Non-Governmental Application for Massachusetts Case Mix and Charge Data
[Exhibit A]

I. INSTRUCTIONS

This form is required for all Applicants, except Government Agencies as defined in 957 CMR 5.02, requesting protected health information. All Applicants must also complete the Data Management Plan, attached to this Application. The Application and the Data Management Plan must be signed by an authorized signatory of the Organization. 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. Applicants 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.

All attachments must be uploaded to IRBNet with your Application. All Application documents can be found on the CHIA website in Word and in PDF format or on IRBNet in Word format. If you submit a PDF document, please also include a Word version in order to facilitate edits that may be needed.

==*Applications will not be reviewed until the Application and all supporting documents are complete and the required application fee is submitted. A Fee Remittance Form with instructions for submitting the application fee is available on the CHIA website and IRBNet. If you are requesting a fee waiver, a copy of the Fee Remittance Form and any supporting documentation must be uploaded to IRBNet.*==

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 AND INVESTIGATOR INFORMATION

Project Title:	**Catholic Medical Center: Study of Outmigration For Strategic Planning**
IRBNet Number:	1385368-1
Organization Requesting Data (Recipient):	Catholic Medical Center
Organization Website:	**https://www.catholicmedicalcenter.org/**
Authorized Signatory for Organization:	**Alexander J. Walker, Jr.**
Title:	Executive Vice President & Chief Operations Officer
E-Mail Address:	alexander.walker@cmc-nh.org
Address, City/Town, State, Zip Code:	100 McGregor Street, Manchester, NH 03102
Data Custodian: **(individual responsible for ogranizing, storing, and archiving Data)**	**Tom Della Flora**
Title:	Chief Information Officer
E-Mail Address:	Tom.dellaflora@cmc-nh.org
Telephone Number:	603-663-5325
Address, City/Town, State, Zip Code:	100 McGregor Street, Manchester, NH 03102
Data Custodian: **(individual responsible for ogranizing, storing, and archiving Data)**	NERA Economic Consulting – Subbu Ramanarayanan
Title:	Associate Director
E-Mail Address:	subbu@nera.com
Telephone Number:	212-345-0745
Address, City/Town, State, Zip Code:	NERA Economic Consulting, 1166 Avenue of the Americas, New York, NY 10036
Primary Investigator: **(individual responsible for the research team using the Data)**	Sue Manning
Title:	Vice President of Strategy
E-Mail Address:	Sue.manning@cmc-nh.org
Telephone Number:	603-663-6562
Names of Co-Investigators:	Subbu Ramanarayanan
E-Mail Addresses of Co-Investigators:	Subbu@nera.com

IV. PROJECT INFORMATION

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

☐ Epidemiological   ☒ Health planning/resource allocation ☒ Cost trends
☐ Longitudinal Research   ☐ Quality of care assessment   ☐ Rate setting
☐ Reference tool   ☒ Research studies   ☐ Severity index tool
☐ Surveillance   ☐ Student research   ☐ Utilization review of resources
☐ Inclusion in a product   ☒ Other (describe in box below)

We will be reporting at the DRG level. CHIA will provide all the DRG information.

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.

Catholic Medical Center ("CMC") is seeking to understand the extent to which hospitals located in Massachusetts provide inpatient and outpatient care to New Hampshire patients residing in CMC's Service Area. In particular, CMC would like to understand which services patients are outmigrating for, as it can help determine CMC's strategic plans for future service offerings.

3. Has an Institutional Review Board (IRB) reviewed your Project?
☐ Yes [*If yes, a copy of the approval letter and protocol <u>must</u> 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**: Applicants must provide 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.

V. PUBLIC INTEREST

1. Briefly explain why completing your 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.*

This project will assist CMC in determining strategic plans for future services and treatment of New Hampshire patients. Doing so will assist CMC in ensuring availability of high-quality, affordable care closer to where patients reside, by helping to stem outmigration to higher-cost Academic Medical Centers in Massachusetts, thereby reducing the overall cost of healthcare for New Hampshire residents.

VI. DATASETS REQUESTED

The Massachusetts Case Mix and Charge Data 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 and Charge Data are updated each fiscal year (October 1 – September 30) and made available to approved data users. For more information about Case Mix and Charge 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 <u>same data files and data elements</u> 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
Describe how your research objectives require Inpatient Discharge data:
This project requires Inpatient Discharge data, as it is the only way that CMC can determine whether and how many New Hampshire residents are seeking inpatient care at Massachusetts hospitals, and what services are being sought by these patients.
☐ **Outpatient Hospital Observation Stay Data**
☐2004 ☐2005 ☐2006 ☐2007 ☐2008 ☐2009 ☐2010 ☐2011 ☐2012 ☐2013 ☐2014 ☐2015 ☐ 2016 ☐ 2017
Describe how your research objectives require Outpatient Hospital Observation Stay data:
☐ **Emergency Department Data**
☐2004 ☐2005 ☐2006 ☐2007 ☐2008 ☐2009 ☐2010 ☐2011 ☐2012 ☐2013 ☐2014 ☐2015 ☐ 2016
Describe how your research objectives require Emergency Department data:
N/A

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 and Charge Data are grouped into six "Levels" or Limited Data Sets (LDS) for release, depending on the fiscal year. Data for FY 2004 – 2014 are organized into Levels. Level 6 Data will be released to Government Applicants only. *CHIA staff will use the information provided in this section to determine the appropriate Level of Data justified for release.*

Data for FY 2015 and later are organized into LDS's. 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.

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.

☐ 3-Digit Zip Code (Standard)	☐ 3-Digit Zip Code & City/Town ***	☐ 5-Digit Zip Code ***	☒ 5-Digit Zip Code & City/Town ***
We require the granularity of the 5-digit zip code to identify patients living in close proximity to CMC's service area that might be outmigrating to Massachusetts. Three-digit zip codes are too broad to understand where patients are coming from and the degree to which different hospitals are actually competing for these patients.			

Demographic Data
Choose *one* of the following options.

☒ Not Requested (Standard)	☐ Race & Ethnicity***
** If requested, provide justification for requesting Race and Ethnicity. Refer to specifics in your methodology:	

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

☐ Year (YYYY)(Standard)	☐ Month (YYYYMM) ***	☐ Day (YYYYMMDD)***
Necessary to account for Medicare reimbursement changes that occur in October. We may also be able to use the data to correct for any seasonality that might occur. We request the data be provided by quarter.		

Practioner Identifiers (UPN)
Select *one* of the following options.

☒ Not Requested (Standard)	☐ Hashed ID ***	☐ Board of Registration in Medicine Number(BORIM) ***

Unique Health Information Number (UHIN)
Select *one* of the following options.

☒ Not Requested (Standard)	☐ 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:

☒ Not Requested (Standard)	☐ Hashed Mother's SSN Requested ***

*** 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 data base(s) to which the CHIA Data will be linked, indicate which CHIA Data elements will be linked and the purpose for each linkage.

Similar discharge data from New Hampshire and Vermont. The main data element that will be linked is the 5-digit patient zipcode which will be used to determine the patient's specific area of residence (in NH).

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.

A simple combination of data sets to understand what percentage of New Hampshire patients are outmigrating to surrounding states and for what services.

5. If yes, attach complete listing of the variables from <u>all sources</u> to be included in the final linked analytic file.

Unknown at this point; final file will not be linked, just used to make estimates

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

Patent name and street address are not requested and will not be used. Moreover, results will be aggregated by DRG and by service areas; thus, they will not present individual data.

IX. PUBLICATION / DISSEMINAITON / 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.

No, it is not the intent to make the results of an analysis publically available, but rather used internally by hospital leaders (e.g. Senior Management and Board of Directors) to inform strategic planning.

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.

CMC only has plans to use this data for internal purposes. If requested, it is possible that CMC might disclose the results of the research project to state or federal authorities.

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?

Analysis will be based on 5-digit zip code level data. The maps will reflect service areas that are combinations of 5-digit zip codes and will not identify individuals or individual patient locations.

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 took, 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 describe the types of 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

XI. INVESTIGATOR 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.

NERA Economic Consulting has years of experience in analyzing health care services. The lead investigator (Subbu Ramanarayanan) has been analyzing patient flow patterns and geographic draw areas for a number of hospitals and hospital systems as part of their overall strategic and growth planning processes, including through mergers and acquisitions. These analyses have all involved looking at inpatient and outpatient discharge data to identify the extent of competition faced by hospital providers from a geographic and/or a service line perspective.

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.)

XII. USE OF AGENTS AND/OR CONTRACTORS

By signing this Application, the Agency assumes all responsibility for the use, security and maintenance of the CHIA Data by its agents, including but not limited to contractors. The Agency 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 work with the CHIA Data. [*Add agents or contractors as needed.*]

AGENT/CONTRACTOR #1 INFORMATION	
Company Name:	NERA Economic Consulting
Company Website:	www.nera.com
Contact Person:	**Subbu Ramanarayanan**
Title:	Associate Director
E-mail Address:	subbu@nera.com
Address, City/Town, State, Zip Code	NERA Economic Consulting, 1166 Avenue of the Americas, New York, NY 10036
Telephone Number:	212-345-0745
Term of Contract:	Unspecified, length of project. Estimated at two (2) years.

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

NERA will conduct the market share analysis for CMC using MA CHIA data.

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.

Catholic Medical Center will be in close touch with NERA in a consistent back and forth regarding data usage and analytical results.

3. Will the agent or contractor have access to or 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.

XIII. ATTESTATION

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.

Applicants 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) that the requested Data is the minimum necessary to accomplish the purposes described herein; (3) 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 (4) to my authority to bind the Organization.

Signature: (Authorized Signatory for Organization)	
Printed Name :	Alexander J. Walker, Jr.
Title:	Executive Vice President & Chief Operations Officer

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 ATTACHMENTS.