Massachusetts Division of Health Care Finance and Policy
Application for All-Payer Claims Database (APCD) Data

Applications for APCD data must meet the requirements set forth in regulation **114.5 CMR 22.00: Health Care Claims Data Release** and any Administrative Bulletins promulgated under this regulation. The regulation and bulletins are available online at http://www.mass.gov/chia/gov/hcf/regulations.html.
Information provided on pages 1-4 of this application will be posted on the internet for public comment.

A. APPLICANT INFORMATION	
Applicant Name:	Meredith B. Rosenthal, PhD
Title:	Professor of Health Economics and Policy
Organization:	Harvard School of Public Health
Project Title:	Will the Academic Innovations Collaborative Increase the Value of Primary Care and Improve Providers' and Trainees' Experiences?
Date of Application:	November 20, 2012
Project Objectives (240 character limit)	The aims of the study are to: 1) Describe the tactics and sequencing that participating AMCs use to implement the main elements of the Academic Innovations Collaborative (AIC)—improve Team-Based Care, Population Management, Complex Care, Patient Engagement through a funded learning collaborative. 2) Evaluate the primary care work life, professional satisfaction, and career intentions of attending and trainee physicians at AMCs. Examine the degree to which the AIC improves healthcare quality and spending and the patient experience of care.
Project Research Questions	1. Did the AIC (the intervention noted above) change the levels and mix of utilization of services? 2. Did the AIC reduce total cost of care? 3. Did the AIC improve the use of evidence-based care processes?

B. DATA REQUESTED			

1. PUBLIC USE									
File	SINGLE USE* '08 – '09 – '10			REPEATED USE* '08 – '09 – '10			MULTIPLE USE* '08 – '09 – '10		
Medical Claims	☐	X	X	☐	☐	☐	☐	☐	☐
Pharmacy Claims	☐	X	X	☐	☐	☐	☐	☐	☐
Dental Claims	☐	☐	☐	☐	☐	☐	☐	☐	☐
Membership Eligibility	☐	X	X	☐	☐	☐	☐	☐	☐
Provider	☐	X	X	☐	☐	☐	☐	☐	☐
Product	☐	X	X	☐	☐	☐	☐	☐	☐

2. RESTRICTED USE	

File	SINGLE USE* '08 – '09 – '10			REPEATED USE* '08 – '09 – '10			MULTIPLE USE* '08 – '09 – '10		
Medical Claims	☐	X	X	☐	☐	☐	☐	☐	☐
Pharmacy Claims	☐	X	X	☐	☐	☐	☐	☐	☐
Dental Claims	☐	☐	☐	☐	☐	☐	☐	☐	☐
Membership Eligibility	☐	X	X	☐	☐	☐	☐	☐	☐
Provider	☐	X	X	☐	☐	☐	☐	☐	☐
Product	☐	X	X	☐	☐	☐	☐	☐	☐

* The Division reserves the right to change proposed "use level" after review of this application.

Definitions:

- **Single Use**: Use of the data for a project or study.

- **Repeated Use**: Use of the data as an input to develop a report or product for sale to multiple clients or customers provided that it will NOT disclose APCD data. Examples include: development of a severity index tool, development of a reference tool used to inform multiple consulting engagements where no APCD data is disclosed.

- **Multiple Use**: Use of the data to develop a product or service that will be sold in the marketplace and will disclose APCD data. Examples include: a benchmark report produced by analyzing APCD data, a query tool to ease access to APDC data.

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3. **Filters:** If you are requesting data elements from the Restricted Use dataset, 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 products.)

File	Data Element(s)	Range of Values Requested
Medical Claims	MC003, MC004, MC017, MC018, MC024, MC025, MC059, MC060, MC069, MC076, MC080, MC098, MC124, MC125, MC134, MC135, MC137, MC141, MC001 / MC080, MC001 / MC124, MC Unique Record ID	No filters
Pharmacy Claims	PC043, PC047, PC059, PC062, PC064, PC068, PC107, PC Unique Record ID	No filters
Dental Claims		NA
Membership Eligibility	ME014, ME017, ME046, ME107, ME001/ME046, ME Unique Record ID	No filters
Provider	PV001, PV002, PV003, PV005, PV007, PV015, PV035, PV036, PV056, PV Unique Record ID	No filters
Product	PR004	No filters

4. **Restricted data elements:** If you are requesting Data Elements from the Restricted Use dataset, list each restricted data element you are requesting on the attached Data Element List and explain why you need access to EACH Restricted Use data element for your project. Limit your request to the minimum data elements necessary to complete the project and be specific as to how each element relates to your proposed model/analytic plan. Add rows to this table as needed.

Note: We are aware that the APCD is in the process of developing a unique provider ID, but in the absence of the unique ID we will make use of all of the provider IDs available to develop our own crosswalk to group our claims by provider as accurately as possible at the practice level. Thus, we are requesting all provider IDs available in the dataset as we cannot tell at this time which provider IDs will be most useful for this critical piece of our analysis. In past work aggregating data across plans we found that there is variation in the extent to which specific identifier fields are populated and a crosswalk is best undertaken using as much information as possible.

Restricted Data Element Name	Restricted Data Element Description	Data File (Medical, Pharmacy, Dental, Eligibility, Provider, Product)	Justification (reason this data element is necessary for your project)
PR004	Product Line of Business Model	Product	In analyzing cost and utilization we will want to account for population differences associated with Line of Business (commercial vs. Medicaid).
ME014	Member Birth Month	Eligibility	From birth year and month we will calculate age, which is a predictor of utilization and cost as well as important for quality measures that are age-specific.
ME017	Member ZIP code	Eligibility	In analyzing cost and utilization we will want to account for differences across geographic markets due to socioeconomic characteristics and access to care.
ME046	Member PCP ID	Eligibility	Our analysis will require attribution of patients to PCPs; if possible we would prefer to use PCPs identified by patients (in HMO products). The utility of the PCP ID will for this purpose will vary across plans and products.
ME107	Carrier Specific Unique Member ID	Eligibility	We require a unique member ID to attribute claims to members, link claims to eligibility data (a source of demographic and insurance information) and track member

				utilization and cost over time.
ME001/ME046	Payer / Member PCP ID	Eligibility		Our analysis will require attribution of patients to PCPs; if possible we would prefer to use PCPs identified by patients (in HMO products). We can't tell whether this or ME046 is better for this purpose.
Derived by DHCFP	Unique Record ID	Eligibility		Unique record IDs are useful for cleaning data and going back to DHCFP with any questions or problems.
MC003	Insurance Type Code/Product	Medical		In analyzing cost and utilization we will want to account for benefit design and network differences associated with Product (e.g. HMO vs. PPO).
MC004	Payer Claim Control Number	Medical		This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
MC017	Date Service Approved (AP Date)	Medical		We require dates of services because we will conduct time series analysis and need to associate use with the relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
MC018	Admission Date Admission Month Admission Year	Medical		We require dates of services because we will conduct time series analysis and need to associate use with the relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
MC024	Service Provider Number	Medical		We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC025	Service Provider Tax ID Number	Medical		We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC059	Date of Service – From Date of Service – From Month	Medical		We require dates of services because we will conduct time series analysis and need to associate use with the

	Date of Service – From Year		relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
MC060	Date of Service – To Date of Service – To Month Date of Service – To Year	Medical	We require dates of services because we will conduct time series analysis and need to associate use with the relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
MC069	Discharge Date Discharge Month Discharge Year	Medical	We require dates of services because we will conduct time series analysis and need to associate use with the relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
MC076	Billing Provider Number	Medical	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC080	Reason for Adjustment	Medical	This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
MC098	Allowed amount	Medical	This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
MC124	Denial Reason	Medical	This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
MC125	Attending Provider	Medical	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC134	Plan Rendering Provider Identifier	Medical	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC135	Provider Location	Medical	We need as much provider

			information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
MC137	Carrier Specific Unique Member ID	Medical	We require a unique member ID to attribute claims to members, link claims to eligibility data (a source of demographic and insurance information) and track member utilization and cost over time.
MC141	Carrier Specific Unique Subscriber ID	Medical	We require a unique member ID to attribute claims to members, link claims to eligibility data (a source of demographic and insurance information) and track member utilization and cost over time.
MC001/MC080	Payer / Reason for Adjustment	Medical	This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
MC001/MC124	Payer / Denial Reason	Medical	This field will help us clean data, eliminate duplicates and deal appropriately with reversals, etc.
Derived by DHCFP	Unique Record ID	Medical	Unique record IDs are useful for cleaning data and going back to DHCFP with any questions or problems.
PC043	Prescribing Provider ID	Pharmacy	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
PC047	Prescribing Physician DEA Number	Pharmacy	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
PC059	Recipient PCP ID	Pharmacy	Our analysis will require attribution of patients to PCPs; if possible we would prefer to use PCPs identified by patients (in HMO products). We can't tell whether this or ME046 is better for this purpose.
PC062	Billing Provider Tax ID Number	Pharmacy	We need as much provider information as possible because we are analyzing differences across providers and need to identify individual pilot providers and potential comparison providers.
PC064	Date Prescription Written	Pharmacy	We require dates of services because

	Date Prescription Written Month Date Prescription Written Year		we will conduct time series analysis and need to associate use with the relevant month. Also, some quality measures require information on sequencing and timing – such as overuse measures that recommend no imaging within six weeks of first diagnosis of back pain.
PC068	Allowed Amount	Pharmacy	A key outcome measure in our evaluation of the impact of primary care transformation is an estimate of total health plan spending (pmpm) – this measure is essential.
PC107	Carrier Specific Unique Member ID	Pharmacy	We require a unique member ID to attribute claims to members, link claims to eligibility data (a source of demographic and insurance information) and track member utilization and cost over time.
Derived by DHCFP	Unique Record ID	Pharmacy	Unique record IDs are useful for cleaning data and going back to DHCFP with any questions or problems.
PV001	Payer	Provider	We will include payer dummy variables in our models to account for hard to measure differences in the way plans manage care and cost.
PV002	Plan Provider ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV003	Tax ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV005	DEA ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV007	Medicaid ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV015	Provider DOB Year	Provider	We need as much provider

			information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV035	SSN ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV036	Medicare ID	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
PV056	Provider Affiliation	Provider	We need as much provider information as possible because we are analyzing differences across providers and need to identify pilot providers and potential comparison providers.
Derived by DHCFP	Unique Record ID	Provider	Unique record IDs are useful for cleaning data and going back to DHCFP with any questions or problems.

C. PURPOSE AND INTENDED USE

1. Please describe the purpose of your project and how you will use the APCD.

Academic Medical Centers (AMCs) play a critical role in delivering high-quality primary care while training future primary care physicians. Many AMCs face the additional burden of being an important part of the healthcare safety net, caring for both socially and medically complex patients. However, available evidence suggests that although the quality of care delivered by AMCs may be comparable to those of non-AMC settings, costs are 44-83% greater.

Studies find that the learning collaborative approach to quality improvement (QI) has been successful at improving care quality in a variety of care settings, but there is little data on the degree to which they may be effective at improving primary care quality and value at AMCs, or at addressing the unique needs of academic physicians (e.g., faculty engaged in graduate medical education or dividing their time between patient care and research) and their trainees. [Koenig]

The APCD data will be used to examine the degree to which the AIC improves healthcare quality and spending and the patient experience of care. The APCD data will be used to identify 'case' and

> 'comparison' practices within Massachusetts. The data will also be used to measure changes within these practices.

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

> This study's intentions are to help efforts towards the improvement of health care quality and mitigate health care cost growth. Completing this study will also help transform the way primary care is provided specifically addressing the complex issues academic health centers and community practices. The end goal is to make improvements in both trainee experiences and patient outcomes in the academic primary care system.

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

4. Has your project received approval from your organization's Institutional Review Board (IRB)?
   - X Yes, and a copy of the approval letter is attached to this application
   - ☐ No, the IRB will review the project on _____
   - ☐ No, this project is not subject to IRB review
   - ☐ No, my organization does not have an IRB

D. APPLICANT QUALIFICATIONS

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

> The proposed project will evaluate the effects of a quality improvement collaborative (the "Academic Innovation Collaborative" or AIC) that is intended to transform primary care training and delivery in 17 sites affiliated with Harvard Medical School. As Principal Investigator on the evaluation of the AIC, I bring to this project my experience conducting related research on the design and impact of health policy reforms that seek to alter patient and provider behavior, including pay for performance and patient-centered medical home pilot initiatives. My expertise as a health economist/health services researcher and my experience studying emerging policy strategies to improve quality and contain cost will enable me to ensure the success of this important study.

2. Describe the software you plan to use to analyze the data and the experience that the applicant's team members have in using that software.

> We will analyze the data using SAS and Stata. The Harvard team has extensive experience with claims data analysis and statistical data analysis in general. Please see the PI's CV for evidence.

3. 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.)

E. DATA LINKAGE AND FURTHER DATA ABSTRACTION

1. Does your project require linking the APCD to another dataset?

   YES   x   NO   ☐

2. If yes, will the APCD be linked to other patient level data or with aggregate data (e.g. Census data)?

   Patient Level Data   ☐   Aggregate Data X

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.

   > We propose to link the APCD data elements to the Massachusetts Health Quality Partnership Provider File, which maps individual physician identifiers to practices and networks. The linkage to this dataset is necessary in order for the study to identify comparison practices (i.e., practices that are similar to those in the intervention but untouched by the intervention) in the APCD.

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

   > We will store and handle the linked file with the same level of information security as the original APCD file.

F. RE-RELEASE OF DATA

Applicants must obtain prior approval from the Division to publish reports that use APCD files. Applicants must provide the Division with a copy of any report at least 30 days prior to release to outside parties, including peer review and prepublication analysis by anyone other than the individuals named in this Application. The Division will review the report to ensure that the publication will not permit identification of an individual patient or permit identification of a specific payment by individual payer. The Division may prohibit release of reports that may permit identification of individual patients or specific payment by individual payer.

1. Describe your plans to publish or otherwise disclose any APCD data elements, or any data derived or extracted from such data, in any paper, report, website, statistical tabulation, or similar document.

   > We intend to publish aggregate findings from our analyses. We will not disclose any patient-level data. Practice level analyses will be shared privately with the individual primary care practices participating in the AIC so they can benchmark themselves with other practices. Tentative paper titles are:
   >
   > Did the AIC improve the quality and value of adult primary care?

Did the AIC improve the quality and value of pediatric care?

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

Our results will be published in the peer-reviewed literature. Abstracts of these papers will be publicly available and complete manuscripts will be available based on the journals usual policies (through individual and institutional subscription; some are made free on-line after a period of time). Reprints will be available for free from the authors upon request.

3. Will you use the data for consulting purposes?
   YES ☐   NO   x

4. Will you be selling standard report products using the data?
   YES ☐   NO   x

5. Will you be selling a software product using the data?
   YES ☐   NO   x

6. If you have answered "yes" to questions 3, 4 or 5, please (i) describe the types of products, services or studies; (ii) estimate the number and types of clients for which the data will be used and (iii) describe any rerelease of data by your clients.

G.   USE OF AGENTS OR CONTRACTORS

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

Company Name:	
Contact Person:	
Title:	
Address:	
Telephone Number:	
Fax Number:	
E-mail Address:	
Organization Website:	

1. 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   ☐

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

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

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