

**Commonwealth of Massachusetts  
Center for Health Information & Analysis (CHIA)  
Non-Government MA APCD Request for Data**

*This form 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 MA APCD 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:	James Courtemanche
Title:	Director, Data Analytic Applications and Reporting
Organization:	Massachusetts Health Quality Partners
Project Title:	Measuring the Clinical and Economic Outcomes Associated with Delivery Systems
Mailing Address:	42 Pleasant Street, Watertown, MA 02472
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Names of Co-Investigators:	Char Kasprzak, Jan Singer, Barbra Rabson, Jason Leistikow
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Original Data Request Submission Date:	February 18, 2016
Dates Data Request Revised:	
Project Objectives (240 character limit):	This research project, funded by Agency for Healthcare Research and Quality (AHRQ) and in collaboration with the National Bureau of Economic Research (NBER), systematically examines the delivery system traits that predict better clinical and economic outcomes.
Project Research Questions (if applicable) or Business Use Case(s):	<ol style="list-style-type: none"> <li>1. Characterize the current delivery system and track changes in delivery system structure across time.</li> <li>2. Gather data on the use of PCOR-based evidence and related clinical and economic outcomes and merge those data with delivery system information.</li> <li>3. Use these various data sources to examine how differences in delivery system structure are related to the use of PCOR-based evidence and related clinical and economic outcomes.</li> </ol>

**II. PROJECT SUMMARY**

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

AHRQ has funded projects to three Centers of Excellence to examine the impact of delivery systems on clinical and economic outcomes. One of the project awardees is NBER. The researchers include David Cutler, Otto Eckstein Professor of Applied Economics at Harvard University, and health policy staff from the Harvard Medical School Department of Healthcare Policy. While the NBER project is national in scope, one component of the project is to gain

a deep understanding of the delivery system to outcomes relationship in four individual states (Colorado, Oregon, Utah and Massachusetts). The grant will be staffed by the regional collaborative in each market. In MA, the regional collaborative is Massachusetts Health Quality Partners. All four states have an All Payor Claims Database. The research team will use a collaborative approach to develop the clinical and economic measures. The research will focus on measures which are reasonably common and relevant to the Commercial and Medicaid populations. The Massachusetts All Payor Claims Database will be used to develop and calculate the measures.

**III. FILES REQUESTED**

Please indicate which MA APCD file(s) you are requesting, the year(s) of data requested, and your justification for requesting *each* file. Please refer to the MA APCD [Release 4.0 Documentation Guides](#) for details of the file contents.

<b>MA ALL PAYER CLAIMS DATABASE FILES</b>	<b>Year(s) Of Data Requested Current Yrs. Available</b>  X 2010 X 2011 xX 2012 X 2013 X 2014
<input checked="" type="checkbox"/> <b>Medical Claims</b>	<b>Please provide justification for requesting Medical Claims file:</b> The research project will examine the relationship between delivery system traits and clinical and economic outcomes. Many of the outcomes the research project seeks to understand are available primarily in Medical Claims. Examples include processes/therapies demonstrated to improve outcomes and avoidance of expensive care when evidence that less intensive case is just as effective.
<input checked="" type="checkbox"/> <b>Pharmacy Claims</b>	<b>Please provide justification for requesting Pharmacy Claims file:</b> The outcomes metrics in the research project can be measured through the use of both medical and pharmacy claims. An example of one such measure is discharge after a heart attack with a prescription for a statin.
<input type="checkbox"/> <b>Dental Claims</b>	<b>Please provide justification for requesting Dental Claims file:</b>  n/a
<input checked="" type="checkbox"/> <b>Member Eligibility</b>	<b>Please provide justification for requesting Member Eligibility file:</b>  Both economic and outcomes measures will be aggregated across provider panels, and then further aggregated at the delivery system level. The member eligibility file will be used to connect patients to their PCP, a key step in the eventual mapping to delivery systems. The Eligibility file will also identify eligibility for look back periods required by some clinical and economic metrics.
<input type="checkbox"/> <b>Provider</b> (encrypted NPI) Standard or <input checked="" type="checkbox"/> <b>Provider*</b> (unencrypted NPI)	<b>Please provide justification for requesting Provider file:</b>  A key component of the research project is to characterize and track changes in the healthcare delivery system. To accomplish this research goal, providers will be organized into delivery systems based on national and local Provider Organization data sources. The unencrypted NPI will be needed to link among data sets and aggregate providers into delivery systems.  <b>*Please provide justification for requesting unencrypted NPI (if requested). Refer to specifics in your methodology:</b>  The unencrypted provider NPI is required in order to link to an external database that organizes individual providers into networks/delivery systems. To organize

	physicians, data has been obtained from the American Medical Association Group Practice File and from SK&A, both of which organize physicians into organizational hierarchies. Both datasets can be linked to claims data at the physician level using the National Provider Identifier (NPI). Additionally, the MHQP Massachusetts Provider Database (MPD), which also includes the provider NPI, is the most comprehensive listing of providers and their affiliations in Massachusetts, and will likely be used to enhance the above-mentioned datasets.
X Product	<p><b>Please provide justification for requesting Product file:</b></p> <p>The research grant which incorporates both Commercial and Medicaid membership compares economic and outcomes data by payor type, and specifically examines how delivery system changes affect Medicaid, one of the populations most at risk of losing access to care. Specifics about the product that the member has may be useful in understanding how the member’s utilization of services may be related to the product versus being related to structural traits of the delivery system.</p>

**IV. GEOGRAPHIC DETAIL**

Please choose one of the following geographic options for MA residents:

<input type="checkbox"/> 3 Digit Zip Code (MA)	<input checked="" type="checkbox"/> 5 Digit Zip Code (MA)
<p><b>***Please provide justification for requesting 5 digit zip code. Refer to specifics in your methodology:</b></p> <p>Patient zip codes will be linked to census data to impute race and income. Economic and outcomes measures will be risk adjusted by imputed race and income levels and compared across delivery systems.</p> <p>Patient zip codes will also be used to compute a patient’s distance to different health care facilities in order to flexibly locate patients into geographical groupings.</p>	

**V. DATE DETAIL**

Please choose one option from the following options for dates:

<input type="checkbox"/> Year (YYYY) (Standard)	<input type="checkbox"/> Month (YYYYMM) ***	<input checked="" type="checkbox"/> Day (YYYYMMDD) *** [for selected data elements only]
<p><b>*** If requested, please provide justification for requesting Month or Day. Refer to specifics in your methodology:</b></p> <p>Many common outcomes measures include a lookback period that is specific to an anchor event (such as a discharge, visit or prescription). The full date, including the day, will allow for the greatest level of precision in outcomes measurement.</p>		

**VI. FEE INFORMATION**

Please consult the fee schedules for MA APCD data, available at [http://chiamass.gov/regulations/#957\\_5](http://chiamass.gov/regulations/#957_5), and select from the following options:

**APCD Applicants Only**

- X Academic Researcher
- Others (Single Use)
- Others (Multiple Use)

Are you requesting a fee waiver?

- Yes
- X No

If yes, please refer to the [Application Fee Remittance Form](#) and submit a letter stating the basis for your request (if required). Please refer to the [fee schedule](#) for qualifications for receiving a fee waiver. If you are requesting a waiver based on the financial hardship provision, please provide documentation of your financial situation. Please note that non-profit status alone isn't sufficient to qualify for a fee waiver.

### VII. 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.

The goals of the research project are comprehensive by design, across both geographies and payors. The approach to addressing the relationship between delivery system structure and outcomes is innovative in that it spans payors and, in addition to Medicare and commercial payors, specifically includes the Medicaid population. The outcomes measured will focus on those which are particularly relevant for this population, including maternity and behavioral health. Little is currently known about how use of PCOR-based evidence varies between Medicaid, Medicare, and the commercial populations. [Please note that the researchers will obtain national Medicare data directly from CMS.]

### VIII. PURPOSE AND INTENDED USE

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

The health care system has undergone rapid transformation, with organizations forming new relationships as they react to new incentives for accountability and cost reduction. At the same time, there has been an explosion in new information about the effectiveness of care (known broadly as patient-centered outcomes). However, considerable research suggests wide lags between the development of evidence and its diffusion into practice.

Given the differences in structures across delivery systems and the consequential ability of systems to identify information as it is generated and create the managerial programs and incentives needed to diffuse that information into practice, it is likely that delivery system traits are correlated with use of PCOR-based evidence and related clinical and economic outcomes. For these reasons, understanding the system factors influencing the delivery of medical care is central to health system improvement.

All participants in this research project are committed to disseminating the results to market participants, both through academic research papers and leading healthcare organizations, both nationally and regionally. In addition to dissemination through AHRQ, the organizations that are part of this proposal will assist with the dissemination of results. In Massachusetts, MHQP has close links to the market participants - providers, payors and consumers - all of whom are represented on its Board of Directors and through provider, payor, and consumer councils.

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

Please refer to the *document 8-9 Research Plan\_U19 10-8-14 Short.pdf* for a description of the research methodology. Please note that the attached project description is part of a larger grant, and that between the time the proposal was submitted and the grant was funded, Oregon ended up replacing Maine in Project 2.

3. Has your project received approval from your organization’s Institutional Review Board (IRB)? Please note that CHIA will not review your application until IRB documentation has been received (if applicable).
- 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.

#### IX. APPLICANT QUALIFICATIONS

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

MHQP has been utilizing health claims data for quality analysis for over 15 years on various projects as part of its own ongoing work, and in oversight, partnership and collaboration with other agents and parties. MHQP has worked with claims data from the Division of Health Care Finance and Policy, Massachusetts Quality and Cost Council, MassHealth, Medicare and six of the leading Massachusetts health plans, for the purpose of quality measurement and attribution of results to providers at the physician practice and medical group level.

Current and ongoing initiatives focused on provider level analytics and reporting include:

- Aggregation of ambulatory care clinical quality data from the five largest health plans in Massachusetts and reporting of comparative performance results at the medical group level both privately to provider groups and health plans, and publicly on its website.
- Statewide Patient Experience Survey analysis and reporting of results of commercial health plan patients at the practice and medical group level.

Prior MHQP initiatives that have use the MA APCD include

- Developed a multi-payer, multi-stakeholder collaborative Practice Pattern Variation Analysis (PPVA) program to deepen clinicians’ and other stakeholders’ understanding of unexplained practice variation that may suggest overuse or underuse of medical services
- [Fulfilled the Children’s Health Insurance Program Reauthorization Act \(CHIPRA\) Quality Measure Demonstration grant’s goal to create and share state- and practice-level reports on the results of the CMS AHRQ initial core pediatric quality measure set for a multi-payer population](#)

Additionally, research partners, including the grant applicant organization, NBER, have extensive experience running multi-investigator projects involving geographically and intellectually diverse networks. The Principal Investigator, David Cutler, Ph.D., Otto Eckstein Professor of Applied Economics at Harvard University, is one of the leading scholars of health economics in the world.

2. Attach résumés or curricula 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.)

Resumes for Barbra Rabson, Jan Singer, Jim Courtemanche, Char Kasprzak and Jason Leistikow are included in this application

**X. DATA LINKAGE AND FURTHER DATA ABSTRACTION**

*Note: Data linkage involves combining CHIA data with other databases to create one extensive database for analysis. Data linkage is typically used to link multiple events or characteristics that refer to a single person in CHIA data within one database.*

1. Do you intend to link or merge CHIA Data to other datasets?

Yes

No linkage or merger with any other database will occur

2. If yes, will the CHIA Data be linked or merged to other individual patient level data (e.g. disease registries, death data), individual provider level data (e.g., American Medical Association Physician Masterfile) , and facility level (e.g., American Hospital Association data) or with aggregate data (e.g., Census data)? [check all that apply]

Individual Patient Level Data

What is the purpose of the linkage:

While tracking individual patient outcomes is not part of this research project, patient data will be aggregated into delivery systems through association with a PCP.

What databases are involved, who owns the data and which specific data elements will be used for linkage:

n/a

Individual Provider Level Data

What is the purpose of the linkage:

The research project is organized around measuring delivery system structure, use of PCOR-based evidence and related clinical and economic outcomes. The three specific aims of the project are to characterize the diversity of delivery systems arrangements and understand how these arrangements vary over time, relate delivery system structure to the use of PCOR-based evidence, and relate delivery system structure to clinical and economic outcomes. External provider databases, organized around delivery systems, will be linked to MA APCD data, and economic and clinical outcomes will be generated by providers and delivery systems. The ultimate goal is to determine the delivery system traits that predict greater delivery PCOR-based evidence and better clinical and economic outcomes.

What databases are involved, who owns the data and which specific data elements will be used for linkage:

To organize physicians, data from the American Medical Association Group Practice File and from SK&A, both of which organize physicians into organizational hierarchies. Both datasets can be linked to claims data at the physician level using the National Provider Identifier (NPI). Additionally, the MHQP Massachusetts Provider Database (MPD), which also includes the provider NPI, is the most comprehensive listing of providers and their affiliations in Massachusetts, and will likely be used to enhance the above-mentioned datasets.

Individual Facility Level Data

What is the purpose of the linkage:

The purpose of the research project is to examine which delivery system traits predict greater delivery of PCOR-based evidence and better clinical outcomes. To that end, facilities will be organized into systems, and this hierarchy will be linked to the APCD to calculate the clinical and economic outcomes.

What databases are involved, who owns the data and which specific data elements will be used for linkage:

Facility information will be taken from the AHA Annual survey of US Hospitals,, the AHA ACO Survey and the AHA Annual IT Survey. Hospital merger data will be taken from Irving Leven Associates, a firm that tracks such activity. Additional hospital information will be taken from publically available sources. The AHA System Identification Number, enhanced through other data sources, will be used to organize the data and will link to the APCD through the Medicare Number or, potentially, the facility NPI.

X Aggregate Data

What is the purpose of the linkage:

The purpose of the linkage is to add imputed information on race and income by patient zip code in order to calculate economic and clinical outcomes by delivery system.

What databases are involved, who owns the data and which specific data elements will be used for linkage:

Census data will be used for the race and income imputation. Zip codes will be used for the linkage.

3. If yes, for each proposed linkage above, please describe your method or selected algorithm (e.g., deterministic or probabilistic) for linking each dataset. If you intend to develop a unique algorithm, please describe how it will link each dataset .

The linkages to provider and facility data will be deterministic, using the NPI in the APCD file to link to an external file of providers to create organizational hierarchies. While only aggregate patient data will be tracked, patients will be aggregated through their PCP, and the PCP will be linked to an external provider database to create organizational hierarchies. Patient zip code will be used to impute race and income through a link to census data.

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

The research aggregates results by provider and delivery systems to calculate both economic and outcomes measures. This research does NOT track any results at the individual patient level.

5. If yes, and the data mentioned above is not in the public domain, please attach a letter of agreement or other appropriate documentation on restrictions of use from the data owner corroborating that they agree to have you initiate linkage of their data with CHIA data and include the data owner’s website.

#### **XI. 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.

There will be several outputs of this research project. Constructing new data is one such output. The project researchers are committed to putting together the data from the different sources and making it available as widely as possible to other researchers. In cases where the data can be made public - for example, information from cost or facility reports – the researchers will put the public use data and the programs creating the data on a website devoted to the project. In other cases the underlying data will be only available to researchers with appropriate data use agreements. The research team will also write research papers on each of the topics in the proposal, including data preparation and availability as well as results. The researchers in this proposal have an excellent track record of publishing in leading journals. Finally, the researchers are committed to disseminating the results to market

participants. In addition to the combined dissemination through AHRQ, the organizations that are part of the proposal will help with the dissemination of the results. In Massachusetts, MHQP has very close links with all market participants. The researchers in the project also interact regularly with leading organizations in their area and present at professional association meetings.

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.

As noted above, the results of the analysis will be available through a variety of channels, including a website dedicated to the project, published research papers, and dissemination to market participants.

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. Will you be reselling the data?

- Yes
- No

If yes, in what format will you be reselling the data (e.g., as a standalone product, incorporated with a software product, with a subscription, etc.)?

n/a

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

n/a

**XII. 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:	EagleDream Health
Contact Person:	Gregory H. Partridge
Title:	Chief Data Officer



Address:	300 Trolley Boulevard, Rochester NY, 14606
Telephone Number:	(585)919-6012
E-mail Address:	<a href="mailto:Greg.partridge@eagledreamhealth.com">Greg.partridge@eagledreamhealth.com</a>
Organization Website:	<a href="http://www.eagledreamhealth.com/">http://www.eagledreamhealth.com/</a>

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

- Yes
- No

If yes, please provide information about the agent/contractor’s data management practices, policies and procedures in your Data Management Plan.

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

The data vendor Eagle Dreams will securely receive and house the MA APCD data for MHQP. MHQP will have access to the data warehouse through a secure portal. The vendor may assist with developing cost or outcomes measure calculation through the use of a standard tool. The vendor may also add an analytic grouper, such as the Episode Treatment Group (ETG) to assist with data analytics.

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

For over 15 years EDH leaders have conducted advanced analytics aimed at improving health system, and community, performance. EDH has served health delivery systems, including ACOs, large and medium-sized commercial insurance plans, and large regional collaboratives. The firm is led by physicians who understand clinical data and its application. We have conducted all of our work with the goal of promoting trust, transparency, and non-judgmental use of the data. The firm is differentiated by its ability to incorporate both claims and clinical data into a common analytics environment. EDH has proven skills in providing clients with comparative data permitting benchmarking for both utilization and cost per case. EDH has extensive experience designing and implementing standardized pricing and resource use measures for commercial, as well as Medicaid and Medicare, products.

Our work in the Commonwealth of Massachusetts is significant and credible. For Massachusetts Health Quality Partners (MHQP), we performed analysis using a multi-payer claims data warehouse, which included 3.3 million annual lives, covering 36 months of service dates. Professional, pharmacy, outpatient, and inpatient claims, as well as member files, were submitted to EDH from the Massachusetts All Payer Data Warehouse containing multiple regional insurance companies for Commercial, and 65+ products. MHQP and EDH used this analytical database to build a community wide “Practice Pattern Variation Analysis” (PPVA) initiative that identified hundreds of millions of dollars of potential savings.

For Blue Cross Blue Shield of Massachusetts, EDH provided the data analytics for their highly successful Alternative Quality Contract (AQC) from 2009 to 2013 and continues to provide assistance to AQC member organizations. The EDH approach in clinical variation formed a core component of the AQC, arguably the most successful and studied health plan/medical group partnership in the U.S.

In the State of New York, the Finger Lakes Health Services Agency (FLHSA) is a notable example of EDH’s health care analytics experience. Beginning in 2010, FLHSA & EDH began a relationship that allowed EDH to build and grow a platform of integrated databases and analytical tools in support of FLHSA’s strategies. The Multi-Payers Claims Database (MPCD) covers 700,000 member lives. An Encounter Database spanning 18 encounter file types enables logical, repeatable measurement of care quality, cost and utilization. A grouped, episodic health care database enabling comparative analytics for diseases, patients and physicians. For FLHSA’s medical home model project,

“Transforming Primary Care Delivery: a Community Partnership”, EDH developed resource use measures, including annual utilization and utilization by service categories, and created reports for project administrators and funding agencies. FLHSA remains a customer of EDH for data warehousing, analytics, and software for selected CMMI practice groups to use in their transformation to high performing Advanced Practices.

MHQP, BCBS Massachusetts, and FLHSA are leading recent examples of EDH’s experience and qualifications for this type of work.

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


MHQP will request results of all appropriate independent security and control audits. MHQP and the vendor will co-develop an implementation data to ensure secure acquisition and proper loading of the data into the data warehouse. After the implementation phase is complete, MHQP will establish a weekly meeting to track issues related to the data warehouse.

**XIII. ASSURANCES**

Applicants requesting and receiving data from CHIA pursuant to 957 CMR 5.00 (“Data Recipients”) will be provided with data following the execution of a data use agreement that requires the Data Recipient to adhere to processes and procedures aimed at preventing unauthorized access, disclosure or use of data, as detailed in the DUA and the applicant’s CHIA-approved Data Management Plan.

Data Recipients are further subject to the requirements and restrictions contained in applicable state and federal laws protecting privacy and data security, and will be required to adopt and implement policies and procedures designed to protect CHIA data in a manner consistent with the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

**By my signature below, I attest to: (1) the accuracy of the information provided herein; (2) my organization’s ability to meet CHIA’s minimum data security requirements; and (3) my authority to bind the organization seeking CHIA data for the purposes described herein.**

Signature:	
Printed Name:	James W. Courtemanche
Title	Director, Data Analytic Applications and Reporting
Original Data Request Submission Date:	February 18, 2016
Dates Data Request Revised:	