

**Commonwealth of Massachusetts
Center for Health Information & Analysis (CHIA)
Non-Governmental Application for Case Mix 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 schedule 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:	
Title:	
Organization:	
Project Title:	
Mailing Address:	
Telephone Number:	
Email Address:	
Names of Co-Investigators:	
Email Addresses of Co-Investigators:	
Original Data Request Submission Date:	
Dates Data Request Revised:	
Project Objectives (240 character limit)	
Project Research Questions (if applicable)	1. 2. 3.

II. PROJECT SUMMARY

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

III. FILES REQUESTED

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

CASE MIX	Levels 1 – 6	Fiscal Years Requested
<p>Inpatient Discharge</p>	<p> <input type="checkbox"/> Level 1 – No Identifiable Data Elements <input type="checkbox"/> Level 2 – Unique Physician Number (UPN) <input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN) <input type="checkbox"/> Level 4 – UHIN and UPN <input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures <input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number PLEASE PROVIDE JUSTIFICATION BELOW FOR REQUESTING THE CHOSEN LEVEL: </p>	<p><u>1998 – 2013 Available</u> (limited data 1989-1997)</p>
<p>Outpatient Observation</p>	<p> <input type="checkbox"/> Level 1 – No Identifiable Data Elements <input type="checkbox"/> Level 2 – Unique Physician Number (UPN) <input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN) <input type="checkbox"/> Level 4 – UHIN and UPN <input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures <input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number PLEASE PROVIDE JUSTIFICATION BELOW FOR REQUESTING THE CHOSEN LEVEL: </p>	<p><u>2002 – 2013 Available</u></p>
<p>Emergency Department</p>	<p> <input type="checkbox"/> Level 1 – No Identifiable Data Elements <input type="checkbox"/> Level 2 – Unique Physician Number (UPN) <input type="checkbox"/> Level 3 – Unique Health Information Number (UHIN) <input type="checkbox"/> Level 4 – UHIN and UPN <input type="checkbox"/> Level 5 – Date(s) of Admission; Discharge; Significant Procedures <input type="checkbox"/> Level 6 – Date of Birth; Medical Record Number; Billing Number PLEASE PROVIDE JUSTIFICATION BELOW FOR REQUESTING THE CHOSEN LEVEL: </p>	<p><u>2000 – 2013 Available</u></p>

IV. FEE INFORMATION

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

- 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. 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.

V. REQUESTS PURSUANT TO 957 CMR 5.04 (Researchers, Payers, Providers, and Provider Organizations)

Please complete only if you are requesting Level 1 (de-identified) Case Mix.

Please describe how you will use such data for the purposes of lowering total medical expenses, coordinating care, benchmarking, quality analysis or other administrative research purposes.

VI. ALL OTHER REQUESTS - PURPOSE AND INTENDED USE

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

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.

4.

VII. APPLICANT QUALIFICATIONS

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

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.)

VIII. 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:

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:

What databases are involved, who owns the data and which specific data elements will be used for 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 that algorithm will link each dataset.

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

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.

IX. 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.

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.

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.

X. 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.

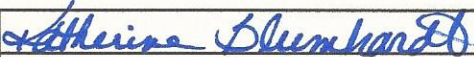
XIII. ASSURANCES

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.

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 practices to protect CHIA data in a manner consistent with the requirements of the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Data Recipients must promptly notify CHIA of any unauthorized use or disclosure of CHIA data.

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:	Katherine Blumhardt
Original Application Submission Date:	6/17/2015
Dates Application Revised:	

Inpatient Demand Estimates predicts the total volume of annual acute care admissions and patient days by ZIP Code, age group, sex, payer, and DRG/ICD-9 for every market in the United States. To construct population-based use rates, Truven Health Analytics used all-payer state discharge data for 24 states and Medicare (MEDPAR) data. Then, these rates were applied to demographic projections by ZIP Code to estimate inpatient utilization for 2014 through 2024.

Inpatient Demand Estimates are created by combining various rates, adjustments and trends using the appropriate linkages, and then multiplying by the population. The components are:

- National Rate
- Local Adjustment
- HCR Adjustment
- DRG/ICD Trend
- Population

All-payer state discharge data is warehoused in the Projected Inpatient Data Base (PIDB), and is projected to national discharge totals via hospital attributes. Population by Zip, Age Group, Sex and Payer is warehoused in Insurance Coverage Estimates (ICE).

Example of estimate calculations:

- Current Discharges (2014) = ICE (2014) * National Rate (Discharges) * Base Year Trend Adjustment * Local Adjustment * HCR Adjustment (2014) / 100000
- Current Days (2014) = ICE (2014) * National Rate (Days) * Base Year Trend Adjustment * Local Adjustment * HCR Adjustment (2014) / 100000
- Forecast Discharges (2024) = ICE (2024) * National Rate (Discharges) * Base Year Trend Adjustment * Local Adjustment * HCR Adjustment (2024) * Trend Adjustment (2024) / 100000
- Forecast Days (2024) = ICE (2024) * National Rate (Days) * Base Year Trend Adjustment * Local Adjustment * HCR Adjustment (2024) * Trend Adjustment (2024) / 100000

National rates for Discharges and Days are calculated for DRG/ICD using four consecutive quarters of PIDB combined with 2014 ICE, and then modified by MEDPAR and SAF data for the Age 65+ estimates, and finally demographically adjusted from the PIDB/MEDPAR year of 2012 to the ICE year of 2014.

National Rate = National Discharge Totals (PIDB, MEDPAR) / Population (ICE) by DRG/ICD, Age Group, Sex, Payer

Local Adjustment is calculated as the total discharges in 2012 all-payer state discharge data for 24 states by DRG/ICD, county and collapsed Age Group (<18, 18-64, 65+) divided by the National Discharge Totals by DRG/ICD and collapsed Age Group.

HCR Adjustment by DRG/ICD is an adjustment for CMS readmission penalties starting in fiscal year 2013 and increasing in 2015.

DRG/ICD Trends are calculated by examining 7 years of National Discharge Totals (PIDB) / Population (ICE), fitting a trend curve through the 7 years of data, and extending the trend curve to 2024. Base Year Trend Adjustment is the adjustment from 2012 to 2014, while Trend Adjustment (2024) is the adjustment from 2014 to 2024.

Byron Scott, MD, MBA

Medical Director, National Clinical Medical Leader

Truven Health Analytics Commercial Division

Areas of Focus

Healthcare Analytics

Healthcare Quality and Outcomes

Evidence-based Medicine

Healthcare Technology

Contact Information

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Bio-Sketch

Dr. Byron Scott is the medical director and national clinical medical leader for Truven Health Analytics.

Dr. Scott supports the Commercial Division which includes Providers, Health Plans, Employers, and Life Sciences to improve overall healthcare, clinical performance, quality, and leadership initiatives using health analytics. Prior to Truven Health, he worked for EmCare, a hospital-based physician practice management company for over 20 years in various director roles, and most recently as executive vice president where he managed the client services teams for 140 hospital contracts, responsible for both financial and clinical quality initiatives. He previously worked as medical director of the ED at Methodist Richardson Medical Center where he has practiced for over 19 years. At Methodist Richardson, he served as past chief of staff where he also chaired and participated on multiple hospital committees. He is also a past trustee of the Richardson Hospital Authority Board where he participated on several committees.

Dr. Scott received his degree in psychobiology from the University of California, Los Angeles and his medical degree from the University of California, San Diego. He received his Masters of

Business Administration from the University of Massachusetts, Amherst. He completed his Emergency Medicine Residency where he was chief resident and an administrative fellowship at Orlando Regional Medical Center where he also served for 2 years as a faculty attending physician supervising residents and medical students.

He is a certified physician executive by the Certifying Commission in Medical Management, board certified in Healthcare Quality Management, and board certified by the American Board of Emergency Medicine. He is also a fellow of the American College of Physician Executives, American College of Emergency Physicians, and Fellow of the American Board of Quality Assurance and Utilization Review Physicians. Dr. Scott has authored and lectured on various topics in academic emergency medicine, healthcare quality, and management over his career.

Michael Taylor, MD, FACP

Chief Medical Officer

Truven Health Analytics

Areas of Focus

Healthcare Analytics

Healthcare Quality and Outcomes

Evidence-based Medicine

Healthcare Technology

Contact Information

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Bio-Sketch

Dr. Michael Taylor is the Chief Medical Officer for Truven Health Analytics.

Dr. Taylor is responsible for developing, evaluating, and maintaining health and wellness efforts as well as thought leadership, strategy, and expertise in innovation and product development across the healthcare spectrum. Dr. Taylor joined the company in 2011 as vice president and national business medical leader within the employer market. Previously, he served as the medical director for health promotion and disease management for Caterpillar Inc.

Dr. Taylor graduated from the University of Illinois College of Medicine and completed an Internal Medicine residency at the University of Illinois College of Medicine in Peoria. He is a fellow in the American College of Physicians and a member of the American College of Occupational and Environmental Medicine.

Tina Moen, PharmD

Vice President

Provider Analytics

Areas of Focus

Healthcare Analytics

Healthcare Quality and Outcomes

Evidence-based Medicine

Healthcare Technology

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Bio-Sketch

Dr. Tina Moen is the Vice President of Provider Analytics at Truven Health Analytics.

Dr. Moen is responsible for providing leadership for the clinical evidence and analytic product lines as well as helping to communicate the value proposition of Provider Solutions in the domestic and international markets. She's also responsible for identifying and tracking industry trends, reform efforts, policy changes, and legislative issues relevant to customers. Since joining Truven Health in July 2002, Dr. Moen has held a variety of roles within editorial, product management, and sales support. Prior to joining Truven Health, she worked as a clinical pharmacist in the specialty areas of pediatrics, home health care, HIV, and organ transplantation.

Dr. Moen received her Pharm.D from Creighton University.

David Foster, PhD, MPH

Lead Scientist

Provider Analytics

Areas of Focus

Healthcare Analytics

Healthcare Quality

Clinical and Hospital Epidemiology

Contact Information

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Bio-Sketch

Dr. David Foster is a Lead Scientist for Provider Analytics at Truven Health Analytics.

Dr. Foster is an epidemiologist with 25 years of experience in hospital and clinical epidemiology, study design, advanced analytics, and predictive modeling. He leads the development of risk-adjustment methodologies for assessing outcomes such as mortality, complications, and readmissions, as well as more general methodologies for evaluating quality of care and other measures of hospital performance. As the chief methodologist for the 100 Top Hospitals® program, Dr. Foster is responsible for the design and development of predictive models for study measures, consultant on provider custom research involving complex methodologies, data resources, and analytics, and innovator of new methodologies to evaluate alignment, develop composite measures, measure rates of improvement, and create enhanced reporting capabilities. Dr. Foster has extensive epidemiologic experience with WHO, CDC, University of Michigan, Michigan State Health Department, and other organizations.

Dr. Foster received his PhD in epidemiologic science from the University of Michigan, an MPH from the University of Hawaii, and a BA in medical technology from the University of Northern Colorado.

David Ellsworth, MS

Research Scientist

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Areas of Focus

Healthcare Analytics

Applied Statistics

Healthcare Quality

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Bio-Sketch

David Ellsworth is a Research Scientist for Provider Analytics at Truven Health Analytics.

Mr. Ellsworth has 20 years of experience with various healthcare databases and is an expert SAS programmer and is responsible for developing predictive analytics and efficient production systems for many hospital based products.

Mr. Ellsworth received a MS in engineering sciences and applied mathematics from Northwestern University and a BS in mathematics from Mankato State University.

David Koepke, PhD

Lead Scientist

Provider Analytics

Areas of Focus

Healthcare Analytics

Applied Statistics

Operational Improvement

Financial Analysis

Reimbursement Benchmarking

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Bio-Sketch

Dr. David Koepke is a Lead Scientist for Provider Analytics at Truven Health Analytics.

Dr. Koepke focuses on issues of healthcare finance and operational improvement. Before joining Truven Health, he analyzed trends in disease prevalence, healthcare utilization, and expense at Quintiles Informatics and Verispan LLC using hospital and provider administrative and claims data. Previous healthcare analytics experience include positions at the Chapin Hall Center at the University of Chicago, the Illinois Foundation for Quality Healthcare, the University of Illinois School of Public Health, and the Illinois Institute for Developmental Disabilities. In a second area of specialization, Dr. Koepke developed statistical software packages at SYSTAT and SPSS.

Dr. Koepke received a PhD in statistics and methods in psychology from the University of Illinois and a BA in mathematics from DePaul University.

Dennis Dunn, PhD, MA

Lead Scientist

Provider Analytics

Areas of Focus

Healthcare Analytics

Health Reform Impact

Strategic Planning

Disease Incidence and Utilization Models

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Bio-Sketch

Dr. Dunn is a Lead Scientist at Truven Health Analytics.

Dr. Dunn leads research efforts on the local impact of health reform. He was a founding member of The Sachs Group, now a part of Truven Health Analytics. He focuses on the analysis of clinical databases, health outcomes and the creation of clinical forecasting models. He was the chief architect of the Truven Outpatient Database, Ambulatory Surgery Database, Health Profiles Cancer Database, Insurance Coverage Estimates, Market Impact Modeler, Market Share Profiles and the Hospital Drug Database projections. He has constructed detailed local prevalence models by cancer site and stage, incorporating multiple staging methodologies and has worked with national cancer providers in tracking cancer prevalence trends. He has built time series models of the effect of economic changes on local trends in hospital utilization.

Before joining Solucient and Truven Health, Dr. Dunn was a faculty member in the statistics departments of Drexel University and the University of Pennsylvania, and the sociology department of the University of Pennsylvania. He has published articles in the areas of geographical statistics, women's health and the use of administrative data in evidence based medicine.

Dr. Dunn received a PhD in statistics from the University of Pennsylvania, and MA in sociology from the University of Pennsylvania, a BA in history from Columbia University.

Peter Bouman, PhD

Lead Scientist

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Healthcare Analytics

Business Strategy

Data Science

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Bio-Sketch

Dr. Peter Bouman is a Lead Scientist at Truven Health Analytics.

Dr. Bouman focuses on developing algorithms for claims data for comparative analysis.

Dr. Bouman received a PhD in statistics from the University of Chicago and a BA in English and mathematics from the University of Colorado.

David Lewandowski, MBA

Research Scientist

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Healthcare Analytics

Operational Improvement

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Bio-Sketch

David Lewandowski is a Research Scientist for Provider Analytics at Truven Health Analytics.

Mr. Lewandowski focuses on creating data-driven models and abstracting information on clinical, performance, and quality measures for the healthcare industry.

Mr. Lewandowski is current a candidate for a PhD in health services at the University of Washington. He received his MBA, and BA in economics from the University of Chicago.

George Popa, MHSA, MS

Research Scientist

Provider Analytics

Areas of Focus

Healthcare Analytics

Consumer Research

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Bio-Sketch

Mr. Popa is a Research Scientist for Provider Analytics at Truven Health Analytics.

Mr. Popa focuses on the collection of and analysis of consumer health research to predict demand for healthcare services, evaluate the health status of populations, and to identify populations for promotions or interventions.

Mr. Popa received a MHSA in hospital administration from the University of Michigan, a MS in occupational health from Wayne State University and a BA in biology from Lafayette College.