

**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:	Timothy Layton (primary applicant)
Title:	PhD Candidate
Organization:	Boston University
Applicant Name:	Michael Geruso
Title:	Assistant Professor of Economics
Organization:	University of Texas-Austin
Project Title:	Competition among Private Medicare Managed Care Plans
Date of Application:	
Project Objectives (240 character limit)	We seek to investigate the benefits of public vs. private health insurance by studying Medicare Advantage, the largest private insurance market in the US, to better understand how regulated private insurance markets function.
Project Research Questions (if applicable)	We investigate consumer benefits and insurer behavior in regulated competitive markets. Specifically, we study the Medicare Advantage (MA) market. The specific aims of our research project are as follows: Aim 1: Understand how private insurers respond to capitated payment models. Aim 2: Understand how individuals (1) choose whether to enroll in MA or Traditional Medicare (TM) and (2) if they choose to enroll in MA, how they choose among MA plans. Aim 3: Understand differences in price, quality, and quantity of services in TM and MA and within MA.

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).

<input checked="" type="checkbox"/> Researcher <input type="checkbox"/> Payer <input type="checkbox"/> Provider / Provider Organization	<input checked="" type="checkbox"/> 957 CMR 5.04 (De-identified Data) <input type="checkbox"/> 957 CMR 5.05 (Direct Patient Identifiers) <input type="checkbox"/> 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.

Access to health care is important to an individual's health. Health insurance makes health care more accessible to most Americans by reducing the cost-burden of receiving treatment for chronic and acute health conditions. When health insurance markets do not function well, access to vital health care services can be limited. We seek to understand how the Medicare Advantage (MA) health insurance market functions so that policies can be designed to enhance the efficiency of the MA market and other regulated private health insurance markets (such as health insurance exchanges) to ensure that individuals can access the health care services they need. We seek to do so through the following three research aims:

Aim 1: Understand how private insurers respond to capitated payment models.

In most regulated private health insurance markets (including MA), plan premiums are fully or partially "community-rated." This means that every individual pays the same price to enroll, no matter their expected cost or health state. This results in healthy individuals being more profitable for the plan than sick individuals, creating incentives for the plans to engage in inefficient selection of low cost enrollees (also known as "cream skimming"). Plans may respond to these incentives by strategically structuring their provider networks to attract low cost patients and repel high cost patients.

In order to weaken incentives for plans to engage in inefficient selection, capitated payments are often risk adjusted. Effectively, plan revenues are redistributed from plans enrolling healthier populations to plans enrolling sicker populations. The health of a plan's enrollees is determined using complex risk adjustment models that rely on diagnoses in claims data to produce individual risk scores. This creates incentives to "upcode" enrollees by ensuring that they receive diagnoses that result in higher risk scores, and thus higher payments. We will study how risk adjusted payments affect plans incentives to upcode their enrollees' diagnoses and to select healthy populations. CHIA data will allow us to construct measures of cost risk and coding intensity for MA enrollees. We will also use CHIA data to construct measures of plan network quality such as the proportion of diabetes-specialists included in each plan's provider network in order to determine whether plan's strategically structure networks to avoid high cost patients.

Aim 2: Understand how individuals (1) choose whether to enroll in MA or TM and (2) if they choose to enroll in MA, how they choose among MA plans.

In order to design well-functioning regulated health insurance markets, it is important to understand how individuals value different characteristics of health insurance plans. The incentive for plans to select healthy enrollees may result in inefficient rationing of services valued by sick patients, such as diabetes or mental health care (Frank et al. 2000). Because of this it may seem reasonable for regulators to create policies to ensure these services are offered. However, in order to determine which policies are optimal, benefits must be weighed against costs. In order to estimate the benefits of policies requiring that diabetes services be offered in all plans, for example, regulators need to know how much individuals value these benefits. In this project, we will use individuals' choice of MA plans and information about plan characteristics such as the size and quality of a plan's network to determine how individuals value different plan characteristics.

We will also study how individuals' valuation of different services varies by health status. This is important because if sick individuals value a service more than healthy individuals, plans will have incentives to inefficiently ration that service. We will use CHIA data to identify the chosen plan, choice set, and health status of each enrollee.

Aim 3: Understand differences in price, quality, and quantity of services in TM and MA and within MA

In the past, researchers have had extremely limited access to claims data from MA plans, which has inhibited research into how individuals' experience in MA differs from the experience in TM. It has also inhibited research into methods MA plans use to cut costs. Understanding these methods may aid policymakers in their efforts to create cost-saving policies in TM and in other public health insurance programs such as Medicaid. We will study how the prices paid by TM and MA plans differ, how the quality of care received in TM and MA differs, and how the quantity of services differs between TM and MA. This will allow us to make conclusions regarding the quality of care received in MA and the ability of private health insurance plans to cut costs relative to the ability of a public program such as TM to do so. We will use CHIA data to construct measures of price, quality and quantity for MA enrollees.

References:

Frank, R. G., Glazer, J., and McGuire, T. G. (2000). "Measuring adverse selection in managed health care." *Journal of Health Economics*, 19(6):829-854.

III. FILES REQUESTED

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

DATABASE	Level 1 ¹ or 2 ²	Single or Multiple Use	Year(s) Of Data Requested			
			Current Yrs. Available 2009 - 2012			
X Medical Claims	X Level 1 X Level 2	Single	2009-2012			
<input type="checkbox"/> Pharmacy Claims	<input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2	Select...	<input type="checkbox"/> 2009	<input type="checkbox"/> 2010	<input type="checkbox"/> 2011	<input type="checkbox"/> 2012
<input type="checkbox"/> Dental Claims X Member Eligibility X Provider X Product	<input type="checkbox"/> Level 2 X Level 2 X Level 2 X Level 2	Select... Single Single Single	<input type="checkbox"/> 2009	<input type="checkbox"/> 2010	<input type="checkbox"/> 2011	<input type="checkbox"/> 2012 2009-2012 2009-2012 2009-2012
CASEMIX	Level 1 – 6			Fiscal Years Requested		

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.

<p>Inpatient Discharge</p>	<p><input type="checkbox"/> Level 1 – No Identifiable Data Elements</p> <p><input type="checkbox"/> Level 2 – Unique Physician Number (UPN)</p> <p><input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN)</p> <p><input type="checkbox"/> Level 4 – UHIN and UPN</p> <p><input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures</p> <p><input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number</p>	<p><u>1998-2012 Available</u> (limited data available 1989-1997)</p>
<p>Outpatient Observation</p>	<p><input type="checkbox"/> Level 1 – No Identifiable Data Elements</p> <p><input type="checkbox"/> Level 2 – Unique Physician Number (UPN)</p> <p><input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN)</p> <p><input type="checkbox"/> Level 4 – UHIN and UPN</p> <p><input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures</p> <p><input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number</p>	<p><u>2002-2012 Available</u></p>
<p>Emergency Department</p>	<p><input type="checkbox"/> Level 1 – No Identifiable Data Elements</p> <p><input type="checkbox"/> Level 2 – Unique Physician Number (UPN)</p> <p><input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN)</p> <p><input type="checkbox"/> Level 4 – UHIN and UPN; Stated Reason for Visit</p> <p><input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures</p> <p><input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number</p>	<p><u>2000-2012 Available</u></p>

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

X 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 IDENTIFIERS³

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.

Our research seeks to determine how competition in health insurance markets affect costs and consumer benefits. Specifically, we wish to investigate how insurers respond to capitated and risk adjusted payment models. Profit maximizing insurers may raise costs and reduce efficiency by “upcoding” enrollee risk scores. We also wish to investigate whether managed care organizations in Medicare achieve cost savings and quality improvements using traditional care management tools. While data on individuals enrolled in fee-for-service Medicare is relatively easily obtainable from CMS, data on individuals enrolled in Medicare managed care organizations is hard to come by. Because the APCD has this information, it will allow us to investigate questions of costs and quality in Medicare managed care organizations for the first time. This research will be vital for policymakers as they make important decisions regarding the future of Medicare and the rest of the health care system.

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		
Pharmacy Claims		
Dental Claims		
Membership Eligibility		
Provider		
Product		

XI. PURPOSE AND INTENDED USE

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

This project investigates the costs and benefits of public vs. private provision of health insurance. Specifically, we investigate insurer behavior in the largest private health insurance market in the US, the Medicare Advantage market. Medicare Advantage costs the government over \$120 billion each year. We seek to identify ways to improve the market to lower the cost while increasing the quality of

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.

coverage in MA. In health insurance markets, competition can result in perverse incentives such as cream-skimming and upcoding that result in welfare losses. In this project, we seek to quantify the extent of, and suggest ways to limit, those welfare losses. Our results will inform the choices policy makers regarding reform of the Medicare Advantage market and also regarding choices about policies in other private health insurance markets such as Medicare Part D, the state Health Insurance Exchanges (such as the MA Connector), and Medicaid Managed Care (such as the MassHealth).

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 _____.

No, this project is not subject to IRB review.

The Office of Research Support (ORS) at the University of Texas has reviewed our protocol and determined it did not meet the criteria for human subjects research as defined in the Common Rule (45 CFR 46) or FDA Regulations (21 CFR 50 & 56). This is because our research includes only the secondary use of de-identified data set. A letter from the Office of Research Support affirming this finding is attached.

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.

Timothy Layton is a PhD candidate in economics at Boston University and a BA in economics and political science from Brigham Young University. He will complete his PhD in May 2014 and will begin a postdoctoral fellowship in the Department of Health Care Policy at Harvard Medical School. He is experienced working with sensitive health data (Marketscan, Medicare claims data). His research focuses on risk selection and risk adjustment in competitive health insurance markets, specifically Medicare Advantage and the state Health Insurance Exchanges. He is currently collaborating with researchers at University of Texas-Austin, Harvard Medical School, Harvard School of Public Health, Boston University, and Cornell Weill Medical College.

Michael Geruso is an Assistant Professor of Economics at the University of Texas-Austin. He received his PhD in economics from Princeton University in 2012. From 2012 to 2013, he was on leave from University of Texas, in order to visit Harvard University as a Robert Wood Johnson Scholar in Health Policy Research. He has experience working with sensitive health data (Marketscan, private insurer data).

Prof. Geruso's publications and working papers are focused on health, healthcare, and health insurance and include:

"Racial Disparities in Life Expectancy: How Much Can the Standard SES Variables Explain?" *Demography*, Springer, vol. 49(2), pages 553-574. 2012.

"Insurance Fraud in the Workplace? Evidence from a Dependent Verification Program," NBER working paper #18947. With Harvey Rosen. (Revise and Resubmit at *Journal of Risk and Insurance*)

"Risk Selection, Risk Adjustment, and Manipulable Medical Coding: Evidence from Medicare,"

working paper, Harvard University. With Timothy Layton.
 “Does Medicare Advantage Benefit Patients or Insurance Providers? Evidence from the Benefits Improvement and Protection Act,” with Marika Cabral and Neale Mahoney
 “Does Medicare Advantage Benefit Patients or Insurance Providers? Evidence from the Benefits Improvement and Protection Act,” work in progress. With Marika Cabral and Neale Mahoney.
 "Selection in Employer Health Plans: Homogeneous Prices and Heterogeneous Preferences," working paper, Princeton University.
 “Sanitation and Health Externalities: Evidence from the Muslim Mortality Paradox,” working paper, Harvard University. With Dean Spears

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 X 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 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 CHIA data to the following aggregate datasets:

- 1) Providers: We will link providers to the AMA Physician Masterfile for provider information such as specialty and demographics. This is necessary in order for us to to develop measures of the characteristics and quality of plan provider networks. For instance, we wish to measure the proportion of Diabetes-specialists included in a plan’s network relative to the proportion of other types of specialists included.
- 2) Geography: We will link member geographic information (county) to data from CMS on payments to MA plans. This will allow us to determine how variation in payments affects enrollment. We will also link geographic information to the Area Resource File, the Current Population Survey, and the American Communities Survey for information on demographics, economic conditions, and other regional characteristics. This will allow us to control for characteristics of an individual’s county that may be correlated with outcomes of interest. We will also link member geographic information to MA plan availability data from CMS. This will allow us to establish the set of plans from which an individual chose her particular plan. This is necessary in order to estimate how consumers value different plan characteristics.
- 3) Hospitals: We will link hospitals to the Medicare Hospital Compare dataset to get information on quality and outcomes for each hospital. This will allow us to build more complete measures of the characteristics of plan provider networks.
- 4) Plans: We will link insurance plan data from CHIA describing the plans chosen by each member to data from CMS describing plan generosity, quality, and premiums. This is necessary in order to estimate how consumers value different plan characteristics.

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

Linking to these datasets only provide additional information about providers and plans and the environment in which a member lives. The datasets do not increase the likelihood that individuals can be identified. Therefore, the linking of the datasets presents no additional risk of jeopardizing patient confidentiality. The confidentiality of individuals in the data is of great importance to us, and we will do all in our power to ensure that individuals not be identified.

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.

We plan to submit our results for publication in peer-reviewed, academic journals. Our results will consist of averages for large groups of members, so no identification of individual members will be possible. To ensure confidentiality, if there are small cells in our results (<10 members), we will censor those cells.

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.

Our research will result in one or more publications. We will also make our published findings available for free online (at our university-hosted websites) and via email.

- | | | | | |
|---|-----|--------------------------|----|---|
| 3. Will you use the data for consulting purposes? | YES | <input type="checkbox"/> | NO | X |
| 4. Will you be selling standard report products using the data? | YES | <input type="checkbox"/> | NO | X |
| 5. Will you be selling a software product using the data? | YES | <input type="checkbox"/> | NO | X |

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:	n.a.
---------------	------

Contact Person:	
Title:	
Address:	
Telephone 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.

n.a.

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

n.a.

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

n.a.
