and notify the Vendor of its Acceptance or rejection thereof with the option to extend the Review Period up to five (5) additional business days. If the Vendor has failed to correct the Deficiency within the allotted period of time, the State may, at its option, continue reviewing the Deliverable and require the Vendor to continue until the Deficiencies are corrected.

If the Vendor is unable to remedy the Deficiency during the cure period, then the State may declare the Vendor in default, pursuant to Appendix G-4, Section 8, and immediately pursue its remedies at law and in equity.

6.11.4 Software - Testing and Acceptance

The State requires that an integrated and coherent approach to complete testing, Deficiency correction and Acceptance Testing be provided. The use of a Vendor's proprietary deployment methodology could provide cost and productivity efficiencies that the State may consider. This is contingent upon the Vendor meeting the requirements outlined in this RFP. The Vendor will play a major role in the testing of the Software and the System and will be fully responsible for all aspects of the testing and preparing all documents required for testing and testing coordination activity.

All Testing and Acceptance addressed herein shall apply to testing the System as a whole and its discrete parts (e.g., software modules, functions, elements, and deployments).

In its Proposal, the Vendor must include its proposed Test Plan and Testing methodology. After Contract award, the Vendor may be required to customize its proposed Test Plan methodology to reflect the needs of the Project and include the details of its Test Plan methodology in the detailed Work Plan (the first Project Deliverable). A separate Test Plan and set of test materials will be prepared for each Deployment (which will cover functions or modules to be tested in that Deployment). During each stage of testing, the Vendor shall ensure that the Work Plan and Test Plan fully outline, at a minimum, the State's and Vendor's activities, roles, timelines, and dependencies.

6.11.4.1 Time Period for Testing

Prior to the User Acceptance Testing (UAT) start, the State plans to provide support to the Vendor to test the System, throughout the course of the Project as detailed in the Work Plan Schedule and in the Test Plan. However, the Vendor will be responsible for performing testing prior to involving State resources to ensure efficient use of State time and effort. UAT will commence after the Vendor, in partnership with the State Project Manager, provides Certification that: the UAT environment (servers, all applications, and data) has been properly configured for testing; State users to be involved in the testing have been properly prepared to perform their duties as testers; and pre-

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requisite testing has been executed successfully as outlined in the Test Plan and test scripts/scenarios.

The Vendor will be responsible for defining adequate time frames for State and Vendor staff to properly test the Software and the System. The functionality will have widespread impact on the State and will need to be tested thoroughly from a functional and process perspective.

Infrastructure testing and tuning must also be scheduled.

It is crucial that State testing activities (and any training activities required as pre-requisites to testing) not be abbreviated in order to meet Project Implementation Schedules. The Vendor must disclose in their Proposal the scheduling assumptions they have used in regards to the State resource efforts required during testing. The Vendor cannot “over allocate” State staff beyond their availability; see Appendix A for detailed State resource breakout. The State requires that the testing activities be represented in both terms of resource effort (how many resources would be required and how many days per week) and duration (the overall timeframe for each testing period).

Vendors are required to explain how the State resource testing efforts outlined above are consistent with the Work Plan and the parameters of Appendix A.

6.11.4.2 Vendor Testing Responsibilities

The following represent the Vendor’s testing responsibilities for the Project:

- a.** The Vendor will be responsible for the full suite of test planning, preparation and execution (other than UAT) throughout the Project.
- b.** Coordinate all testing activity, including User Acceptance Testing (UAT), bug tracking, and resolution coordination.
- c.** Provide the State with a Test Plan Deliverable that includes identification, preparation, and Documentation of testing roles (State and Vendor), planned testing, a requirements traceability matrix, test variants, test scenarios, test cases, test scripts, test data, test phases, unit/integration tests, expected results, and a bug tracking and a process flow that outlines how the tracking will be used and how test environment change management will be handled. A separate Test Plan and associated testing materials will be provided for each Deployment. The Test Plan must be kept up-to-date with the time frames outlined in the Vendor’s Work Plan.
- d.** Prepare an appropriate number of test scripts to adequately test all requirements that may be used by the State during defined testing time frames as outlined in the Test Plan and the Implementation Services Vendor’s Work Plan.
- e.** Perform regression testing on components to verify that modifications have not caused adverse affects, to reduce State employee re-testing time, and to ensure that the Software and the System meet the specified requirements.

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- f.** The Vendor will be responsible for defining criteria in the Test Plan , which define when regression testing will occur and what steps it will take to ensure that modifications do not indirectly impact other areas of previously approved functionality.
- g.** Work in conjunction with state DoIT personnel to prepare all Software development, configuration, and testing environments.
- h.** Provide support for the State in setting up the production environment.
- i.** Provide the State with a testing environment independent from the Vendor's development environment.
- j.** Provide testing support for the State during UAT, which includes: helping users with process flow clarifications, logging and monitoring issues, reporting on testing status, and analysis.
- k.** Correct Deficiencies in the Software and the System throughout all testing efforts until the end of the Warranty Period.
- l.** Perform Unit, Integration, and associated performance tests prior to full-scale State resource Acceptance Testing. This includes testing of all interfaces and conversions.
- m.** Provide efficient and optimized interfaces that will at a minimum, run within existing Operational interface window timeframes.
- n.** Provide efficient design for load balancing and communications on custom code modules and configured components. The design must ensure that excessive and unnecessary communications traffic will not be produced that could impair the performance of the State's server and/or network environment.
- o.** The Vendor's Project Manager will provide written Certification that the Vendor has adequately tested the System prior to State resources performing User Acceptance Testing.
- p.** Plan and lead Performance/Tuning testing.

6.11.4.3 State Testing Responsibilities

The following represents the State's testing responsibilities for the Project:

- a.** Review the Vendor's Testing Plan. The State may choose to accept or not accept this Plan based upon agreed upon Acceptance criteria for this Deliverable.
- b.** Ensure that the Hardware and Operating Software required for development and testing are installed per the Original Equipment Manufacturer (OEM) Specifications. The State will work with the Vendor to Review and finalize these Specifications.
- c.** Provide coordination and Review support for the Vendor for testing activity prior to and during User Acceptance Testing.
- d.** Review and follow an Acceptance/non-Acceptance process on the results of the Vendor's regression, and Integration tests.
- e.** Extract necessary test Data from the State's legacy Systems for the Vendor.
- f.** Review and follow an Acceptance/non-Acceptance process on the design and Specifications of the Interfaces and Conversions created by the Vendor.

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- g. Provide support for the Vendor for development, Integration, and associated performance testing.
- h. Provide User Acceptance Testing resources that will execute test scripts for modules provided by the Vendor and/or additional scripts developed by the State.
- i. Follow an Acceptance/non-Acceptance process to accept or reject UAT testing results.

6.11.4.4 Performance Tuning and Stress Testing

6.11.4.4.1 Scope

The scope of performance testing is to measure the System level metrics critical for the development of the application's infrastructure and operation of the applications in the production environment. It also includes the measurement of response rates of the application for end-user transactions and resource utilization (of various servers and network) under various load conditions. These response rates become the basis for changes and retesting until optimum System performance is achieved.

The application transactions are identified with specific roles and selected transactions are recorded for the performance measurements. These can then be compared to baselines to determine if object performance increases as changes are made.

Performance testing considers the full scope of the application infrastructure with emphasis on the most heavily used or shared transactions. Performance testing of the application profiles the identified user transactions and assists in identifying performance gaps to improve the most critical parts of the applications.

Performance testing and tuning should occur in the final production environment and use a copy of the final production database to provide the best results.

6.11.4.4.2 Test types

Performance testing uses two different types of testing to determine the stability of the application. They are baseline tests and load tests

Baseline Tests: Baseline tests collect performance Data and load analysis by running scripts where the output is broken down into business transactions or functions. The test is like a single user executing a defined business transaction. During baseline testing, each individual script is run to establish a baseline for transaction response time, throughput and other user-based metrics. Usually each business transaction is executed multiple times during a single test run to obtain an average for the user-based metrics required for the performance testing evaluations. It must be noted that

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changes made to the code after baseline testing is completed will skew the results collected to date. All effort must be made to provide a code test base that is tested in the environment for problems prior to the establishment of the baseline which is used in future testing and tuning efforts. Any changes introduced into the environment after performance testing has started can compromise the accuracy of the results and will force a decision to be made whether baseline results need to be recreated.

Load Tests: Load testing determines if the behavior of the System can be sustained over a long period of time while running under expected conditions. Load test helps to verify the ability of the application environment under different load conditions based on work load distribution. System response time and utilization is measured and recorded.

6.11.4.4.3 Tuning: Tuning occurs during both the development of the application and load testing. Tuning is the process whereby the application performance is maximized. This can be the result of making code more efficient during development as well as making tuning parameter changes to the environment.

For infrastructure tuning, parameters must be identified for all components prior to undertaking the load testing effort. This should include a list of the variables, their definitions, the default settings, range of acceptable settings and the settings as testing begins. This will permit the team to identify the areas of most potential gain and a starting point. Tuning is a process which is repeated until the team feels that the Systems are running at or near optimum performance.

6.11.4.4.4 Implementing Performance and Stress Test: Performance and Stress Test Tools used by the State of New Hampshire are Tivoli ITM and ITCAM and CA Spectrum. The Vendor may use any open source product with the approval of State Project Team. Consideration must be given to licensing with respect to continued use for regression testing if tools, other than those which we are licensed for, are being recommended for this part of the Project.

6.11.4.4.5 Scheduling Performance and Stress Testing: The Vendor shall perform test planning.

The steps for planning include identification of application functionality as well as what percentage of normal daily use is represented by each function. This information will become the foundation for scripting so that tests closely represent what loads in production will look like.

The Vendor must also provide definition and expectations from testing. This definition should include who is in charge of testing and coordinating results, anticipated run times, logs required for tracking, their locations and

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which technician is responsible to track and provide them following each test to the team.

Initial test runs must be completed to establish that the tests and Data sets can be run to completion without errors. The ratio of types of transactions which makeup the test should be reviewed prior to the beginning of testing and then again once testing has begun to make sure that testing accurately reflects the System performing in production. If the ratios of different types of transactions needs adjustment this would be the time to do it.

Initial tests will also be used to establish a baseline from which all subsequent tests will be compared. Tests will be considered for baseline status once two of them have been run within 2% of each other in key and overall performance areas. No changes to the test scripts or Data sets (with the exception of restores after each test) can be done to the test environment once tuning has begun so as to not damage the comparison to baseline results. The Systems must be restarted prior to each test run to assure all cache is cleaned out. All effort must be made to run these tests at a time when System and network infrastructure utilization doesn't impact the results. Tests are to be run in close proximity to our infrastructure so as to eliminate the public network from our environment.

Post test reporting and result assessment must be Scheduled following each test. The team must compare these results to the baseline and a determination must be made to make additional changes to the parameter being tuned or return to the prior configuration and select another parameter to tune while keeping in mind that significant changes to any one parameter may require the retesting of some others. Careful work on identifying dependencies up front should minimize this impact.

If Defects are identified in the application during testing they must be identified however changes to the application code should be avoided if possible so as not to affect baseline comparisons. If a change to the application is required new baselines must be established (and possibly the execution of prior tests to validate changes with the new application) before testing can continue.

When performing capacity testing against a graphical user interface (GUI) the focus should be on the ability of the interface to respond to user input.

During stress/load testing the tester attempts to stress or load an aspect of the System to the point of failure. The goal being to determine weak points in the System architecture. The tester identifies peak load conditions at which the program will fail to handle required processing loads within required time spans.

During performance testing the tester designs test case scenarios to determine if the System meets the stated performance criteria. In both cases

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the tester is trying to determine the capacity of the System under a known set of conditions.

6.11.4.5 Test Plan

The Test Plan will guide all testing. The Vendor will be responsible for all testing prior to UAT. State resources will participate in testing prior to UAT as outlined in the Test Plan and agreed upon Work Plan to support the Vendor. The testing for UAT will be conducted by the State, or its designee, in a test environment independent from the Vendor's development environment. The Vendor must assist the State with testing as requested by the State, at no additional cost, primarily for UAT coordination, bug tracking, issue resolution, status preparation, and analysis. Within five (5) business days of receiving Certification from the Vendor that the System is installed, complete, ready for State testing, and that all unit, and integration testing have been successfully completed as specified in the Test Plan, and the State's personnel have been trained, the State will commence User Acceptance Testing.

6.11.4.5.1 Systems and Integration Testing

The Systems and Integration testing includes all the discrete parts and the System as a whole. The State will provide support as the Vendor conducts and coordinates Systems and Integration testing utilizing scripts developed, as identified in the Test Plan, to validate the functionality of the System, module or function, or element under review. Integration testing will be conducted utilizing test Data as identified in the Test Plan, to validate modifications, fixes, or other interfaces with the System.

6.11.4.5.2 User Acceptance Testing

The Vendor will coordinate and support the State effort on User Acceptance Testing (UAT). State resources will perform and execute UAT test scripts and scenarios utilizing test and live data, as identified in the Test Plan, to validate reports, conduct stress and performance testing, and any other final actions expected of the module or function.

Upon successful conclusion of UAT, a Letter of UAT Acceptance will be issued by the State for that Deployment, as described in 6.11.5.4.3 below.

6.11.4.5.3 Letter of UAT Acceptance

The State will issue a Letter of UAT Acceptance for each User Acceptance Test cycle if there are no Class A or Class B Deficiencies upon completion of the User Acceptance Tests.

6.11.4.5.4 Letter of Deployment Acceptance

The State will issue a Letter of Deployment Acceptance if the Deployment has no Class A or Class B Deficiencies after the modules,

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functions and elements tested during a UAT cycle have been moved into Production and have officially been deployed.

Absence of Class A and Class B Deficiencies is required before the State will issue the Vendor a Letter of Deployment Acceptance.

6.11.4.5.5 Letter of Final Acceptance

The State will provide the Vendor a Letter of Final Acceptance, notifying the Vendor of the State's Acceptance of the total System as specified under the Contract Documents after the final Warranty Period has expired if no Class A or B Deficiencies exist at conclusion of the Warranty Period.

6.11.4.5.6 Failure of Test; Retesting

For each failure of Acceptance Tests the State will notify the Vendor, in writing, in what respects the testing failed.

The Vendor shall notify the State no later than five (5) business days from the Vendor's receipt of written notice of the test failure, when the Vendor expects the corrections to be completed and ready for retesting by the State. The Vendor will have up to fifteen (15) business days to make corrections to the problem unless specifically extended in writing by the State.

If a Class A or B Deficiency is identified, and the System becomes unusable in whole or in part, then the test period for that function or module may start over, at the sole discretion of the State. If a Deficiency occurs that the Vendor cannot resolve then the State will notify the Vendor in writing and give the Vendor a thirty (30) day cure period as outlined in the Warranty Section of this RFP to remedy the issue to the State's satisfaction per the requirements of the RFP. If the Vendor is unable to remedy the Deficiency during the cure period, then the State may declare the Vendor in default, pursuant to Appendix G-4, Section 8, and immediately pursue its remedies at law and in equity.

6.12 Warranty

6.12.1 Warranties

6.12.1.1 System

The Vendor shall warrant that the System, including but not limited to the Software and the individual functions, must operate in conformance with the Specifications, terms, and requirements of the Contract, including but not limited to all elements, i.e., the software, hardware, and any interfaces.

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6.12.1.2 Software

The Vendor shall warrant that the Software, including but not limited to the individual modules or functions furnished under the Contract, is properly functioning within the System, compliant with the requirements of the Contract, and will operate in accordance with the Specifications.

6.12.1.3 Software Maintenance

Software maintenance:

- a. **Class A Deficiencies** - for all Class A Deficiencies, the Vendor shall have available to the State on-call telephone assistance, with issue tracking available to the State, twenty four (24) hours per day and seven (7) days a week with an email / telephone response within two (2) business hours of request; and the Vendor shall provide support on-site or with remote diagnostic Services, within four (4) business hours of a request;
- b. **Class B & C Deficiencies** – for all Class B & C Deficiencies the State will notify the Vendor of such Deficiencies during regular business hours and the Vendor shall respond back within four (4) business hours of notification of planned corrective action;
- c. Repair or replacement of the Software, and maintenance of the Software in accordance with the Specifications and terms and requirements of the Contract;
- d. Maintain a record of the activities related to warranty repair or maintenance activities performed for the State;
- e. For all maintenance Services calls, the Vendor shall ensure the following information will be collected and maintained: 1) nature of the Deficiency; 2) current status of the Deficiency; 3) action plans, dates, and times; 4) expected and actual completion time; 5) Deficiency resolution information; and
- f. The Vendor must work with the State to identify and troubleshoot potentially large-scale System failures or Deficiencies by collecting the following information: 1) mean time between reported Deficiencies with the Software; 2) diagnosis of the root cause of the problem; and 3) identification of repeat calls or repeat Software problems.

In the event the Vendor fails to correct a Deficiency within the allotted period of time stated above, the State shall have the right, at its option to: 1) declare the Vendor in default, terminate the support Contract, in whole or in part, without penalty or liability to the State; 2) return the Vendor's product and receive a refund for all amounts paid to the Vendor, including but not limited to, applicable license fees within ninety (90) days of notification to the Vendor of the State's intent to request a refund; 3) and to pursue its remedies available in law or in equity.

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6.12.1.4 Viruses; Destructive Programming

The Vendor shall warrant that the Software will not contain any viruses, destructive programming, or mechanisms designed to disrupt the performance of the Software in accordance with the Specifications.

6.12.1.5 Compatibility

The Vendor shall warrant that all components, including but not limited to the individual modules or functions, including any replacement or upgraded Software components provided by the Vendor to correct Deficiencies or as an Enhancement, shall operate with the rest of the Software without loss of any functionality.

6.12.1.6 Services

The Vendor shall warrant that all Services to be provided under the Contract will be provided in a professional manner in accordance with industry standards and that Services will comply with performance standard.

6.12.2 Warranty Services

The Vendor shall agree to maintain, repair, and correct Deficiencies in the Solution, including but not limited to the individual modules or functions during the Warranty Period, at no additional cost to the State, in accordance with the Specifications and terms and requirements of the Contract, including without limitation, correcting all errors, and Defects and Deficiencies; eliminating viruses or destructive programming; and replacing incorrect, Defective or deficient Software and Documentation.

Warranty Services shall include, without limitation, the following:

- a.** Maintain the Solution in accordance with the Specifications, terms, and requirements of the Contract;
- b.** Repair or replace the Solution or any portion thereof so that it operates in accordance with the Specifications, terms, and requirements of the Contract;
- c.** The Vendor shall have issue tracking available to the State, twenty four (24) hours per day and seven (7) days a week with an email / telephone response within two (2) business hours of request, with assistance response dependent upon issue severity;
- d.** Maintain a record of the activities related to warranty repair or maintenance activities performed for the State;
- e.** For all Warranty Services calls, the Vendor shall ensure the following information will be collected and maintained: 1) nature of the Deficiency; 2) current status of the Deficiency; 3) action plans, dates, and times; 4) expected and actual completion time; 5) Deficiency resolution information;

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- f. The Vendor must work with the State to identify and troubleshoot potentially large-scale Software failures or Deficiencies by collecting the following information: 1) mean time between reported Deficiencies with the Software; 2) diagnosis of the root cause of the problem; and 3) identification of repeat calls or repeat Software problems; and
- g. All Deficiencies found during the Warranty Period and all Deficiencies found with the Warranty Releases shall be corrected by the Vendor no later than five (5) business days, unless specifically extended in writing by the State and at no additional cost to the State. (See Section 6.11.5.4.6: *Failure of Test; Retesting*)

In the event the Vendor fails to correct the Deficiency within the allotted period of time (see above), the State shall have the right, at its option: 1) declare the Vendor in default, terminate the contract, in whole or in part, without penalty or liability to the State; 2) return the Vendor's product and receive a refund for all amounts paid to the Vendor, including but not limited to, any applicable license fees within ninety (90) days of notification to the Vendor of the State's intent to request a refund; 3) and to pursue its remedies available at law or in equity.

Notwithstanding any provision of the Contract, the State's option to terminate the Contract and pursue the remedies above will remain in effect until satisfactory completion of the full Warranty Period. (See section 6.12.3: *Warranty Period*, below).

6.12.3 Warranty Period

The Warranty Period will initially commence upon the State issuance of a Letter of Acceptance for UAT and will continue through 90 days.

For subsequent modules or functions, the Period will extend for 90 days after each of the remaining major functions or modules, integrated successfully with the entire System, receives a Letter of Acceptance from the State.

If within the last thirty (30) calendar days of the Warranty Period, the Software fails to operate as specified, the Warranty Period will cease; the Vendor will correct the Deficiency, and a thirty (30) calendar day Warranty Period will begin. Any further Deficiencies with the Software must be corrected and run fault free for thirty (30) calendar days.

6.13 Administrative Specifications

6.13.1 Reasonable Travel Expenses

The Vendor must assume all travel and related expenses. All labor rates will be "fully loaded", including, but not limited to:

- Meals;
- Hotel;
- Airfare;

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- Car rentals;
- Car mileage; and
- Out-of-pocket expenses

6.13.2 Shipping and Delivery Fee Exemption

The State will not pay for any shipping or delivery fees unless specifically itemized in the Contract.

6.13.3 Workspace and Office Equipment

The State will provide the following workspace and office equipment for the Project:

- Workspace for the Vendor staff ;
- Furnishings for workspace;
- Meeting facilities sufficient to satisfy Project needs (the Vendor and State will agree to these needs during the finalization of the Work Plan);
- Shared office equipment, including printers and photocopiers.

The State will not provide personal computers for Vendor staff.

If a Vendor has specific requirements, they must be included in the Vendor's Proposal.

6.13.4 Access/Cooperation

As applicable, and subject to the applicable laws and regulations, the State will provide the Vendor with access to all program files, libraries, personal computer-based Systems, software packages, network Systems, security Systems, and hardware as required to complete the contracted Services.

The State will use reasonable efforts to provide approvals, authorizations, and decisions reasonably necessary to allow the Vendor to perform its obligations under the Contract.

6.13.5 State-Owned Documents and Copyright Privileges

The Vendor shall provide the State access to all State-owned documents, materials, reports, and other work in progress relating to this RFP. Upon expiration or termination of the Contract with the State, the Vendor shall turn over all State-owned documents, material, reports, and work in progress relating to this RFP to the State at no additional cost to the State. Documents must be provided in both printed and electronic format.

6.13.6 Intellectual Property

The State shall hold all ownership, title, and rights in any Custom Software developed in connection with performance of obligations under the Contract, or modifications to the software, and their associated Documentation including any and all performance enhancing Operational plans and Vendors' special utilities. The State shall have sole right to produce, publish, or otherwise use such software,

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modifications, and Documentation developed under the Contract and to authorize others to do so.

6.14 Pricing

6.14.1 Activities/Deliverables/Milestones Dates and Pricing

The Vendor must include, within the fixed price for IT Service activities, tasks, and preparation of required Deliverables, pricing for the Deliverables required based on the proposed approach, and methodology and tools. A fixed price must be provided for each Deliverable. A worksheet is provided in Appendix F-1, Table F-1-1: *Activities/Deliverables/Milestones Pricing Worksheet*.

6.14.2 Invoicing

The Vendor shall submit correct invoices to the State for all amounts to be paid by the State. All invoices submitted must meet with the approval of the State and said approval shall not be unreasonably withheld. The Vendor shall only submit invoices for Services or Deliverables as permitted by the Contract. Invoices must be in a format as determined by the State and contain detailed information, including without limitation: itemization of each Deliverable and identification of the Deliverable for which payment is sought, and the Acceptance date triggering such payment; date of delivery and/or installation; monthly maintenance charges; any other Project costs or retention amounts if applicable.

6.14.3 Over Payments to the Vendor

The Vendor shall promptly, but no later than fifteen (15) business days, pay the State the full amount of any over payment or erroneous payment upon discovery.

6.14.4 Credits

The State may apply credits due to the State against the Vendor's invoices with appropriate information attached.

6.14.5 Records Retention and Access Requirements

The Vendor shall agree to the conditions of all applicable State laws and regulations, which are incorporated herein by this reference, regarding retention and access requirements relating to all records relating to the Contract. The record retention policies of this agreement shall be consistent with the Federal Acquisition Regulations (FAR) Subpart 4.7 Contractor Records Retention except where they are in conflict with State laws and regulations.

The Vendor and any of its Subcontractors shall maintain books, records, documents, and other evidence of accounting procedures and practices, which properly and sufficiently reflect all direct and indirect costs, invoiced in the performance of the Contract. The Vendor and its Subcontractors shall retain all such records for three (3) years after the final payment on the Contract. Records relating to any litigation matters regarding the Contract shall be kept for one (1) year following the

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termination of litigation, including the termination of all appeals or the expiration of the appeals period.

Upon prior notice and subject to reasonable time frames, all such records shall be subject to inspection, examination, audit and copying by personnel so authorized by the State and federal officials so authorized by law, rule, regulation or Contract, as applicable. During the term of this Contract, access to these items will be provided within Merrimack County of the State of New Hampshire, unless otherwise agreed by the State. Delivery of and access to such records will be at no cost to the State during the three (3) year period after the Contract term or six (6) year term following litigation. The Vendor shall include the record retention and Review requirements of this section in any of its subcontracts.

The State agrees that books, records, documents, and other evidence of accounting procedures and practices related to the Vendor's cost structure and profit factors shall be excluded from the State's Review unless the cost or any other material issued under the Contract is calculated or derived from these factors.

6.14.6 Accounting Requirements

The Vendor shall maintain an accounting in accordance with generally accepted accounting principles. The costs applicable to the Contract shall be ascertainable from the accounting and the Vendor shall maintain records pertaining to the Services and all other costs and expenditures.

6.15 Contract Security/Performance Bond

NOT APPLICABLE

6.16 Project Holdback

The State will withhold ten (10) percent of the agreed Deliverables pricing tendered by the Vendor in this FIRM FIXED PRICE (FFP) engagement until successful completion of the Warranty Period as defined in Section 6.12.3: *Warranty Period*.

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APPENDIX A: BACKGROUND INFORMATION

A-1 Department of Health and Human Services

Environmental Public Health Tracking (EPHT) Program

The Mission of the Environmental Public Health Tracking (EPHT) Program is:

“To develop a secure network for the collection, access, analysis, and dissemination of environmental public health Data and information; to guide policy, practice, and other actions toward improving the health of New Hampshire residents; and to foster collaboration among the state's environmental and public health partners.”

The NH Environmental Public Health Tracking (EPHT) Program is a cooperative initiative between the NH Department of Health and Human Services and the NH Department of Environmental Services. NH EPHT is funded by the Centers for Disease Control and Prevention (CDC) to improve public health by providing science-based information on the trends and distributions of environmentally-related diseases. Additional information regarding the NH Environmental Health Tracking (EPHT) Program can be found using the following link: <http://www.nh.gov/epht>

A-2 Current and Future Data Storage and Reporting

Data collections relevant to this RFP are reported at different intervals throughout the year. Data collections include the following:

Enterprise Data Warehouse (EDW)

The DHHS Data warehouse is a centralized Oracle database environment containing discrete Data sets used to support the querying needs of over a dozen DHHS divisions/business units. The recently created EPHT Hospitalization Data Mart is housed within the Data warehouse and draws off of the preexisting Web-based Reporting and Query System (WRQS) Data Mart, also within the Data warehouse. The proposed Cancer Data Mart will also reside in the DHHS Data warehouse and will share common dimensions with the Hospitalization Data Mart.

The Environmental Health Data Integration Network (EHDIN)

EHDIN is a public Data portal that provides Data about environmental hazards, exposures, and health effects that may be linked to the environment.

New Hampshire State Cancer Registry (NHSCR)

The New Hampshire State Cancer Registry (NHSCR) is a statewide, population-based cancer surveillance program that collects incidence Data on all cancer cases diagnosed or treated in the State of New Hampshire.

Future Data Reporting Plan

By way of the Contract amendment process, the State may authorize the addition of other health information databases to the EPHT Program. These databases include, but are not limited to vital records, blood lead poisoning, and carbon monoxide poisoning.

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A-2.1 Data Description for Current Data Collection

Table A-2.1 Data Description for Current Data Collection - This table lists the Department's major source of Data for input.

Interface	Approximate Yearly Increment	Current Record Count	DIM Approximate Dimension Table Count	Fact Approximate Data Table Count	
The NH Cancer Registry	8,000	200,000	10	2	1990-2008

A-2.3 Technical Interfaces:

NH DHHS Enterprise Data Warehouse (EDW)

The New Hampshire DHHS maintains a warehouse of Data sets for NH State Cancer Registry records, Hospital, Death, and Birth databases. This will be the source Data that the new Data Mart will be modeled from.

NH DHHS Components for the technical environment include:

- Hardware Platform(s)
 - Servers – Unix, Windows
 - Desktops - Dell
- Operating System(s)
 - Servers - HP/UX/Windows Server 2003
 - Desktops - Windows XP

Software Development Environment - Oracle PL/SQL, IBM Cognos 8.4.1

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Database(s) Oracle 11g

- Print / File Platform(s) – TCPIP/Raw
- Email Platform – Lotus Notes 7 and 8

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The DHHS network is comprised of two locations, Local Area Network (LAN) resources at headquarters and DMZ at a remote location. DMZ would house front end or application servers. Database servers would be housed at the LAN location. The two sites are connected via dedicated ATM and fiber. Further Documentation will be provided to the successful bidder as needed to accomplish the requirements of this RFP.

A-3 Department of Information Technology Status

The Project will be conducted in cooperation with the New Hampshire Department of Information Technology (DoIT). DoIT oversees implementation of all Information Technology activities statewide.

A-3.1 New Hampshire Information Technology Plan (NHITP)

The Department of Information Technology recently published a State of New Hampshire four (4) year New Hampshire Information Technology Plan (NHITP) 2005-09. The October 2005 NHITP 2005-09 contains the vision, goals, and strategy for the electronic delivery of government Services on the Internet and details future e-government direction and implementation strategy. The NHITP 2005-09 helps government leaders anticipate and respond to significant external changes, accelerates IT learning across State agencies, and leverages investments in Information Technology across State agencies.

A-3.2 Technical Architecture

Components of the State's technical architecture include:

- **State Network Environment:** The Statewide WAN consists of two high bandwidth Circuits at 27 Hazen Drive which serve as head-ends for multiple state agencies to use centralized resources. This WAN provides services such as access to State's financial applications, E-Mail, ability to access the States Internet connection, Voice over IP, and some multicast applications. Various circuit types are used for the remote site transport PPP, Frame-Relay, ADSL which all come back to an ATM Circuit. An Ethernet WAN is being deployed for one State Agency which comes back to an Ethernet WAN Head-End Circuit at Hazen Drive. Some agencies elect to use a backup circuit in the event that the primary circuit fails. Support for the WAN is provided by DoIT, there are 3 agencies that have their own WAN infrastructure which is also supported by DoIT.
- **Internet Access:** State Agencies that access the Internet use the State's Primary Internet connection at Hazen Drive. There is a lower bandwidth backup Internet connection at the Emergency Operations Center Smokey bear Dr in Concord in the event that the Primary connection fails.

A-4 Related Documents Required

a. Certificate of Good Standing/Authority

(Dated after April of the current year and available from the Office of the Secretary of State by calling (603) 271-3244 or (603) 271-3246. Forms are also available on:

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www.sos.nh.gov/corporate/index.html)

- b. Certificate of Vote (Appendix G-6)
- c. Proof of Insurance Compliance with Appendix G-4: *State of New Hampshire Terms and Conditions*, Section 14: *Insurance*.

A-5 State Project Team

State high-level staffing for the Project will include:

A-5.1 State Project Manager

The State Project Manager has the primary responsibility for tracking and ensuring the Project's success. Major duties include:

- Maintain knowledge of the status and progress of the Vendor's efforts;
- Coordinate State resources necessary for the Project;
- Facilitate communication between different State agencies as needed;
- Engage and manage all Vendors;
- Manage stakeholders' concerns;
- Deliverables Acceptance sign-off;
- Resolution of Project issues;
- Escalation of outstanding/high priority issues;
- Conduct regular and ongoing reviews of the Project to confirm that it meets all objectives and requirements;
- Document important Project decisions;
- Update the Project Sponsor with Project status and appropriate issues, risks and successes.

A-5.2 Data Base Administrator

The Data Base Administrator has the primary responsibility of managing the warehouse data. In partnership with the Vendor, major responsibilities include:

- Perform detail Data analysis and develop the dimensional Data model;
- Translate the dimensional model into physical table structures;
- Assist with the ETL process;
- Expertise to develop customized interfaces for the users;
- Provide training and support to users;
- Analyze Data;
- Transfer student and assessment Data to Performance Pathways;
- Will have ongoing responsibility for the day-to-day Operational support of the database and database availability and performance.

A-5.3 Business Analyst

The Business Analyst primary responsibilities include:

- Defining Department business requirements, Systems requirements, and Operational procedures;
- Data Analysis;
- Works with the Vendor Project Team and the State DBA in the development of functional Specifications, System Specifications and process Specifications for the Data warehouse;

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- Works with the Vendor Project Team and the State DBA for the development of Data models, metadata, extract/transform/load processes and user access requirements for the cancer reporting System;
- Coordinates testing and Acceptance of the Vendor proposed Solution;
- Provides training and support for the DHHS user community;
- Assists the State Project Manager and State DBA in all aspects of the Project.

A-5.4 System Development Specialist.

The System development Specialist primary responsibilities include

- Assisting with system and software design
- Providing technical support and background on existing architectural environment and interacting with other technical and business resources as required
- Assist with the coordination of IT resource efforts
- On-going Data Mart development support and report generation

A-5.4 State Data Analyst/Subject Matter Expert

The Analyst major duties include:

- Act as a subject matter expert in the areas of public health informatics, health statistics and cancer data;
- Assist in communicating the technical business needs of the Project to the Vendor;
- Maintain knowledge of technical efforts and progress of the Vendor;
- Conduct regular and ongoing testing of the technical products to confirm that it meets objectives and requirements;
- Consult on important Project decisions

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APPENDIX B:MINIMUM STANDARDS FOR PROPOSAL CONSIDERATION

Information is requested in Section 4.20: *Proposal Content*, to enable the State to Contract for Project Implementation with an experienced Vendor. Coverage in Appendix B is limited to specific minimum requirements. A Proposal that fails to satisfy the requirements in this section may be rejected without further consideration

B-1 Proposal Submission

The Proposal must be submitted on time, as defined in this RFP in Section 1.6: *Schedule of Events* and include the properly completed Transmittal Form Letter contained in Section 4.20.2: *Transmittal Form Letter*.

B-2 Compliance with Requirements

Requirements and Deliverables are listed in Appendix C: *Requirements and Deliverables* in this RFP. The proposed Vendor's Solution must be able to satisfy all *Mandatory* requirements listed.

B-3 Vendor Implementation Service Experience

The Implementation Vendor must have completed Projects comparable in size and complexity, to the proposed Solution for at least two (2) clients, preferably government clients within the last five (5) years. The specific Vendor proposed Solution and functionality must be described.

B-4 Proposed Vendor Project Team

The proposed Vendor Project Team must include individuals with experience in public health or cancer, Data warehouse development and implementation, and Business Intelligence (BI) reporting system implementation. The State requires that the Vendor provide experienced professionals to work with, and transfer knowledge to, State Project staff in all areas of this Project.

For the purpose of evaluating compliance with this requirement, the Vendor team is permitted to include Subcontractors. Also, one (1) team member may be identified to fulfill the experience requirement in multiple areas.

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APPENDIX C: REQUIREMENTS AND DELIVERABLES

Requirements and Deliverables for the Cancer Data Mart for NH EPHT, as described in this RFP, are listed in Table C.1 *Requirements -Vendor Response Checklist* and Table C.2 *Deliverables*.

C-1 Vendor Response Checklist

Vendors shall complete a checklist based on the following format. Requirements are identified as Mandatory (M) and Optional (O). Indicate whether the requirement is included without modification, with modification, or not at all in the proposed Solution. If modifications are needed to meet requirements, those modifications must be included in the cost. In the Vendor Response column enter the page number in the Proposal where this requirement is discussed and/or include descriptions of how the Vendor proposed Solution will meet the requirement.

Phase I of this Project will consist of a readiness assessment of the current System.

Phase II of this Project will consist of Design and Implementation of the Cancer Data Mart. Design will include:

- Work Plan submitted by the Vendor
- State Approval of the Work Plan
- Logical and technical design documents for each component of the Project explaining the process for each.
- State Approval of logical and technical design documents for each component of the Project.

Implementation will include:

- With State approval to proceed, the Vendor will fulfill the remaining requirements and Deliverables of this RFP.

Phase III of this Project will include Design and Integration of a Cognos reporting System into the existing Data Mart, Documentation of the entire process, and Knowledge Transfer.

Phase IV of the Project will consist of the Warranty period.

It is expected that the selected Vendor will complete contracted Deliverables for Phase I, Phase II, Phase III, and Phase IV of this Project by the grant program end date of July 31, 2011.

Future phases of this Project, including but not limited to the addition of other health statistic databases, will be authorized by the State through the execution of a Contract change order and a subsequent Contract amendment which is more fully described in RFP Section 6.10: *Work Plan* and Section G-4.17: *Amendments*.

Note: Examples provided with the requirement are provided solely for clarification and not to describe the full extent of the requirement.

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Table C.1 Requirements and Deliverables -Vendor Response Checklist

REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
1.0	Phase I Requirements					
1.1	Kick off meeting a. Must attend face to face meeting b. Must co-facilitate meeting	M				
1.2	Preliminary Work Plan and Schedule a. Must provide an outline of a preliminary Microsoft Project work plan and schedule. The program will use this plan to monitor vendor accomplishments. The plan must contain: a. An outline of the tasks performed under each deliverable b. Approximate start and end dates for each phase	M				
1.3	Existing data mart assessment a. Must provide written assessment of Data Mart and outline changes which may need to occur to incorporate new requirements: a. Is structure of existing ETL adequate? b. Is data mart structure adequate? c. Is hardware/software adequate? d. Are there requirements under phase 2.2 which may be problematic? e. Is there functionality in the requirements which may be problematic?	M				
1.4	Reporting System assessment (Data model, BI tool) a. Must provide written assessment of Reporting System and outline changes which may need to occur to incorporate new requirements a. Is Framework Manager Model adequate?	M				

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	b. Is Cognos package adequate? c. Is hardware/software adequate					
1.5	BUSINESS REQUIREMENT DOCUMENT (BRD) assessment a. Must provide a written assessment of the BRD. a. Must identify problematic requirements. b. Must identify where more detail or clarification is needed. c. Must identify whether examples are adequate.	M				
2.0	Phase II Requirements					
2.1	Design	M				
2.1.1	Kick off meeting a. Must attend face to face meeting b. Must co-facilitate meeting	M				
2.1.2	Final work plan and schedule in written form a. In accordance with Section 6.10 Work Plan b. Schedule must be in Microsoft Project format	M				
2.1.3	State approval of work plan	M				
2.1.4	Logical and Technical Design Documents for proposed Solution: ETL, Data Mart integration, assessment of new Data Mart readiness for reporting System a. Must include details of the ETL process b. Must include details of the Data Mart design c. Must discuss how new cancer related requirements will integrate with existing data mart d. Must include a readiness assessment of the Data Mart for Phase III deliverables (Cognos Framework	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	Manager model and package)					
2.1.5	State approval of design documents	M				
2.2	Implementation	M				
2.2..1	ETL Programming a. Must program ETL processes in PL/SQL b. Must have data-cleansing functionality to identify Data quality errors (e.g. invalid codes) c. Must have logging capability (e.g. Error logs, successful completions) which includes: a. Successful completions b. Invalid codes c. Failed loads d. Other items identified through discussion with State System Administrator and State DBAs. d. Must provide notification of successful and unsuccessful loads e. Prefer smart updates – only loading necessary rows f. Must work with State System Administrator and DBAs to integrate new ETL processes with existing ETL processes a. Interaction between new and existing ETL processes must be identified and any issues resolved g. Must work with State code reviewers (System administrator and DBAs to ensure ETL processes are adequately commented/documented	M				
2.2.2	Data Mart Build and Load a. Must be constructed using industry standards for Data warehouse development and Data modeling techniques. b. Must provide the capacity to store 100 years of NH State Cancer Registry records.	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	c. Provide automated testing tools. d. Provide automated performance monitoring tools. e. Must include metadata for all Data Mart elements. i. Example data dictionary and/or metadata information is outlined in the BUSINESS REQUIREMENT DOCUMENT.					
2.2.3	Unit and system testing a. Must ensure data quality of all data mart elements i. # records in data mart = # records in source data (or must define why records are excluded) ii. Must work with State System Administrators and DBAs to ensure unit testing of the ETL process and Data Mart are adequate	M				
2.2.4	User Acceptance Testing a. Must provide draft written documentation instructing users on how to use/access system. a. This can be performed in conjunction with DoIT staff.	M				
2.2.5	Data Mart Administration and Operation Documentation a. Key DoIT staff must be provided training and training materials which will allow the State to be able to fully understand, maintain, operate, and expand the ETL and Data Mart into the future. a. Training materials must be provided for DoIT key staff to ensure that DoIT key staff are able to run the ETL, Administer the Data Mart, add new observations to the Data Mart, and maintain and expand the Data Mart in the future. This	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	includes: i. Systems administration documentation must describe: 1. Why the data mart is modeled as it is (including descriptions of interaction with the Cognos Framework Manager Model) 2. How to monitor system performance 3. How to manage automated unit and system testing 4. Data dictionary for all elements 5. Data Mart tuning and performance ii. Systems Operation Documentation a. Training materials to be provided on operating the Data Mart and ETL process. Documentation must describe how to: a. Run the ETL b. Handle errors in the ETL (load failures, invalid codes etc.) d. Interpret the logs e. Load new observations					
2.2.6	Knowledge transfer to DoIT staff sign-off a. Signature to signify adequate training as agreed upon by State System Administrators and DBA and the Vendor	M				
2.3	Phase II Wrap-up					
3	Phase III Requirements					
3.1	Design	M				
3.1.1	Kick off meeting	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	a. Must attend face to face meeting b. Must co-facilitate meeting					
3.1.2	Final Work Plan and Schedule in written form a. In accordance with Section 6.10 Work Plan b. Schedule must be in Microsoft Project format	M				
3.1.3	Logical and Technical Design Documents for proposed Solution: Cognos Framework Manager Model and package design	M				
3.1.4	Framework Manager Model and Package Prototype a. Prototype must correctly exhibit key functionality outlined in BUSINESS REQUIREMENT DOCUMENT b. Prototype must correctly join cancer incidence counts with population counts and standard proportions when these key dimensions are invoked: a. Age, Geography (Census tract, town, Zip code required – aggregates of these are implied [e.g., Public Health Network]), Gender, Date (Year, Multi-Year) c. Prototype must correctly produce calculations in BUSINESS REQUIREMENT DOCUMENT when key dimensions are varied.	M				
3.1.5	UAT of Prototype	M				
3.1.6	State approval of design documents	M				
3.2	Implementation	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
3.2.1	Build Framework Manager Model and Cognos Package a. Model and package must utilize Data Mart metadata b. Package must include long-names/descriptions to assist report developers. c. Package must efficiently produce all calculations in the BUSINESS REQUIREMENT DOCUMENT d. Package must include all measures identified in Joint Application and Development (JAD) sessions	M				
3.2.2	Published Cognos Package in User Acceptance Testing environment	M				
3.2.3	User Acceptance Testing	M				
3.2.4	Final Published Cognos Package in Production	M				
3.2.5	Reporting System Administration and Operation Documentation for key DoIT Staff d. Training and training materials must be provided to key DoIT staff which discusses a. Why the model and package are designed as they are b. What functions are carried out in the data mart rather and which are carried out in the Cognos Framework Manager Model. c. Measures used to ensure efficiency d. Tuning and performance tips e. Etc.	M				
3.2.6	Reporting System Operation Documentation for End Users a. Training and training materials must be provided to report	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	developers so they are able to use the reporting system to create the required calculations and reports as intended by the vendor and/or using best practices, this includes a. Must include instruction and examples of using Cancer Package b. Must include best practices, tips, efficiencies, things to avoid, etc. c. Optional, but preferred face to face training session					
3.3	Phase III Wrap-up	M				
4	Miscellaneous requirements					
4.1	All Documentation must be provided in MS Office format and/or in a format that is web accessible.	M				
4.2	All documentation must be well organized with an accurate table of contents.	M				
4.3	The completed Solution must physically reside at a DoIT designated facility	M				
4.4	One key Vendor staff preferred to work on site for the duration of the Project. (The State would like the option of having a Vendor staff member on site full time for the duration of Phase I. Please include, in Appendix F, any additional costs for this option that would be above and beyond any costs for knowledge transfer already built into the cost for Phase I.)	O				
4.5	Weekly status meetings.	M				
4.6	The system must conform to the specification of this RFP including but not limited to the Business Requirement	M				

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	Document (Attachment 1).					
	Verify the identity or authenticate all of its client applications before allowing them to use its capabilities to prevent access to inappropriate or confidential data or services.					
	Verify the identity or authenticate all of its human users before allowing them to use its capabilities to prevent access to inappropriate or confidential data or services.					
	Enforce unique user names.					
	Enforce the use of complex passwords or phrases using capital letters, numbers and special characters.					
	Encrypt passwords in transmission and at rest within the database.					
	Expire passwords after a definite period of time					
	Ability to limit the number of people that can grant or change authorizations					
	Ability to enforce session timeouts during periods of inactivity.					
	Ensure application has been tested and hardened to prevent critical application security flaws. At a minimum, the application shall be tested against all flaws outlined in the Open Web Application Security Project (OWASP) Top Ten (http://www.owasp.org/index.php/OWASP_Top_Ten_Project)					
	The application shall not store authentication credentials or sensitive Data in its code.					
	Detect and record all attempted accesses that fail identification, authentication and authorization requirements.					
	The application shall log all activities to prevent parties to application transactions from denying that they have taken place.					
	The application must allow a user to explicitly terminate a session. No remnants of the prior session should then remain.					

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REQ #	Requirements	M or O	Included Without Mod	Included With Mod	Not Included	Vendor Response
	The application shall NOT display explicit error and exception handling when not executing as designed in the production environment					
	Keep any sensitive Data or communications private from unauthorized individuals and programs.					
	Subsequent application enhancements or upgrades shall not remove or degrade security requirements					

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C-2 Vendor Deliverable Dates

These are high level Deliverables to be incorporated into the development of the complete Solution. The Vendor should update the table with anticipated Deliverable types and dates in the proposal.

Deliverable	Deliverable Type	Deliverable Date
1. Phase I – Existing System readiness assessment		
1.1 Kick off meeting	Non-Software	
1.2 Preliminary Work Plan and Schedule	Written	
1.3 Existing Data Mart assessment		
1.4 Reporting System assessment (Data model, Package and BI tool)	Written	
1.5 Business Requirement Document Assessment (Appendix 1)	Written	
2. Phase II – Data Mart Development		
2.1 Design		
2.1.1 Kick off meeting	Non -Software	
2.1.2 Final Work Plan and Schedule	Written	
2.1.3 State Approval of Work Plan		
2.1.4 Logical and Technical Design Documents for proposed Solution: ETL, Data Mart integration, assessment of new Data Mart readiness for reporting System (JAD)	Written	
2.1.5 State Approval of Design Documents		
2.2 Implementation		
2.2.1 ETL Programming	Software	
2.2.2 Data Mart build and load	Software	
2.2.3 Unit and System Testing	Software	
2.2.4 User Acceptance Testing		
2.2.5 Data Mart Administration and Operation Documentation	Written	
2.2.6 Knowledge Transfer to DoIT staff sign-off	Verbal	
2.3 Phase II Wrap-up		
2.3.1 Knowledge Transfer document hand-off	Written	
3. Phase III – Reporting System		
3.1 Design	Software	

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3.1.1 Kick off meeting	Non-Software	
3.1.2 Final Work Plan and Schedule	Software	
3.1.3 Logical and Technical Design Documents for proposed Solution: Cognos Framework Manager Model and package design (JAD)	Written	
3.1.4 Framework Manager Model and Package working Prototype	Software	
3.1.5 UAT of Prototype		
3.1.6 State approval of design documents		
3.2 Implementation		
3.2.1 Publish Cognos package with Framework Manager Model	Software	
3.2.2 User Acceptance testing		
3.2.3 Documentation for Report Developers	Written	
3.2.4 Knowledge Transfer for DoIT staff	Verbal	
3.3 Phase III Wrap-up		
3.3.1 Knowledge Transfer document hand-off	Written	
4. Phase IV Warranty Period (fully described in Section 6.12.3)		

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APPENDIX D: TOPICS FOR MANDATORY NARRATIVE RESPONSES

Vendors must describe the Software, Technical, Services and Project Management topics defined for this RFP Project. The following table identifies specific topics for narratives. A page limit is identified for each topic. If a response to a topic exceeds the page limit, the State will limit its consideration to the prescribed page limit. This section should provide a clear understanding of how the requirements in Appendix C: *Requirements and Deliverables* will be included in the Vendors Solution.

For all topics discuss ETL, Data Warehouse and Decision Support System.

Topic	Page Limit
D-1 Proposed Data Mart Solution	
Phase I – Existing System Readiness Assessment	
Topic 1 – Assessment of the Existing System	2
Phase II Data Mart Development	
Topic 2 - Design and Overall Functionality	2
Topic 3 - Architecture	1
Topic 4 - Environment Setup, Testing/Tuning	2
Topic 5 - System Security	1
Topic 6 - Development and Implementation Approach	2
Topic 7 – Acceptance Testing	1
Topic 8 - Training Approach & Knowledge Transfer	1
Topic 9 - Documentation	1
Topic 10 - System Administration	1
Phase III – Reporting System	
Topic 11 – Reporting and Analysis Capabilities	2
Phase IV – Warranty	
Topic 12 – Warranty Services	1
D-2 Vendor’s Technical, Service, And Project Management Experience Topics	
Topic 13 – Vendor References	1
Topic 14 - Work Plan	2
Topic 15 - Status Meetings and Reports	1
Topic 16 - Quality Assurance Approach	1
D-3 Staff Qualification Topics	
Topic 17 – Proposed Staff Resumes and Experience	5

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D-1 PROPOSED DATA MART SOLUTION TOPICS

This section provides a series of topics related to the proposed Solution.

Phase 1 - Existing System Readiness Assessment

Topic 1 - Assessment of the Existing System

Response Page Limit: 2

Describe how you would approach the assessment of the existing DHHS Data Mart, Reporting System, and Business Requirements Document?
What problems and obstacles might be encountered in this process?
What should the role of State staff be during this process?

Phase 2 - Data Mart Development

Topic 2 – Design and Overall Functionality

Response Page Limit: 2

- Provide a brief overview of all the components of the proposed Solution including software, design Services, programming Services, and training Services.
- Provide an overview of how the Solution will meet the needs of the Report Developers by addressing the following:
 - Describe how the Solution will meet the needs of Report Developers and advanced secure users performing ad hoc analysis and reporting.
 - Describe how metaData will be integrated within Cognos, so Report Developers can be certain of the Data items they are using..
 - Describe how the Solution ensures new items in the Data Mart and Package will integrate with existing items in the Data Mart so that the final Cognos Framework Manager Model and Package are integrated as seamlessly as possible.
- Describe how the Solution will meet the needs of State technical personnel in maintaining and expanding the Solution in the future. Include how State Project staff will work with the Vendor staff to accomplish the following tasks and how this will result in the transfer of technical expertise, tools, processes, and training to the State Project staff.
 - Development of the Data Mart Including the ETL process
 - Development of a Data dictionary and/or metaData for the Data Mart.
 - Development of the Cognos Framework Manager Model and Package.
 - Development of training and Knowledge Transfer
- The State has limited staff members to maintain the Data Mart. Describe how the proposed Solution will be efficient (saves time, effort and cost) with regard to daily operation and future expansion. Explain why the proposed Solution is the correct balance between ease of use, cost effectiveness, and functionality.

Topic 3 – Architecture

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Response Page Limit: 1

- Provide a description of the technical architecture of the proposed Solution. The following topics, at a minimum, should be addressed:
 1. Describe the proposed Solution architecture including the Data Mart and Cognos Framework Manager Model.
 2. What additional licensing for existing software or add-on or third-party software is required to support the functionality desired by the State?

Topic 4 – Environmental Set-up, Testing, and Tuning

Response Page Limit: 2

- Describe the different software and hardware environments required for the development, testing, and production of the proposed Solution. Discuss how the proposed environments support the Implementation of the Solution, including all necessary training.
- Describe your deployment method and define State or Vendor staff responsibilities with regard to deployment.
- Describe the scalability of the proposed Solution. How will the Solution be capable of expansion to include further end use access and additional functionality?
- Describe your methodology for testing/tuning the application infrastructure.

Topic 5 - System Security

Response Page Limit: 1

The State will evaluate the degree to which System issues can be avoided.

Software Systems must be reliable, regardless of how they are delivered. The State's workers and customers expect government Services and information to be reliable and available on an ongoing basis to ensure business continuity. Describe the System security design and architectural features incorporated into the proposed Solution.

Topic 6 – Development and Implementation Approach

Response Page Limit: 2

The State will evaluate the quality of analysis, effectiveness, efficiency, reasonableness, and flexibility evident in the proposed Implementation approach.

- Provide one or more feasible development and Implementation Plans. For each plan provided:
 1. Identify timeframes for major milestones;
 2. Discuss cost implications of the plan, including implications on maintenance fees; and
 3. Address any relevant risk associated with the plan.

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- To assist the State in evaluation of the Development and Implementation Plan or plans discussed, include:
 1. A listing of modules that constitute the proposed Solution;
 2. Identification of modules that should be considered core;
 3. Identification of modules that are neither required nor proposed to satisfy State requirements; and
 4. A general description of functionality contained in each Deliverable (see appendix C).
- Conclude by recommending a single Implementation Plan, which is used as a basis for the cost proposal.

Topic 7 – Acceptance Testing

Response Page Limit: 1

The State will evaluate the quality of support the Vendor will supply to assist State testing staff and the effectiveness of the proposed Defect tracking and resolution. The ability of the State Project leadership to participate in analysis, classification, and establishment of priorities for suspected Defects will also be evaluated.

- State staff will conduct Acceptance Testing, but support from the selected Vendor is required, refer to Section 6.13: Testing and Acceptance. To define the type of support that will be provided, address the following questions:
 1. Will the Solution be delivered in functional components for State Acceptance Testing?
 2. How much time should the State plan to complete User Acceptance Testing of a component?
 3. What test management and test driver tools will be employed in quality assurance testing prior to product delivery to the State? Will these tools be available to the State for use in Acceptance Testing?
 4. What Documentation of configured software will be available to the testing team?
 5. Based on experience in similar Projects, how many and what types of Defects are likely to be encountered in Acceptance Testing? (Include metrics from other Projects to support this response.)
 6. How much time is available for comprehensive testing and correction of Defects prior to Implementation? Based on metrics from similar Projects, is it sufficient? (Provide information from other Projects to support this response.)
 7. If frequency of Defect exceeds the expected level, what corrective actions will be instituted?
 8. Will performance be measured and documented using the State's infrastructure and data? If yes, how?
 9. Propose measurable criteria for State final Acceptance of the Solution. Discuss how the proposed criteria serve the interest of the State.

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- Provide a sample User Acceptance Test plan from a completed Project as an appendix.

Topic 8 – User Training Approach and Knowledge Transfer

Response Page Limit: 1

The State will evaluate whether the training approach is likely to prepare users adequately to use the new System from the day of Implementation, including maximum Knowledge Transfer to allow the State to conduct its own training in the future.

- Describe training that will be provided for Report Developers and how the training will prepare the Report Developers to perform Data analysis and ad-hoc reporting.
- Questions to address include, but are not limited to, the following:
 1. What type of training (instructor led vs. computer based) will be used for each purpose and why?
 2. What methods will be employed to evaluate training activities?
 3. Will manuals be adequate to enable trained users to research answers to their own questions?
- Discuss your plan for the transfer of knowledge that will be provided for each component of the Solution; ETL process, Data warehouse build, decision support System, on going maintenance, security and performance tuning, specifically addressing the following:
 1. ETL requirements;
 2. Data cleansing techniques;
 3. Fact and dimension table modeling;
 4. Modeling and reporting skills specific to the proposed decision support System;
 5. Performance monitoring of the complete Solution;
 6. Developing queries for required calculations;
- The State believes the best approach for Knowledge Transfer is for the experts to be on site at the Division of Public Health Services (DPHS) working side by side with the State Project Team. Explain your plans for Vendor staff to be on site, identifying staff members and the amount of time they will be on site. Include an option for having a staff member on site, full time, for the duration of Phase I. (See Appendix C Req # 9.3)
- Use specific examples from past Implementations to explain how your proposed approach to technical training and Knowledge Transfer would allow the State to operate independently when the Implementation ends.

Topic 9 – Documentation

Response Page Limit: 1

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- Each Deliverable should be documented to facilitate Knowledge Transfer. Describe the Documentation you will provide to meet the criteria for end-user, design, code, maintenance, and administration Documentation described below:
 1. End-user Documentation should specify what an end-user needs to know to use the Data analysis tools. The target audience for these materials will be DoIT personnel and Report Developers.
 2. Design Documentation should specify why the software is designed as it is, mainly for benefit of present and future maintainers of the software; giving the rationale for interface and abstract design decisions, for the choice of particular algorithms and Data structures, versus alternatives. Target audience for this Documentation will be DoIT and DPHS technical personnel.
 3. Code Documentation should specify how the components are implemented—coding details and design decisions that are not obvious from the code. Target audience for this Documentation will be DPHS technical personnel.
 4. Maintenance and administration Documentation of the Data warehouse Solution should be created to support the transfer of knowledge to the DPHS technical staff. Target audience for this Documentation will be DoIT and DPHS technical personnel.

Topic 10 – System Administration

Response Page Limit: 1

The State will evaluate whether the proposed solution can be efficiently and effectively maintained by the system administrator.

- Describe any third party tools to be used by the System Administrator.
- Describe and explain any Vendor-developed tools, screens or other methods for system administration.
- Describe any training that will be required for State systems administrators to maintain the proposed solution

Phase 3 – Reporting System

Topic 11 – Reporting and Analysis Capabilities

Response Page Limit: 2

The State will evaluate reporting and analysis functionality for robustness and ease of use. Reporting and analysis requirements, along with examples, are provided in Attachment 1 (Business Requirement Document).

- Describe how the proposed Solution will address the following areas:
 1. Describe how the new Cognos Data package will appear to report authors in the Cognos Reporting environment.

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2. Discuss how non-common facts, measures, and dimensions will be handled.
3. Elaborate on how census tract level population Data will be integrated into the Cognos Framework Manager model and package.
4. Describe how new census tract level measures will integrate into the location dimension of the existing Cognos Framework Manager model, so that joins between cancer incidence and population Data are automated.
5. Articulate how calculations of age adjusted rates and standardized incidence ratios for cancer incidence will integrate into the existing Cognos Framework Manager model and package, including within the custom functions which currently exist.

Phase 4 – Warranty

Topic 12 – Warranty Services

Response Page Limit: 1

The Vendor will be evaluated on the responsiveness and quality of support available to the State after System deployment.

- Describe how you will support the State during the Warranty Period.
- What Vendor staff will be available to answer questions from the State and work through issues?
- Do you have a toll-free phone number to call?

D-2 VENDOR’S TECHNICAL, SERVICE, AND PROJECT MANAGEMENT EXPERIENCE TOPICS

Topic 13 – Vendor References

Response Page Limit: 1

The Vendor will be evaluated on its ability to provide the names and contact information for two or three client references, preferably related to projects with similar data mart and reporting components. Please provide the name, title, address and current telephone number for each client

Topic 14 - Work Plan

Response Page Limit: 2

The State will evaluate whether the Vendor’s preliminary proposed Work Plan includes a description of the Schedule, tasks, Deliverables, critical events, task dependencies, and a payment Schedule. This narrative should reflect current Project management “best practices” and be consistent with narratives on other topics.

- The State sees a Work Plan as essential to reaching a comprehensive agreement with a Vendor. Consequently, the State will seek to refine the

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proposed Work Plan during Contract negotiation with the selected Vendor and to incorporate the refined Work Plan by reference into a contract.

- Provide a preliminary Work Plan depicting tasks, task dependencies, Schedule, milestones, Deliverables, and payment Schedule. Define both proposed written and software Deliverables. Include sufficient detail that the State will be able to identify departures from the plan in sufficient time to seek corrective action. In particular, provide information about staffing.
- Describe all Deliverables to be produced in the Project. Ensure that all Deliverables and milestones are identified in the Work Plan . Identify and discussion the following:
 - All assumptions upon which the Work Plan is based;
 - Descriptions of recommended roles by activity and time required for both State and Vendor members of the Project Team;
 - Assignments of members of the Vendor's team identified by role to specific tasks; and
 - Critical success factors for the Project.
- Discuss how this Work Plan will be used and State access to plan details, including resource allocation. Also, discuss frequency for updating the plan, at a minimum bi-weekly, and for every status meeting. Explain how the State will know whether the Project is on Schedule and within budget.

Topic 15 – Status Meetings and Reports

Response Page Limit: 1

The State will evaluate the degree to which Project reporting will serve the needs of State Project leaders.

- The State believes that effective reporting through meetings and written reports is essential to Project success. At a minimum, the State expects the following:
 1. Kickoff Meeting: Participants will include the State and Vendor Project Teams. This meeting is to establish a sound foundation for activities that will follow.
 2. Status Meetings: Participants will include Project leaders from the Vendor and the State. These meetings, which will be conducted at least weekly, will address overall Project status and any additional topics needed to remain on Schedule and within budget. A status report from the Vendor will serve as the basis for discussion.
 3. Special Meetings: Need may arise for a special meeting with State leaders or Project stakeholders to address specific issues.
 4. Exit Meeting: Participants will include Project leaders from the Vendor and the State. Discussion will focus on lessons learned from the Project and on follow up options that the State may wish to consider.
 5. The State expects the Vendor to prepare agendas, background information and minutes of meetings. Background for each status meeting must include an updated Work Plan . Drafting of formal presentations, such as a presentation for the kickoff meeting, will also be a Vendor responsibility.

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- Vendor shall submit reports in accordance with the Schedule and terms of the Contract. All reports shall be prepared in formats approved by the State. The Vendor's Project Manager shall assist the State's Project Manager, or itself produce reports related to Project Management as reasonably requested by the State. Vendor shall produce Project status reports, which shall contain, at a minimum, the following:
 1. Project status as it relates to Work Plan
 2. Deliverables status
 3. Accomplishments during weeks being reported
 4. Planned activities for the upcoming two (2) week period
 5. Future activities
 6. Issues and concerns requiring resolution
 7. Report and remedies in case of falling behind Schedule
- Describe the process that will be employed. Be sure to cover the following:
 1. Timing, duration, recommended participants and agenda for the kickoff meeting;
 2. Frequency and standard agenda items for status meetings;
 3. Availability for special meetings; and
 4. Agenda for the exit meeting.
- As an appendix, provide an example of status reports prepared for another Project. Names of the Project and of any individuals involved may be removed.

Topic 16 – Quality Assurance Approach

Response Page Limit: 1

The State will evaluate the degree to which proposed procedures will ensure that Deliverables require limited modification when submitted for approval.

- The State has identified three categories of Deliverables:
 1. Written Deliverables, such as a training plan;
 2. Software Deliverables, such as a configured software module, Implementation of Data analysis tool; and
 3. Non-Software Deliverables, such as conducting a training course.
- Describe the methodology that will be employed to assure that each type of Deliverable is of high quality before submission for State consideration. Discussion should include but not limited to:
 1. Provision for State input to the general content of a written Deliverable prior to production;
 2. The standard for Vendor internal Review of a written Deliverable prior to formal submission; and
 3. Testing of software Deliverables prior to submission for Acceptance Testing.

D-3 STAFF QUALIFICATION TOPICS

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Topic 17 – Staff Qualifications

Response Page Limit: 5

- What type of staffing is typically required to support the Project for a client of the size and complexity of the State of New Hampshire? (Discuss both number of staff and skills required.)
- Describe the skill sets of the proposed Project staff. Include actual resumes.
- Provide a description of similar Projects (see appendix E), describing the roles and responsibilities of any proposed staff who worked on the Project.

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APPENDIX E: STANDARDS FOR DESCRIBING VENDOR QUALIFICATIONS

To facilitate evaluation of Vendor qualifications, the State seeks information about: (1) corporate qualifications of each Vendor proposed to participate in the Project, (2) proposed team organization and designation of key staff, (3) individual qualifications of candidates for the role of Project Manager, and (4) individual qualifications of candidates for other key staff roles. This appendix identifies specific information that must be submitted.

E-1 Required Information on Corporate Qualifications

Information is required on all Vendors that will participate in the Project.

E-1.1 Vendor and Subcontractors

The Vendor submitting a Proposal to this Project must identify any Subcontractor(s) and provide the following for the Vendor and each Subcontractor identified:

E-1.1.1 Corporate Overview (2 page limit)

Identify the proposed role of the firm on the Project. Describe the major business areas of the firm. Provide a high-level description of the firm's organization and staff size. Discuss the firm's commitment to the public sector, experience with this type of Project Implementations, and experience in New Hampshire.

E-1.1.2 Financial Strength

Provide the following:

1. The current Dunn & Bradstreet report on the firm;
2. The firm's two most recent audited financial statements; and
3. The firm's most recent un-audited, quarterly financial statement.

E-1.1.3 Litigation

Identify and describe any litigation filed by clients during the last ten (10) years. Discuss merits, current status and, if available, outcome of each matter.

E-1.1.4 Prior Project Descriptions (limited to 3 pages each)

Provide descriptions of no more than three (3) similar Projects completed in the last five (5) years. Each Project description should include:

1. An overview of the Project covering type of client, objective, Project scope, role of the firm and outcome;
2. Project measures including proposed cost, actual Project cost, proposed Project Schedule and actual Project Schedule;
3. Names and contact information (name, title, address and current telephone number) for two or three references from the client; and
4. Names and Project roles of individuals on the proposed team for the New Hampshire Project that participated in the Project.

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E-2 Team Organization and Designation of Key Vendor Staff

Provide an organizational chart depicting the Vendor Project Team. This chart should identify key staff required from the Vendor, any Subcontractors, and the State.

Define the responsibilities and length of assignment for each of the roles depicted in the organizational chart. Identify the positions that should be designated key staff.

Ensure that designation of key Vendor staff includes subject matter experts in the following areas:	
Project Manager	Data Analyst
Database Normalization	Data Modeling
Data Warehouse Design	ETL Design
ETL Processing	Data Integration
Data Quality Processes	Decision Support Modeling
Decision Support Reporting	Training
Hardware Configuration	Testing/Tuning Oracle 10 or later
A single team member may be identified to fulfill the experience requirement in multiple areas.	

E-3 Candidates for Vendor ‘Project Manager’

Although the State recognizes that staff availability is somewhat uncertain, qualifications of the Project Manager are particularly critical. Therefore, the State requires that the Project Manager be identified with some degree of certainty. Overall Project planning will be with State staff (DPHS, DHHS-DWS, and DoIT). The Vendor will be responsible for managing their staff.

The State requires that the Project Manager be assigned full time. The Project Manager’s responsibilities, at minimum, include:

- Develop and maintain Project plan;
- Coordinate activities of Project Team members: Schedule work assignments, set priorities, problem resolution;
- Evaluate the work product of Project Team members;
- Maintain risk management document
- Maintain records of work completed and Deliverables;
- Ensure all program and System Documentation is complete before approvals and payments are made;
- Assist Project Team members to resolve barriers in the completion of their assignments;
- Create status reports

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For the Project Manager candidate, provide a resume not to exceed five (5) pages in length addressing the following:

- The candidate's educational background;
- An overview of the candidate's work history;
- The candidate's Project experience, including Project type, Project role and duration of the assignment;
- Any significant Certifications held by or honors awarded to the candidate; and
- At least three references, with contact information that can address the candidate's performance on past Projects.

E-4 Candidates for Key Vendor Staff Roles

Provide a resume not to exceed three (3) pages for each key Vendor staff position on the Project Team. Each resume should address the following:

- The individual's educational background;
- An overview of the individual's work history;
- The individual's related Project experience, including Project type, Project role and duration of the assignment;
- Any significant Certifications held by or honors awarded to the candidate; and
- At least three references, with contact information that can address the individual's performance on past Projects.

Although the State recognizes that staff availability is somewhat uncertain, qualifications of key staff assigned to the Project is critical. Describe any assurances that will enable the State to have confidence that individuals proposed for key Vendor staff positions will be available for and assigned to the proposed Project Solution.

IT Consulting Staff Positions

Role specific job requirements are as follows:

- **Position #1: Senior Data Warehouse & Business Intelligence Architect**
- **Position #2: Data and BI Modeler/Analyst**

1.2.1 Position #1: Senior Data Warehouse & Business Intelligence Architect

1.2.1.1 Primary Functions:

- Take responsibility as Technical Lead for the Project as well as participate in all facets of the software development lifecycle (SDLC) with minimal supervision,
- Provide technical guidance to Vendor resources and State IT staff in Data warehouse and business intelligence (BI) application architecture and design decisions,
- Perform technical analysis and create design requirements,
- Develop and implement technical solutions,
- Perform unit and integration testing,
- Work with users during user acceptance testing,
- Document systems,
- Train users, and

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- Provide production support for application.

1.2.1.2 Responsibilities: -

- Translate business requirements into conceptual/logical and physical data models
- Facilitate discussions around data amongst business users within a department and across the enterprise and drive the conversations around conforming definitions and reusability, etc
- Work with business users to develop governance strategies around key Data domains
- Develop optimized schemas for Data Marts (star schemas) and operational Data stores in leading data modeling tools like Erwin, Visio etc
- Participate with the Oracle database administration team (DBA) team in the sizing of the Data warehouse environment, and assist with monitoring storage requirements on a continual basis
- Work with the business users and understand/anticipate usage patterns and tune the database(s) accordingly
- Work with data integration teams to develop optimized schemas for data loads (staging areas etc)
- Work with the BI modelers and developers to make necessary optimizations for Cognos 8
- Prepare development resource estimates and Project plans
- Prepare design, installation, deployment and test Documentation
- Produce user guides and training materials
- Review development team members
- Interview potential development team members, and support the technical recruitment effort
- Prepare and deliver client presentations on design and development

1.2.1.3 Desirable Skills and Experience: -

- 8+ years experience in Data Warehouse design and development
- 8+ years experience in Oracle database and technologies
- 5+ years experience developing with Decision stream ETL tool
- 5+ years experience with Data Warehouse modeling and star schema design
- Ability to understand and model complex reporting requirements and create a process that ensures data is completely accurate.
- Excellent communication skills and ability to work with business users, application developers, database and system administrators etc.
- Experience developing in Unix and Windows platforms
- Proficiency in Oracle SQL, PL / SQL and Oracle built-in packages
- Experience developing in Unix and Windows platforms
- Experience developing in a complex health care application environment
- Ability to create detailed Specifications based on business user requirements
- Excellent communication skills and ability to work with all levels of users and application developers to ensure data quality from application design to report delivery
- Experience in designing and developing with Business Intelligence solutions with Cognos

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- Experience installing, configuring, and maintaining Cognos environments
- Experience with Cognos Connection Integration and experience in setting up Cognos Security
- Experience with Cognos Software Development Kit (SDK) to customize reports
- Knowledge of Web application server architectures and security systems administration
- HTML, JavaScript, XML knowledge
- Excellent verbal and written communication skills
- Masters degree in Computer Science or related field

Experience in modeling environmental and/or health care Data is strongly **preferred**.

1.2.2 Position #2 Data and BI Modeler/Analyst

1.2.2.1 Primary Functions:

Works directly with the **Senior Data Warehouse & Business Intelligence Architect** to support all aspects of design, development, testing, and deployment of a star schema Data Mart:

- Complete data modeling, including Metadata
- Design, develop and implement Cognos 8 reports
- Prepare development resource estimates and Project plans
- Prepare and deliver client presentations on design and development Deliverables
- Prepare design, installation, deployment and test Documentation
- Produce user guides and training materials

1.2.2.2 Responsibilities:

Work with the Senior Data Warehouse & Business Intelligence Architect to:

- Develop conceptual, logical and physical models of the Data warehouse
- Collaborate with business analysts in the creation of logical design and with database administrators in the implementation of physical designs
- Develop, maintain and enforce data model standards and design patterns
- Establish practices to ensure data quality and perform quality reviews of data models
- Design and articulate Data Warehouse architecture vision to users, developers, database administrators and management
- Develop database views, materialized views and aggregate navigation functionality for reporting
- Create Data Warehouse architecture and Metadata Documentation
- Provide consulting expertise on a variety of database design patterns, including transactional databases, Data warehouses and business intelligence designs
- Participate in continuous process improvement efforts
- Interact with the business users to understand the needs for analytical applications and reports
- Develop Metadata layer in Framework Manager in conjunction with the logical and physical data models

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- Install, configure and maintain Cognos reporting and modeling tools
- Develop custom reports templates using Cognos 8 BI Enterprise
- Maintain, test and modify reports/queries as necessary
- Create and maintain technical Documentation

1.2.2.3 Desirable Skills and Experience: -

- 5+ years experience working in a Data Warehouse / Decision Support environment running on Oracle 9i/10g (11g preferred)
- 5+ years experience in Star schema design and dimensional modeling with CASE tools like Erwin
- Experience in performing analysis of disparate data sources and legacy applications
- Experience in requirements gathering, process and data analysis
- Experience with various modeling techniques, data flow diagrams and workflow diagram 5+ years experience with using Cognos suite components as a Metadata Modeler and Report Developer specifically ReportNet / Cognos 8 Framework Manager, Query studio, Report Studio and Analysis studio on Windows 2003 Server
- Experience installing, configuring, and maintaining Cognos 8 server environments
- Experience with Cognos Connection Integration and experience in setting up Cognos Security
- Experience with Cognos Software Development Kit (SDK) to customize reports
- Knowledge of Web application server architectures and security systems administration
- HTML, Javascript, XML knowledge
- Excellent verbal and written communication skills
- Bachelor's degree in Computer Science or related field

Experience in modeling environmental and/or health care data is strongly **preferred**.

E-5 Vendor Requirements Response Template Requirements and Deliverables

Vendors shall complete a checklist based on the following format. Indicate if the candidate is actively proposed for appointment and whether the Requirement/Deliverable can be met by the Vendor.

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Table E-1 Vendor Response Template – Requirements and Deliverables

Position #1 Senior Data Warehouse & Business Intelligence Architect

Senior Data Warehouse & BI Architect	<Candidate Name>	<Candidate Name>	<Candidate Name>
Actively Proposing? (Y/N):			
Data Modeling & methodologies (IDEF1X / UML)			
ERwin or other CASE tools			
Oracle 9i/10g			
Cognos 8 -			
Framework Manager			
Query Studio			
Report Studio			
Analysis Studio			
Event Studio			
Cognos Connection			
Metrics Manager			
Map Manager			
ETL tool (Decision stream)			
SQL			
PL/SQL			
XML			
JavaScript			
XHTML			
Web Design (Dreamweaver)			
Windows 2003 / IIS 6.0			
ASP / ASP.NET			
VB, C# or Java			
Domain Experience:			
Public Health Statistics and Data Management			
Vital Statistics (e.g., birth and death data)			
Government Agency			
National Environmental Public Health Tracking			
Environmental and/or health care Data modeling			
8+ years experience in Data Warehouse design and development			
8+ years experience in Oracle database and technologies			
5+ years experience developing with Decision stream ETL tool			
5+ years experience with Data			

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Senior Data Warehouse & BI Architect	<Candidate Name>	<Candidate Name>	<Candidate Name>
warehouse modeling and star schema design			
Ability to understand and model complex reporting requirements and create a process that ensures Data is completely accurate.			
Excellent communication skills and ability to work with business users, application developers, database and system administrators etc.			
Experience developing in Unix and Windows platforms			
Proficiency in Oracle SQL, PL / SQL and Oracle built-in packages			
Experience developing in Unix and Windows platforms			
Experience developing in a complex health care application environment			
Ability to create detailed Specifications based on business user requirements			
Excellent communication skills and ability to work with all levels of users and application developers to ensure Data quality from application design to report delivery			
Experience in designing and developing with Business Intelligence solutions with Cognos			
Experience installing, configuring, and maintaining Cognos environments			
Experience with Cognos Connection Integration and experience in setting up Cognos Security			
Experience with Cognos Software Development Kit (SDK) to customize reports			
Knowledge of Web application server architectures and security systems administration			
HTML, Javascript, XML knowledge			
Excellent verbal and written communication skills			
Masters degree in Computer Science or related field			

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Position #2 Data and BI Modeler/Analyst

Desired Skills	<Candidate Name>	<Candidate Name>	<Candidate Name>
Actively Proposing? (Y/N):			
Data Modeling & methodologies (IDEF1X / UML)			
ERwin or other CASE tools			
Oracle 9i/10g			
Cognos 8 -			
Framework Manager			
Query Studio			
Report Studio			
Analysis Studio			
Event Studio			
Cognos Connection			
Metrics Manager			
Map Manager			
ETL tool (Decision stream)			
SQL			
PL/SQL			
XML			
JavaScript			
XHTML			
Web Design (Dreamweaver)			
Windows 2003 / IIS 6.0			
ASP / ASP.NET			
VB, C# or Java			
Domain Experience:			
Public Health Statistics and Data Management			
Vital Statistics (e.g., birth and death data)			
Government Agency			
National Environmental Public Health Tracking			
Environmental and/or health care Data modeling			
5+ years experience working in a Data warehouse / Decision Support environment running on Oracle 9i/10g			
5+ years experience in Star schema design and dimensional modeling with CASE tools like Erwin			
Experience in performing analysis of disparate Data sources and			

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Desired Skills	<Candidate Name>	<Candidate Name>	<Candidate Name>
legacy applications			
Experience in requirements gathering, process and Data analysis			
Experience with various modeling techniques, Data flow diagrams and workflow diagram 5+ years experience with using Cognos suite components as a metaData Modeler and Report Developer specifically ReportNet / Cognos 8 Framework Manager, Query studio, Report Studio and Analysis studio on Windows 2003 Server			
Experience installing, configuring, and maintaining Cognos 8 server environments			
Experience with Cognos Connection Integration and experience in setting up Cognos Security			
Experience with Cognos Software Development Kit (SDK) to customize reports			
Knowledge of Web application server architectures and security systems administration			
HTML, Javascript, XML knowledge			
Excellent verbal and written communication skills			
Bachelor's degree in Computer Science or related field			

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APPENDIX F: PRICING WORKSHEETS

Any and all Vendor's Cost Proposal must be based on the worksheets formatted as described in this appendix. Additional pricing worksheets may be requested as part of the RFP Review process.

F-1 Activities/Deliverables/Milestones Pricing Worksheet – Deliverables List

The Vendor must include, within the Firm Fixed Price for IT Service activities, tasks and preparation of required Deliverables, pricing for the Deliverables required based on the proposed approach, methodology and tools. The following format must be used to provide this information. Pricing for Mandatory Phase I, Phase II, and Phase III requirements is required and will be used as the total cost for required Deliverables. Optional items will be considered separately.

Table F-1-1: Activities/Deliverables/Milestones Pricing Worksheet for requirements detailed in Appendix C: *Requirements and Deliverables*.

Deliverable	Deliverable Date	Payment
Phase I – Existing System readiness assessment		
Kick off meeting		
Existing Data Mart assessment		
Reporting System assessment (Data model, BI tool)		
Preliminary Work Plan and Schedule		
Phase II – Data Mart Development		
Design		
Kick off meeting		
Final Work Plan and Schedule		
State Approval of Work Plan		
Logical and Technical Design Documents for proposed Solution: ETL, Data Mart integration, assessment of new Data Mart readiness for reporting System		
State Approval of Design Documents		
Implementation		
ETL Programming		
Data Mart build and load		
Unit and System Testing		
System Administration Documentation		
Systems Operation Documentation		
Documentation for Report Developers		
Performance/Tuning Documentation		
Knowledge Transfer to DoIT staff		
Phase II Wrap-up		
Phase III – Reporting System		
Design		
Kick off meeting		
Final Work Plan and Schedule		
Logical and Technical Design Documents for proposed Solution: Cognos		

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Framework Manager Model and package design		
State approval of design documents		
Implementation		
Framework Manager Model		
Publish Cognos package		
User Acceptance and testing		
Documentation for Report Developers		
Knowledge Transfer for DoIT staff		
Phase III wrap-up		
Warranty Period		

* The State would like the option of having a Vendor staff member on site full time for the duration of Phase I. Please include any *additional costs* for this option that would be above and beyond any costs for Knowledge Transfer already built into the cost for Phase I.

F-2 Proposed Position – Initial Contract Term Vendor Rates Worksheet

Using the format provided in the following table, list titles of proposed positions on the Project Team to be filled by Vendor staff. Include hours and rates for all staff on the Vendor Project Team through July 31, 2011.

Table F-2.1: Proposed Position –Vendor Rates Worksheet Phase I

Position Title	Number of Staff	Hours	Hourly Rate	Subtotal (Hours X Rate)
Position #1				
Position #2				
Position #3				
			Total	

Table F-2.2: Proposed Position –Vendor Rates Worksheet Phase II

Position Title	Number of Staff	Hours	Hourly Rate	Subtotal (Hours X Rate)
Position #1				
Position #2				
Position #3				
			Total	

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F-3 Proposed Vendor Staff and Resource Hours Worksheet

Use the Proposed Vendor Staff Position and Resource Hours Worksheet to indicate the individuals that will be assigned to the Project. Names must be provided for individuals designated for key roles, but titles are sufficient for others. Information is required by phase and hours should be designated as on or off site.

Table F-3.1: Proposed Vendor Staff and Resource Hours Worksheet - Phase I

Title	Name	Location						
			Project Design and Analysis	ETL	DataMart Component	BI Reporting Component	Training and Documentation	Total
Project Manager		On Site						
		Off Site						
Position 1		On Site						
		Off Site						
Position 2		On Site						
		Off Site						
Position 3		On Site						
		Off Site						
Total		On Site						
		Off Site						

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Table F-3.2: Proposed Vendor Staff and Resource Hours Worksheet - Phase II

Title	Name	Location						
			Project Design and Analysis	ETL	DataMart Component	BI Reporting Component	Training and Documentation	Total
Project Manager		On Site						
		Off Site						
Position 1		On Site						
		Off Site						
Position 2		On Site						
		Off Site						
Position 3		On Site						
		Off Site						
Total		On Site						
		Off Site						

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Table F-3.3: Proposed Vendor Staff and Resource Hours Worksheet - Phase III

Title	Name	Location						
			Project Design and Analysis	ETL	DataMart Component	BI Reporting Component	Training and Documentation	Total
Project Manager		On Site						
		Off Site						
Position 1		On Site						
		Off Site						
Position 2		On Site						
		Off Site						
Position 3		On Site						
		Off Site						
Total		On Site						
		Off Site						

F-4 Future Vendor Rates Worksheet

The State may request additional Services from the selected Vendor and requires rates in the event that additional Service is required. The following format must be used to provide this information. "SFY" refers to State Fiscal Year. The New Hampshire State Fiscal Year runs from July 1 through June 30 of the following calendar year. For example, SFY 2011 runs from July 1, 2010 through June 30, 2011. Positions not identified in the Proposed Position Worksheet may be included in the Future Vendor Rates Worksheet.

Table F-4: Future Vendor Rates Worksheet

Position Title	SFY 2011	SFY 2012
Project Manager		
Position #1		
Position #2		
Position #3		

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F-7 Additional Costs Worksheet

Table F7: Additional Costs should detail additional costs that will be charged to the State, not already included in Table F-1-1: Activities/Deliverables/Milestones Pricing Worksheet, Table F-5: Software Licensing, Maintenance, and Support Pricing Worksheet, and Table F-6: Hardware Pricing Worksheet for proposed Solution.

Any costs detailed in Table F-7 will be considered additional to charges detailed in Tables F-1-1, F5 and F6. The Vendor may choose to fully load Tables F-1-1, F5 and F6 and leave Table F7 blank.

Table F-7: Additional Costs

Cost Description	Year 1	Year 2
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$

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APPENDIX G: GENERAL STANDARDS AND REQUIREMENTS

G-1 IT Required Work Procedures

1. All work done must conform to standards and procedures established by the Department of Information Technology and the State.
2. All products developed (requirements, Specifications, Documentation, program code, other) are work for hire and ownership is in accordance with the New Hampshire Contract Terms and Conditions.
3. Any technical education needed by the Vendor to successfully complete the assumed assignment will be at the sole expense of the Vendor and provided by the Vendor.
4. Vendor must agree to provide an “equal or better” replacement for any personnel who leave employment of the Vendor during the course of the Contract.
5. Vendor must make the individuals available to be interviewed by the State prior to the Project assignment.
6. Vendor and its employees assigned to this Project must sign a “Computer Access and Use Agreement.”
7. The State may require a detailed background check on any individual assigned to the Project, as this Project may involve confidential or sensitive information.
8. Personnel assigned to the State must be available to work within ten (10) business days of the Contract signing.

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G-2 Computer Access and Use Agreement

PLEASE READ THIS AGREEMENT CAREFULLY. IT CONTAINS IMPORTANT INFORMATION ABOUT THE DUTIES YOU MUST UNDERTAKE AND THE RULES YOU MUST ADHERE TO ONCE YOU ARE GRANTED ACCESS TO USE THE STATE OF NEW HAMPSHIRE'S COMPUTER FACILITIES.

G-2.1 Computer Use

In consideration for receiving access to and use of the computer facilities, network, licensed or developed software, software maintained or operated by any of the State entities, Systems, equipment, Documentation, information, reports, or Data of any kind (hereinafter "Information"), User understands and agrees to the following rules:

- That numerous security and privacy regulations, both State and federal apply to client and business information contained in all State of New Hampshire's information Systems. Every Authorized User has the responsibility to assure the protection of Information from unauthorized access, misuse, theft, damage, destruction, modification, or disclosure.
- That any person or any use not specifically known by the User as being authorized to access or use Information shall be promptly reported to the appropriate supervisor.
- That information shall be used solely for conducting official State business, and all other use or access is strictly forbidden including, but not limited to, personal, or other private and non-State use.
- That at no time shall User access or attempt to access any information without having the express authority to do so.
- That at no time shall User access or attempt to access any information in a manner inconsistent with the approved policies, procedures, and /or agreements relating to entry/access.
- That all Software Licensed, developed, or being evaluated by the State cannot be copied, shared, distributed, sub-licensed, modified, reverse engineered, rented, or sold, and that at all times User must use utmost care to protect and keep such software strictly confidential in accordance with the license or any other Agreement executed by the State.
- That only equipment or software owned, licensed, or being evaluated by the State, can be used by User. Personal software (including but not limited to palmtop sync software) shall not be installed on any equipment.
- That at no time shall User's confidential computer password(s) or premises access card be shared with or used by any other person.

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- That at no time shall User share or use another person's confidential computer password(s) or premises access card.
- That at no time shall User leave a workstation without first ensuring that the workstation is properly secured from unauthorized access.
- That User must report any and all violations of this Agreement to the appropriate supervisor promptly upon learning of such violation.
- That if User is found to be in violation of any of the above-stated rules, the User may face removal from the State contract, and/or criminal or civil prosecution, if the act constitutes a violation of law.
- That from time to time circumstances may require that this Agreement be modified by the State to reflect any changes in procedure or policy. The User will be notified in writing of any changes and will be required to adhere to such changes.
- That the User acknowledges that he or she has read, fully understands, and agrees to abide by each of the above-stated rules as a condition of being granted access to use Information.

G-2.2 Email Use

Mail and other electronic communication messaging Systems are State of New Hampshire property and are to be used for business purposes only. Email is defined as "internal Email System" or "State-funded Email System". The Authorized User understands and agrees that email shall not contain or be used for:

1. Any unlawful purpose.
2. Material that may be viewed as insulting. Demeaning, harassing or threatening (including sexual harassment).
3. Distribution of pornographic or obscene material.
4. Profane or abusive language.
5. Distribution of non-business materials including but not limited to jokes, chain letters, cartoons, sound files, amusement or entertainment purposes or executables not specifically business related.
6. Creating or transmitting statements, messages, languages, images, that might constitute hostile or offensive material likely to be disparaging of others based on race, national origin, sex, sexual orientation, age, disability, religious beliefs, or political beliefs.
7. Personal business or commercial business.
8. Invasion of the privacy of others.
9. Any use that compromises the integrity of the System, network, other network users, or any interruption or disruption of Services or equipment.
10. Any use that reflects poorly on a State entity or the State of New Hampshire.

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11. Any lobbying contact or effort in support of such contacts, or causing others to make contact with members of the legislature or legislative committees including but not limited to: preparation and planning activities, research, and other background work that is intended at the time performed, to influence the approval, modification, or rejection of any legislation by the legislature of the State of New Hampshire or any committee thereof without the explicit consent of the Chief Information Officer (CIO) or its designee.
12. Misrepresentation of the Authorized User's identity, including using another's Authorized User ID and password.

Technical support personnel shall not Review the content of an Authorized User's communications out of personal curiosity or at the behest of another without the required authorization. Authorized Users shall not intercept, disclose or assist in intercepting or disclosing any electronic communications, except as authorized by this policy.

Authorized Users shall move important information from email message files to shared folders and drives to ensure proper backup. Messages no longer needed shall be purged periodically from personal storage areas. Technical support personnel shall monitor storage usage and advise when limits are approaching storage limits or have been reached and purging is required.

G-2.3 Internet/Intranet Use

The Internet/Intranet is to be used for access to and distribution of Information in direct support of the business of the State of New Hampshire.

1. Authorized Users are given State provided access to Internet and Intranet resources to assist them in the performance of their jobs.
2. Internet/Intranet Authorized Users are responsible for all material accessed under their user ID.
3. Software for browsing is provided to Authorized Users for State related business use only.
4. The Authorized User understands and agrees that the Internet/Intranet shall not be used for:
 - a. Chat rooms, interactive games, and personal message boards
 - b. Downloading graphics, sound files, video clips or other files for personal use
 - c. Access to or the distribution of pornographic or obscene materials
 - d. Anything that interrupts or disrupts other network Authorized Users, Services or equipment
 - e. Violations of the privacy of other Authorized Users or their data
 - f. Intentional copying of any software, program(s), or Data without a prior, good faith determined that such copying is permissible. (Efforts to obtain permission shall be documented)
 - g. Intentional misrepresentation of yourself electronically as another, unless specifically authorized to do so by that Authorized User

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- h.** Intentionally developing programs designed to harass users or to infiltrate a computer or computing and/or damage or alter the software components of same
- i.** Fund raising or public relations activities not specifically related to State business
- j.** Any purpose not directly related to the mission or intent of the agency

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G-3 New Hampshire Certificate of Authority or Certificate of Good Standing

(VENDORS NEED TO SUBMIT)

As a condition of Contract award, the Vendor must furnish a Certificate of Authority/Good Standing dated after April 1, 2010, from the Office of the Secretary of State of New Hampshire. If your company is not registered, an application form may be obtained from:

Secretary of State
State House Annex
25 Capitol Street
Concord, New Hampshire 03301
603-271-3244

If your company is registered, a Certification thereof may be obtained from the Secretary of State.

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G-4 State of New Hampshire Terms and Conditions

All RFP terms and conditions including but not limited to the following Terms and Conditions, shall constitute the basis for any and all contracts resulting from the RFP.

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G-4.1 Effective Date: Completion of Services

G-4.1.1 The Contract and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approves this Contract (the "Effective Date").

G-4.1.2 The State does not require the Vendor to commence work prior to the Effective Date; however, if the Vendor commences work prior to the Effective Date, such work shall be performed at the sole risk of the Vendor. In the event that the Contract does not become effective, the State shall be under no obligation to pay the Vendor for any costs incurred or Services performed; however if the Contract becomes effective all costs incurred prior to the Effective Date shall be paid under the terms of the Contract.

G-4.2 Conditional Nature of Contract

Notwithstanding any provision in the Contract to the contrary, all obligations of the State, including, without limitation, the continuance of payments, are contingent upon the availability and continued appropriation of funds, and in no event shall the State be liable for any payments in excess of such available appropriated funds. In the event of a reduction or termination of those funds, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to terminate the Contract immediately upon giving the Vendor notice of such termination.

The State shall not be required to transfer funds from any other account to the account identified in block 1.5: *Account No.* of the *Contract Agreement*, in the event funds in that account are reduced or unavailable.

G-4.3 Contract Price: Limitation on Price: Payment

G-4.3.1 The Contract price, method of payment, and terms of payment are identified and more particularly described in Exhibit B: *Price and Payment Schedule*, of the Contract.

G-4.3.2 The payment by the State of the Contract price shall be the only, and the complete reimbursement to the Vendor for all expenses, of whatever nature, incurred by the Vendor in the performance hereof, and shall be the only and

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the complete compensation to the Vendor for the Services provided under the Contract. The State shall have no liability to the Vendor other than the Contract price.

G-4.3.3 The State reserves the right to offset from any amounts otherwise payable to the Vendor under the Contract those liquidated amounts required or permitted under the Contract, by RSA 80:7 through 7-C, or any other provision of law.

G-4.3.4 Notwithstanding anything in the Contract to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made, exceed the total price limitation of the Contract set forth in Exhibit B: *Price and Payment Schedule* of the Contract.

G-4.4 Compliance by Vendor with Laws and Regulations: Equal Employment Opportunity

G-4.4.1 In connection with the performance of the Contract, the Vendor shall comply with all statutes, laws, regulations, orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Vendor, including, but not limited to, civil rights and equal opportunity laws. The Vendor shall also comply with all applicable local, State, and federal licensing requirements and standards necessary in the performance of the Contract.

G-4.4.2 During the term of the Contract, the Vendor shall not discriminate against employees or applicants for employment in violation of applicable State or federal laws, including but not limited to non discrimination because of race, color, religion, creed, age, sex, handicap or national origin and will take affirmative action to prevent such discrimination.

G-4.4.3 If the Contract is funded in any part by monies of the United States, the Vendor shall comply with all the provisions of Executive Order No. 11246 ("Equal Employment Opportunity"), as supplemented by the regulations of the United States Department of Labor (41. C.F.R. Part 60), and with any rules, regulations and guidelines as the State of New Hampshire or the United States issue to implement these regulations. The Vendor further agrees to permit the State or United States, access to any of the Vendor's books, records, and accounts for ascertaining compliance with all rules, regulations and orders, and the covenants and conditions of the Contract.

G-4.5 Regulatory/Governmental Approvals

Any Contract awarded under the RFP shall be contingent upon the Vendor's obtaining all necessary and applicable regulatory or other governmental approvals.

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G-4.6 Personnel

G-4.6.1 The performance of the Vendor's obligations under the Contract shall be carried out by the Vendor. The Vendor shall at its own expense provide all personnel, materials and resources required under the Contract and as necessary to perform the Services under the Contract.

G-4.6.2 The Vendor shall not hire, and shall permit no subcontract or other person, firm or corporation with whom it is engaged in a combined effort to perform the services, to hire any person who has a contractual relationship with the State, or who is a State officer or employee, elected or appointed.

G-4.6.3 The Contracting Officer or his/her successor shall be the State's representative. In the event of any dispute governing the interpretation of the Contract, the Contracting Officer's decision shall be final for the State.

Prior to the filing of any formal proceedings with respect to a dispute (other than an action seeking injunctive relief with respect to intellectual property rights), the party believing itself aggrieved (the "Invoking Party") shall call for progressive management involvement in the dispute negotiation by written notice to the other party. Such notice shall be without prejudice to the Invoking Party's right to any other remedy permitted by this Agreement.

The parties shall use all reasonable efforts to arrange personal meetings and/or telephone conferences as needed, at mutually convenient times and places, between negotiators for the parties at the following successive management levels, each of which shall have a period of allotted time as specified below in which to attempt to resolve the dispute:

Dispute Resolution Responsibility and Schedule Table

LEVEL	< <u>VENDOR</u> >	<u>The State</u>	<u>CUMULATIVE ALLOTTED TIME</u>
Primary	<NAME> <TITLE>	<NAME> State Project Manager	5 Business Days
First	<NAME> <TITLE>	<NAME> Project Director	10 Business Days
Second	<NAME> <TITLE>	Commissioner State Project Sponsor	15 Business Days

The allotted time for the first level negotiations shall begin on the date the Invoking Party's notice is received by the other party. Subsequent allotted time is days from the date that the original Invoking Party's notice is received by the other party.

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G-4.7 Termination

G-4.7.1 Termination for Default

- G-4.7.1.1** Unless otherwise provided in the Contract, the State shall provide the Vendor written notice of default, and the Vendor must cure the default within thirty (30) days, unless otherwise indicated within by the State (“Cure Period”). If the Vendor fails to cure the default within the Cure Period, the State may terminate the Contract, at its sole discretion, and pursue its remedies at law or in equity or both.
- G-4.7.1.2** In the event the State declares the Vendor in default and terminates the contract, the State may, at a minimum, take any or all of the following actions:
 - G-4.7.1.2.1** Set off against any other obligations the State may owe to the Vendor;
 - G-4.7.1.2.2** Procure Services that are the subject of the Contract from another source and the Vendor shall be liable for all damages up to the Contract price, including but not limited to (1) the cost difference between the original Contract price for Services acquired from another source and (2) if applicable, all administrative costs directly related to the replacement of the Contract, such as costs of competitive bidding, mailing, advertising, applicable fees, charges or penalties, and staff time costs; and
 - G-4.7.1.2.3** Treat the Contract as breached and pursue any of its remedies at law or in equity, or both.
- G-4.7.1.3** The Vendors shall provide the State with written notice of default, and the State shall cure the default within thirty (30) days.
- G-4.7.1.4** No remedy conferred under the Contract is intended to be exclusive of any other remedy, and each remedy is cumulative and in addition to every other remedy in the Contract. The State’s election or non-election of any or more remedies shall not constitute a waiver of its right to pursue other available remedies.

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G-4.7.1.5 Subject to applicable laws and regulations, in no event shall the Vendor be liable for any consequential, special, indirect, incidental, punitive or exemplary damages and the Vendor's liability to the State shall not exceed two (2X) the total Contract price, except as otherwise provided in Appendix G-4 Section 13: *Indemnification*.

G-4.7.1.6 Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant shall survive termination or Contract Conclusion.

G-4.7.2 Termination for Convenience

G-4.7.2.1 The State may, at its sole discretion, terminate the Contract, in whole or in part, by thirty (30) days written notice to the Vendor. In the event of such termination for convenience, the State shall pay the Vendor the agreed upon price, if separately stated, for Deliverables for which Acceptance has been given by the State. Amounts for Services or Deliverables provided prior to the date of termination for which no separate price is stated will be paid, in whole or in part, generally in accordance with Appendix F: *Pricing Worksheets*, Tables F-1: *Activities/Deliverables/Milestones Pricing Worksheet* and F-2: *Proposed Position- Initial Contract Term Vendor Rates Worksheet* in the RFP.

G-4.7.2.2 During the thirty (30) day period, the Vendor shall wind down and cease its Services as quickly and efficiently as reasonably possible, without performing unnecessary Services or activities and by minimizing negative effects on the State from such winding down and cessation of Services.

G-4.7.3 Termination for Conflict of Interest

G-4.7.3.1 The State may terminate the Contract by written notice if it is found that a conflict of interest exists, including but not limited to, a violation by any of the parties hereto of applicable laws regarding ethics in public acquisitions and procurement and performance of contracts.

G-4.7.3.2 In the event the Contract is terminated as provided above pursuant to a violation by the Vendor, the State shall be entitled to pursue the same remedies against the Vendor as it could pursue in the event of a default of the Contract by the Vendor.

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G-4.7.4 Termination Procedure

G-4.7.4.1 Upon termination of the Contract, the State, in addition to any other rights provided in the Contract, may require the Vendor to deliver to the State any property, including without limitation, Software and Written Deliverables, for such part of this Contract as has been terminated.

G-4.7.4.2 After receipt of a notice of termination, and except as otherwise directed by the State, Vendor shall:

- a. Stop work under this Contract on the date, and to the extent specified, in the notice;
- b. Promptly, but in no event longer than thirty (30) days after termination, terminate its orders and subcontracts related to the work which has been terminated and settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the State to the extent required, which approval or ratification shall be final for the purpose of this Section;
- c. Take such action as the State directs, or as necessary to preserve and protect the property related to this Contract which is in the possession of Vendor and in which State has an interest;
- d. Transfer title to the State and deliver in the manner, at the times, and to the extent directed by the State, any property which is required to be furnished to State and which has been accepted or requested by the State; and
- e. Provide written Certification to the State that Vendor has surrendered to the State all said property.

G-4.8 Force Majeure

Neither Vendor nor the State shall be responsible for delays or failures in performance resulting from events beyond the control of such party and without fault or negligence of such party. Such events shall include, but not be limited to, acts of God, strikes, block outs, riots, and acts of War, epidemics, acts of Government, fire, power failures, nuclear accidents, earthquakes, and unusually severe weather.

G-4.9 Information

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G-4.9.1 In performing its obligations under the Contract, the Vendor may gain access to information of the State, including Confidential Information. The Vendor shall not use information developed or obtained during the performance of, or acquired, or developed by reason of the Contract, except as is directly connected to and necessary for the Vendor's performance under the Contract.

G-4.9.2 The Vendor agrees to maintain the confidentiality of and to protect from unauthorized use, disclosure, publication, and reproduction, all information of the State that becomes available to the Vendor in connection with its performance under the Contract, regardless of its form. Subject to applicable federal or State laws and regulations, Confidential Information shall not include information which: (i) shall have otherwise become publicly available other than as a result of disclosure by the receiving party in breach hereof; (ii) was disclosed to the receiving party on a non-confidential basis from a source other than the disclosing party, which the receiving party believes is not prohibited from disclosing such information as a result of an obligation in favor of the disclosing party; (iii) is developed by the receiving party independently of, or was known by the receiving party prior to, any disclosure of such information made by the disclosing party; or (iv) is disclosed with the written consent of the disclosing party. A receiving party also may disclose Confidential Information to the extent required by an order of a court of competent jurisdiction.

G-4.9.3 Any disclosure of the State's information shall require prior written approval of the State. The Vendor shall immediately notify the State if any request, subpoena or other legal process is served upon the Vendor regarding the State's information, and the Vendor shall cooperate with the State in any effort it undertakes to contest the subpoena or other legal process.

G-4.9.4 In the event of unauthorized use or disclosure of the State's information, the Vendor shall immediately notify the State, and the State shall immediately be entitled to pursue any remedy at law, including, but not limited to injunctive relief.

G-4.9.5 Insofar as the Vendor seeks to maintain the confidentiality of its confidential or proprietary information, the Vendor must clearly identify in writing the information it claims to be confidential or proprietary. The Vendor acknowledges that the State is subject to the Right to Know law, RSA Chapter 91-A. The State shall maintain the confidentiality of the identified Confidential Information insofar as it is consistent with applicable laws or regulations, including but not limited to, RSA Chapter 91-A. In the event the State receives a request for the information identified by the Vendor as confidential, the State shall notify the Vendor and specify the date the State will be releasing the requested information. Any effort to prohibit or enjoin the release of the information shall be the Vendor's sole responsibility and at the Vendor's sole expense. If the Vendor fails to obtain a court order

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enjoining the disclosure, the State shall release the information on the date specified in the State's notice to the Vendor without any State liability to the Vendor.

G-4.9.6 This Section G-4.9 shall survive termination or Contract Conclusion.

G-4.10 Change of Ownership

In the event that the Vendor should change ownership for any reason whatsoever, the State shall have the option of continuing under the Contract with the Vendor or its successors or assigns for the full remaining term of the Contract; continuing under the Contract with the Vendor or its successors or assigns for such period of time as determined necessary by the State; or immediately terminating the Contract without liability to the Vendor, its successors or assigns.

G-4.11 Vendor's Relation to the State

In the performance of the Contract, the Vendor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Vendor nor any of its officers, employees, agents, or members shall have authority to bind the State or receive any benefits, worker's compensation or other emoluments provided by the State to its employees.

G-4.12 Assignment, Delegation and Subcontracts

G-4.12.1 The Vendor shall not assign, delegate, subcontract, or otherwise transfer any of its interest, rights, or duties under the Contract without the prior written consent of the State. Such consent will not be unreasonably withheld. Any attempted transfer, assignment, delegation, or other transfer made without the State's prior written consent shall be null and void.

G-4.12.2 The Vendor shall remain wholly responsible for performance of the entire Contract regardless of whether assignees, delegates, Subcontractors or other transferees ("Successor") are used, unless otherwise agreed to in writing by the State and the Successor fully assumes in writing any and all obligations and liabilities under the Contract. In the absence of a written assumption of full obligations and liabilities of the Contract, any permitted assignment, delegation, subcontract or other transfer shall neither relieve the Vendor of any of its obligations under the Contract nor shall it affect any remedies available to the State against the Vendor that may arise from any event of default of the provisions of the Contract. The State will consider the Vendor to be the sole point of contact with regard to all contractual matters, including payment of any and all charges resulting from the Contract.

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G-4.13 Indemnification

The Vendor shall indemnify, defend and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based or resulting from, arising out of (or which may be claimed to arise out of) the acts the acts or omissions of the Vendor, its personnel or agents during the course of performance of the Services hereunder.

Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State.

This Section G-4.13 shall survive termination or Contract Conclusion.

G-4.14 Insurance

G-4.14.1 The Vendor shall, at its sole expense, obtain and maintain in force, and shall require any Subcontractor or assignee to obtain and maintain in force, both for the benefit of the State, the following insurance:

G-4.14.1.1 Comprehensive general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$250,000 per claim and \$2,000,000 per incident; and

G-4.14.1.2 The policies shall be the standard form employed in the State of New Hampshire, issued by underwriters acceptable to the State, and authorized to do business in the State of New Hampshire. Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than ten (10) days after written notice thereof has been received by the State.

G-4.15 Waiver of Event of Default

No failure by the State to enforce any provisions hereof after any event of default shall be deemed a waiver of its rights with regard to that event, or any subsequent event. No express failure of any default shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other default on the part of the Vendor.

G-4.16 Notice

Any notice by a party to the other party shall be deemed to have been duly delivered or given at the time of mailing by registered mail, postage prepaid, in a United States Post Office addressed to the parties at the following addresses.

TO VENDOR:

TO STATE:

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[Name]	State of New Hampshire
[Address]	Department of Health and Human Services Attention: Tina Piaseczny 29 Hazen Drive
[City, State] [Zip]	Concord, NH 03301
[Telephone Number]	(603) 271-8988

G-4.17 Amendment

The Contract may be amended, waived, or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver, or discharge by the Governor and Executive Council of the State of New Hampshire.

G-4.18 Construction of Contract and Terms

The Contract shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns. Any action may only be brought in the State of New Hampshire Merrimack County Superior Court.

G-4.19 Third Parties

The parties hereto do not intend to benefit any third parties and the Contract shall not be construed to confer any such benefit.

G-4.20 Headings

The headings in the Contract shall not be held to explain, modify, amplify, or aid in the construction or interpretation of the Contract provisions, and are for reference purposes only.

G-4.21 Exhibits

The Exhibits referred to in and attached to the Contract are made a part of it as if fully included in the text.

G-4.22 Survival

The terms, conditions and warranties contained in the Contract that by their context are intended to survive the completion of the performance, cancellation or termination of the Contract shall so survive.

G-4.23 Entire Contract

The Contract, which may be executed in a number of count arts, each of which shall be deemed an original, constitutes the entire Contract and understanding between the parties, and supersedes all prior Contracts and understandings.

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G-5 HIPAA Standards for Privacy – Business Associate Agreement

STANDARD EXHIBIT H

The Contractor agrees to comply with the Health Insurance Portability and Accountability Act, Public Law 104-191, and with the Standards for Privacy of Individually Identifiable Health Information, 45 CFR Parts 160 and 164. As defined herein, “Business Associate” shall mean the Contractor and “Covered Entity” shall mean the State of New Hampshire, Department of Administrative Services.

G-5.1 Business Associate Agreement

G-5.1.1 Definitions

- a. “Designated Record Set” shall have the same meaning as the term “designated record set” in 45 CFR Section 164.501.
- b. “Data Aggregation” shall have the same meaning as the term “Data aggregation” in 45 CFR Section 164.501.
- c. “Health Care Operations” shall have the same meaning as the term “health care operations” in 45 CFR Section 164.501.
- d. “HIPAA” means the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191.
- e. “Individual” shall have the same meaning as the term “individual” in 45 CFR Section 164.501 and shall include a person who qualifies as a personal representative in accordance with 45 CFR Section 164.501(g).
- f. “Privacy Rule” shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 CFR Parts 160 and 164, promulgated under HIPAA by the United States Department of Health and Human Services.
- g. “Protected Health Information” shall have the same meaning as the term “protected health information” in 45 CFR Section 164.501, limited to the information created or received by Business Associate from or on behalf of Covered Entity.
- h. “Required by Law” shall have the same meaning as the term “required by law” in 45 CFR Section 164.501.
- i. “Secretary” shall mean the Secretary of the Department of Health and Human Services or his/her designee.

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- j. Other Definitions all terms not otherwise defined herein shall have the meaning established under 45 CFR Parts 160, 162 and 164, as amended from time to time.

G-5.1.2 Use and Disclosure of Protected Health Information (PHI)

- a. Business Associate shall not use or disclose PHI except as reasonably necessary to provide the Services outlined under Exhibit A: *Contract Deliverables* of the Agreement, as amended to include this Standard Exhibit H. Further, the Business Associate shall not, and shall ensure that its directors, officers, employees, and agents do not, use, or disclose PHI in any manner that would constitute a violation of the Privacy Rule if so used by Covered Entity.
- b. Business Associate may use or disclose PHI:
 - i. For the proper management and administration of the Business Associate.
 - ii. As required by law, pursuant to the terms set forth in paragraph c. below.
 - iii. For Data aggregation purposes for the health care operations of Covered Entity.
- c. To the extent Business Associate is permitted under the Agreement to disclose PHI to a third party, Business Associate must obtain, prior to making any such disclosure, (i) reasonable assurances from the third party that such PHI will be held confidentially and used or further disclosed only as required by law or for the purpose for which it was disclosed to the third party; and (ii) an agreement from such third party to immediately notify Business Associate of any breaches of the confidentiality of the PHI to the extent it has obtained knowledge of such breach.
- d. The Business Associate shall not, unless such disclosure is reasonably necessary to provide Services under Exhibit A: *Contract Deliverables* of the Agreement, as amended to include this Standard Exhibit H, disclose any PHI in response to a request for disclosure on the basis that it is required by law, without first notifying Covered Entity so that Covered Entity has an opportunity to object to the disclosure and to seek appropriate relief. If Covered Entity objects to such disclosure, the Business Associate shall refrain from disclosing the PHI until Covered Entity has exhausted all remedies.
- e. If the Covered Entity notifies the Business Associate that Covered Entity has agreed to be bound by additional restrictions on the uses or disclosures of PHI pursuant to the Privacy Rule, the Business

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Associate shall be bound by such additional restrictions and shall not disclose PHI in violation of such additional restrictions.

G-5.1.3 Obligations and Activities of Business Awards

- a. Business Associate shall report to the designated Privacy Officer of Covered Entity, in writing, any use or disclosure of PHI in violation of the Agreement, as amended to include this Standard Exhibit H, of which it becomes aware, within two (2) business days of becoming aware of such unauthorized use or disclosure.
- b. Business Associate shall use appropriate safeguards to prevent the use or disclosure of PHI other than as permitted by the Agreement, as amended to include this Exhibit H.
- c. Business Associate shall make available all of its internal policies and procedures, books, and records relating to the use and disclosure of PHI received from or created or received by the Business Associate on behalf of Covered Entity to the Secretary for purposes of determining Covered Entity's compliance with HIPAA and the Privacy Rule.
- d. Business Associate shall require all of its directors, officers, employees, agents, Subcontractors, and third parties that receive, use, or have access to PHI under the Agreement, as amended to include this Exhibit H, to agree in writing to adhere to the same restrictions and conditions on the use and disclosure of PHI contained herein, including the duty to return or destroy the PHI as provided under Section (3) k herein. Business Associate shall also require its agents, Subcontractors, and third parties to indemnify, defend, and hold harmless Covered Entity from and against any claim, liability, or expense arising out of or relating to any non-permitted use or disclosure of PHI by the agents, Subcontractors, and third parties.
- e. Within five (5) business days of receipt of a written request from Covered Entity, Business Associate shall make available, during Normal Business Hours, at its offices, all records, books, agreements, policies and procedures relating to the use and disclosure of PHI to the Covered Entity, for purposes of enabling Covered Entity to determine Business Associate's compliance with the terms of the Agreement, as amended to include this Exhibit H.
- f. Within ten (10) business days of receiving a written request from Covered Entity, Business Associate shall provide access to PHI, in a designated record set, to the Covered Entity, or as directed by Covered Entity, to an individual in order to meet the requirements under 45 CFR Section 164.524.

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- g.** Within ten (10) business days of receiving a written request from Covered Entity for an amendment of PHI or a record about an individual contained in a designated record set, the Business Associate shall make such PHI available to Covered Entity for amendment and incorporate any such amendment to enable Covered Entity to fulfill its obligations under 45 CFR Section 164.526.
- h.** Business Associate shall document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an individual for an accounting of disclosures of PHI in accordance with 45 CFR Section 164.528.
- i.** Within ten (10) business days of receiving a written request from Covered Entity for a request for an accounting of disclosures of PHI, Business Associate shall make available to Covered Entity such information as Covered Entity may require to fulfill its obligations to provide an accounting of disclosures with respect to PHI in accordance with 45 CFR Section 164.528.
- j.** In the event any individual requests access to, amendment of, or accounting of PHI directly from the Business Associate, the Business Associate shall, within two (2) business days, forward such request to Covered Entity. Covered Entity shall have the responsibility of responding to forwarded requests. However, if forwarding the individual's request to Covered Entity would cause Covered Entity or the Business Associate to violate HIPAA and the Privacy Rule, the Business Associate shall instead respond to the individual's request as required by such law and notify Covered Entity of such response as soon as practicable.
- k.** Within ten (10) business days of termination of the Agreement, as amended to include this Standard Exhibit H, for any reason, the Business Associate shall return or destroy, as specified by Covered Entity, all PHI received from or created or received by the Business Associate in connection with the Agreement and shall not retain any copies or back-up tapes of such PHI. If return or destruction is not feasible, Business Associate shall continue to extend the protections of the Agreement, as amended by this Exhibit H, to such PHI and limit further uses and disclosures of such PHI to those purposes that make the return or destruction infeasible for so long as Business Associate maintains such PHI. If Covered Entity, in its sole discretion, requires that the Business Associate destroy any or all PHI, the Business Associate shall certify to Covered Entity that the PHI has been destroyed.

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G-5.1.4 Obligations of Covered Entity and Activities of Business Awards

- a. Covered Entity shall notify Business Associate of any changes or limitation(s) in its Notice of Privacy Practices provided to individuals in accordance with 45 CFR Section 164.520 to the extent that such change or limitation may affect Business Associate's use or disclosure of PHI.
- b. Covered Entity shall promptly notify Business Associate of any changes in or revocation of permission provided to Covered Entity by individuals whose PHI may be used or disclosed by Business Associate under this Agreement, pursuant to 45 CFR Section 164.506 or 45 CFR Section 164.508.
- c. Covered entity shall promptly notify Business Associate of any restrictions on the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 CFR 164.522 to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

G-5.1.5 Term and Termination

- a. Term. The Agreement, as amended to include this Standard Exhibit H, shall become effective as of the date approved by Governor and Executive Council and shall continue in effect until (i) termination of the Agreement, (ii) termination as provided herein, or (iii) termination by mutual agreement of the parties.
- b. Termination for Cause. Covered Entity may immediately terminate the Agreement, as amended to include this Standard Exhibit H, if it determines that Business Associate has violated the Agreement. Upon Covered Entity's knowledge of a breach by Business Associate, Covered Entity may either immediately terminate the Agreement or provide an opportunity for Business Associate to cure the alleged breach within a timeframe specified by Covered Entity. If Covered Entity determines that neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.

G-5.1.6 Miscellaneous

- a. Definitions and Regulatory References. All terms used but not otherwise defined herein shall have the same meaning as those terms in the Privacy Rule, as amended from time to time. A reference in the Agreement, as amended to include this Standard Exhibit H, to a Section in the Privacy Rule means the Section as in effect or as amended.

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- b. Amendment. Covered Entity and Business Associate agree to take such action as is necessary to amend the Agreement, as amended to include this Standard Exhibit H, from time to time as is necessary for Covered Entity to comply with the changes in the requirements of HIPAA, the Privacy Rule, and applicable federal and State law.
- c. No Third Party Beneficiaries. Nothing express or implied in the Agreement, as amended to include Standard Exhibit H, is intended or shall be deemed to confer upon any person or entity other than the Covered Entity, the Business Associate, and their respective successors and assigns, any rights, obligations, remedies or liabilities whatsoever.
- d. Data Ownership. The Business Associate acknowledges that it has no ownership rights with respect to the PHI provided by or created on behalf of Covered Entity.
- e. Interpretation. The parties agree that any ambiguity in the Agreement, as amended to include this Standard Exhibit H, shall be resolved to permit Covered Entity to comply with HIPAA and the Privacy Rule.
- f. Indemnification. Business Associate shall indemnify, defend, and hold harmless Covered Entity from and against any claim, liability, or expense arising out of or relating to any non-permitted use or disclosure of PHI by the Business Associate, including without limitation its directors, officers, and employees.
- g. Segregation. If any term or condition of this Standard Exhibit H or the application thereof to any person(s) or circumstance is held invalid, such invalidity shall not affect other terms or conditions which can be given effect without the invalid term or condition; to this end the terms and conditions of this Standard Exhibit H are declared severable.
- h. Survival. Provisions in this Standard Exhibit H regarding the use and disclosure of PHI, return or destruction of PHI, extensions of the protections of the Agreement in Section 3k. , the defense and indemnification provisions of Section 3d., and Section 6g. shall survive the termination of the Agreement.

IN WITNESS WHEREOF, the parties hereto have duly executed this Amendment.

STATE OF NEW HAMPSHIRE
DEPARTMENT

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Date:

Name of Authorized Representative
Title of Authorized Representative

CONTRACTOR NAME

Date:

Name of Authorized Representative
Title of Authorized Representative

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G-6 Escrow Agreement (Not Applicable)

G-7 Sample Certificate of Vote

CERTIFICATE

(Corporation without Seal)

I, _____, Clerk/Secretary of the
_____, do hereby certify that:

- (1) I am the duly elected and acting Clerk/Secretary of the _____, a
_____ corporation (State of incorporation) (the "Corporation");
- (2) I maintain and have custody and am familiar with the minute books of the Corporation;
- (3) I am duly authorized to issue certificates with respect to the contents of such books;
- (4) The following are true, accurate and complete copies of the resolutions adopted by the Board of Directors of the Corporation at a meeting of the said Board of Directors held on the _____ day of _____, 2005, which meeting was duly held in accordance with _____(State of incorporation) law and the by-laws of the Corporation:

RESOLVED: That this Corporation enter into a Contract with the State of New Hampshire, acting by and through the <AGENCY/DIVISION NAME> of the <DEPARTMENT NAME>, providing for the performance of certain IT Consulting services, and that the President (and Vice President) (and the Treasurer) (or any of them acting singly) be and hereby (is) (are) authorized and directed for and on behalf of this Corporation to enter into the said Contract with the State and to take any and all such actions and to execute, acknowledge and deliver for and on behalf of this Corporation any and all documents, agreements and other instruments (and any amendments, revisions or modifications thereto) and (she) (he) (any of them) may deem necessary, desirable or appropriate to accomplish the same;

RESOLVED: That the signature of any officer of this Corporation affixed to any instrument or document in or contemplated by these resolutions shall be conclusive evidence of the authority of said officer to bind this Corporation thereby;

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- (5) the foregoing resolutions have not been revoked, annulled, or amended in any manner whatsoever and remain in full force and effect as of the date hereof;
- (6) the following person(s) (has) (have) been duly elected to and now occupy the office(s) indicated below:

_____ President

_____ Vice President

_____ Treasurer

and;

- (7) the corporation has no seal.

IN WITNESS WHEREOF, I have hereunto set my hand as the Clerk/Secretary of the Corporation this _____ day of _____, 2011.

Clerk/Secretary

STATE OF _____

COUNTY OF _____

On this the _____ day of _____, 2011, before me, _____, the undersigned Officer, personally appeared _____, who acknowledged her/himself to be the _____, of _____, a corporation, and that she/he, as such _____ being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by her/himself as _____.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public/Justice of the Peace

My Commission Expires: _____

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APPENDIX H: TERMS AND DEFINITIONS

The following terms and definitions apply to this RFP and any resulting contract

Acceptance	An Acceptance Letter provides notice from the State that a Deliverable has satisfied Acceptance Tests or Review.
Acceptance Period	The timeframe during which the Acceptance Test is performed.
Acceptance Test Plan	The Acceptance Test Plan provided by the Vendor and agreed to by the State that describes at a minimum, the specific Acceptance process, criteria, and Schedule for Deliverables.
Acceptance Test and Review	Tests performed to determine that no Defects exist in the Application Software or the.
Agency	"Agency" shall mean any board, Department, commission, hospital, sanitarium, home, library, school, college, prison or other institution conducted or operated by or for the State of New Hampshire, per reference RSA 21-I:11.
Business Requirements Document (BRD)	Details of the business solution for the Cancer Data Mart.
Business Intelligence (BI)	Applications and technologies, which are used to gather, provide access to, and analyze Data and information about company operations.
Casual User	This user typically has professional level content expertise in some, but not all, categories of information within the warehouse. The level of technical expertise is typically one college statistics course, general web navigation skills, and basic-intermediate Excel and Word skills. This user will receive the DSS training as specified in the training section so that he/she is able to modify and save standard queries, select different graphic displays, and modify and save pdf output.
Certification	The Vendor's written Certification and full supporting and written Documentation (including without limitation test results as applicable) that the Contractor has completed development of the Deliverable and certified its readiness for applicable Acceptance Testing or Review.
Confidential Information	Information required to be kept Confidential from unauthorized disclosure.
Contract	Contract means a binding legal agreement between the State of New Hampshire and the Contractor. The Contract includes, without limitation, the Request for Proposal, the Offer submitted in response to the RFP, the Contract Award, the standard Purchase Terms and Conditions, Supplemental Terms and Conditions if any, Specifications, and any addenda and amendments thereto.
Contract Conclusion	Refers to the conclusion of Contracts, for any reason, including but not limited to, the successful Contract completion, termination for convenience, or termination for default.
Contract Managers	The persons identified by the State and the Vendor who shall be responsible for all Contractual authorization and administration of the Contract. These responsibilities shall include but not be limited to

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	processing Contract Documentation, obtaining executive approvals, tracking costs and payments, and representing the State in all Contract administration activities.
Contractor	The Contracted Vendor Company that will perform the duties and Specifications of the RFP. (Contractor's address info)
COTS	Commercial Off-the-Shelf
Data	State's records, files, forms, Data and other documents or information that will be converted by Vendor for processing.
Data Mart	A Data Mart is a specialized version of a Data warehouse. Like Data warehouses, Data Marts contain a snapshot of Operational Data that helps people to strategize based on analyses of past trends and experiences. The key difference is that the creation of a Data Mart is predicated on a specific, predefined need for a certain grouping and configuration of select data.
Data Warehouse	A database designed to support decision making in an organization. Data from the production databases are copied to the data warehouse so that queries can be performed without disturbing the performance or the stability of the production systems.
DBA	Database Administrator
Deficiencies/Defects	A failure, Deficiency, or Defect in a Deliverable resulting in a Deliverable, the Software, or the, not conforming to its Specifications. Class A Deficiency – Software - Critical, does not allow to operate, no work around, demands immediate action; Written Documentation - missing significant portions of information or unintelligible to State; Non Software - Services were inadequate and require re-performance of the service. Class B Deficiency – Software - important, does not stop operation and/or there is a work around and user can perform tasks; Written Documentation - portions of information are missing but not enough to make the document unintelligible; Non Software - Services were deficient, require reworking, but do not require re-performance of the service. Class C Deficiency – Software - minimal, cosmetic in nature, minimal effect on, low priority and/or user can use; Written Documentation - minimal changes required and of minor editing nature; Non Software - Services require only minor reworking and do not require re-performance of the service.
Deliverables	A Deliverable is any Written, Software, or Non-Software Deliverable (letter, report, manual, book, other), provided by Vendor to the State or under the terms of a Contract requirement.
Department	New Hampshire Department of Health and Human Services
Digital Images	The NECAP test uses questions which include line drawings. The proposed Solution must accommodate this type of image.
Documentation	All information that describes the installation, operation, and use of the Software, either in printed or electronic format.

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DHHS	New Hampshire Department of Health and Human Services
DMZ (demilitarized zone)	A computer host or small network inserted as a "neutral zone" between a company's private network and the outside public network. A secure firewall and/or proxy server.
DSS	Decision Support System/Business Intelligence component of the proposed Solution.
EHDIN	A public Data portal that provides Data about environmental hazards, exposures, and health effects that may be linked to the environment.
Effective Date	The date on which an agreement, such as a contract, takes effect.
Enhancements	Updates, additions, modifications to, and new releases for the Software, and all changes to the Documentation as a result of Enhancements, including, but not limited to, Enhancements produced by Change Orders
EPHT	Environmental Public Health Tracking Program
ETL	Extraction, transformation and loading processes. Three database functions that are combined into one tool to pull Data out of one database and place it into another database, to form Data Marts and Data warehouses and also to convert databases from one format or type to another. Extract is the process of reading Data from a database. Transform is the process of converting the extracted Data from its previous form into the form it needs to be in so that it can be placed into another database. Transformation occurs by using rules or lookup tables or by combining the Data with other data. Load is the process of writing the Data into the target database.
Firm Fixed Price Contract	A firm-fixed-price Contract provides a price that is not subject to increase, i.e., adjustment on the basis of the Contractor's cost experience in performing the contract.
GAAP	Generally Accepted Accounting Principles
General Public User	This user possesses typical Internet navigation skills, no special content knowledge of public education and has no special DSS training.
Governor and Executive Council	The New Hampshire Governor and Executive Council.
Implementation	The process for making the fully Operational for processing the Data.
Implementation Plan	Sets forth the transition from development of the System to full operation, and includes without limitation, training, business and technical procedures.
Information Technology (IT)	Refers to the tools and processes used for the gathering, storing, manipulating, transmitting, sharing, and sensing of information including, but not limited to, Data processing, computing, information s, telecommunications, and various audio and video technologies.
Non Exclusive Contract	A Contract executed by the State that does not restrict any State Agencies from seeking alternative sources for the product or service.
Non-Software Deliverables	Deliverables that are not Software Deliverables, e.g., meetings, help support, services, other.
Normal Business Hours	Normal Business Hours – 8:00 a.m. to 5:00 p.m. EST, Monday through Friday excluding State of New Hampshire holidays. State holidays are: New Year's Day, Martin Luther King Day, President's Day, Memorial

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	Day, July 4 th , Labor Day, Veterans Day, Thanksgiving Day, the day after Thanksgiving Day, and Christmas Day. Specific dates will be provided.
Notice to Proceed (NTP)	The State Contract Manager's direction to the Contracted Vendor to begin work on the Contract on a given date and time.
Department of Information Technology (DoIT)	The Department of Information Technology established under RSA 4-D within the Office of the Governor.
Operational	The System is operating fully functional, all Data has been loaded into the System, the System is available for use by the State in its daily operations, and the State has issued an Acceptance Letter.
Order of Precedence	The order in which Contract Activities/Documents preside in the event of a conflict or ambiguity.
Power User	This user will run ad hoc queries, develop new Standard Reports, define new calculated elements, run statistical analysis, and export/import files for Data analysis. This user will receive the DSS training as specified in the training section.
Production Cut Over Date	The date that the State has successfully completed User Acceptance Testing and signoff, the software has been placed into production, and the Warranty Period commences.
Project	The planned undertaking regarding the entire subject matter of an RFP Contract and the activities of the parties related hereto.
Project Team	The group of State employees and Vendor staff responsible for managing the processes and mechanisms required such that the Services are procured in accordance with the Project Plan on time, on budget and to the required Specifications and quality.
Project Management Plan	A document that describes the processes and methodology to be employed by Vendor to ensure a successful Project.
Project Managers	The persons identified who shall function as the State's and Vendor's representative with regard to Review and Acceptance of Contract Deliverables, invoice sign off, and Review and approval of Change Requests (CR) utilizing the Change Control Procedures (CCP).
Proposal	The submission from a Contractor in response to the RFP.
<i>Relational database management system (RDM)</i>	A relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model.
Report Developer	An end-user who will be using the system.
Review	The process of reviewing Deliverables for Acceptance.
Review Period	The period set for Review contained in the Statement of Work for a Deliverable. If none is specified then five (5) business days will apply.
RFP (Request for Proposal)	A Request For Proposal which solicits Vendor proposals to satisfy State functional requirements by supplying Data processing product and/or Service resources according to specific terms and conditions.
Schedule	The dates described in the Work Plan for deadlines for performance of Services and other Project events and activities under the Contract.
Service Level Agreement (SLA)	A signed agreement between the Contractor and the State specifying the level of Service that is expected and provided by the Contractor during the term of the Contract.

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Services	The work or labor to be performed by the Contracted Vendor on the Project as described in the Contract.
Software	All custom Software and COTS Software provided by the Contractor under the Contract
Software Deliverables	All custom Software and COTS Software provided by the Contractor under the Contract
Software License	Licenses provided to the State under this Contract.
Solution	The Solution consists of the total Solution, which includes, without limitation, Software and Services, addressing the requirements and terms of the Specifications. The off-the-shelf Software and configured Software customized for the State provided by the Contractor in response to this RFP.
Specifications	The written Specifications that set forth the requirements which include, without limitation, this RFP, the Proposal, the Contract, any performance standards, Documentation, applicable State and federal policies, laws and regulations, State technical standards, subsequent State-approved Deliverables, and other Specifications and requirements described in the Contract Documents. The Specifications are, by this reference, made a part of the Contract as though completely set forth herein.
Secure Sockets Layer (SSL)	The Secure Sockets Layer (SSL) is a commonly-used protocol for managing the security of a message transmission on the Internet.
Standard Report	Popular reports that are routinely run in the same format. Criteria for these reports are predefined by developer. School year, district and school are the most common filter/parameter.
State	The State of New Hampshire, acting through the Office of Information Technology.
Statement of Work (SOW)	A Statement of Work clearly defines the basic requirements and objectives of a Project. The Statement of Work also defines a high level view of the architecture, performance and design requirements, the roles and responsibilities of the State and Vendor. The SOW defines the results that Vendor remains responsible and accountable for achieving.
State's Confidential Records	State's information regardless of its form that is not subject to public disclosure under applicable State and federal laws and regulations, including but not limited to RSA Chapter 91-A.
State Data	Any information contained within State Systems in electronic or paper format.
State Fiscal Year	The New Hampshire State Fiscal Year extends from July 1 st through June 30 th of the following calendar year
State's Project Manager (PM)	State's representative with regard to Project management and technical matters. Agency Project Managers are responsible for Review and Acceptance of specific Contract Deliverables, invoice sign off, and Review and approval of a Change Proposal (CP).
Subcontractor	A person, partnership, or company not in the employment of or owned by The Contractor, which is performing Services under this Contract under a separate Contract with or on behalf of The Contractor.
System	All Software, specified hardware, and interfaces and extensions,

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	integrated and functioning together in accordance with the Specifications.
Technical Authorization	Direction to Contractor, which fills in details, clarifies, interprets, or specifies technical requirements. It must be: (1) consistent with Statement of Work within Statement of Services; (2) not constitute a new assignment; and (3) not change the terms, documents of Specifications of the SOW.
Vendor/Contractor	Any individual, firm, or corporation invited to submit a Proposal to supply Data processing software and Services capable of satisfying State specified requirements.
Warranty Period	That period following the Acceptance Date during which Contractor will provide Software product support and/or maintenance to the State at no charge, subject to any extensions for Defect correction.
Warranty Services	The Services to be provided during the Warranty Period.
Warranty Releases	Software code that is provided to the State as a remedy for Defects documented during the Warranty Period.
Work Plan	The overall plan of activities for the Project created in accordance with the Contract. Each revision to the Work Plan accepted by the State shall be incorporated herein by reference upon its Acceptance by the State.
Written Deliverables	Non-software Written Deliverable Documentation (letter, report, manual, book, other) provided by Vendor either in paper or electronic format.

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ATTACHEMENT 1: BUSINESS REQUIREMENT DOCUMENT (BRD)

Environmental Public Health Tracking
Cancer Data Mart, Cognos Reporting System
Project #533



7/26/2010
Version 1.2



State of New Hampshire
DHHS - Data Warehouse Services
Business Intelligence Solutions

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1. INTRODUCTION

1.1 Business Owners and Contacts

Name	Email	Phone	Role
Selected vendor contact	TBD	TBD	Data Warehouse Contractor
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Andrew Divers	andrew.divers@doit.nh.gov	230-3413	DOIT/EDW developer
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Matthew Cahillane	mcahilla@dhhs.state.nh.us	4072	EPHT business custodian
Mark Parris	mark.parris@doit.nh.gov	230-3465	EDW DoIT IT manager
Thomas Lambert	tlambert@dhhs.state.nh.us	4395	EPHT business custodian

1.2 Signoffs

The undersigned approve the business requirements specified in this document as reflective of the existing business needs of their respective programs. Signed copy is on file with DoIT.

Name	Date	Signature
Matthew Cahillane		
Jeff Silver		
Andrew Chalsma		
Tom Lambert		
Liz Biron		
Brook Dupee		
Add Contractor here once selected		

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1.3 Revision History

Date	Reason for change(s)	Author(s)
7/12/2010	First Draft: Incorporated Tom Lambert's draft BRD (attached to initial RFP document package). Rearranged sections and edited narrative throughout.	Jeff Silver
7/20/2010	Reviewed first draft. Corrected narrative as needed.	Tom Lambert
7/23/2010 7/26/2010	Accepted Tom's changes. Corrected appendix references. Replaced hospitalization examples with cancer examples.	Jeff Silver Tom Lambert

1.4 Referenced Documents

Description	Document/Location	Version /Date
1. PCD document created by the public health group. Included in the RFP.	\\hazenfp1\shared\EPHT\IT Project Management\RFP SFY2011 EPHT Data Marts\Background_PCD-BRD\NH EPHT data mart PCD_fy2011mjc.doc	6/18/2010
2. Hospitalization data mart BRD	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\392 EPHT BRD Phase 1 v3.6 Final.pdf	4/17/2008
3. Hospitalization data mart TDD	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\392 EPHT Hospital Data Mart Design.pdf	8/26/2008
4. Hospitalization data mart TDD change request 1	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\392 EPHT change request 392-1 V7.pdf	6/10/2009
5. Hospitalization data mart TDD change request 2	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\392 EPHT change request 392-2 v3 JS .pdf	6/17/2009
6. Hospitalization data mart TDD change request 3	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\392 EPHT change request 392-3.pdf	9/25/2009
7. Hospitalization data mart ERD.	\\hazenfp1\shared\EPHT\IT Project Management\RFP SFY2011 EPHT Data Marts\RFP Narrative & Appendices\ehh_hospitalization_erd.pdf	10/28/2009
8. Hospitalization Cognos Reports BRD	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Business Reports_Cognos\BRD for Hospitalization Reporting System\556 Business requirements hospitalization reports - FINAL.pdf	5/7/2009

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9. Hospitalization Cognos Reports TDD	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Data marts\BRD for Hospital Data Mart_2008-09\556 EPHT Hospital Data FM Model TDD.pdf	3/17/2010
10. Sample calculations with data	\\hazenfp1\shared\EPHT\IT Project Management\BRD Bus Reqs Document\BRD Business Reports_Cognos\BRD for Hospitalization Reporting System\ Appendix Sample calculations.xls	6/2/2010

1.5 Definitions, Acronyms and Abbreviations

Item	Description
Age adjusted rate (Direct standardization)	A weighted average of a region's age-specific incidence rates where the weights represent the age-specific proportions of the standard population. Directly standardized rates for multiple regions can be compared as long as they use the same standard population and same age groupings. The age adjusted rate for an area is the rate of events that would occur if that area had the same age structure as the standard population.
Confidential source data	Confidential source data are housed in the data mart and in Cognos data packages used by report developers. Data are confidential when there is a possibility of being able to constructively identify (directly by name or address, or indirectly by age, gender, date of birth, etc.) individuals in the database. For more information on protecting data confidentiality see the HSDM Data release guidelines (http://www.dhhs.state.nh.us/DHHS/HSDM/LIBRARY/Policy-Guideline/data-release.htm).
Crude rate	A crude rate is calculated by dividing the total number of events in a specified time period by the total number of individuals in the population who are at risk for these events. For example, number of cancer cases in Belknap County for 2005 (numerator) divided by the population of Belknap County in 2005 (denominator) times 100,000 (constant) gives the 2005 crude cancer incidence rate per 100,000 population for Belknap County. Crude rates are recommended when a summary measure is needed and it is not necessary or desirable to adjust for other factors. For example, rates of infectious diseases, such as tuberculosis and hepatitis, are not age adjusted, because public health officials are interested in the overall burden of disease in the total population irrespective of age.
95% Confidence interval	A range of values centered on the sample estimate that is known to contain the true value with a 95% degree of statistical probability. It is the most commonly used uncertainty estimate. Estimates with high stability have smaller confidence intervals than estimates with low stability. See definition of "uncertainty estimate" below.
Dimension	A dimension is a structure that categorizes facts in order to enable users to answer business questions.
Incidence count	Incidence count is the number of cancer incidents (unique tumors) which occurred within the defined dimensions.
Incidence rate	With respect to this business requirements document, a rate where the numerator consists of the cancer incidence count and the denominator is the population at risk of being counted in the numerator.
Fact	A piece of information about circumstances that exist or events that have

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	occurred. For the purpose of this BRD, facts are 1) a person was diagnosed with a cancerous tumor.
Lat/Lon	Abbreviation for latitude/longitude.
Population at risk	For the EPHT data mart, the population at risk is defined as the total population having the same age, gender, and geography, for the same time period, as the population at risk of being counted in the numerator of a rate. For example, if a rate counts the number of breast cancer incidents from women over 50 in Coos County in 2001, then the denominator must consist of the number of women over 50 which lived in Coos County in 2001. An incorrect example would be to count the number of breast cancer incidents from Hispanic women over 50 in Coos County in 2001 and divide this number by the total number of women over 50 which lived in Coos County in 2001. This is incorrect because the denominator contains more individuals than those at risk of being counted in the numerator. The denominator should be constrained to Hispanic women (Note: the NH EPHT data mart does not currently contain population by race or ethnicity).
Rate	A rate consists of a numerator divided by a denominator. The numerator is a count of events from those in the population at risk. The denominator is a count of the population at risk of being counted in the numerator.
Report author	A report author is able to create reports in the reporting system and has access to the underlying hospitalization data mart and confidential data. Report authors design reports for public users via a reporting tool such as Cognos Report Studio. Report authors are trained analysts (e.g., an epidemiologist).
Standardized incidence ratio (SIR; indirect standardization)	The ratio of the number of observed cases in a region to the number of expected cases calculated using indirect standardization. SIR is an estimate of the occurrence of disease or death in a population relative to what might be expected if the population had the same disease or death experience as some larger comparison population designated as "normal" or average. Usually, the state as a whole is selected to be the comparison (reference) population. Using the state of New Hampshire as a comparison population provides a stable population base for the calculation of rates.
Standard population	population structure used to provide a constant age or covariate distribution, so age- and sex-specific rates within different populations can be applied to it and can be compared without confounding by the different age or covariate distributions of the populations.
Static report	A report in which viewers can see data values (counts, rates, SIRs) which report authors design for them to see, and can not see data which the report has not been designed for them to see. Static reports may contain pull-down menus and drill-through options.
Suppression	The act of removing an actual data point from an output dataset because displaying this value would result in a breach of confidentiality or because its uncertainty may cause misinterpretation of the data.
Uncertainty estimate	An estimate of the level of statistical uncertainty in a rate, ratio, percentage, or count. A typical estimate of uncertainty is the 95% confidence interval. There are multiple formulae for calculating uncertainty estimates depending on numerator and denominator, and whether the value is a rate, SIR, percentage, or count. This BRD provides formulae for the calculation of uncertainty estimates for rates and SIRs. Percentages are not typically calculated from cancer incidence data, and in the rare instances that one is, the report author will need to calculate the uncertainty estimate. Uncertainty estimates for counts are not

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	typically reported and report authors will calculate these uncertainty estimates.
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2. PROJECT OVERVIEW

The NH Environmental Public Health Tracking Program (EPHT) requires the design and implementation of a system that manages environmental and health surveillance data sets relating to cancer events. The system development is funded by the national Centers for Disease Control (CDC) in Atlanta and they will be our primary clients to receive data transmissions. The EPHT Program can achieve that goal by building an a reporting system (i.e., a hardware-software system to store, process, and report on data) that can produce business reports for NH “cancer incidence” records from the NH State Cancer Registry using business intelligence software (i.e., IBM Cognos 8). The required reporting system for cancer incidence must integrate within the existing reporting system for hospital discharge data.

The target audience for the system will include program managers, local health officials, data stewards, academic researchers, and the general public.

2.1 Overview of Existing Hospitalization Data Mart

1. The NH EPHT program has created a hospital discharge data mart and reporting system (implemented July 2010). The current need is to expand the existing data mart to include cancer incidence facts and dimensions, and then for the reporting system to include access to the cancer incidence data in order to calculate similar statistics and create similar reports. The hospital discharge reporting system works well for the program’s needs.
2. The data mart and reporting system for hospitalizations were created via two business requirements documents (BRD) and technical design documents (TDD).
 - a. The first BRD is for the data mart
 - BRD – attachment Hospitalization data mart BRD
Notes: The BRD was originally intended to be the only BRD. As our needs evolved, we incorporated a second BRD (below) for the reporting system. The two BRDs are not exclusive and some content overlaps. For all language conflicts regarding reporting and calculations, the second BRD supersedes the first BRD. The hospital data mart BRD originally contained a request for the inclusion of public drinking water data in the data mart. However, mid process, all requirements regarding the drinking water data mart were cancelled.
 - b. Change request 1 – attachment Hospitalization data mart TDD change request 1
 - Adding a unique patient identifier field
 - c. Change request 2 – attachment Hospitalization data mart TDD change request 2
 - Adding standard proportions to the data mart
 - d. Change request 3 – attachment Hospitalization data mart TDD change request 3
 - Adding single year age group population data to the data mart
 - e. TDD – attachment Hospitalization data mart TDD
3. The second BRD is for the reporting system.
 - a. BRD – attachment Hospitalization Cognos Reports BRD
 - b. TDD – attachment Hospitalization Cognos Reports TDD

2.2 Overview and Background of Proposed Cancer Data Mart

1. Description of cancer “incidence” data
 - a. Purpose of the NH State Cancer Registry
 1. The New Hampshire State Cancer Registry (NHSCR) is a statewide, population-based cancer surveillance program that collects incidence data on

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all cancer cases diagnosed or treated in the State of New Hampshire. The purpose of the NHSCR is to maintain an incidence reporting system for the estimation of cancer rates in NH; to provide information to help public health officials and agencies in the planning and evaluation of cancer prevention and control programs, and in cancer cluster investigations; and to be an informational resource for investigation of cancer and its causes.

b. Data source

1. Incident identification

- Cancer became a reportable disease in New Hampshire in 1985, and since 1986 the New Hampshire State Cancer Registry (NHSCR) has been charged with identifying all new cases of cancer occurring among New Hampshire residents. An incident cancer case is reportable when a recognized medical practitioner makes a definitive diagnosis of cancer. Reportable cancers are identified by a systemic process of case finding used by reporting facilities, which entail the review of different source documents (including disease indices, pathology reports, etc.).

2. Number of incidents each year

- NHSCR receives approximately 8,000 cases per year from hospital registrars operating in all large hospitals, from physician practices, a freestanding radiation oncology center, out-of-state pathology laboratories, and other sources, as required by New Hampshire regulations. The NHSCR also receives electronic reports and paper reports of cancer cases from sources in New Hampshire, Massachusetts, and New York, Vermont, out-of-state pathology laboratories, other state cancer registries, and oncology centers.

3. Time to death

- The cancer registry updates records annually with fact of death, date of death, cause of death (ICD-10 coding and historical ICD-9 coding), death certificate number and place of death using state vital records and information from the National Death Index using procedures developed of the CDC's National Program of Cancer Registries.

4. Demographics

- The data base includes a variety of identifiers, as available, such as first name, middle name, last name, maiden name, alias, date of birth, gender/sex, social security number, race, military record number, address at time of diagnosis, telephone number, spouse name, follow-up contact address, death certificate number, Occupation.

5. Diagnosis

- The primary site of tumor is coded using ICD-O codes listed in the "International Classification of Diseases for Oncology," 3rd Edition published by the World Health Organization
- Stage of tumor is coded using SEER Summary Stage 1977 for cases diagnosed prior to year 2001; SEER Summary Stage 2000 for cases diagnosed in 2001 or later; and AJCC TNM for cases diagnosed prior to 2004. As of 2004, all cases are staged according to the "Collaborative Staging Manual and Coding Instructions."

6. Populating database/system

- Cancer incident reports are identified by reporting facilities and entered into specialized cancer registry software. After data are collected, cases are transmitted to the state cancer registry for inclusion into the state cancer database. The current cancer registry software utilized by NHSCR is Rocky Mountain Cancer Data Systems (RMCDS). It complies with all the current standards from the North American Association of Central Cancer Registries (NAACCR),

National Program of Cancer Registries (NPCR), and Commission On Cancer (COC).

7. Data entry QA/QC
 - During data entry, registry software identifies erroneous data through internal programs that check for invalid codes or blank data fields to ensure complete and accurate case abstraction.
 8. Record updates
 - If reports of cancer are received from multiple sources at different times, case reports are consolidated and the information in the database is updated as appropriate based on the new data received. In addition, date of death and cause of death are added to the database during linkages with state and national death records.
 9. Database QA/QC processes
 - NHSCR performs a number of routine data quality checks. These include and are not limited to nationally developed electronic data edits and visual edit checks that target invalid or incomplete values, single field and multiple field edits, inter-record edits, data range checks, and identification of duplicate case reports.
 10. Changes expected in the near future for cancer registry data collection
 - The registry uses NAACCR data format version 11 which is being updated to version 12 this year. The new format requires a much larger record size and a variety of other changes will be made compared with version 11. **Note:** if version 12 is implemented, the WRQS cancer load process may need to be modified.
- c. Confidentiality
1. Legal requirements
 - Defined in He-P 304.08 Procedures for Disclosure of Protected Health Information. And He-P 304.09 Approval Criteria for Release of Confidential Data for Research Purposes.
 2. DHHS requirements
 - Guidelines from the release of public health data:
<http://www.dhhs.state.nh.us/DHHS/HSDM/LIBRARY/Policy-Guideline/data-release.htm>

3. SCOPE, ASSUMPTIONS, AND CONSTRAINTS

The EPHT cancer reporting system will be developed in two phases:

Phase 1 will include the development of a dimensionally modeled data mart for cancer data sets.

Phase 2 will include the development of a Cognos 8 reporting solution built over cancer data mart.

3.1 Scope

- Build new cancer data mart integrating it with the existing hospitalization data mart.
- Build cancer related reporting system (as defined in this document) using the Cognos 8 BI platform.

3.2 Assumptions

- Data sets include **cancer and hospitalizations**.
- Standard proportions based on **U.S. 2000** standard population.
- Cancer registry data conforms to NAACCR data format version 11.

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- The data mart will be designed using “industry best practice” dimensional modeling standards.

3.3 Constraints

-

4. DATA FLOWS

N/A

5. PROCESS FLOWS

N/A

6. BUSINESS REQUIREMENTS

6.1 Business Requirements Matrix

The requirements matrices that follow present a numbered list of the requirements with a brief description, a priority, and any comments. The priorities are:

- M – the requirement is mandatory
- D – the requirement is desirable
- F – the requirement is to be postponed to the future
- N – although discussed, no longer a requirement

<i>Functions / Features</i>			
No.	Description	Priority	Comments
	CANCER INCEDENCE ETL		
1.	1.1 The cancer data mart must fully integrate into the existing hospitalization data mart. a. Existing Hospital data mart schema – attachment Hospitalization data mart ERD. b. Cancer registry data dictionary – section 10.1. c. All common dimensions should be shared. d. All new dimensions similarly modeled e. All facts should be modeled similarly to those in the hospitalization data mart Data mart must be ready to integrate into the IBM Cognos package (EHT_DW) from which reports are generated.	M	Overall cancer data mart design principals and readiness
2.	2.1 Source data updates (Cancer registry to NH DHHS) a. The cancer registry supplies data extracts at the request of the Chief of Health Statistics on approximately January 30th of each year and QA takes about 2-months. 2.2 Data mart ETL run frequency a. After QA is complete (1/30-3/30 of each year).	M	Update frequency of source data
3.	3.1 Cancer registry facts a. Each record in the cancer registry represents a unique tumor. ▪ A patient can occur multiple times in the cancer registry, once for each tumor 3.2 Note: Facts in the hospitalization data related to financial costs of the discharge are not required for cancer data – there is no financial information collected by the NH State Cancer Registry.	M	Description of NH State Cancer Registry facts
4.	4.1 Geography a. The most significant new geography to be added to the data mart is the census tract level geography, which are determined from the patient's street address. The cancer registry geocodes addresses and reports the census	M	Description of major cancer registry dimensions not incorporated in existing hospitalization data mart

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	tract. Census tracts are geographic units of about 3,000 individuals. Census tracts can be aggregated to the county level, but <u>not</u> the town level. b. Cancer registry collects address level information. This information should be available within the data mart, but does not need to be used to display points in map reports. Street addresses are not checked by the state registry for accuracy or completeness. Addresses can be geocoded using GIS software to obtain latitudes and longitudes (though the cancer registry already performs this, end-users may want to re-geocode addresses to their own specifications). Latitude and longitude (a.k.a., Lat/Lon) are provided for the address as geocoded by the cancer registry. 4.2 Time to death a. The cancer registry updates records annually with fact of death, date of death, cause of death (ICD-10 coding and historical ICD-9 coding), death certificate number and place of death using state vital death records and information from the National Death Index using procedures developed of the CDC's National Program of Cancer Registries. 4.3 Demographics a. The NH State Cancer Registry includes a variety of identifiers, as available, such as first name, middle name, last name maiden name, alias, date of birth, gender/sex, social security number, race, military record number, address at time of diagnosis, telephone number, spouse name, follow-up contact address, death certificate number, Occupation. ▪ Note: SSN appears to be populated in the source cancer file. If this field/value is stored in the EPHT cancer data mart, the values may have to be encrypted. The existing hospital data mart includes an encrypted SSN field. The SSN is encrypted before DHHS receives the source data. 4.4 Diagnosis a. The primary site of tumor is coded using ICD-O codes listed in the "International Classification of Diseases for Oncology," 3rd Edition published by the World Health Organization. This is a different coding scheme than the ICD9-CM codes used for hospital discharges. b. Stage of tumor is coded using SEER Summary Stage 1977 for cases diagnosed prior to year 2001; SEER Summary Stage 2000 for cases		
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	diagnosed in 2001 or later; and AJCC TNM for cases diagnosed prior to 2004. As of 2004, all cases are staged according to the "Collaborative Staging Manual and Coding Instructions."		
5.	REPORTING SYSTEM 5.1 Report authors (see section 7 for user definitions) need to be able to develop reports of cancer incidence counts, rates, and standardized incidence ratios (SIR) using graphs, tables, and maps. 5.2 Report authors need the ability to answer the following questions: a. What is the spatial (e.g., census tract, town, county etc.), temporal (e.g., month, year, multi-year periods, etc.), and demographic variability (e.g., males, females, elderly, etc.) of <i>cancer incidence</i> counts, rates, and SIRs by diagnosis, outcome, hospital, injury, etc? b. What is the spatial, temporal, and demographic variability of <i>unique patient</i> counts, rates, and SIRs by diagnosis, outcome, hospital, injury, etc.	M	Overview of reporting system content
6.	6.1 Report authors must be able to use the reporting system (IBM Cognos Report Studio) to create static (but with refining prompts/filters) web reports for public consumption which ensure confidentiality of the source data is maintained similar to the examples provided in Appendix C (Sample Reports). 6.2 Report authors need to be able to include uncertainty estimates for rate facts (i.e., 95% confidence intervals). a. Business rules for uncertainty estimates are provided in Appendix A (Example Calculations and Joins) and Appendix B (Sample Calculations with Data). b. In the hospitalization data mart a table was created to model the inverse gamma distribution function when there are between 1 and 100 events in the numerator of a rate. 6.3 Report authors should be able to carry out reporting system calculations in Appendix C (Sample Reports) using basic functions available in the reporting software (i.e., Cognos Report Studio). a. The reporting system should minimize the amount of query subject joins required to complete the calculations outlined in section 8. b. The reporting system should include custom functions which simplify the calculation of uncertainty estimates and some rates. i. The existing hospital data mart and reporting system contains custom functions which simplify statistical calculations. Many existing functions apply to cancer incidence data. Calculations include: age specific rates, weighted age specific rates, age specific rate	M	Description of the functionality which should be provided by the reporting system

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	confidence intervals, age adjusted rates, standard error of age adjusted rates, age adjusted rates confidence intervals, the comparison of confidence intervals between one rate and another, Standardized Incidence Ratios (SIR) and their standard error and confidence intervals.. c. The EPHT program would like report authors to need only minimal training to create reports of the calculations included in section 8. An example of minimal training would be a 1 week course in Cognos Report Studio. The EPHT program understands that the Contractor can not guarantee this requirement and states the desired level of training only as a design goal for the contractor. The EPHT program recognizes that on the job training and/or advanced training for report authors may be necessary in addition to the basic reporting software training, but would like to minimize the amount of additional training needed. Note: Training needs will most likely fluctuate. We are aware that the contractor cannot guarantee training will be accomplished within a predetermined time frame.		
7.	7.1 The reporting system must accomodate three distinct environments for three types of business user (outlined below). This BRD focuses on the functionality which should be provided to the internal secure user. a. Internal secure – Authorized employees of the State of NH. Full access to all dimensions at the record level. b. External secure – approved data analysts from designated/authorized institutions (universities, DHHS personnel from other states, town health officers) with access to ad-hoc reporting tools (Report Studio, or reports designed to access record level or near record level data) and/or functionality designed specifically for secure users. These users must sign release forms and have output approved by authorized DHHS staff (i.e., NH EPHT or NH HSMD and DHHS-EDW) before re-release. These users may view confidential or statistically uncertain counts and rates (as permitted), but must suppress confidential values and note uncertain values before data are re-released. The distinction between ▪ Full access – same access to data and reporting tools as internal secure users but without write access to public space. ▪ Limited access – same access to reporting tools as internal secure users but only to packages with subsets of dimensions (query subjects and/or query items) and without write access to public	M	Description of reporting system users

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	space, as defined by administrators. c. Public – access to web based static reports generated by DHHS analysts (no authorization required). Reports are QA'd, suppressed, and published by report authors before release for public consumption. Public users may feel as though these static-reports are ad-hoc because they have built in interactivity. (e.g., pick list selections and drill down capability).		
	8.2 NOTE: All report authors will be "secure" users.		
8.	8.1 Report authors (type ii and iii users) need to calculate the following values from cancer incidence facts in order to answer the business questions listed in section 5.1 (definitions are provided in the definitions section): a. Incidence counts b. Crude incidence rates c. Age specific incidence rates d. Age adjusted incidence rates (Standardization by the direct method) ▪ Example calculation of an age adjusted rate: http://www.health.state.ny.us/statistics/cancer/registry/age.htm ▪ http://seer.cancer.gov/seerstat/tutorials/aarate/s/step1.html e. Standardized Incidence Ratios (SIRs; Standardization by the indirect method) ▪ Example calculation of a SIR: http://www.health.state.ny.us/environmental/investigations/environmental_justice/appendix_b.htm f. Unique patient incidence counts 8.2 Report authors need to be able to calculate values for any combination of these dimensions: a. Geography (state, county, town, census tract). b. Date (annually or for multiple years). Patient demographics (Gender, Age). 8.3 Report authors should be able to filter incidents by these dimensions before calculating the values in section 8.1 a. Diagnosis b. Procedure c. Comorbidities (low data quality in comorbidity field – may remove) d. Facility of diagnosis (may differ from hospital facilities list) e. Visit (site, admission source, disposition) f. Primary payer (Primary payer description, primary payer group description). g. Zipcode 8.4 Report authors need to be able to drag and drop (and/or calculate) confidence intervals for rates and	M	Calculaions required of the reporting system

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	SIRs. a. See attached MS Excel file Sample calculations with data for sample calculations of age specific, crude rates, age adjusted rates, SIRs, and 95% confidence intervals. 8.5 Rate values must be correctly calculated by dividing the number of events in the population at risk by the appropriate total population at risk. a. The reporting system should correctly and automatically calculate rates when report authors invoke these dimensions to filter or stratify facts in a report: ▪ Geography (census tract, state, county, town, Hospital Service Area, Public Health Network), Date (multi-year, year,), Age, and Gender. - o Report authors will be responsible for ensuring rates are calculated correctly when using any dimensions other than these to filter or stratify rates. 8.6 Automatic filtering should be included in the reporting system to define: a. NH Residents: If geocode starts with 28 (except 28099) or zip code is between 03031 and 03897 (treated numerically – e.g., between 3,031 and 3,897). b. Non-NH Residents: Inverse of NH residents. c. Note that these filters already exist in the hospital discharge reporting system. 8.7 In addition to the dimensions discussed in section 8.3, the reporting system should account for these data mart dimensions: a. Behavioral Risk b. BRFSS (Behavioral Risk Factor Surveillance System) Strata		
Data Capture, Storage and Conversion			
No.	Description	Priority	Comments
9.	N/A		
Hardware and Software Platform			
No.	Description	Priority	Comments
10.	N/A		
Output / Reports			
No.	Description	Priority	Comments

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11.	ETL exception reports ▪ Capture and report any exceptions encountered during load processes. This may include items such as: ○ Non existent source files ○ Non existent destination files ○ Abnormal load termination ○ Invalid data element values	M	Description of the ETL event requirements
Testing / Training			
No.	Description	Priority	Comments
12.	• Unit testing and UAT required. Standardized tables will have to be tested and matched against their source data. • In general, all data within the EPHT data mart must be checked and verified against source data. • Accuracy of instructions in training material needs to pass testing by report authors. ○ In following provided instructions, report authors need to be able to use the system to calculate exact rates and confidence intervals. Values will be validated against external calculations.	M	Validate conversion and reporting system results
Security Requirements			
No.	Description	Priority	Comments
13.	• Only designated users should have report authoring level access to secured Cognos EPHT Packages via the secured Cognos portal. • Only designated users should have access to the EPHT data mart (within Oracle)	M	Reporting system data package and data mart accessibility
Implementation			
No.	Description	Priority	Comments
14.	▪ Create data warehouse “read” roles for designated users ▪ Create Oracle accounts if needed ▪ Grant read privileges to data mart user accounts ▪ Create Cognos 8 user accounts ▪ Configure folders within Cognos Connection to facilitate security	M	

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<i>Performance and Response Time Requirements</i>			
No.	Description	Priority	Comments
15.	N/A		
<i>Data Archival, Backup and Recovery</i>			
No.	Description	Priority	Comments
16.	Data mart and Cognos packages need to comply with DoIT archive, backup, and recovery processes.	M	

7. ACCEPTANCE CRITERIA

7.1 Acceptance Criteria Matrix

Criteria Id.	Description	Measurement	Requirement(s) Validated
1	Cancer data mart integrates with Hospitalization data mart	- Common dimensions as shared - New dimensions are complete and correctly modeled	
2	Cognos ad-hoc queries functionality is available on secured portal	- Only designated users can launch ad-hoc queries - Designated Cognos packages are available for selection/use	
3	New Cognos Package integrates Cancer and Hospitalization data correctly	Facts can be joined on common fields (e.g., town or year)	
4	Canned Cognos reports produce valid results when calculating values using the provided training material	- Report prompts, if any, filter data correctly - Age adjusted rates are correctly calculated - Age adjusted rate confidence intervals are correctly calculated - SIRs are correctly calculated - SIR confidence intervals are correctly calculated	
5	Cognos packages are designed to support all reporting and analysis needs	Ad-hoc query authors can access all necessary metadata (i.e., contained with Cognos packages) per security specs	

8. SPECIAL CONSIDERATIONS

N/A

9. DATA ACCESS AND SECURITY

9.1 Data Access

Authorized personnel will be able to access Oracle tables.

9.2 Security

The EDW Team will create security logons and passwords through which approved users will access EDW data. The Business Custodian will approve requests for user accounts before assignment of security roles occurs.

To view the EDW access approval process used by DWS, go to the Lotus Notes DHHS Knowledge Center > Office of Research and Analysis (ORA) > Data Warehouse Services > FAQ's > How Do I Request Access to the EDW.

On initial acquisition of the Access data into the EDW, the EDW Team will grant the following role(s) to allow specific access to EDW.

9.2.1 Role Summaries

User Type	Description
EDW Technical Staff	
EDW Security Role Required	Unrestricted role
Business Role	To provide technical support for data loads/updates and processes
Goal of Request	The EDW IT Manager can assign this role to the EDW Technical resource that will handle specific requests as needed.
Frequency of Use	As needed basis for support and/or development
EDW Application Staff	
EDW Security Role Required	Restricted role
Business Role	To provide application support for reporting and analysis activities
Goal of Request	The EPHT business custodian can assign this role to the EPHT business users/consumers as needed.
Frequency of Use	As needed basis for support and data analysis
Business Unit Staff	
EDW Security Role Required	Restricted role
Business Role	To provide business support for unit's data needs (reports, data, etc.)
Goal of Request	Allowing specific business staff to access data in the EDW.
Frequency of Use	As needed basis for support and/or development

9.2.2 Role Details

Role	Table Access	Column/Field Restrictions

The EDW Team will develop additional security roles with the approval of the EPHT Business Custodian as we further define the business needs of users.

Please note: the EDW Team is not responsible for data extracted from the EDW that users save to other locations (e.g., flat files, Access databases, Excel, etc.)

10. DATA LAYOUTS

10.1 Source Data from WRQS (Oracle)

WRQS source tables for cancer incidences will be used by EPHT cancer data mart. Cancer data is received via DVD and loaded “verbatim” into the WRQS data mart biannually.

TABLE_NAME	COL_ID	COLUMN_NAME	DATA_TYPE	LEN	PREC
CANCER_COUNT_INV_PRIM_VW	1	CALENDAR_YR	VARCHAR2	4	
	2	TOWN_NME	VARCHAR2	23	
	3	COUNTY_NME	VARCHAR2	12	
	4	PHN_TXT	VARCHAR2	60	
	5	SD_TXT	VARCHAR2	8	
	6	HSA_TXT	VARCHAR2	15	
	7	STANDARD_AGE_GROUP_TXT	VARCHAR2	8	
	8	CANCER_AGE_GROUP_TXT	VARCHAR2	8	
	9	AGE_YRS	NUMBER	22	3
	10	GENDER_DSC	VARCHAR2	6	
	11	TOTAL_INV_CNT	NUMBER	22	5
	12	INV_BLADDER_CNT	NUMBER	22	4
	13	INV_BRAIN_CNT	NUMBER	22	4
	14	INV_BREAST_CNT	NUMBER	22	4
	15	INV_CERVICAL_CNT	NUMBER	22	4
	16	INV_COLORECTAL_CNT	NUMBER	22	4
	17	INV_ESOPHAGUS_CNT	NUMBER	22	4
	18	INV_HODGKINS_CNT	NUMBER	22	4
	19	INV_RENAL_CNT	NUMBER	22	4
	20	INV_LARYNX_CNT	NUMBER	22	4
	21	INV_LEUKEMIA_CNT	NUMBER	22	4
	22	INV_LIVER_CNT	NUMBER	22	4
	23	INV_LUNG_CNT	NUMBER	22	4
	24	INV_MELANOMA_CNT	NUMBER	22	4
	25	INV_MULTMYELOMA_CNT	NUMBER	22	4
	26	INV_NONHODGKINS_CNT	NUMBER	22	4
	27	INV_ORAL_CNT	NUMBER	22	4
	28	INV_OVARY_CNT	NUMBER	22	4
	29	INV_PANCREAS_CNT	NUMBER	22	4
	30	INV_PROSTATE_CNT	NUMBER	22	4
	31	INV_STOMACH_CNT	NUMBER	22	4
	32	INV_TESTIS_CNT	NUMBER	22	4
	33	INV_THYROID_CNT	NUMBER	22	4
	34	INV_UTERINE_CNT	NUMBER	22	4
	35	INV_OTHER_CNT	NUMBER	22	4
	36	AGE_GENDER_SEQ	NUMBER	22	9
	37	DX_GEOGRAPHY_SEQ	NUMBER	22	9
CANCER_FCT	1	AGE_GENDER_SEQ	NUMBER	22	9
	2	DX_RES_GEOGRAPHY_SEQ	NUMBER	22	9
	3	DX_TIME_ID	DATE	7	
	4	PERSON_SEQ	NUMBER	22	9
	5	HOSPITAL_SEQ	NUMBER	22	9
	6	CANCER_RECORD_SEQ	NUMBER	22	9
	7	SITE_ICD_SEQ	NUMBER	22	9

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	8	HISTO2_ICD_SEQ	NUMBER	22	9
CANCER_INCIDENCE_CNT_MVW	1	AGE_GENDER_SEQ	NUMBER	22	
	2	DX_GEOGRAPHY_SEQ	NUMBER	22	
	3	DX_TIME_ID	DATE	7	
	4	PRIMARY_CANCER_SITE_TXT	VARCHAR2	30	
	5	CANCER_INCIDENCE_CNT	NUMBER	22	
CANCER_RECORD_DIM	1	REC_TYPE_TXT	CHAR	1	
	2	PATIENT_ID_NBR	VARCHAR2	8	
	3	REGISTRY_TYPE_CDE	CHAR	1	
	4	FIN_CODING_SYS_NBR	CHAR	1	
	5	NAACCR_RECORD_VER_NBR	CHAR	1	
	6	TUMOR_REC_NBR	VARCHAR2	2	
	7	DX_CITY_TXT	VARCHAR2	20	
	8	DX_STATE_ABBREV_CDE	VARCHAR2	2	
	9	DX_COUNTY_NBR	VARCHAR2	3	
	10	DX_ZIP_CDE	VARCHAR2	9	
	11	CENS_TRACT_NBR	VARCHAR2	6	
	12	CENS_TRACT_COD_SYS_NBR	CHAR	1	
	13	RACE_COD_SYS_CUR_TXT	CHAR	1	
	14	RACE_COD_SYS_ORIG_TXT	CHAR	1	
	15	DERIVED_ETHNICITY_CDE	CHAR	1	
	16	DERIVED_ETHNICITY_SRC_TXT	CHAR	1	
	17	RELIGION_CDE	VARCHAR2	2	
	18	OCCUPATION_CDE	VARCHAR2	3	
	19	INDUSTRY_CDE	VARCHAR2	3	
	20	OCCUPATION_SRC_CDE	CHAR	1	
	21	INDUSTRY_SRC_CDE	CHAR	1	
	22	USUAL_OCCUPATION_TXT	VARCHAR2	40	
	23	USUAL_INDUSTRY_TXT	VARCHAR2	40	
	24	OCC_IND_COD_SYS_CDE	CHAR	1	
	25	TOBACCO_HIST_CDE	CHAR	1	
	26	ALCOHOL_HIST_CDE	CHAR	1	
	27	FAMILY_CANCER_HIST_CDE	CHAR	1	
	28	CENS_TRACT_BLOCK_GRP_CDE	CHAR	1	
	29	CENS_TRACT_CERTAINTY_CDE	CHAR	1	
	30	REGISTRY_ID_TXT	VARCHAR2	10	
	31	RACE2_CDE	VARCHAR2	2	
	32	RACE3_CDE	VARCHAR2	2	
	33	RACE4_CDE	VARCHAR2	2	
	34	RACE5_CDE	VARCHAR2	2	
	35	CENTRAL_SEQ_NBR	VARCHAR2	2	
	36	PRIMARY_SITE_TXT	VARCHAR2	25	
	37	INVASIVE_SITE_TXT	VARCHAR2	25	
	38	LATERALITY_CDE	CHAR	1	
	39	BEHAVIOR2_CDE	CHAR	1	
	40	GRADE_CDE	CHAR	1	
	41	SITE_COD_SYS_CURR_CDE	CHAR	1	
	42	SITE_COD_SYS_ORIG_CDE	CHAR	1	
	43	MORPH_COD_SYS_CURR_CDE	CHAR	1	
	44	MORPH_COD_SYS_ORIG_CDE	CHAR	1	
	45	DX_CONFIRMATION_CDE	CHAR	1	
	46	TYPE_REPORT_SRC_CDE	CHAR	1	
	47	SCREEN_DT	VARCHAR2	8	
	48	SCREEN_RESULT_CDE	CHAR	1	

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	49	HISTOLOGY3_CDE	VARCHAR2	4	
	50	HISTOLOGY3_DSC	VARCHAR2	100	
	51	BEHAVIOR3_CDE	CHAR	1	
	52	RPT_HOSP_FAN_CDE	VARCHAR2	10	
	53	HOSP_ACCESSION_NBR	VARCHAR2	9	
	54	HOSP_SEQ_NBR	VARCHAR2	4	
	55	ABSTRACT_BY_TXT	VARCHAR2	3	
	56	FIRST_CONTACT_DT	VARCHAR2	8	
	57	INPT_ADM_DT	VARCHAR2	8	
	58	INPT_DISCHG_DT	VARCHAR2	8	
	59	CASE_CLASS_CDE	CHAR	1	
	60	CA_FIRST_SEEN_YR	VARCHAR2	4	
	61	DX_PRIMARY_PAYER	VARCHAR2	2	
	62	INPT_OPD_STATUS_CDE	CHAR	1	
	63	PRESENTED_AT_CONF_CDE	CHAR	1	
	64	PRESENTED_AT_CONF_DT	VARCHAR2	8	
	65	RX_HOSP_SURG_PRIM_SITE_CDE	VARCHAR2	2	
	66	RX_HOSP_SURG_SCOPE_REG_LN_CD E	CHAR	1	
	67	RX_HOSP_SURG_OTHR_CDE	CHAR	1	
	68	RX_HOSP_SURG_REG_LN_REMVD_C DE	VARCHAR2	2	
	69	RX_HOSP_RAD_CDE	CHAR	1	
	70	RX_HOSP_CHEMO_CDE	CHAR	2	
	71	RX_HOSP_HORMONE_CDE	CHAR	2	
	72	RX_HOSP_BRM_CDE	CHAR	2	
	73	RX_HOSP_OTHR_CDE	CHAR	1	
	74	RX_HOSP_DX_STAG_PALL_PROC_CD E	VARCHAR2	2	
	75	RX_HOSP_SCREEN_BX1_PROC_CDE	CHAR	1	
	76	RX_HOSP_SCREEN_BX2_PROC_CDE	CHAR	1	
	77	RX_HOSP_SCREEN_BX3_PROC_CDE	CHAR	1	
	78	RX_HOSP_SCREEN_BX4_PROC_CDE	CHAR	1	
	79	SEER_SUM_STAGE_2000_CDE	CHAR	1	
	80	SEER_SUM_STAGE_1977_CDE	CHAR	1	
	81	LOC_REG_DISTANT_STAGE_CDE	CHAR	1	
	82	EOD_TUMOR_SIZE_NBR	VARCHAR2	3	
	83	EOD_EXTENSION_CDE	VARCHAR2	2	
	84	EOD_EXTENSION_PROST_PATH_CDE	VARCHAR2	2	
	85	EOD_LN_INVOLVED_CDE	CHAR	1	
	86	REG_NODES_POS_CDE	VARCHAR2	2	
	87	REG_NODES_EXAM_CDE	VARCHAR2	2	
	88	EOD_OLD_13_CDE	VARCHAR2	13	
	89	EOD_OLD_2_CDE	VARCHAR2	2	
	90	EOD_OLD_4_CDE	VARCHAR2	4	
	91	EOD_CODE_SYS_CDE	CHAR	1	
	92	TNM_PATH_T_CDE	VARCHAR2	2	
	93	TNM_PATH_N_CDE	VARCHAR2	2	
	94	TNM_PATH_M_CDE	VARCHAR2	2	
	95	TNM_PATH_STG_GRP_CDE	VARCHAR2	2	
	96	TNM_PATH_DESCRIPTOR_CDE	CHAR	1	
	97	TNM_PATH_STAGED_BY_CDE	CHAR	1	
	98	TNM_CLIN_T_CDE	VARCHAR2	2	
	99	TNM_CLIN_N_CDE	VARCHAR2	2	
	100	TNM_CLIN_M_CDE	VARCHAR2	2	

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	101	TNM_CLIN_STG_GRP_CDE	VARCHAR2	2	
	102	TNM_CLIN_DESCRIPTOR_CDE	CHAR	1	
	103	TNM_CLIN_STAGED_BY_CDE	CHAR	1	
	104	TNM_OTHER_T_CDE	VARCHAR2	2	
	105	TNM_OTHER_N_CDE	VARCHAR2	2	
	106	TNM_OTHER_M_CDE	VARCHAR2	2	
	107	TNM_OTHER_STG_GRP_CDE	VARCHAR2	2	
	108	TNM_OTHER_STAGED_BY_CDE	CHAR	1	
	109	TNM_OTHER_DESCRIPTOR_CDE	CHAR	1	
	110	TNM_EDITION_NBR	CHAR	2	
	111	OTHER_STAGING_SYS_TXT	VARCHAR2	15	
	112	FIRST_POSITIVE_BX_DT	VARCHAR2	8	
	113	SITE_DISTANT_METASTASES1_CDE	CHAR	1	
	114	SITE_DISTANT_METASTASES2_CDE	CHAR	1	
	115	SITE_DISTANT_METASTASES3_CDE	CHAR	1	
	116	PEDIATRIC_STAGE_CDE	VARCHAR2	2	
	117	PEDIATRIC_STAGE_SYS_CDE	VARCHAR2	2	
	118	PEDIATRIC_STAGED_BY_CDE	CHAR	1	
	119	TUMOR_MARKER1_CDE	CHAR	1	
	120	TUMOR_MARKER2_CDE	CHAR	1	
	121	TUMOR_MARKER3_CDE	CHAR	1	
	122	RX_SURGERY_DT	VARCHAR2	8	
	123	RX_RADIATION_DT	VARCHAR2	8	
	124	RX_CHEMO_DT	VARCHAR2	8	
	125	RX_HORMONE_DT	VARCHAR2	8	
	126	RX_BRM_DT	VARCHAR2	8	
	127	RX_OTHER_DT	VARCHAR2	8	
	128	RX_INITIAL_SEER_DT	VARCHAR2	8	
	129	RX_INITIAL_CRS_COC_DT	VARCHAR2	8	
	130	RX_DX_STAG_PALL_PROC_DT	VARCHAR2	8	
	131	RX_SUMM_SURG_PRIM_SITE_CDE	VARCHAR2	2	
	132	RX_SUMM_SURG_SCOPE_REG_LN_CDE	CHAR	1	
	133	RX_SUMM_SURG_OTHR_CDE	CHAR	1	
	134	RX_SUMM_SURG_REG_LN_EXAM_CDE	VARCHAR2	2	
	135	RX_SUMM_SURG_APPROACH_CDE	CHAR	1	
	136	RX_SUMM_SURG_MARGINS_CDE	CHAR	1	
	137	RX_SUMM_1ST_RECONSTRUCT_CDE	CHAR	1	
	138	RX_SUMM_NO_SURG_REASON_CDE	CHAR	1	
	139	RX_SUMM_DX_STAG_PALL_PROC_CDE	VARCHAR2	2	
	140	RX_SUMM_RADIATION_CDE	CHAR	1	
	141	RX_SUMM_RAD_TO_CNS_CDE	CHAR	1	
	142	RX_SUMM_SURG_RAD_SEQ_CDE	CHAR	1	
	143	RX_SUMM_CHEMO_CDE	CHAR	2	
	144	RX_SUMM_HORMONE_CDE	CHAR	2	
	145	RX_SUMM_BRM_CDE	CHAR	2	
	146	RX_SUMM_OTHER_CDE	CHAR	1	
	147	REASON_NO_RADIATION_CDE	CHAR	1	
	148	REASON_NO_CHEMO_CDE	CHAR	1	
	149	REASON_NO_HORMONE_CDE	CHAR	1	
	150	RX_CODING_SYS_CURR_CDE	CHAR	2	
	151	PROTOCOL_ELIG_STAT_CDE	CHAR	1	
	152	PROTOCOL_PART_CDE	VARCHAR2	2	

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	153	REFER_TO_SUPPORT_SVCS_CDE	CHAR	1	
	154	RAD_1ST_COURSE_CALC_MTHD_CDE	CHAR	1	
	155	RAD_REGIONAL_DOSE_CGY_NBR	VARCHAR2	5	
	156	RAD_NO_OF_TREATMENT_VOL_NBR	VARCHAR2	2	
	157	RAD_ELAPSED_RX_DYS	VARCHAR2	3	
	158	RAD_TREATMENT_VOL_NBR	VARCHAR2	2	
	159	RAD_TREATMENT_LOC_CDE	CHAR	1	
	160	RAD_TREATMENT_INTENT_CDE	CHAR	1	
	161	RAD_REGIONAL_RX_MODALITY_CDE	VARCHAR2	2	
	162	RAD_RX_COMPLETION_STAT_CDE	VARCHAR2	1	
	163	RAD_LOCAL_CONTROL_STAT_CDE	CHAR	1	
	164	RX_SUMM_SURGERY_TYPE_CDE	VARCHAR2	2	
	165	RX_SUMM_SCREEN_BX1_PROC_CDE	CHAR	1	
	166	RX_SUMM_SCREEN_BX2_PROC_CDE	CHAR	1	
	167	RX_SUMM_SCREEN_BX3_PROC_CDE	CHAR	1	
	168	RX_SUMM_SCREEN_BX4_PROC_CDE	CHAR	1	
	169	SUBSQ_RX_2ND_COURSE_DT	VARCHAR2	8	
	170	SUBSQ_RX_2ND_COURSE_SURG_CDE	VARCHAR2	2	
	171	SUBSQ_RX_2ND_COURSE_RAD_CDE	CHAR	1	
	172	SUBSQ_RX_2ND_COURSE_CHEMO_CDE	CHAR	1	
	173	SUBSQ_RX_2ND_COURSE_HORM_CDE	CHAR	1	
	174	SUBSQ_RX_2ND_COURSE_BRM_CDE	CHAR	1	
	175	SUBSQ_RX_2ND_COURSE_OTH_CDE	CHAR	1	
	176	SUBSQ_RX_3RD_COURSE_DT	VARCHAR2	8	
	177	SUBSQ_RX_3RD_COURSE_SURG_CDE	VARCHAR2	2	
	178	SUBSQ_RX_3RD_COURSE_RAD_CDE	CHAR	1	
	179	SUBSQ_RX_3RD_COURSE_CHEMO_CDE	CHAR	1	
	180	SUBSQ_RX_3RD_COURSE_HORM_CDE	CHAR	1	
	181	SUBSQ_RX_3RD_COURSE_BRM_CDE	CHAR	1	
	182	SUBSQ_RX_3RD_COURSE_OTH_CDE	CHAR	1	
	183	SUBSQ_RX_4TH_COURSE_DT	VARCHAR2	8	
	184	SUBSQ_RX_4TH_COURSE_SURG_CDE	VARCHAR2	2	
	185	SUBSQ_RX_4TH_COURSE_RAD_CDE	CHAR	1	
	186	SUBSQ_RX_4TH_COURSE_CHEMO_CDE	CHAR	1	
	187	SUBSQ_RX_4TH_COURSE_HORM_CDE	CHAR	1	
	188	SUBSQ_RX_4TH_COURSE_BRM_CDE	CHAR	1	
	189	SUBSQ_RX_4TH_COURSE_OTH_CDE	CHAR	1	
	190	SUBSQ_RX_5TH_COURSE_DT	VARCHAR2	8	
	191	SUBSQ_RX_5TH_COURSE_SURG_CDE	VARCHAR2	2	
	192	SUBSQ_RX_5TH_COURSE_RAD_CDE	CHAR	1	
	193	SUBSQ_RX_5TH_COURSE_CHEMO_CDE	CHAR	1	
	194	SUBSQ_RX_5TH_COURSE_HORM_CDE	CHAR	1	
	195	SUBSQ_RX_5TH_COURSE_BRM_CDE	CHAR	1	
	196	SUBSQ_RX_5TH_COURSE_OTH_CDE	CHAR	1	
	197	SUBSQ_RX_2ND_SURG_SCOP_LN_CDE	CHAR	1	
	198	SUBSQ_RX_2ND_SURG_OTH_CDE	CHAR	1	
	199	SUBSQ_RX_2ND_REG_LN_REM_CDE	VARCHAR2	2	

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	200	SUBSQ_RX_3RD_SURG_SCOP_LN_CDE	CHAR	1	
	201	SUBSQ_RX_3RD_SURG_OTH_CDE	CHAR	1	
	202	SUBSQ_RX_3RD_REG_LN_REM_CDE	VARCHAR2	2	
	203	SUBSQ_RX_4TH_SURG_SCOP_LN_CDE	CHAR	1	
	204	SUBSQ_RX_4TH_SURG_OTH_CDE	CHAR	1	
	205	SUBSQ_RX_4TH_REG_LN_REM_CDE	VARCHAR2	2	
	206	SUBSQ_RX_5TH_SURG_SCOP_LN_CDE	CHAR	1	
	207	SUBSQ_RX_5TH_SURG_OTH_CDE	CHAR	1	
	208	SUBSQ_RX_5TH_REG_LN_REM_CDE	VARCHAR2	2	
	209	SUBSQ_RX_RECONSTRUCT_DEL_CDE	CHAR	1	
	210	OVERRIDE_SS_NODES_POS_CDE	CHAR	1	
	211	OVERRIDE_SS_TNM_N_CDE	CHAR	1	
	212	OVERRIDE_SS_TNM_M_CDE	CHAR	1	
	213	OVERRIDE_SS_DISMET1_CDE	CHAR	1	
	214	OVERRIDE_SS_ACSN_CLASS_SEQ_CDE	CHAR	1	
	215	OVERRIDE_SS_HOSPSEQ_DXCONF_CDE	CHAR	1	
	216	OVERRIDE_SS_COC_SITE_TYPE_CDE	CHAR	1	
	217	OVERRIDE_HOSPSEQ_SITE_CDE	CHAR	1	
	218	OVERRIDE_SITE_TNM_STGGRP_CDE	CHAR	1	
	219	LAST_CONTACT_DT	VARCHAR2	8	
	220	VITAL_STATUS_CDE	CHAR	1	
	221	CANCER_STATUS_CDE	CHAR	1	
	222	QUALITY_OF_SURVIVAL_CDE	CHAR	1	
	223	LAST_FOLLOWUP_SRC_CDE	CHAR	1	
	224	NEXT_FOLLOWUP_SRC_CDE	CHAR	1	
	225	CURRENT_CITY_NME	VARCHAR2	20	
	226	CURRENT_STATE_ABBREV_NME	VARCHAR2	2	
	227	CURRENT_ZIP_CDE	VARCHAR2	9	
	228	UNUSUAL_FOLLOWUP_MTHD_CDE	CHAR	1	
	229	FIRST_RECUR_DT	VARCHAR2	8	
	230	RECUR_DISTANT_SITE1_CDE	CHAR	1	
	231	RECUR_DISTANT_SITE2_CDE	CHAR	1	
	232	RECUR_DISTANT_SITE3_CDE	CHAR	1	
	233	FIRST_RECUR_TYPE_CDE	VARCHAR2	2	
	234	FIRST_RECUR_TYPE_OTH_CDE	VARCHAR2	2	
	235	CURRENT_COUNTY_CDE	VARCHAR2	3	
	236	FOLLOWUP_CONTACT_CITY_NME	VARCHAR2	20	
	237	FOLLOWUP_CONTACT_ST_ABBREV_NME	VARCHAR2	2	
	238	CAUSE_OF_DEATH_CDE	VARCHAR2	4	
	239	ICD_VER_NBR	CHAR	1	
	240	AUTOPSY_CDE	CHAR	1	
	241	PLACE_OF_DEATH_CDE	VARCHAR2	3	
	242	FOLLOWUP_CONTACT_ZIP_CDE	VARCHAR2	9	
	243	SITE_73_91_ICDO1_CDE	VARCHAR2	4	
	244	HISTOLOGY_73_91_ICDO1_CDE	VARCHAR2	4	
	245	BEHAVIOR_73_91_ICDO1_CDE	CHAR	1	
	246	GRADE_73_91_ICDO1_CDE	CHAR	1	
	247	ICDO2_CONVERSION_IND	CHAR	1	
	248	OVERRIDE_AGE_SITE_MORPH_CDE	CHAR	1	
	249	OVERRIDE_SEQNO_DXCONF_CDE	CHAR	1	

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	250	OVERRIDE_SITE_LAT_SEQNO_CDE	CHAR	1	
	251	OVERRIDE_SURG_DXCONF_CDE	CHAR	1	
	252	OVERRIDE_SITE_TYPE_CDE	CHAR	1	
	253	OVERRIDE_HISTOLOGY_CDE	CHAR	1	
	254	OVERRIDE_REPORT_SRC_CDE	CHAR	1	
	255	OVERRIDE_ILL_DEF_SITE_CDE	CHAR	1	
	256	OVERRIDE_LEUK_LYMPHOMA_CDE	CHAR	1	
	257	OVERRIDE_SITE_BEHAVIOR_CDE	CHAR	1	
	258	OVERRIDE_SITE_EOD_DX_CDE	CHAR	1	
	259	OVERRIDE_SITE_LAT_EOD_CDE	CHAR	1	
	260	OVERRIDE_SITE_LAT_MORPH_CDE	CHAR	1	
	261	CRC_CHECKSUM_NBR	VARCHAR2	10	
	262	CASE_COMPLETE_DT	VARCHAR2	8	
	263	CASE_LAST_CHANGE_DT	VARCHAR2	8	
	264	CASE_REPORT_EXPORTED_DT	VARCHAR2	8	
	265	SEER_CODE_SYS_CUR_CDE	CHAR	1	
	266	SEER_CODE_SYS_ORIG_CDE	CHAR	1	
	267	COC_CODE_SYS_CUR_CDE	CHAR	2	
	268	COC_CODE_SYS_ORIG_CDE	CHAR	2	
	269	VENDOR_NME	VARCHAR2	10	
	270	SEER_FOLLOWUP_TYPE_CDE	CHAR	1	
	271	SEER_RECORD_NBR	VARCHAR2	2	
	272	DX_PROC_CDE	VARCHAR2	2	
	273	CASE_RPT_RECEIVED_DT	VARCHAR2	8	
	274	CASE_RPT_LOADED_DT	VARCHAR2	8	
	275	TUMOR_REC_AVAIL_DT	VARCHAR2	8	
	276	ICD_O_3_CONV_IND	CHAR	1	
	277	GEOCODE_STATUS_CDE	VARCHAR2	2	
	278	LATITUDE_NBR	NUMBER	22	10
	279	LONGITUDE_NBR	NUMBER	22	11
	280	MD_LAST_NME	VARCHAR2	25	
	281	MD_FIRST_NME	VARCHAR2	14	
	282	MD_MIDD_INIT_NME	CHAR	1	
	283	GDTXIN_CDE	CHAR	1	
	284	NHSCR_SUSPENSE_CDE	CHAR	1	
	285	NHSCR_RMCDN_REC_NBR	VARCHAR2	8	
	286	SPOUSE_OR_PARENT_NME	VARCHAR2	50	
	287	MEDICAL_RECORD_NBR	VARCHAR2	11	
	288	MILITARY_REC_SUFFIX_NBR	VARCHAR2	2	
	289	DX_STREET_ADDR_TXT	VARCHAR2	40	
	290	INST_REFERRED_FROM_TXT	VARCHAR2	15	
	291	INST_REFERRED_TO_TXT	VARCHAR2	15	
	292	CURR_STREET_ADDR_TXT	VARCHAR2	40	
	293	CURR_PHONE_TXT	VARCHAR2	10	
	294	DC_STATE_FILE_NBR	VARCHAR2	6	
	295	FOLLOWUP_CONTACT_ADDR_TXT	VARCHAR2	40	
	296	LAST_FOLLOWUP_HOSPITAL_NME	VARCHAR2	15	
	297	FOLLOWING_REGISTRY_NME	VARCHAR2	15	
	298	MANAGING_MD_CDE	VARCHAR2	8	
	299	FOLLOWUP_MD_CDE	VARCHAR2	8	
	300	PRIMARY_SURG_MD_CDE	VARCHAR2	8	
	301	OTHER3_MD_CDE	VARCHAR2	8	
	302	OTHER4_MD_CDE	VARCHAR2	8	
	303	FOLLOWUP_CONTACT_NME	VARCHAR2	30	

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	304	DX_PROC_PE_TXT	VARCHAR2	200	
	305	DX_PROC_XRAY_SCAN_TXT	VARCHAR2	250	
	306	DX_PROC_SCOPES_TXT	VARCHAR2	250	
	307	DX_PROC_LAB_TESTS_TXT	VARCHAR2	250	
	308	DX_PROC_OP_TXT	VARCHAR2	250	
	309	DX_PROC_PATH_TXT	VARCHAR2	250	
	310	PRIMARY_SITE_TITLE_TXT	VARCHAR2	40	
	311	HISTOLOGY_TITLE_TXT	VARCHAR2	40	
	312	STAGING_TXT	VARCHAR2	300	
	313	RX_SURGERY_TXT	VARCHAR2	150	
	314	RX_RADIATION_BEAM_TXT	VARCHAR2	150	
	315	RX_RADIATION_OTHR_TXT	VARCHAR2	150	
	316	RX_CHEMO_TXT	VARCHAR2	200	
	317	RX_HORMONE_TXT	VARCHAR2	200	
	318	RX_BRM_TXT	VARCHAR2	100	
	319	RX_OTHER_TXT	VARCHAR2	100	
	320	REMARKS_TXT	VARCHAR2	350	
	321	DX_PLACE_TXT	VARCHAR2	50	
	322	DX_YEAR	VARCHAR2	4	
	323	VITAL_STATUS_DSC	VARCHAR2	7	
	324	CANCER_RECORD_SEQ	NUMBER	22	9
	325	BLANK0	VARCHAR2	7	
	326	RACE1_CDE	VARCHAR2	2	
	327	DX_AGE	VARCHAR2	3	
	328	BLANK1	VARCHAR2	20	
	329	DT_DIAGNOSIS	VARCHAR2	8	
	330	HISTOLOGY2_CDE	VARCHAR2	4	
	331	BLANK2	VARCHAR2	50	
	332	RPT_HOSP	VARCHAR2	10	
	333	BLANK3	VARCHAR2	50	
	334	BLANK4	VARCHAR2	46	
	335	BLANK5	VARCHAR2	38	
	336	BLANK6	VARCHAR2	45	
	337	BLANK7	VARCHAR2	50	
	338	BLANK22	VARCHAR2	1	
	339	BLANK23	VARCHAR2	12	
	340	BLANK8	VARCHAR2	50	
	341	BLANK9	VARCHAR2	50	
	342	BLANK10	VARCHAR2	50	
	343	BLANK11	VARCHAR2	50	
	344	BLANK12	VARCHAR2	50	
	345	BLANK24	VARCHAR2	16	
	346	BLANKST	VARCHAR2	428	
	347	BLANK13	VARCHAR2	770	
	348	DERIVE_SUM_STAGE_2000_CDE	VARCHAR2	1	
CANCER_STATISTICAL_ANALYSIS_VW	1	CLUST_NBR	VARCHAR2	8	
	2	TUMOR_REC_NBR	VARCHAR2	2	
	3	DIAGNOSIS_YR	VARCHAR2	4	
	4	PRIM_SITE_GRP_TXT	VARCHAR2	25	
	5	INV_SITE_GRP_TXT	VARCHAR2	25	
	6	DX_CITY_TXT	VARCHAR2	20	
	7	DX_TOWN_RECODE_TXT	VARCHAR2	23	
	8	DX_ST_ABBR_CDE	VARCHAR2	2	
	9	DX_COUNTY_TXT	VARCHAR2	3	

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	10	DX_ZIP_CDE	VARCHAR2	9	
	11	DX_VR_GEOCODE	VARCHAR2	6	
	12	CENS_TRACT_NBR	VARCHAR2	6	
	13	CENS_TRACT_COD_SYS_NBR	CHAR	1	
	14	MAR_STAT_CDE	VARCHAR2	1	
	15	RACE1_CDE	VARCHAR2	2	
	16	RACE2_CDE	VARCHAR2	2	
	17	RACE3_CDE	VARCHAR2	2	
	18	RACE4_CDE	VARCHAR2	2	
	19	RACE5_CDE	VARCHAR2	2	
	20	RACE_COD_SYS_CUR_TXT	CHAR	1	
	21	RACE_COD_SYS_ORIG_TXT	CHAR	1	
	22	HISPANIC_IND	VARCHAR2	1	
	23	DER_ETHN_CDE	CHAR	1	
	24	DER_ETHN_SRC_TXT	CHAR	1	
	25	GENDER_DSC	VARCHAR2	7	
	26	AGE_YRS	NUMBER	22	3
	27	CANCER_AGE_GROUP_TXT	VARCHAR2	8	
	28	BIRTH_DT	DATE	7	
	29	BIRTH_PLACE_TXT	VARCHAR2	28	
	30	OCCPTN_CDE	VARCHAR2	3	
	31	INDUS_CDE	VARCHAR2	3	
	32	OCCPTN_SRC_CDE	CHAR	1	
	33	INDUS_SRC_CDE	CHAR	1	
	34	USUAL_OCCPTN_TXT	VARCHAR2	40	
	35	USUAL_INDUS_TXT	VARCHAR2	40	
	36	OCC_IND_COD_SYS_CDE	CHAR	1	
	37	TOBACCO_HIST_CDE	CHAR	1	
	38	ALCOHOL_HIST_CDE	CHAR	1	
	39	FAM_HIST_CDE	CHAR	1	
	40	CENS_BLK_GRP_CDE	CHAR	1	
	41	CENS_CERT_CDE	CHAR	1	
	42	CHRON_SEQ_NBR	VARCHAR2	2	
	43	DIAGNOSIS_DT	DATE	7	
	44	PRIM_SITE_CDE	VARCHAR2	5	
	45	LATERAL_CDE	CHAR	1	
	46	HISTO2_CDE	VARCHAR2	5	
	47	BEHAVIOR2_CDE	CHAR	1	
	48	GRADE_CDE	CHAR	1	
	49	SITE_COD_SYS_CURR_CDE	CHAR	1	
	50	SITE_COD_SYS_ORIG_CDE	CHAR	1	
	51	MORPH_COD_SYS_CURR_CDE	CHAR	1	
	52	MORPH_COD_SYS_ORIG_CDE	CHAR	1	
	53	DX_CONFIRMATION_CDE	CHAR	1	
	54	TYPE_RPT_SRC_CDE	CHAR	1	
	55	SCREEN_DT	VARCHAR2	8	
	56	SCREEN_RESULT_CDE	CHAR	1	
	57	HISTO3_CDE	VARCHAR2	4	
	58	BEHAVIOR3_CDE	CHAR	1	
	59	HOSPNO_CDE	VARCHAR2	6	
	60	HOSPNO_TXT	VARCHAR2	30	
	61	HOSP_ACC_NBR	VARCHAR2	9	
	62	HOSP_SEQ_NBR	VARCHAR2	4	
	63	FST_CONT_DT	VARCHAR2	8	

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	64	INPT_ADM_DT	VARCHAR2	8	
	65	INPT_DISCHG_DT	VARCHAR2	8	
	66	CASE_CLASS_CDE	CHAR	1	
	67	CA_FIRST_SEEN_YR	VARCHAR2	4	
	68	DX_PRIM_PAYER	VARCHAR2	2	
	69	INPT_OPD_STAT_CDE	CHAR	1	
	70	PRES_CA_CONF_CDE	CHAR	1	
	71	PRES_CA_CONF_DT	VARCHAR2	8	
	72	RX_HOSP_SURG_CDE	VARCHAR2	2	
	73	RX_HOSP_SURG_SCOPE_CDE	CHAR	1	
	74	RX_HOSP_SURG_OTHR_CDE	CHAR	1	
	75	RX_HOSP_REG_LN_REMVD_CDE	VARCHAR2	2	
	76	RX_HOSP_RAD_CDE	CHAR	1	
	77	RX_HOSP_CHEMO_CDE	CHAR	2	
	78	RX_HOSP_HORMONE_CDE	CHAR	2	
	79	RX_HOSP_IMMU_CDE	CHAR	2	
	80	RX_HOSP_OTHR_CDE	CHAR	1	
	81	RX_NCDS_HOSP_CDE	VARCHAR2	2	
	82	RX_HOSP_DIASTP1_CDE	CHAR	1	
	83	RX_HOSP_DIASTP2_CDE	CHAR	1	
	84	RX_HOSP_DIASTP3_CDE	CHAR	1	
	85	RX_HOSP_DIASTP4_CDE	CHAR	1	
	86	SUM_STAGE_2000_CDE	CHAR	1	
	87	DERIVE_SUM_STAGE_2000_CDE	VARCHAR2	1	
	88	SUM_STAGE_1977_CDE	CHAR	1	
	89	LOC_REG_DIST_STG_CDE	CHAR	1	
	90	EOD_TUMOR_SIZE_NBR	VARCHAR2	3	
	91	EOD_EXT_CDE	VARCHAR2	2	
	92	EOD_EXT_PROST_PATH_CDE	VARCHAR2	2	
	93	EOD_LN_INVOLV_CDE	CHAR	1	
	94	REG_NODES_POS_CDE	VARCHAR2	2	
	95	REG_NODES_EXAM_CDE	VARCHAR2	2	
	96	TNM_PATH_T_CDE	VARCHAR2	2	
	97	TNM_PATH_N_CDE	VARCHAR2	2	
	98	TNM_PATH_M_CDE	VARCHAR2	2	
	99	TNM_PATH_STG_GRP_CDE	VARCHAR2	2	
	100	TNM_PATH_DESC_CDE	CHAR	1	
	101	TNM_PATH_STG_BY_CDE	CHAR	1	
	102	TNM_CLIN_T_CDE	VARCHAR2	2	
	103	TNM_CLIN_N_CDE	VARCHAR2	2	
	104	TNM_CLIN_M_CDE	VARCHAR2	2	
	105	TNM_CLIN_STG_GRP_CDE	VARCHAR2	2	
	106	TNM_CLIN_DESC_CDE	CHAR	1	
	107	TNM_CLIN_STG_BY_CDE	CHAR	1	
	108	TNM_OTHER_T_CDE	VARCHAR2	2	
	109	TNM_OTHER_N_CDE	VARCHAR2	2	
	110	TNM_OTHER_M_CDE	VARCHAR2	2	
	111	TNM_OTHER_STG_GRP_CDE	VARCHAR2	2	
	112	TNM_OTHER_STG_BY_CDE	CHAR	1	
	113	TNM_OTHER_DESC_CDE	CHAR	1	
	114	TNM_EDITION_NBR	CHAR	2	
	115	OTHER_STAG_SYS_TXT	VARCHAR2	15	
	116	FST_POS_BX_DT	VARCHAR2	8	
	117	SITE_DIST_MET1_CDE	CHAR	1	

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	118	SITE_DIST_MET2_CDE	CHAR	1	
	119	SITE_DIST_MET3_CDE	CHAR	1	
	120	PEDI_STAG_CDE	VARCHAR2	2	
	121	PEDI_STAG_SYS_CDE	VARCHAR2	2	
	122	PEDI_STAG_BY_CDE	CHAR	1	
	123	TUMOR_MARKER1_CDE	CHAR	1	
	124	TUMOR_MARKER2_CDE	CHAR	1	
	125	TUMOR_MARKER3_CDE	CHAR	1	
	126	RX_SURG_DT	VARCHAR2	8	
	127	RX_RAD_DT	VARCHAR2	8	
	128	RX_CHEMO_DT	VARCHAR2	8	
	129	RX_HORMONE_DT	VARCHAR2	8	
	130	RX_BRN_DT	VARCHAR2	8	
	131	RX_OTHER_DT	VARCHAR2	8	
	132	RX_INIT_SEER_DT	VARCHAR2	8	
	133	RX_INIT_CRS_COC_DT	VARCHAR2	8	
	134	RX_DX_STAG_PALL_PROC_DT	VARCHAR2	8	
	135	RX_SUMM_SURG_PRIM_SITE_CDE	VARCHAR2	2	
	136	RX_SUMM_SURG_SCOPE_REG_LN_CDE	CHAR	1	
	137	RX_SUMM_SURG_OTHR_CDE	CHAR	1	
	138	RX_SUMM_SURG_REG_LN_EXAM_CDE	VARCHAR2	2	
	139	RX_SUMM_SURG_APPROACH_CDE	CHAR	1	
	140	RX_SUMM_SURG_MARGINS_CDE	CHAR	1	
	141	RX_SUMM_FST_RECONSTRUCT_CDE	CHAR	1	
	142	RX_SUMM_NO_SURG_REASON_CDE	CHAR	1	
	143	RX_SUMM_DX_STAG_PALL_PROC_CDE	VARCHAR2	2	
	144	RX_SUMM_RAD_CDE	CHAR	1	
	145	RX_SUMM_RAD_TO_CNS_CDE	CHAR	1	
	146	RX_SUMM_SURG_RAD_SEQ_CDE	CHAR	1	
	147	RX_SUMM_CHEMO_CDE	CHAR	2	
	148	RX_SUMM_HORMONE_CDE	CHAR	2	
	149	RX_SUMM_BRN_CDE	CHAR	2	
	150	RX_SUMM_OTHER_CDE	CHAR	1	
	151	RSN_NO_RAD_CDE	CHAR	1	
	152	RSN_NO_CHEMO_CDE	CHAR	1	
	153	RSN_NO_HORMONE_CDE	CHAR	1	
	154	RX_CODING_SYS_CURR_CDE	CHAR	2	
	155	PROTOCOL_ELIG_STAT_CDE	CHAR	1	
	156	PROTOCOL_PART_CDE	VARCHAR2	2	
	157	REFER_TO_SUPPORT_SVCS_CDE	CHAR	1	
	158	FST_COURSE_CALC_MTHD_CDE	CHAR	1	
	159	RAD_REGIONAL_DOSE_CGY_NBR	VARCHAR2	5	
	160	RAD_NO_OF_TREATMENT_VOL_NBR	VARCHAR2	2	
	161	RAD_ELAPSED_RX_DYS	VARCHAR2	3	
	162	RAD_TREATMENT_VOL_NBR	VARCHAR2	2	
	163	RAD_TREATMENT_LOC_CDE	CHAR	1	
	164	RAD_TREATMENT_INTENT_CDE	CHAR	1	
	165	RAD_REG_RX_MODALITY_CDE	VARCHAR2	2	
	166	RAD_RX_COMPL_STAT_CDE	VARCHAR2	1	
	167	RAD_LOCAL_CONT_STAT_CDE	CHAR	1	
	168	RX_SUMM_SURG_TYPE_CDE	VARCHAR2	2	
	169	RX_SUMM_SCREEN_BX_PROC1_CDE	CHAR	1	

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	170	RX_SUMM_SCREEN_BX_PROC2_CDE	CHAR	1	
	171	RX_SUMM_SCREEN_BX_PROC3_CDE	CHAR	1	
	172	RX_SUMM_SCREEN_BX_PROC4_CDE	CHAR	1	
	173	SUBSQ_RX_RECON_DEL_CDE	CHAR	1	
	174	LAST_CONTACT_DT	VARCHAR2	8	
	175	VITAL_STAT_CDE	CHAR	1	
	176	CANCER_STAT_CDE	CHAR	1	
	177	QUAL_OF_SURVIVAL_CDE	CHAR	1	
	178	FOLLOWUP_SRC_CDE	CHAR	1	
	179	NEXT_FOLLOWUP_SRC_CDE	CHAR	1	
	180	CURRENT_CITY_NME	VARCHAR2	20	
	181	CURRENT_ST_ABBR_NME	VARCHAR2	2	
	182	CURRENT_ZIP_CDE	VARCHAR2	9	
	183	CURRENT_COUNTY_CDE	VARCHAR2	3	
	184	FOLLOWUP_CONTACT_CITY_NME	VARCHAR2	20	
	185	FOLLOWUP_CONTACT_ST_ABBR_NME	VARCHAR2	2	
	186	UNUSUAL_FOLLOWUP_MTHD_CDE	CHAR	1	
	187	FIRST_RECUR_DT	VARCHAR2	8	
	188	RECUR_DIST_SITE1_CDE	CHAR	1	
	189	RECUR_DIST_SITE2_CDE	CHAR	1	
	190	RECUR_DIST_SITE3_CDE	CHAR	1	
	191	FIRST_RECUR_TYPE_CDE	VARCHAR2	2	
	192	FIRST_RECUR_TYPE_OTH_CDE	VARCHAR2	2	
	193	CAUSE_OF_DEATH_CDE	VARCHAR2	4	
	194	ICD_REV_NBR	CHAR	1	
	195	AUTOPSY_CDE	CHAR	1	
	196	PLACE_OF_DEATH_CDE	VARCHAR2	3	
	197	CASE_COMPLETE_DT	VARCHAR2	8	
	198	CASE_LAST_CHANGE_DT	VARCHAR2	8	
	199	CASE_RPT_EXPORTED_DT	VARCHAR2	8	
	200	CASE_RPT_RECEIVED_DT	VARCHAR2	8	
	201	CASE_RPT_LOADED_DT	VARCHAR2	8	
	202	TUMOR_REC_AVAIL_DT	VARCHAR2	8	
	203	ICD3_CONV_IND	CHAR	1	
	204	SEER_CODE_SYS_CUR_CDE	CHAR	1	
	205	SEER_CODE_SYS_ORIG_CDE	CHAR	1	
	206	COC_CODE_SYS_CUR_CDE	CHAR	2	
	207	COC_CODE_SYS_ORIG_CDE	CHAR	2	
	208	SEER_FOLLOWUP_TYPE_CDE	CHAR	1	
	209	SEER_RECORD_NBR	VARCHAR2	2	
	210	FOLLOW_REGISTRY_NME	VARCHAR2	15	
	211	GEOCODE_STATUS_CDE	VARCHAR2	2	
	212	LATITUDE_NBR	NUMBER	22	10
	213	LONGITUDE_NBR	NUMBER	22	11
	214	NHSCR_RMCDN_REC_NBR	VARCHAR2	8	
	215	SEERSTAGE_CDE	NUMBER	22	
	216	SEERSTAGE_DSC	VARCHAR2	400	
				0	
CANCER_STATISTICS_FCT	1	AGE_GENDER_SEQ	NUMBER	22	9
	2	DX_GEOGRAPHY_SEQ	NUMBER	22	9
	3	DX_TIME_ID	DATE	7	
	4	TOTAL_INV_CNT	NUMBER	22	5
	5	INV_BLADDER_CNT	NUMBER	22	4
	6	INV_BRAIN_CNT	NUMBER	22	4

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	7	INV_BREAST_CNT	NUMBER	22	4
	8	INV_CERVICAL_CNT	NUMBER	22	4
	9	INV_COLORECTAL_CNT	NUMBER	22	4
	10	INV_ESOPHAGUS_CNT	NUMBER	22	4
	11	INV_HODGKINS_CNT	NUMBER	22	4
	12	INV_RENAL_CNT	NUMBER	22	4
	13	INV_LARYNX_CNT	NUMBER	22	4
	14	INV_LEUKEMIA_CNT	NUMBER	22	4
	15	INV_LIVER_CNT	NUMBER	22	4
	16	INV_LUNG_CNT	NUMBER	22	4
	17	INV_MELANOMA_CNT	NUMBER	22	4
	18	INV_MULTMYELOMA_CNT	NUMBER	22	4
	19	INV_NONHODGKINS_CNT	NUMBER	22	4
	20	INV_ORAL_CNT	NUMBER	22	4
	21	INV_OVARY_CNT	NUMBER	22	4
	22	INV_PANCREAS_CNT	NUMBER	22	4
	23	INV_PROSTATE_CNT	NUMBER	22	4
	24	INV_STOMACH_CNT	NUMBER	22	4
	25	INV_TESTIS_CNT	NUMBER	22	4
	26	INV_THYROID_CNT	NUMBER	22	4
	27	INV_UTERINE_CNT	NUMBER	22	4
	28	INV_OTHER_CNT	NUMBER	22	4
	29	TOTAL_CNT	NUMBER	22	5
	30	CANCER_AGE_GROUP_TXT	VARCHAR2	8	
	31	TOTAL_NON_GENDER_INV_CNT	NUMBER	22	5
	32	TOTAL_MALE_INV_CNT	NUMBER	22	5
	33	TOTAL_FEMALE_INV_CNT	NUMBER	22	5
CANCER_TYPE_TBL	1	CANCER_AGE_GROUP_TXT	VARCHAR2	8	
	2	INVASIVE_CANCER_TYPE	VARCHAR2	20	
GET_CANCER_PRIMARY_SITE_B_VW	1	CANCER_TYPE_DISP_TXT	VARCHAR2	30	
GET_CANCER_PRIMARY_SITE_F_VW	1	CANCER_TYPE_DISP_TXT	VARCHAR2	30	
GET_CANCER_PRIMARY_SITE_M_VW	1	CANCER_SITE_DISP_TXT	VARCHAR2	30	
GET_CANCER_PRIMARY_SITE_VW	1	CANCER_TYPE	VARCHAR2	30	
	2	CANCER_TYPE_DISP_TXT	VARCHAR2	30	
	3	GENDER_DSC	VARCHAR2	6	
GET_CANCER_YEARS_VW	1	CANCER_YEAR	VARCHAR2	4	

11. PRODUCT VISION

The EPHT Program envisions a Cognos based system that accesses modeled packages based on a dimensionally modeled data mart. In Report Studio we envision being able to use drag and drop functions to:

1. Count incidence for any combination of these dimensions:
 - a. Geography (state, county, town, zip code, census tract)
 - b. Time (year, multi-year)
 - c. Demographics (age, sex)
 - d. Other dimensions included in the EPHT data mart
2. Calculate the incidence rate in the population at risk
 - e. Using the incidence rate function should automatically determine the population at risk and the number of events in the population at risk in order to calculate the correct rate when these dimensions are invoked:
 - i. State, county, town, census tract (geographic dimension)
 - ii. year, multi-year (Date dimension)
 - iii. Age, gender (demographic dimension)
 1. A rate that spans all age groups is a crude rate.
 2. A rate for a specified age range is an age-specific rate.
3. Calculate the age adjusted rate (direct standardization) in the population at risk. An age adjusted rate sums weighted (using a standard population structure) age specific rates across age groups to create an overall rate which is comparable to all other rates calculated using the same methods.
 - f. Users should be able to select one of several standard proportions to use in weighting the age specific rates (e.g., U.S. 2000 Standard Proportion or the NH 2000 Standard proportion at a minimum). A full list will be provided.
 - g. Users should be able to specify the age groupings used to aggregate the age specific rates before weighting.
 - h. Using the age adjusted incidence rate function should automatically calculate the correct rate for dimensions that are available in both the numerator and denominator:
 - i. Geography (state, county, town, census tract)
 - ii. Date (year, multi-year)
 - iii. Demographic dimensions (gender) used in the report should automatically filter both the numerator and denominator facts.
4. A standardized incidence ratio (SIR) function. The SIR function estimates the occurrence of disease or deaths in a population at risk relative to what might be expected if the population had the same disease or death experience as some larger comparison population designated as "normal" or average.
 - i. Users should be able to select the age groupings that are used to calculate the age specific observed and expected values.
 - j. The comparison area will always be state of NH.
 - k. Using the SIR function should automatically calculate the correct SIR for dimensions that are available in both the numerator and denominator:
 - i. Geography (census tract, state, county, town)
 - ii. Date (year, multi-year)
 - iii. Demographic dimensions (gender) used in the report should automatically filter both the numerator and denominator facts.
 - iv. Using the discharge rate function in conjunction with demographic dimensions that occur only in the numerator is incorrect, but the contractor will not be expected to restrict users from filtering or stratifying using these dimensions.

12. APPENDICIES

12.1 Appendix A (Example Calculations and Joins)

Example calculations and joins for creating age adjusted rates and standardized incidence ratios, including standard error and confidence intervals.

The following process describes how the calculation of values described in section 8.1 can be performed in a way which allows users to parameterize calculation options (e.g., statistical certainty levels) and vary dimensions. The process outlines the required joins and indicates where parameterized values can be inserted into the process.

IMPORTANT NOTE 1: This appendix has been included simply to provide the contractor with general roadmap for calculating age adjusted rates and SIR's etc. The contractor may decide to implement these requirements in a different manner.

IMPORTANT NOTE 2: The following narrative has already been coded for and implemented in the "existing" Hospitalization ETL (written in PL/SQL). A look-up table was created to facilitate the GAMINV functionality (function not available in Oracle).

Parameters that need to be defined by the report author:

- a. Time frame (multi-year, year, quarter, month, day)
- b. Geography (county, town, state – no SIR)
- c. Split by gender? (yes, no)
- d. Which gender (both, m, f)
- e. Rate multiplier (e.g., convert rates to per 10,000)
- f. Min age group for inclusion
- g. Max age group for inclusion
- h. Age groups
- i. Standard proportion

Example age groups available to the user:

- a. Single year age groups (e.g., 0, 1, 2, 3...)
- b. 5 YEAR TO 85+
- c. 5 YEAR TO 65+
- d. 0-4, THEN 10 YEAR TO 85+
- e. 0-4, THEN 10 YEAR TO 65+
- f. 0-14, THEN 10 YEAR TO 85+
- g. 0-34, THEN 10 YEAR TO 85+
- h. 0-14, 10 YEAR TO 34, THEN 5-YR TO 85+

Standard proportion selections available to the user:

- a. US_2000_POP_TOTAL
- b. US_2000_POP_FEMALE (Can only use if query is constrained to females)
- c. US_2000_POP_MALE (Can only use if query is constrained to males)
- d. NH_2000_POP_TOTAL
- e. NH_2000_POP_FEMALE (Can only use if query is constrained to females)
- f. NH_2000_POP_MALE (Can only use if query is constrained to males)

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Note: Steps 1-12 are one example method for attaining the age-specific table discussed starting in step 13. Alternate methods will likely be used in the EPHT data mart.

- 1) Aggregate standard proportions to 5-year age groups
- 2) Remove unwanted (determined by end user) 5-year age groups from numerator, denominator, and standard proportion input data as needed
- 3) Aggregate denominator data to *local* geography, time period, 5-year age groups, and gender.
- 4) Expand or aggregate denominator observations to user defined time period.
 - a. Because denominator data starts at annual resolution.
 - b. Shell should contain one observation for each and every level of geography, time-period, 5-year age group, and gender
 - c. For example, if the user defined the time period to be months, expand the annual level denominator data to have 12 months in each year. Then divide the annual population by 12.
- 5) Aggregate numerator data to *local* geography, time period, 5-year age groups, and gender
- 6) Aggregate denominator data to the *reference* geography (base geography used as a baseline for comparison) by time period, 5-year age groups, and gender.
- 7) Left join reference geography denominator data onto local geography denominator data (one to many) by time period, 5-year age group, and gender
- 8) Aggregate numerator data to the reference geography by time period, 5-year age groups, and gender
- 9) Left join reference geography numerator data onto local geography numerator data (one to many) by time period, 5-year age group, and gender
- 10) Left join numerator data to denominator (shell) by local geography, time period, gender, and 5-year age group (one to one join).
- 11) Left join standard proportion onto numerator and denominator table (result of step 10) by 5 year age-group (one to many join)
 - a. Creates combined table
- 12) Aggregate local geography and reference geography numerator and denominator counts and standard proportions in combined table to user defined age groups.
 - a. Creates age-specific base table
- 13) On the age-specific base table calculate:

VARIABLES FOR FINAL AGE SPECIFIC OUTPUT

 - a. Change local and reference events with missing to 0.
 - b. Local and reference geography rates (if population is not equal to 0; if it is 0 then divide by 0 errors will occur).
 - i. Formula $\text{events/population} \times \text{rate_scaler}$
 1. scaler adjust rates to per 10,000, per 100,000 etc.

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- c. Confidence intervals of local and reference geography rates (if population is not equal to 0).

- i. If numerator is ≥ 100 then

$$LCI = RATE - (S_{\alpha} * (RATE / (EVENTS^{**0.5})))$$

$$UCI = RATE + (S_{\alpha} * (RATE / (EVENTS^{**0.5})))$$

Where:	$S_{\alpha=0.05}$	=1.9600	(95% CI)
	$S_{\alpha=0.01}$	=2.5758	(99% CI)
	$S_{\alpha=0.001}$	=3.2905	(99.9% CI)

- ii. If $1 \leq \text{numerator} < 100$ then

$$LCI = RATE * (GAMINV((\alpha_p/2), EVENTS)/EVENTS)$$

$$UCI = RATE * (GAMINV((1-(\alpha_p/2)), EVENTS+1)/EVENTS)$$

Where:	$\alpha_{p=95\%}$	= 0.05	(95% CI)
	$\alpha_{p=99\%}$	= 0.01	(99% CI)
	$\alpha_{p=99.9\%}$	= 0.001	(99.9% CI)

NOTES: a "look-up" table can be used in place of GAMAINV function (Appendix E). The GAMINV function described here is modeled after the SAS GAMINV function:

<http://support.sas.com/documentation/cdl/en/lrdict/62618/HTML/default/a000245898.htm>

- iii. If numerator = 0 then

$$LCI = 0$$

$$UCI = \text{missing}$$

- d. Significance test variables comparing local to reference geography (if events not equal to 0 and population not equal to 0)

- i. If local LCI $\geq$ reference UCI then significantly higher
- ii. If local UCI $\leq$ reference LCI then significantly lower
- iii. Else no significant difference

- e. Suggest level of estimate stability (optional)

- i. If events < 20 then stability = "unstable"
- ii. Else "stable"

VARIABLES NEEDED FOR AGE ADJUSTED CALCULATIONS AND STANDARDIZED INCIDENCE RATIO

- f. Weighted rate for local and reference geography (needed for age adjusted rates).
 - i. Rate*standard proportion
- g. Expected number of local geography events (prepare for standardized incidence ratio in age-adjusted table)
 - i. (Reference geography rate / rate_scaler) * local geography population

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- h. Age adjusted rate standard error precursor variable for local and reference geography (I'm calling this "SR")
 - i. Formula: $SR = (rate * (rate_scaler - rate) / population) * (standard_proportion^2)$
- 14) Create age adjusted table by aggregating age specific table across age groups.
 - a. Sum state and local events, population, weighted rates (becomes state and local age adjusted rates), SR, expected events
- 15) On the age adjusted table calculate
 - a. Crude rate
 - b. Crude rate confidence intervals of local and reference geography rates (if population is not equal to 0).

- i. If numerator is ≥ 100 then

$$LCI = RATE - (S_{\alpha} * (RATE / (EVENTS^{**0.5})))$$

$$UCI = RATE + (S_{\alpha} * (RATE / (EVENTS^{**0.5})))$$

Where:	$S_{\alpha=0.05}$	=1.9600	(95% CI)
	$S_{\alpha=0.01}$	=2.5758	(99% CI)
	$S_{\alpha=0.001}$	=3.2905	(99.9% CI)

- ii. If $1 \leq \text{numerator} < 100$ then

$$LCI = RATE * (GAMINV((\alpha_p/2), EVENTS)/EVENTS)$$

$$UCI = RATE * (GAMINV((1-(\alpha_p/2)), EVENTS+1)/EVENTS)$$

Where:	$\alpha_{p=95\%}$	= 0.05	(95% CI)
	$\alpha_{p=99\%}$	= 0.01	(99% CI)
	$\alpha_{p=99.9\%}$	= 0.001	(99.9% CI)

NOTES: a lookup table can be used in place of GAMAINV function (Appendix E). The GAMINV function described here is modeled after the SAS GAMINV function:

<http://support.sas.com/documentation/cdl/en/lrdict/62618/HTML/default/a000245898.htm>

- iii. If numerator = 0 then

$$LCI = 0$$

$$UCI = \text{missing}$$

- c. Standard error of the age adjusted rate (if events and population are not 0; this doesn't really need to be displayed).

- i. SE = Square root of SR

- d. Age adjusted rate confidence intervals for local and reference geography

$$LCI = rate - S_{\alpha} * SE$$

$$UCI = rate + S_{\alpha} * SE$$

Where:	$S_{\alpha=0.05}$	=1.9600	(95% CI)
	$S_{\alpha=0.01}$	=2.5758	(99% CI)
	$S_{\alpha=0.001}$	=3.2905	(99.9% CI)

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- e. Significance test variables comparing local to reference geography for crude and age adjusted rates (if events not equal to 0 and population not equal to 0)
 - i. If local LCI >= reference UCI then significantly higher
 - ii. If local UCI <= reference LCI then significantly lower
 - iii. Else no significant difference
- f. Suggest level of estimate stability of age adjusted rates (optional)
 - i. If events < 20 then stability = "unstable"
 - ii. Else stable
- g. Calculate SIR
 - i. Observed events/expected events
 - 1. This is really events/expected local events
- h. Calculate Confidence intervals of SIR

$$LCI = ((1 - (1/(9*(EVENTS)))) - (S_{\alpha} / (3*(SQRT(EVENTS)))))^{**3} * SIR$$

$$UCI = SIR * ((EVENTS + 1) / EVENTS) * (1 - (1/(9*(EVENTS + 1)))) + (S_{\alpha} / (3*(SQRT(EVENTS + 1)))))^{**3}$$

Where:

$S_{\alpha=0.05}$	=1.9600	(95% CI)
$S_{\alpha=0.01}$	=2.5758	(99% CI)
$S_{\alpha=0.001}$	=3.2905	(99.9% CI)
- i. Calculate significance of SIR
 - i. If SIR_LCI > 1 then significantly higher
 - ii. If SIR_UCI < 1 then significantly lower
 - iii. Else no significant difference

12.2 Appendix B (Sample Calculations with Data)

A Microsoft Excel workbook was created for the Hospitalization data mart. It contains sample calculations with supporting data. This workbook was used in creation of the Hospitalization TDD. Calculations are identical for calculations of cancer incidence.

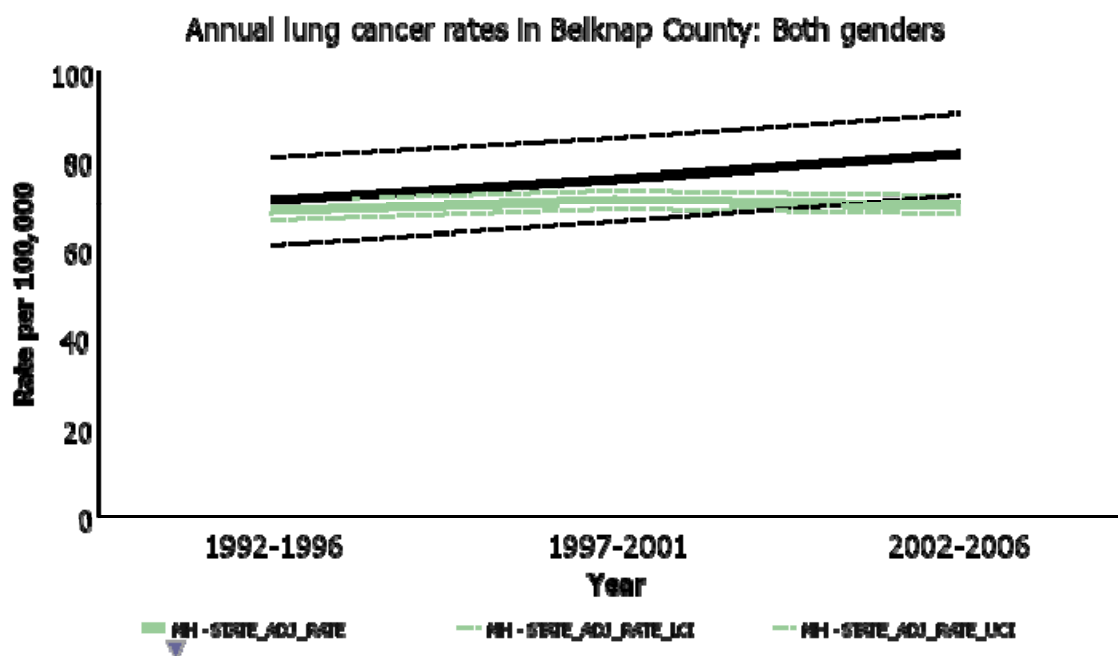
The workbook contains 3 worksheets.

- 1) SIRs
 - i. Example calculations of SIRs and age specific rates
- 2) Age adjusted rates and CIs
 - i. Example calculations of age adjusted rates and their confidence intervals
- 3) Gamma inverse values
 - i. A warehousable table which represents upper and lower quantile values from the gamma inverse distribution after providing a numeric probability (alpha) and shape parameter (number of events in numerator). Values are provided which can create 95%, 99%, and 99.9% confidence intervals.

12.3 Appendix C (Sample Reports)

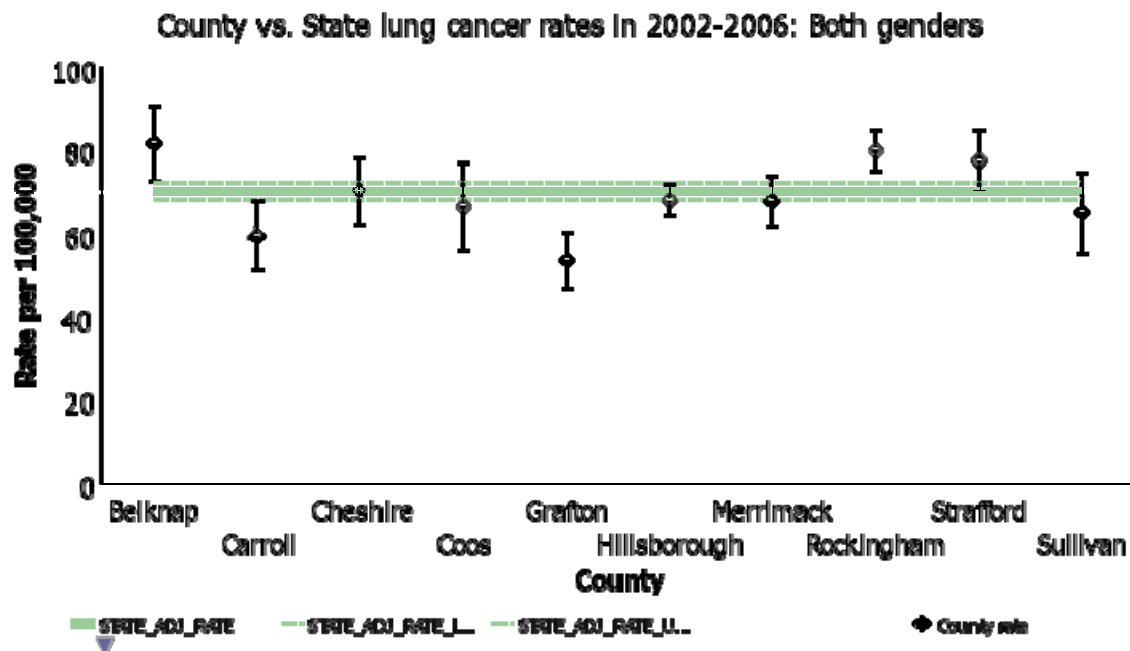
12.3.1 Line Graph with Confidence Indicators

Annual age-adjusted rate per 10,000 for Belknap county with 95% confidence intervals as compared to the State age-adjusted rate. The standard proportion used was based on the U.S. 2000 total standard population.



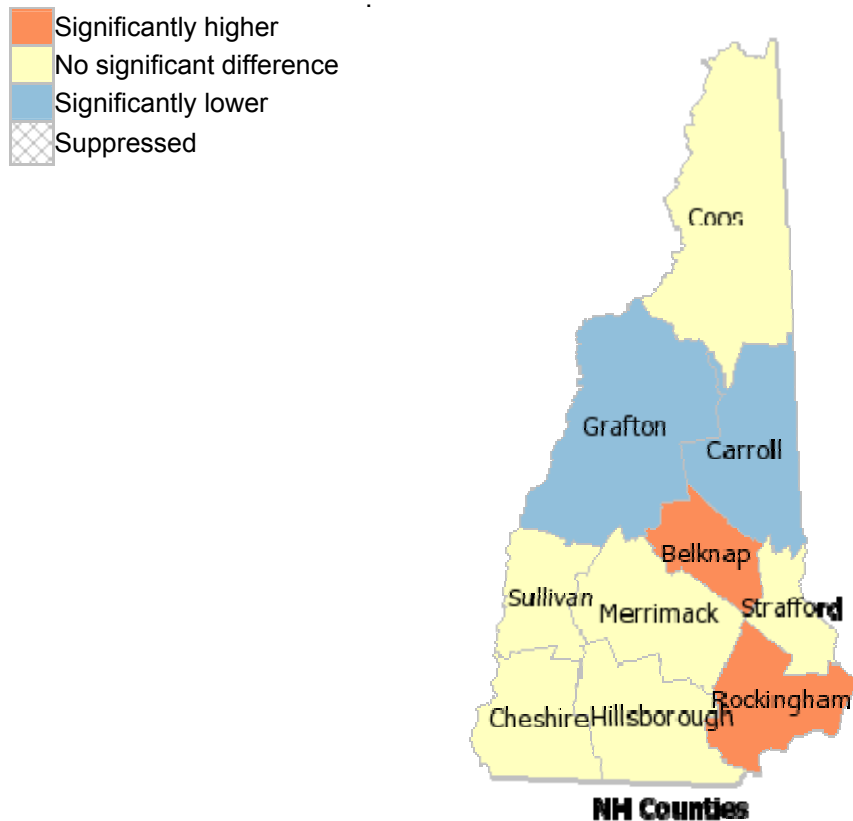
12.3.2 Line Graph with Confidence Indicators

County level age-adjusted rates for a single year. Standard proportions used were based on the U.S. 2000 standard population.



12.3.3 Map with SIR Levels

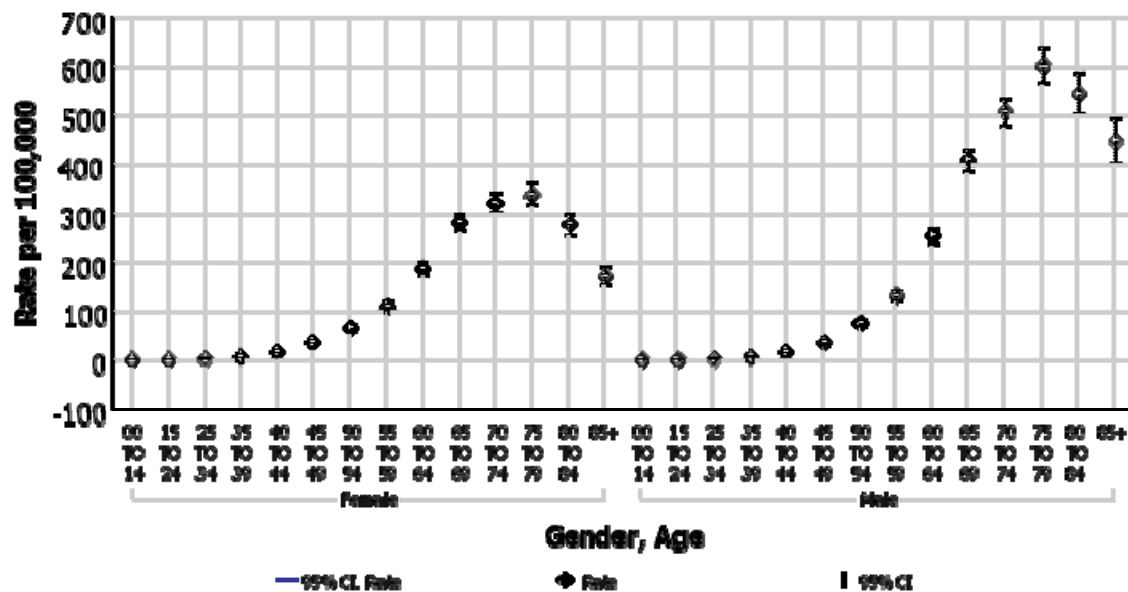
Map of county level SIR significance (as compared to the State) for one year. Significantly higher counties demonstrate that the observed incidence for the county was significantly higher than the expected incidence.



12.3.4 Line Graph with SIR Levels

Age-specific **cancer incidence** rates stratified by age and gender for a one year period. The benchmark for the age-specific rates would be the crude rate; It has not been included in this figure by the report author.

Age specific lung cancer rates per 100,000 by age and gender between 1990 and 2006



13. ISSUES LOG

No.	Issues Log		
	Date Logged	Req. No.	Issue Description
1			
	Date Resolved	Made By	Resolution Description
2	Date Logged	Req. No.	Issue Description
	Date Resolved	Made By	Resolution Description
3	Date Logged	Req. No.	Issue Description
	Date Resolved	Made By	Resolution Description
4	Date Logged	Req. No.	Issue Description
	Date Resolved	Made By	Resolution Description