

Application for Massachusetts Case Mix and Charge Data (Non-Government) [Exhibit A – Data Application]

I. INSTRUCTIONS

This form is required for all Applicants, Agencies, or Organizations, hereinafter referred to as “Organization”, except Government Agencies as defined in [957 CMR 5.02](#), requesting protected health information. All Organizations must also complete the [Data Management Plan](#), and attach it to this Application. The Application and the Data Management Plan must be signed by an authorized signatory. This Application and the Data Management Plan will be used by CHIA to determine whether the request meets the criteria for data release, pursuant to 957 CMR 5.00. Please complete the Application documents fully and accurately. Prior to receiving CHIA Data, the Organization must execute CHIA’s [Data Use Agreement](#). Organizations may wish to review that document prior to submitting this Application.

Before completing this Application, please review the data request information on CHIA’s website:

- [Data Availability](#)
- [Fee Schedule](#)
- [Data Request Process](#)

After reviewing the information on the website and this Application, please contact CHIA at casemix.data@state.ma.us if you have additional questions about how to complete this form.

The Application and all attachments must be uploaded to [IRBNet](#). All Application documents can be found on the [CHIA website](#).

Information submitted as part of the Application may be subject to verification during the review process or during any audit review conducted at CHIA’s discretion.

Applications will not be reviewed until the Application and all supporting documents are complete and the required application fee is received.

A [Fee Remittance Form](#) with instructions for submitting the application fee is available on the CHIA website. If you are requesting a fee waiver, a copy of the [Fee Remittance Form](#) and any supporting documentation must be uploaded to IRBNet. Please be aware that if your research is funded and under that funding you are required to release raw data to the funding source, you may not receive CHIA Data.

II. FEE INFORMATION

1. Consult the most current [Fee Schedule](#) for Case Mix and Charge Data.
2. After reviewing the Fee Schedule, if you have any questions about the application or data fees, contact casemix.data@state.ma.us.
3. If you believe that you qualify for a fee waiver, complete and submit the [Fee Remittance Form](#) and attach it and all required supporting documentation with your application. Refer to the [Fee Schedule](#) (effective Feb 1, 2017) for fee waiver criteria.
4. Applications will not be reviewed until the application fee is received.
5. Data for approved Applications will not be released until the payment for the Data is received.

III. ORGANIZATION & INVESTIGATOR INFORMATION

Project Title:	Shields Health Care Group – CHIA Case Mix Data Application
IRBNet Number:	1831149-1
Organization Requesting Data (Recipient):	Shields Health Care Group
Organization Website:	https://shields.com/
Authorized Signatory for Organization:	Peter Ferrari
Title:	President
E-Mail Address:	Pferrari@shields.com
Telephone Number:	1-800-258-4674
Address, City/Town, State, Zip Code:	700 Congress Street, Suite 204, Quincy, MA 02169
Data Custodian: (individual responsible for organizing, storing, and archiving Data)	Nicholas James Elia
Title:	Senior Business Development Analyst
E-Mail Address:	nicholase@shields.com
Telephone Number:	617-376-7424
Address, City/Town, State, Zip Code:	700 Congress Street, Suite 204, Quincy, MA 02169
Primary Investigator (Applicant): (individual responsible for the research team using the Data)	Nicholas James Elia
Title:	Senior Business Development Analyst
E-Mail Address:	nicholase@shields.com
Telephone Number:	617-376-7424
Address, City/Town, State, Zip Code:	700 Congress Street, Suite 204, Quincy, MA 02169
Names of Co-Investigators:	Robert Andrew Wilkinson
E-Mail Addresses of Co-Investigators:	andyw@shields.com

IV. PROJECT INFORMATION

IMPORTANT NOTE: Organization represents that the statements made below as well as in any study or research protocol or project plan, or other documents submitted to CHIA in support of the Data Application are complete and accurate and represent the total use of the CHIA Data requested. Any and all CHIA Data released to the Organization under an approved application may ONLY be used for the express purposes identified in this section by the Organization, and for no other purposes. Use of CHIA Data for other purposes requires a separate Data Application to CHIA written request to CHIA, with approval being subject to CHIA's regulatory restrictions and approval process. Unauthorized use is a material violation of your institution's Data Use Agreement with CHIA.

1. What will be the use of the CHIA Data requested? [Check all that apply]

- | | | |
|--|---|---|
| <input type="checkbox"/> Epidemiological | <input checked="" type="checkbox"/> Health planning/resource allocation | <input checked="" type="checkbox"/> Cost trends |
| <input type="checkbox"/> Longitudinal Research | <input type="checkbox"/> Quality of care assessment | <input type="checkbox"/> Rate setting |
| <input checked="" type="checkbox"/> Reference tool | <input checked="" type="checkbox"/> Research studies | <input type="checkbox"/> Severity index tool (or other derived input) |
| <input type="checkbox"/> Surveillance | <input type="checkbox"/> Student research | <input type="checkbox"/> Utilization review of resources |
| <input type="checkbox"/> Inclusion in a product | <input type="checkbox"/> Other (describe in box below) | |

Click here to enter text.

2. Provide an abstract or brief summary of the specific purpose and objectives of your Project. This description should include the research questions and/or hypotheses the Project will attempt to address, or describe the intended product or report that will be derived from the requested data and how this product will be used. Include a brief summary of the pertinent literature with citations, if applicable.

Shields Health Care Group is requesting IP/OP case mix data from CHIA for the following purpose/objectives:

- To better understand and assess hospital utilization trends, case mix trends, primary service area trends, and costs trends in the Massachusetts healthcare market. The data will also be used for policy development and strategic decision making purposes. Some examples of analyses Shields will perform include: primary service area assessments for MA hospitals, competitor analysis, identifying IP discharge trends, and creating a more holistic view of the market landscape

3. Has an Institutional Review Board (IRB) reviewed your Project?

- Yes [*If yes, a copy of the approval letter and protocol must be included with the Application package on IRBNet.*]
 No, this Project is not human subject research and does not require IRB review.

4. **Research Methodology:** Applications must include either the IRB protocol or a written description of the Project methodology (typically 1-2 pages), which should state the Project objectives and/or identify relevant research questions. This document must be included with the Application package on IRBNet and must provide sufficient detail to allow CHIA to understand how the Data will be used to meet objectives or address research questions.

Shields Health Care Group operates freestanding outpatient Imaging and Surgery Centers that receive reimbursement rates significantly lower than Hospitals in the Commonwealth. The project for Shields Health Care Group will involve leveraging CHIA data for strategic decision making/policy development purposes. These include examining trends related to hospital utilization, geographic location/accessibility, and in general gaining a better understanding of the competitive landscape in Massachusetts.

Shields Health Care Group will address the below questions related to the case mix data:

- How have MA Hospitals inpatient discharges and primary service areas changed over time? How has this changed from both a statewide view and specific territory/market view?
- Is there any current and emerging trends in ED/Inpatient discharges that can help identify markets where patients could benefit from lower cost sites of care?
- Identify any quality measures/indicators for MA hospitals? (Surgical procedure usage, PCP access, readmission rates, etc.)
- How has volume trended/changed over the last few years across each MA hospital?
- Identify patient origin trends across the Commonwealth?

V. PUBLIC INTEREST

1. Briefly explain why completing this Project is in the public interest. Use quantitative indicators of public health importance where possible, for example, numbers of deaths or incident cases; age-adjusted, age-specific, or crude rates; or years of potential life lost. *Uses that serve the public interest under CHIA regulations include, but are not limited to: health cost and utilization analysis to formulate public policy; studies that promote improvement in population health,*

health care quality or access; and health planning tied to evaluation or improvement of Massachusetts state government initiatives.

Shields Health Care Group will use the case mix data to better understand the service areas of MA hospitals, and answer the questions listed above in the research methodology. Shields operates freestanding outpatient locations across a number of high-cost modalities such as MRI, PET/CT, and Surgery – and receives reimbursement from commercial and government payers at significantly reduced rates relative to Hospitals. Shields believes there are areas across the Commonwealth that are currently unserved/underserved by these lower-cost sites of care. Access to this data will allow Shields to identify ways to improve quality of care for MA residents receiving imaging/surgical services, as well as lower cost of care for these residents. Understanding these case mix trends across the MA market will help the organization get a better sense of the current patient populations being served, and how health care resources can be allocated more efficiently to these patients.

VI. DATASETS REQUESTED

The Massachusetts Case Mix (“Case Mix”) are comprised of Hospital Inpatient Discharge, Emergency Department and Outpatient Hospital Observation Stay Data collected from Massachusetts’ acute care hospitals, and satellite emergency facilities. Case Mix Data are updated each fiscal year (October 1 – September 30) and made available to approved data users. For more information about Case Mix Data, including a full list of available elements in the datasets please refer to release layouts, data dictionaries and similar documentation included on [CHIA’s website](#).

Data requests are typically fulfilled on a one time basis, however; certain Projects may require years of data not yet available. Applicants who anticipate a need for future years of data may request to be considered for a subscription. Approved subscriptions will receive, upon request, the same data files and data elements included in the initial release annually or as available. Please note that approved subscription request will be subject to the Data Use Agreement, will require payment of fees for additional Data, and subject to the limitation that the Data can be used only in support of the approved Project.

1. Please indicate below whether this is a one-time request, or if the described Project will require a subscription.

One-Time Request **OR** Subscription

2. Specify below the dataset(s) and year(s) of data requested for this Project, and your justification for requesting *each* dataset. Data prior to 2004 is not available.

Hospital Inpatient Discharge Data

2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Describe how your research objectives require Inpatient Discharge data:

- Analyze trends in IP discharges to understand where patients are seeking and receiving inpatient services, as well as compare the different service areas of MA hospitals across the state. This data will help Shields understand the current market dynamics in MA for inpatient services across each hospital.

<input checked="" type="checkbox"/> Outpatient Hospital Observation Stay Data <input type="checkbox"/> 2004 <input type="checkbox"/> 2005 <input type="checkbox"/> 2006 <input type="checkbox"/> 2007 <input type="checkbox"/> 2008 <input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 <input type="checkbox"/> 2012 <input type="checkbox"/> 2013 <input type="checkbox"/> 2014 <input type="checkbox"/> 2015 <input type="checkbox"/> 2016 <input checked="" type="checkbox"/> 2017 <input checked="" type="checkbox"/> 2018 <input checked="" type="checkbox"/> 2019
Describe how your research objectives require Outpatient Hospital Observation Stay data: <ul style="list-style-type: none"> Analytize trends in outpatient-based Hospital stays to understand potential shifts in site of care that may benefit from further development of ambulatory outpatient care delivery sites. This will help Shields understand shifts in market dynamics related to outpatient Hospital stays that may become clinically appropriate for ambulatory outpatient sites as technology and care delivery pathways evolve.
<input type="checkbox"/> Emergency Department Data <input type="checkbox"/> 2004 <input type="checkbox"/> 2005 <input type="checkbox"/> 2006 <input type="checkbox"/> 2007 <input type="checkbox"/> 2008 <input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 <input type="checkbox"/> 2012 <input type="checkbox"/> 2013 <input type="checkbox"/> 2014 <input type="checkbox"/> 2015 <input type="checkbox"/> 2016 <input type="checkbox"/> 2017 <input type="checkbox"/> 2018 <input type="checkbox"/> 2019
Describe how your research objectives require Emergency Department data: Click here to enter text.

VII. DATA ENHANCEMENTS REQUESTED

State and federal privacy laws limit the release and use of Data to the minimum amount of data needed to accomplish a specific Project objective.

Case Mix Data are released in Limited Data Sets (LDS). All applicants receive the “Core” LDS, but may also request the data enhancements listed below for inclusion in their analyses. Requests for enhancements will be reviewed by CHIA to determine whether each represents the minimum data necessary to complete the specific Project objective.

For a full list of elements in the release (i.e., the “Core” elements and enhancements), please refer to [release layouts, data dictionaries](#) and similar documentation included on CHIA’s website.

Please note that CHIA Case Mix Data contain reports produced using proprietary computer software created, owned, and licensed by the 3M Company. All Copyrights in and to the 3M APR™ Software, and to the 3M APR™ DRG classification system(s) (including the selection, coordination and arrangement of all codes) are owned by 3M. All rights reserved.

1. Specify below which enhancements you are requesting in addition to the “Core” LDS. CHIA will use this information to determine what Level of data is needed for pre-FY 2015 data requests.

Geographic Subdivisions

State, five-digit zip code, and 3-digit code are available for patients residing in CT, MA, ME, NH, RI, VT, and NY. City or Town of residence is available for residents of MA only. States outside of this region will be coded as XX (“Other”).

Select *one* of the following options:

<input type="checkbox"/> 3-Digit Zip Code (Standard)	<input type="checkbox"/> 3-Digit Zip Code & City/Town ***	<input type="checkbox"/> 5-Digit Zip Code ***	<input checked="" type="checkbox"/> 5-Digit Zip Code & City/Town ***
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*****If requested, provide justification for requesting 5-Digit Zip Code or City/Town. Refer to specifics in your methodology:**

Zip code level data will be used to identify primary service areas for MA hospitals, patient population/migration trends across the state, and mapping purposes to support strategic initiative and planning efforts. Data will be aggregated across zip codes/towns so as to not be individually identifiable. The mapping software leveraged by Shields is Maptitude.

Demographic Data

Select one of the following options:

<input checked="" type="checkbox"/> Not Requested (Standard)	<input type="checkbox"/> Race & Ethnicity***
** If requested, provide justification for requesting Race and Ethnicity. Refer to specifics in your methodology: N/A	

Date Resolution

Select one of the following options for dates of admissions, discharges, and significant procedures.

<input checked="" type="checkbox"/> Year (YYYY)(Standard)	<input type="checkbox"/> Month (YYYYMM) ***	<input type="checkbox"/> Day (YYYYMMDD)***
***If requested, provide justification for requesting Month or Day. Refer to specifics in your methodology: N/A		

Practioner Identifiers (UPN)

Select one of the following options.

<input checked="" type="checkbox"/> Not Requested (Standard)	<input type="checkbox"/> Hashed ID ***	<input type="checkbox"/> Board of Registration in Medicine Number(BORIM) ***
***If requested, provide justification for requesting Hashed ID or BORIM Number. Refer to specifics in your methodology: N/A		

Unique Health Information Number (UHIN)

Select one of the following options.

<input checked="" type="checkbox"/> Not Requested (Standard)	<input type="checkbox"/> UHIN Requested ***
*** If requested, provide justification for requesting UHIN. Refer to specifics in your methodology: N/A	

Hashed Mother’s Social Security Number

Select one of the following options:

<input checked="" type="checkbox"/> Not Requested (Standard)	<input type="checkbox"/> Hashed Mother’s SSN Requested ***
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***** If requested, provide justification for requesting Hashed Mother's SSN. Refer to specifics in your methodology:**

N/A

VIII. DATA LINKAGE

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

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

Yes

No linkage or merger with any other data will occur

2. If yes, please indicate below the types of data to which CHIA Data will be linked. [Check all that apply]

Individual Patient Level Data (e.g. disease registries, death data)

Individual Provider Level Data (e.g., American Medical Association Physician Masterfile)

Individual Facility Level Data (e.g., American Hospital Association data)

Aggregate Data (e.g., Census data)

Other (please describe):

3. If yes, describe the dataset(s) to which the CHIA Data will be linked, indicate which CHIA Data elements will be linked and the purpose for each linkage.

CHIA patient origin data will be linked to Maptitude mapping software

4. 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.

CHIA patient origin data will be linked to Maptitude mapping software

5. If yes, attach or provide below a complete listing of the variables from all sources to be included in the final linked analytic file.

N/A

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

N/A

IX. PUBLICATION / DISSEMINATION / RE-RELEASE

1. Do you anticipate that the results of your analysis will be published or made publically available? If so, how do you intend to disseminate the results of the study (e.g.: publication in professional journal, poster presentation, newsletter, web page, seminar, conference, statistical tabulation)? Any and all publication of CHIA Data must comply with CHIA's cell size suppression policy, as set forth in the Data Use Agreement. Please explain how you will ensure that any publications **will not disclose a cell less than 11**, and percentages or other mathematical formulas that result in the display of a cell less than 11.

Shields Health Care Group does not anticipate that any data and/or analysis will be published nor made publically available, and will only be used for internal purposes.

2. Describe your plans to use or otherwise disclose CHIA Data, or any Data derived or extracted from such Data, in any paper, report, website, statistical tabulation, seminar, or other setting that is not disseminated to the public.

Shields Health Care Group will only be using the data for internal purposes, and for the specific reasons cited in the research methodology section of the application. Shields reserves the right to utilize this data in aggregated statistical assessments in support of any filings made to state agencies, such as the Massachusetts Health Policy Commission in support of a Notice of Material Change, the Massachusetts Department of Public Health in support of an Application for Determination of Need, and/or other state agencies as may be required to support Shields' development and operation of low-cost, high-quality ambulatory care delivery sites.

3. What will be the lowest geographical level of analysis of data you expect to present for publication or presentation (e.g., state level, city/town level, zip code level, etc.)? Will maps be presented? If so, what methods will be used to ensure that individuals cannot be identified?

Zip code level detail will be used and presented for internal strategic planning purposes, and will be aggregated to remove patient identification information and exclude cells with sizes less than 11. Mapping will be utilized for the analysis to visual hospital's primary service areas, and will be based on 5-digit zip code level detail. Maps will include aggregated data excluding cells with sizes less than 11. The mapping software leveraged by Shields is Maptitude.

4. Will you be using CHIA Data for consulting purposes?

- Yes
 No

5. Will you be selling standard report products using CHIA Data?

- Yes
 No

6. Will you be selling a software product using CHIA Data?

- Yes
 No

7. Will you be using CHIA Data as in input to develop a product (i.e., severity index tool, risk adjustment tool, reference tool, etc.)

- Yes
 No

8. Will you be reselling CHIA Data in any format not noted above?

- Yes
 No

If yes, in what format will you be reselling CHIA Data?

N/A

9. If you have answered “yes” to questions 5, 6, 7 or 8, please provide the name and a description of the products, software, services, or tools.

N/A

10. If you have answered “yes” to questions 5, 6, 7 or 8, what is the fee you will charge for such products, software, services or tools?

N/A

X. APPLICANT QUALIFICATIONS

1. Describe your previous experience using hospital data. This question should be answered by the primary investigator and any co-investigators who will be using the Data.

Previously, Primary Investigator has leveraged CHIA’s publically reported patient origin data to provide these internal assessments. Both the Primary and Co-Investigator have extensive experience utilizing hospital data, including internal hospital data, patient origin assessments, inpatient and observation data to understand market trends, and CHIA’s relative pricing indices to develop internal reports related to strategic direction, develop policy recommendations, and inform clinical and business performance improvement initiatives for both an Independent Community Hospital (as defined by the Massachusetts Health Policy Commission) and Shields Health Care Group.

2. **Resumes/CVs:** When submitting your Application package on IRBNet, include résumés or curricula vitae of the principal investigator and co-investigators. (These attachments will not be posted on the internet.)

XI. USE OF AGENTS AND/OR CONTRACTORS

By signing this Application, the Organization assumes all responsibility for the use, security and maintenance of the CHIA Data by its agents, including but not limited to contractors. The Organization must have a written agreement with the agent of contractor limiting the use of CHIA Data to the use approved under this Application as well as the privacy and security standards set forth in the Data Use

Agreement. CHIA Data may not be shared with any third party without prior written consent from CHIA, or an amendment to this Application. CHIA may audit any entity with access to CHIA Data.

Provide the following information for **all** agents and contractors who will have access to the CHIA Data. [*Add agents or contractors as needed.*]

No Agents/contractors will be accessing the CHIA data. Only the primary and co-investigator will have access.

AGENT/CONTRACTOR #1 INFORMATION	
Company Name:	Click here to enter text.
Company Website	Click here to enter text.
Contact Person:	Click here to enter text.
Title:	Click here to enter text.
E-mail Address:	Click here to enter text.
Address, City/Town, State, Zip Code:	Click here to enter text.
Telephone Number:	Click here to enter text.
Term of Contract:	Click here to enter text.

1. Describe the tasks and products assigned to the agent or contractor for this Project and their qualifications for completing the tasks.

N/A

2. Describe the Organization’s oversight and monitoring of the activities and actions of the agent or contractor for this Project, including how the Organization will ensure the security of the CHIA Data to which the agent or contractor has access.

N/A

3. Will the agent or contractor have access to and store the CHIA Data at a location other than the Organization’s location, off-site server and/or database?


- Yes
- No

4. If yes, a separate Data Management Plan **must** be completed by the agent or contractor.

By submitting this Application, the Organization attests that it is aware of its data use, privacy and security obligations imposed by state and federal law *and* confirms that it is compliant with such use, privacy and security standards. The Organization further agrees and understands that it is solely responsible for any breaches or unauthorized access, disclosure or use of CHIA Data, including, but not limited to, any breach or unauthorized access, disclosure or use by any third party to which it grants access.

Organizations approved to receive CHIA Data will be provided with Data following the payment of applicable fees and upon the execution of a Data Use Agreement requiring the Organization to adhere to processes and procedures designed to prevent unauthorized access, disclosure or use of data.

By my signature below, I attest: (1) to the accuracy of the information provided herein; (2) this research is not funded by a source requiring the release of raw data to that source; (3) that the requested Data is the minimum necessary to accomplish the purposes described herein; (4) that the Organization will meet the data privacy and security requirements described in this Application and supporting documents, and will ensure that any third party with access to the Data meets the data use, privacy and security requirements; and (5) to my authority to bind the Organization.

Signature: (Authorized Signatory for Organization)	
Printed Name:	Peter Ferrari
Title:	President
Date:	11/18/2021

Attachments:

A completed Application must have the following documents attached to the Application or uploaded separately to IRBNet:

- 1. IRB approval letter and protocol (if applicable), or research methodology (if protocol is not attached)
- 2. Data Management Plan (including one for each agent or contractor that will have access to or store the CHIA Data at a location other than the Organization's location, off-site server and/or database);
- 3. CVs of Investigators (upload to IRBNet)

APPLICATIONS WILL NOT BE REVIEWED UNTIL THEY ARE COMPLETE, INCLUDING ALL ATTACHMENT

Demographic Layers/Information included in Maptitude:

- Total Population
- Population by Gender
- Household Count
- Household Income
- Per Capita Income
- Unemployment rate
- Age Statistics
- Education Level
- Race/Ethnicity
- Marital Status