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:	Sean Nicholson
Title:	Professor of Policy Analysis and Management
Organization:	Cornell University
Project Title:	Competition, Bargaining, and Physician Networks in Health Care
Mailing Address:	2307 Martha Van Rensselaer Hall Cornell University Ithaca, NY 14853
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Names of Co-Investigators:	Nicholas Tilipman
Email Addresses of Co-Investigators:	Nt252@cornell.edu
Original Data Request Submission Date:	
Dates Data Request Revised:	
Project Objectives (240 character limit)	This project aims to (1) assess the effect of health insurer competition and market structure on the breadth and quality of physician networks and to (2) determine the consumer welfare effects of narrowing networks, incorporating potential changes to physician negotiated prices.
Project Research Questions (if applicable)	1. How do consumers value the size of and composition (i.e. types of physicians and specialists) of physician networks on their insurance plans? 2. What determines whether an insurer offers narrow network insurance plans? Specifically, how much of an insurer's network can be determined by negotiated prices of physicians on the network, number of services physicians on the network provide, physician bargaining power, or insurer fixed costs? 3. How do changes in insurer competition or market structure affect changes in the breadth and quality of physician networks offered to consumers? 4. How does increased differentiation by network affect bargaining and price negotiations between insurers and physicians? How does this affect physician service offerings?

	5 .What are the welfare consequences for consumers of increased narrow network offerings? How does market structure affect consumer welfare, taking into account insurer network responses and physician price/service responses?

II. PROJECT SUMMARY

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

This project seeks to investigate the causes and consequences of "narrow-network" or "limited-network" insurance plans in the health care market. First, the paper will look at the determinants of insurer-provider networks and asks what the role of competition is in determining insurer incentives to offer limited network insurance plans. Next, we study the welfare consequences of increased competition and product differentiation. Specifically, we ask whether potential cost savings from increased narrow networks can offset the loss in consumer choice of physician.

We propose to answer these questions using a sophisticated structural model of competition, bargaining, price-setting, and network determination between insurers and doctors (we provide details of the model and estimation strategy in the attached projecet methods). This will be done in a series of steps. First, we estimate consumer valuation of narrow network insurance plans based on characteristics of those plans, including their network compsotion (number of physicians, specialists, etc.). We will use data on physician and insurer characteristics that can be determined from the APCD claims (such as number of services offered, physician location, and network breadth). Next, we determine how physician reimbursement prices are set and services offered are determined. We will use data on payments and allowed amounts for various procedures from the claims. Importantly, we study physician and physician practice networks in addition to hospital networks, as physicians face different payment incentives than hospitals and can alter their mix of services more readily in response to a price or network change. Finally, given expected negotiated prices and physican services offered, we estimate how insurers the number of products to offer and the "quality" of those products, as measured by the size and composition of their physician networks. We use inferred data on networks from the claims at this stage. The APCD is particularly well-suited in this application, as it is rich with insurance plans that are more differentiated on network than those in neighboring states, with many products being offered on the Massachusetts Connector being identified as narrow or limited network. With these pieces, we can estimate the welfare consequences of increased competition in the health care industry and the welfare effects of narrow-network plans.

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
☐Medical Claims	☒Single Use ☐Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013

☐Pharmacy Claims	☐Single Use ☐Multiple Use	☐2009 ☐2010 ☐2011 ☐2012 ☐2013
☐Dental Claims	☐Single Use ☐Multiple Use	☐2009 ☐2010 ☐2011 ☐2012 ☐2013
☒Member Eligibility	☒Single Use ☐Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013
☒Provider	☒Single Use ☐Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013
☒Product	☒Single Use ☐Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013

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.

Note: In addition to the Data Specification Worksheet, we have also provided significant details of estimation strategy, and how we will use the APCD data in each stage in the attached "Research Methodology" document. This document further explains why we need many of the elements we are requesting from the APCD.

Please note that we are requesting PR002: Product Name. We are requesting a numeric, aggregated version of this variable We only require this variable in order to be able to distinguish different products accurately, but we do not need to know the actual product names nor are we interested in merging these to external datasets. Please see Research Methodology and the Data Specification worksheet for more details.

V. FEE INFORMATION

Please consult the fee schedules for APCD data) and Case Mix data, available at 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.

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.

Competition in the health care industry has drawn considerable attention from academics and policymakers in recent years. This project aims to investigate how competition and market structure affect insurer incentives to offer narrow network plans, and the consumer welfare implications of those limited networks. This holds direct policy relevance towards the Affordable Care Act (ACA) and, in

particular, the national Health Insurance Exchanges, which created a centralized, regulated marketplace, from which individuals could purchase an insurance plan from a menu of plans. The goal of these exchanges is to reduce prices and increase quality of health insurance by fostering competition among plans.

While there is much evidence on how competition affects insurance premiums, there is less direct evidence on the link between competition and the quality dimension in health insurance. In particular, as insurers increase the extent to which they differentiate based on the networks offered to consumers, it is very important to assess not only how such competition as promoted by the Exchanges will affect the composition of physician networks available to consumers, but how the increased potential to narrow networks will affect both costs and welfare.

In addition, most of the literature so far has focused primarily on competition, bargaining, and price setting in a hospital context. Yet, outpatient and physician expenditures amount to a significant portion of national health expenditures—nearly as much as hospital expenditures. Moreover, physicians and physician groups have fundamentally different incentives in price-setting and network formation than do hospitals. While hospitals are reimbursed on a diagnosis basis, physicians are by-and-large reimbursed based on procedure. This implies that in response to a competitive shock or change in market structure, physicians might respond not only by attempting to negotiate higher prices, but by altering their sevice amount or service mix (perhaps by performing more or more resource-intensive procedures). This has direct implications for how insurers design their plan networks, as they might select physicians based not only on negotiated price, but on their service mix.

It is therefore valuable to academics and policymakers in order to understand the competitive implications of the Affordable Care Act in the context of insurer-physician network determination and price-setting. This paper seeks to address those questions.

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 project is supervised by Sean Nicholson, Professor in the Department of Health Policy & Management at Cornell University and a Research Associate at the National Bureau of Economic Research. Prior to joining the PAM Department in 2004, Sean was a faculty member in the Health Care Systems Department at The Wharton School of the University of Pennsylvania. Sean worked for four years as a management consultant with APM and taught high school for two years before enrolling in graduate school. He received a B.A. from Dartmouth College in 1986 and a Ph.D. in economics from the University of Wisconsin-Madison in 1997. Sean has worked with numerous sensitive, patient-level data

sets. He was the research director of the Upstate Health Research Network from 2010 through 2013, during which time he oversaw a team of a dozen faculty members who conducted research on the FAIR Health claims data set. The FAIR Health data set, which contains over 15 billion medical claims, is the largest repository of private-insured claims data in the United States. Sean also received an R01 grant from the Centers for Disease Control and Prevention to analyze the medical claims data for DirectTV employees in order to determine the financial impact of a wellness and health improvement program.

Nicholas Tilipman is a doctoral candidate in Economics at Cornell Univeristy. He spent the 2012-2013 academic year on leave, working as a Staff Economist at the White House Council of Economic Advisers in Washington, DC, where he focused primarily on Health and Labor economics. Prior to his time at Cornell, he spent three years as a full-time research assistant in Health Economics at Columbia University. In all of these avenues, he has worked with several sensitive datasets, many of which were claims-based datasets. He is eligible for top-secret clearance from the federal government through February 2018, and has special-sworn-status security clearance from the Census Bureau. He has written several articles and papers focused on health care policy, and has been published in the Annual Review of Public Health and the Journal of Health Policy, Politics, and Law.

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:

The purpose of this linkage is to acquire additional data on physician characteristics that come from public CMS sources that can be linked by NPI. Moreover, we intend to link the data to additional physician characteristics including patient volume and firm size available from data sources such as the SK&A (the latter is not confirmed yet, but it is a likely possibility).

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

Primarily there will be two sources to which we will link provider data:

1) Public CMS NPI registry.
2) SK&A Database, owned by SK&A

The specific data elements that will be used for linkages are:
PV039 – National Provider ID
PV040 – National Provider ID 2
PV021 – Provider Zip Code
PV008 – Provider Last Name
PV009 – Provider First Name
PV010 – Provider Mid Initial
PV011 – Suffix
MC1 – Submission Month
MC2 – Submission Year

☐ Individual Facility 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:

☒ Aggregate Data

What is the purpose of the linkage:

The purpose of this linkage is to obtain basic demographics in the counties/markets where the members and providers live/operate. These include age, income, number of provider visits, percentage that have certain illnesses, number of large firms offering health insurance, number of providers, etc. Each of

these is available from public data sources and will be linked only through year, month, and county.

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

Here, we will primarily link to census data on market demographics, i.e. age, income, etc. Datasets will include the Current Population Survey, Medical Expenditures Panel Survey, and the National Ambulatory Medical Care Survey.

The specific data elements used for linkages will be:
MC1 – Submission Month
MC2 – Submission Year
ME004—Year
ME005—Month
MC3 – Member County

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 .

Each linkage will be linked deterministically—there is no special algorithm involved.

1) Linking the provider data to CMS and SK&A – Here we plan on using primarily the NPI to link to both external datasets, which also contain NPI variables. However, for claims that do not have NPIs, or observations in SK&A for which there are no NPIs, we plan on merging using Provider Last Name, First Name, State, and Zip Code. These last variable serve as a check to ensure that NPI merges are correct as well.
2) Linking year, month, and county data to public sources – Here we again link public sources directly to the time/county variables in APCD.

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

There is no risk of identification of individual patients in the linked datasets. The external datasets for which we propose to link providers will only identify provider characteristics and have no information on patients whatsoever. Similarly, the market demographics datasets we plan on linking are all publicly available and only provide aggregate market characteristics. There is no risk of identification of patients through any of these linkages.

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.

This project will be part of Nicholas Tilipman's dissertation for his PhD from the Department of Economics at Cornell University. Beyond that, we plan to submit the project for publication in peer reviewed journals. In the study, we will not be identifying the names payers, submitters, physicians, providers, or counties that we are studying. As patients are impossible to identify, we will not be disclosing any patient information.

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.

This project is for academic purposes only and as such will be available for free.

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:	Sean Nicholson and Nicholas Tilipman
Title	Professor / PhD Candidate
Original Data Request Submission Date:	
Dates Data Request Revised:	