Commonwealth of Massachusetts
Center for Health Information & Analysis (CHIA)
Non-Government Agency Application for Data

This application is to be used by all applicants, except Government Agencies, as defined in 957 CMR 5.02.

NOTE: In order for your application to be processed, you must submit the required application fee. Please consult the fee schedules for APCD and Case Mix data for the appropriate fee amount. A remittance form with instructions for submitting the application fee is available on the CHIA website.

I. GENERAL INFORMATION

APPLICANT INFORMATION	
Applicant Name:	Joel Weissman
Title:	Chief Scientific Officer
Organization:	Brigham and Women's Hospital
Project Title:	Understanding High Cost Surgical Patients using Episode Bundles
Date of Application:	1/27/2014
Project Objectives (240 character limit)	To explore the patterns of utilization and outcomes of high-cost surgical patients in order to identify payment strategies that may realign incentives to improve outcomes and lower costs.
Project Research Questions (if applicable)	1. Identify the highest cost surgical patients in Massachusetts. 2. Identify the main drivers of cost in this population. 3. Extrapolate the impact of bundled payment strategies on such patients' care.

Please indicate if you are a Researcher, Payer, Provider, Provider Organization or Other entity and whether you are seeking data pursuant to 957 CMR 5.04 (De-Identified Data), 957 CMR 5.05 (Direct Patient Identifiers for Treatment or Coordination of Care), or 957 CMR 5.06 (Discretionary Release).

☑	Researcher	☐	957 CMR 5.04 (De-identified Data)
☐	Payer	☐	957 CMR 5.05 (Direct Patient Identifiers)
☐	Provider / Provider Organization	☐	957 CMR 5.06 (Discretionary Release)
☐	Other		

II. PROJECT SUMMARY

Briefly describe the purpose of your project and how you will use the requested CHIA data to accomplish your purpose.

This project focuses on high cost surgical patients, defined as those patients with very high costs of care following a major surgical "index" procedure. Using currently available models, the surgical patients that will be associated with the highest total costs are often not apparent at the time of discharge from the index admission. Low costs for index procedures could readily result in higher total costs if patients develop preventable post-operative complications after discharge or require additional unplanned surgical interventions. Understanding the variation in pre- and post-acute care utilization and associated outcomes will be crucial to achieving the quality gains and cost savings promised by realigning financial incentives. Therefore we will examine high cost patients using multiple layers of bundled services for patients undergoing common procedures with substantial variation in cost. Through staged analysis of broader episodes of care for complex patients, we hope to expose care patterns and opportunities to add value, reduce costs, and improve procedural care that are not knowable at the level of the index hospitalization.

III. FILES REQUESTED

Please indicate the databases from which you seek data, the Level(s) and Year(s) of data sought.

ALL PAYER CLAIMS DATABASE	Level 1[1] or 2[2]	Single or Multiple Use	Year(s) Of Data Requested Current Yrs. Available 2009 - 2012
Medical Claims	Level 1 (Level 2)	Single	(2009) (2010) (2011) (2012)
Pharmacy Claims	Level 1 (Level 2)	Single	(2009) (2010) (2011) (2012)
Dental Claims	Level 2	Select...	
Member Eligibility	(Level 2)	Single	(2009) (2010) (2011) (2012)
Provider	(Level 2)	Single	
Product	(Level 2)	Single	

CASEMIX	Level 1 - 6	Fiscal Years Requested
Inpatient Discharge	Level 1 – No Identifiable Data Elements Level 2 – Unique Physician Number (UPN) Level 3 – Unique Health Information Number (UHIN) Level 4 – UHIN and UPN Level 5 – Date(s) of Admission; Discharge; Significant Procedures	1998-2012 Available (limited data 1989-1997)

[1] Level 1 Data: De-identified data containing information that does not identify an individual patient and with respect to which there is no reasonable basis to believe the data can be used to identify an individual patient. This data is de-identified using standards and methods required by HIPAA.

[2] Level 2 (and above) Data: Includes those data elements that pose a risk of re-identification of an individual patient.

	Level 6 – Date of Birth; Medical Record Number; Billing Number	
Outpatient Observation	Level 1 – No Identifiable Data Elements Level 2 – Unique Physician Number (UPN) Level 3 – Unique Health Information Number (UHIN) Level 4 – UHIN and UPN Level 5 – Date(s) of Admission; Discharge; Significant Procedures Level 6 – Date of Birth; Medical Record Number; Billing Number	2002-2012 Available
Emergency Department	Level 1 – No Identifiable Data Elements Level 2 – Unique Physician Number (UPN) Level 3 – Unique Health Information Number (UHIN) Level 4 – UHIN and UPN; Stated Reason for Visit Level 5 – Date(s) of Admission; Discharge; Significant Procedures Level 6 – Date of Birth; Medical Record Number; Billing Number	2000-2012 Available

IV. FEE INFORMATION

Please consult the fee schedules for APCD (Administrative Bulletin 13-11) and Case Mix data (Administrative Bulletin 13-09) and select from the following options:

APCD Applicants Only

- ☑ Academic Researcher
- ☐ Others (Single Use)
- ☐ Others (Multiple Use)

Case Mix Applicants Only

- ☐ Single Use
- ☐ Limited Multiple Use
- ☐ Multiple Use

Are you requesting a fee waiver?

- ☐ Yes
- ☑ No

If yes, please submit a letter stating the basis for your request.

V. REQUESTED DATA ELEMENTS [APCD Only]

State and federal privacy laws limit the use of individually identifiable data to the minimum amount of data needed to accomplish a specific project objective. Please use the APCD Data Specification Workbook to identify which data elements you would like to request and attach this document to your application.

VI. MEDICAID DATA [APCD Only]

Please indicate here whether you are seeking Medicaid Data:

☐ Yes
☑ No

Federal law (42 USC 1396a(a)7) restricts the use of individually identifiable data of Medicaid recipients to uses that are directly connected with the administration of the Medicaid program. If you are requesting Medicaid data from Level 2 or above, please describe in detail why your use of the data meets this requirement. Applications requesting Medicaid data will be forwarded to MassHealth for a determination as to whether the proposed use of the data is directly connected to the administration of the Medicaid program. MassHealth may impose additional requirements on applicants for Medicaid data as necessary to ensure compliance with federal laws and regulations regarding Medicaid.

VII. MEDICARE DATA

Please indicate here whether you are seeking Medicare Data:

☐ Yes
☑ No

Medicare data may only be disseminated to state agencies and/or entities conducting research projects that are directed and partially funded by the state if such research projects would allow for a Privacy Board or an IRB to make the findings listed at 45 CFR 164.512(i)(2)(ii) if the anticipated data recipient were to apply for the data from CMS directly. If you are requesting Medicare data, please explain how your research project is directed and partially funded by the state and describe in detail why your proposed project meets the criteria set forth in 45 CFR 164.512(i)(2)(ii). Applicants must describe how they will use the data and inform CHIA where the data will be housed. CHIA must be informed if the data has been physically moved, transmitted, or disclosed.

Applicants seeking Medicare data must complete a Medicare Request Form.

Applicants approved to receive Medicare data will be required to execute an Addendum to CHIA's standard data use agreement, containing terms and conditions required by CHIA's data use agreement with CMS.

VIII. DIRECT PATIENT IDENTIFIERS[3]

[3] Direct Patient Identifiers. Personal information, such as name, social security number, and date of birth, that uniquely identifies an individual or that can be combined with other readily available information to uniquely identify an individual.

State and federal privacy laws may require the consent of Data Subjects prior to the release of any Direct Patient Identifiers. If you are requesting data that includes Direct Patient Identifiers, please provide documentation of patient consent or your basis for asserting that patient consent is not required.

IX. REQUESTS PURSUANT TO 957 CMR 5.04

Payers, providers, provider organizations and researchers seeking access to Level 1 (de-identified) data are required to describe how they will use such data for the purposes of lowering total medical expenses, coordinating care, benchmarking, quality analysis or other administrative research purposes. Please provide this information below.

The current financial and political environment is such that there has been an intense focus on the rising cost of American healthcare. Various efforts to 'bend the cost curve' through piecemeal change have had varying degrees of success. AMCs have long been understood to have a higher cost of care in light of their multifaceted roles as teaching and safety-net hospitals. Furthermore, costs related to procedures and other associated surgical care are estimated to account for upwards of 40% of all hospital and physician spending.

In the current fee-for-service environment there is a widely derided core incentivization to focus on volume of care over value, with convincing evidence that complications tend to increase hospital profits. Accordingly, the public and private sectors including CMS, private insurers, and healthcare systems are experimenting with various forms of bundled payments to realign incentives for providers and hospital systems to reduce unnecessary medical care while enhancing the impact of high-quality care on reimbursement. The scope of these bundles covers the spectrum from existing CMS DRG episode-based payments to full capitation.

By developing an understanding of the patterns of utilization of the highest-cost surgical patients, we will be able to develop and test bundling strategies that realign financial incentives for providers to improve outcomes at lower cost to patients and payors. Patients will benefit from improved coordination of care and a more highly incentivized focus on quality and safety. Payors will be able to more accurately predict and control procedural costs without compromising quality. Providers will be incentivized to improve quality and integration of care and, crucially, be free to develop innovative care processes that are not possible under the current fragmented fee-for-service structure.

X. FILTERS

If you are requesting APCD elements from Level 2 or above, describe any filters you are requesting to use in order to limit your request to the minimum set of records necessary to complete your project. (For example, you may only need individuals whose age is less than 21, claims for hospital services only, or only claims from small group projects.)

APCD FILE	DATA ELEMENT(S) FOR WHICH FILTERS ARE REQUESTED	RANGE OF VALUES REQUESTED
Medical Claims	MC013,	1944 < Birth year < 1994
Pharmacy Claims	PC013	1944 < Birth year < 1994
Dental Claims		
Membership Eligibility	ME014	1944 < Birth year < 1994
Provider		
Product		

XI. PURPOSE AND INTENDED USE

1. Please explain why completing your project is in the public interest.

Patients with complex medical histories and multiple comorbidities are of increasing interest in the design of health systems under health care reform because of their disproportionately high percentage healthcare costs. Surgical procedures are estimated to account for 50% of hospital costs and as much as 30-40% of total health care spending. Little is known, however, about what drives the high cost of these patients' surgical care. Furthermore, despite the financial and health-related costs of complications from surgery, the incentives to reduce their incidence are misaligned because complications tend to increase hospital profits. Thus, there is much to be learned about the procedural and peri-operative care of complex patients, particularly the factors that contribute to their cost and complexity and the patterns of services that they use. Innovative reimbursement strategies are crucial to controlling procedural costs while ensuring high quality care. Using the APCD to broaden our understanding in this arena will allow for the creation and evaluation of bundled payment systems that incentivize more integrated, higher-quality care at lower costs to patients and the healthcare system.

2. **Attach** a brief (1-2 pages) description of your research methodology. (This description will not be posted on the internet.)

3. Has your project received approval from your organization's Institutional Review Board (IRB)?

   Yes, and a copy of the approval letter is attached to this application.

   No, the IRB will review the project on __IRB submitted, pending review_____.

   No, this project is not subject to IRB review.

   No, my organization does not have an IRB.

XII. APPLICANT QUALIFICATIONS

1. Describe your qualifications to perform the research described or accomplish the intended use of CHIA data.

Joel S. Weissman, Ph.D., is Deputy Director and Chief Scientific Officer of the Center for Surgery and Public Health at Brigham and Women's Hospital, and Associate Professor of Health Policy at Harvard Medical School. Dr. Weissman received his doctorate in health policy from the Pew Fellows Program at the Heller School, Brandeis. He has published over 125 peer-reviewed articles and has led numerous federally funded studies in the areas of quality and patient safety, the care of vulnerable populations, uncompensated care, drug policy, comparative effectiveness research policy, and academic-industry relationships in biomedical research.

During 2008-2010 Dr. Weissman served as Senior Health Policy Advisor to the Secretary of the Massachusetts Executive Office of Health and Human Services, followed by two months as visiting faculty at the Mexico National Institute of Public Health in Cuernavaca. During his time with Massachusetts, he led the planning effort for a multi-million dollar statewide all-payer medical home pilot, examined the budgetary impact of universal health coverage in Massachusetts (NEJM perspective), and provided strategic thinking on public reporting of re-hospitalizations, non-payment for

serious reportable events, improving care transitions, comparative effectiveness research, and reducing racial and ethnic disparities.

2. Attach résumés or curriculum vitae of the applicant/principal investigator, key contributors, and of all individuals who will have access to the data. (These attachments will not be posted on the internet.)

XIII. DATA LINKAGE AND FURTHER DATA ABSTRACTION

1. Does your project require linking the CHIA Data to another dataset?
   - ☐ Yes
   - ☑ No

2. If yes, will the CHIA Data be linked to other patient level data or with aggregate data (e.g. Census data)?
   - ☐ Patient Level Data
   - ☐ Aggregate Data

3. If yes, please identify all linkages proposed and explain the reasons(s) that the linkage is necessary to accomplish the purpose of the project.

4. If yes, please identify the specific steps you will take to prevent the identification of individual patients in the linked dataset.

XIV. PUBLICATION / DISSEMINATION / RE-RELEASE

1. Describe your plans to publish or otherwise disclose CHIA Data, or any data derived or extracted from such data, in any paper, report, website, statistical tabulation, seminar, conference, or other setting.

Aggregrate findings of our analysis will be compliled in manuscripts published in peer-reviewed journals. No patient-level data will be disclosed, and cell-size suppression will be employed to protect against patient-level reidentification.

2. Will the results of your analysis be publicly available to any interested party? Please describe how an interested party will obtain your analysis and, if applicable, the amount of the fee.

Results will be available in peer-review publications according to the journals' pre-existing policies. Abtracts will be publicly available for free. The authors will make reprints available for free on request.

3. Will you use the data for consulting purposes?
   - ☐ Yes

☑ No

4. Will you be selling standard report products using the data?
☐ Yes
☑ No

5. Will you be selling a software product using the data?
☐ Yes
☑ No

6. If you have answered "yes" to questions 3, 4 or 5, please describe the types of products, services or studies.

XV. USE OF AGENTS AND/OR CONTRACTORS

Third-Party Vendors. Provide the following information for all agents and contractors who will work with the CHIA Data.

Company Name:	Health Care Incentives Improvement Institute
Contact Person:	Stacey Eccleston
Title:	Implementation and Research Leader
Address:	4 Redington Terrace, Swampscott, MA 01907
Telephone Number:	781-584-6273
E-mail Address:	Stacey.eccleston@hci3.org
Organization Website:	www.hci3.org

7. Will the agent/contractor have access to the data at a location other than your location or in an off-site server and/or database?

☑ Yes
☐ No

8. Describe the tasks and products assigned to this agent or contractor for this project.

The agent will process claims data through an episode creation program (ECR analytics) that assigns claims to create distinct episodes of care for surgical interventions. Agent will create and report back standard metrics of costs at various time intervals pre and post discharge.

9. Describe the qualifications of this agent or contractor to perform such tasks or deliver such products.

Members of the project team have vast experience working with medical claims data and other APCDs across the country and are the originators of the episode creation methodology (PROMETHEUS) that will be employed. Stacey Eccleston of HCI3 was directly involved in the establishment of the MA APCD during her tenure as research director and assistant commissioner at the MA DHCFP and is familiar with its details, strengths and limitations. Included on the analytic team are MDs and PhDs who

were originators of the episode creation methodology that will be used for the analysis as well as other treatment groupers (ETGs).

10. Describe your oversight and monitoring of the activity and actions of this agent or subcontractor.

Members of the HCI3 team have a close working relationship with the primary investigators and all data analysis will be performed at the expressed direction of the PI. No data or data analysis will be disseminated by the HCI3 team outside of the released plans outlined herein, and no analysis of APCD data will be independently performed by HCI3.