

**Commonwealth of Massachusetts  
Center for Health Information & Analysis (CHIA)  
Non-Government 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 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:	Ashish K. Jha, MD, MPH
Title:	K.T. Li Professor of International Health
Organization:	Harvard T.H. Chan School of Public Health
Project Title:	The relationship between opioid prescribing and opioid overdose
Mailing Address:	677 Huntington Ave, Kresge 4 <sup>th</sup> floor, Boston, MA 02115
Telephone Number:	617-432-5551
Email Address:	ajha@hsph.harvard.edu
Names of Co-Investigators:	Laura Burke, Gideon Gil, Jie Zheng, Xiner Zhou, Robert Wild
Email Addresses of Co-Investigators:	lburke@hsph.harvard.edu; gideon.gil@globe.com; jzheng@hsph.harvard.edu xzhou@hsph.harvard.edu; rwild@hsph.harvard.edu
Original Data Request Submission Date:	February 24, 2015
Dates Data Request Revised:	June 15, 2015
Project Objectives (240 character limit):.	To examine the link between prescription opioid painkillers and abuse/overdose of both prescription and illicit opioids, such as heroin
Project Research Questions (if applicable)	<p>1. What percentage of Massachusetts patients prescribed an opioid painkiller are subsequently treated for opioid abuse, dependence, and overdose?</p> <p>2. What percentage of Massachusetts patients treated for opioid abuse, dependence and overdose were previously prescribed an opioid painkiller?</p> <p>3. Are certain doctors more likely than others to prescribe</p>

	<p>opioids to a patient who subsequently receives treatment for opioid abuse, dependence or overdose?</p> <p>4. Which patient-level factors are associated with opioid abuse, dependence and overdose?</p> <p>5. To what extent are legitimate prescriptions of methadone and buprenorphine, drugs designed to combat opioid dependence, associated with subsequent opioid abuse, dependence, or overdose?</p> <p>6. Do regions of Massachusetts with the higher levels of opioid prescribing have higher rates of treatment for opioid poisonings?</p>
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**II. PROJECT SUMMARY**

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

The purpose of this project is to provide health care professionals and policymakers with empirical data examining the relationship between prescription opioids and heroin abuse. We will use claims data from the Massachusetts All-Payer Claims database to determine the relationship between opioid prescriptions and subsequent opioid-related medical events (e.g. overdose or poisoning). We will also use the APCD data to characterize the types of patients and providers most involved in cases of opioid prescription with subsequent opioid poisoning event. Unlike some data sets which do not capture all payers and providers and may miss some prescriptions or heroin-related events of interest, the APCD’s comprehensive data will allow us to identify the maximum possible number of such cases.

**III. FILES REQUESTED**

Please indicate the databases from which you seek data, and the year(s) of data requested.

ALL PAYER CLAIMS DATABASE	Single or Multiple Use	Year(s) Of Data Requested Current Yrs. Available 2009 – 2013
<input checked="" type="checkbox"/> Medical Claims	<input checked="" type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input checked="" type="checkbox"/> 2011 <input checked="" type="checkbox"/> 2012 <input checked="" type="checkbox"/> 2013
<input checked="" type="checkbox"/> Pharmacy Claims	<input checked="" type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input checked="" type="checkbox"/> 2011 <input checked="" type="checkbox"/> 2012 <input checked="" type="checkbox"/> 2013
<input type="checkbox"/> Dental Claims	<input checked="" type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 <input type="checkbox"/> 2012 <input type="checkbox"/> 2013
<input checked="" type="checkbox"/> Member Eligibility	<input type="checkbox"/> Single Use <input checked="" type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 <input type="checkbox"/> 2012 <input type="checkbox"/> 2013
<input checked="" type="checkbox"/> Provider	<input checked="" type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input checked="" type="checkbox"/> 2011 <input checked="" type="checkbox"/> 2012 <input checked="" type="checkbox"/> 2013
<input type="checkbox"/> Product	<input type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	<input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 <input type="checkbox"/> 2012 <input type="checkbox"/> 2013

	<input type="checkbox"/> Single Use <input type="checkbox"/> Multiple Use	
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**IV. 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.

**V. FEE INFORMATION**

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

**APCD Applicants Only**

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

Are you requesting a fee waiver?

- Yes
- No

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

**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.

Drug-related health events, especially overdose, are extremely costly to the Medicaid program. In 2009, the Substance Abuse and Mental Health Services Administration estimated that

Medicaid spends about \$5 billion per year on substance use disorders. Beyond saving lives, reducing the number of opioid-related poisonings could thus save the Medicaid program a significant amount of money. Our proposal aims to deepen our understanding of one possible contributor to the substance abuse problem, prescription opioids. We hope that our findings allow policymakers to make informed decisions when crafting policies to address the problem of opioid-related heroin events. In order to study this phenomenon, our analytic team will need to track individual (de-identified) patients to link prescription drug records to any hospitalizations for drug-related events.

**VII. 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		
Pharmacy Claims		
Dental Claims		
Membership Eligibility		
Provider		
Product		

**IX. PURPOSE AND INTENDED USE**

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

We aim to explore the roots of the opioid abuse and dependence epidemic in Massachusetts by using the All Payer Claims Database to examine the link between the prescribing of opioid analgesic medications and subsequent opioid overdoses or poisonings. Studies from some other states and anecdotal evidence from Massachusetts suggest a large number of opioid abusers first became addicted to prescription opioids. But the extent to which prescription painkillers are associated with widespread opioid addiction, and the characteristics of patients who go on to use heroin, have not been well studied.

We plan to determine the percentage of patients receiving emergency care and inpatient treatment for opioid overdoses who previously received opioid prescriptions. Furthermore, we will look at factors such as patient age, place of residence, and diagnosis, as well as the frequency, duration, and type of prescribed opioids, to find characteristics correlated with subsequent heroin abuse.

We also will use the data to identify patterns of inappropriate opioid prescribing -- for example, multiple prescriptions obtained at the same time from more than one clinician -- and assess the contribution of overprescribing to the problem of heroin abuse. Published research from other places has found that a small percentage of clinicians is often responsible for the bulk of inappropriate opioid prescribing; one study showed that a small percentage of family physicians in Ontario wrote the final opioid prescription before death for 63 percent of patients whose

deaths involved opioids. We will explore whether a similar pattern exists in Massachusetts.

To this last aim, we will also look at regions with the high levels of opioid prescribing to determine if there is an associated higher rate of opioid overdose.

We will disseminate our findings widely by publishing them in the Boston Globe and on BostonGlobe.com. We also intend to publish these results in a peer-reviewed medical journal.

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)? 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.

#### X. APPLICANT QUALIFICATIONS

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

The Principal Investigator for this proposal is Dr. Ashish K. Jha, MD MPH, Professor at the Harvard School of Public Health in the Department of Health Policy and Management. He has extensive experience studying healthcare costs, quality, and efficiency at the state and federal level, and is a nationally and internationally recognized expert on these topics. He also has extensive experience working with policymakers at many levels of government, which will help to ensure that our findings are communicated effectively with state officials who need this information.

Co-Investigators for this project are Laura Burke, MD, MPH and Gideon Gil. Dr. Burke is an emergency medicine physician at Beth Israel Deaconess Medical Center and a research at the Harvard School of Public Health. She has experience in research involving large health care databases as well as clinical expertise in emergency medicine including the treatment of opioid poisoning. Gideon Gil has been the health and science editor for the Boston Globe since 2003. His staff has won numerous national awards, including the 2005 Pulitzer Prize for explanatory journalism. He previously was a medical reporter and editor at The Courier-Journal in Louisville, Ky. He studied biochemistry at Harvard College and journalism at Columbia University. He is currently a Knight Science Journalism Fellow at the Massachusetts Institute of Technology (MIT). The team will also include E. John Orav, PhD, a statistician at HSPH with whom this research team has worked on numerous prior projects. Dr. Orav will provide key input on analytic design, as well as on the appropriate interpretation of results.

The team has worked together on many prior projects analyzing large databases to answer questions about variation in healthcare quality, variation in healthcare costs, and the types of hospitals that provide high-quality care at low costs, and is currently working together on a project examining high-cost Medicare patients. The core research team will be assisted by data analysts and research assistants throughout the project’s duration.

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.)

**XI. 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) , 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:

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

Individual Provider Level Data

What is the purpose of the linkage:

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

Individual Facility Level Data

What is the purpose of the linkage:

This will allow us to overlay hospital-level data to the analyses to learn how hospital structural characteristics (e.g. urban, teaching status, quality metrics, patient experience metrics) may be associated with opioid prescribing practices. The hospital with which an opioid prescriber is affiliated would be the data element used for linkage.

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

1. American Hospital Association (AHA) Annual Survey and information technology supplement. This database contains information about hospital size, ownership, teaching status, location, clinical resources (intensive care, surgical capability), proportion of Medicaid patients; presence and use of health information technologies including electronic health records. These data are owned by the American Hospital Association. In order to link APCD data to AHA data, we will crosswalk APCD variable MC077, “National Billing Provider ID” to AHA variable “Provider Number” (the identification number used by an institution to receive payment from Medicare & Medicaid).
2. Hospital Compare- is part of the Centers for Medicare & Medicaid Services (CMS) Hospital Quality Initiative which uses a variety of tools to help stimulate and support improvements in the quality of care delivered by hospitals. The intent is to help improve hospitals’ quality of care by distributing objective, easy to understand data on hospital performance, and quality information from consumer perspectives. The data is publicly available and allows us to look at hospital-level quality metrics such as concordance with recommended processes of care for acute myocardial infarction, heart failure, and pneumonia. These data are owned by CMS. In order to link APCD data to Hospital Compare data, we will crosswalk APCD variable MC077, “National Billing Provider ID” to Hospital Compare variable “Provider Number” (the identification number used by an institution to receive payment from Medicare & Medicaid).
3. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey which contains hospital ratings on communication with clinical staff, pain control, hospital environment, receipt of discharge instructions. HCAHPS data are owned by CMS and the Agency for Healthcare Research and Quality (AHRQ). In order to link APCD data to HCAHPS data, we will crosswalk APCD variable MC077, “National Billing Provider ID” to HCHAPS variable “Provider Number” (the identification number used by an institution to receive payment from Medicare & Medicaid).
4. Impact File Local Medicare Wage Index, Disproportionate Share Index payments, teaching intensity, charge-to-cost ratios for individual hospitals. The Impact File data are owned by CMS. In order to link APCD data to Impact File data, we will crosswalk APCD variable MC077, “National Billing Provider ID” to Impact File variable “Provider Number” (the identification number used by an institution to receive payment from Medicare & Medicaid).

Aggregate Data-

What is the purpose of the linkage:

We would like to investigate the demographic characteristics of regions that have high rates of opioid prescribing and/or opioid poisonings/overdose. Zip code will be used as the unit of linkage between APCD and the databases listed below.

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

1. Area Health Resource File (AHRF) Population characteristics (age, racial makeup), poverty, income, physician and hospital supply. These data are owned by the federal Health Resources and Service Administration (HRSA). In order to link ZIP code information between APCD and AHRF, we will use: APCD variable MC 016 “Member ZIP code” for those analyses which define ZIP code based on patients’ residence, and APCD variable MC 035 “Service Provider ZIP Code” for those analyses which define ZIP code based on provider locations. We will use our internal database that contains all ZIP codes within each U.S. county to link these variables to the “FIPS County Code” variable in AHRF.

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 .

We will use a deterministic linkage method for all datasets.

1. American Hospital Association (AHA) Annual Survey- We will link to AHA annual survey data using APCD variable MC077 “National Billing Provider ID,” which links to “Provider Number” in AHA data.

2. Hospital Compare- We will link to this dataset using APCD variable MC077 “National Billing Provider ID,” which links to “Provider Number” in Hospital Compare data.

3. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey - We will link to this dataset using APCD variable MC077 “National Billing Provider ID,” which links to “Provider Number” in HCAHPS data  
 4. Impact File We will link to this dataset using APCD variable MC077 “National Billing Provider ID,” which links to “Provider Number” in Impact File data.

5. Area Resource File (ARF) - We will link to this data set using Zip code, specifically APCD variable MC 016 “Member ZIP code” for those analyses which define ZIP code based on patients’ residence, and APCD variable MC 035 “Service Provider ZIP Code” for those analyses which define ZIP code based on provider locations. We will use our internal database that contains all ZIP codes within each U.S. county to link these variables to the “FIPS County Code” variable in AHRF.

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

All patient data will only be linked in aggregate – for example, if a patient is admitted to a hospital, we will link that hospital ID with information about that hospital’s resources. There will be no additional patient-level data linked with the dataset. Furthermore, because patient ID is fully encrypted in APCD data, there is no way for the dataset to be linked to any other source that may pose a risk of identifying individual patients.



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.

**XII. 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.

We expect specific deliverables at least one manuscripts in high-impact policy journals as well as dissemination of the findings for a report by the Boston Globe. Our proposed project has significant implications for the individuals and families impacted by the opioid epidemic, health care providers who may benefit from the knowledge of the impact of prescribing practices on this public health problem and policymakers who determine regulations governing health care. We believe that given the salience of the topic and the current governor’s emphasis of this issue, it will be easy for us to reach out to key policymakers and clinical leaders to share our findings.

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.

The results of our analysis will be available publicly only in the form of publications in high-impact policy journals, in the Boston Globe or at health policy conferences.

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.)?

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

**XIII. 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:	
Contact Person:	
Title:	
Address:	
Telephone Number:	
E-mail Address:	
Organization Website:	

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.

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

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

**XIV. 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:	Ashish K. Jha
Title	K.T. Li Professor of International Health
Original Data Request Submission Date:	February 24, 2015
Dates Data Request Revised:	