



**CHIA Non-Governmental Application for Massachusetts Case Mix Data
[Exhibit A: Data Application]**

I. INSTRUCTIONS

This form is required for all Applicants, except Government Agencies as defined in [957 CMR 5.02](#). 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. ORGANIZATION AND INVESTIGATOR INFORMATION

Project Title:	Pharmacy access related to 30 day readmission rates within the Commonwealth in the older adult
IRBNet Number:	1028891-1
Organization Requesting Data:	Regis College
Organization Website:	www.regiscollege.edu
Authorized Signatory for Organization:	Margaret Oot-Hayes PhD RN
Title:	Professor of Nursing
E-Mail Address:	Margaret.oot-hayes@regiscollege.edu
Address, City/Town, State, Zip Code:	325 Wellesley Street Weston Ma 02493
Primary Investigator:	
Title:	Professor of Nursing
E-Mail Address:	Margaret.oot-hayes@regiscollege.edu
Telephone Number:	603-533-1794
Names of Co-Investigators:	Lorraine Schoen MS BSN RN

E-Mail Addresses of Co-Investigators: lorraineschoen@yahoo.com

III. FEE INFORMATION

1. Consult the [Fee Schedule](#) for Case Mix and Charge Data and select one of the following options:

- Researcher
- Other
- Reseller

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2. Are you requesting a fee waiver?

- Yes
- No

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3. Complete and submit the [Fee Remittance Form](#). If requesting a fee waiver, submit a letter stating the basis for your request (if required). Please refer to the [Fee Schedule](#) (effective Feb 1, 2017) for fee waiver criteria.

IV. PROJECT INFORMATION

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

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Epidemiological | <input type="checkbox"/> Health planning/resource allocation | <input type="checkbox"/> Cost trends |
| <input type="checkbox"/> Longitudinal Research | <input type="checkbox"/> Quality of care assessment | <input type="checkbox"/> Rate setting |
| <input type="checkbox"/> Reference tool | <input type="checkbox"/> Research studies | <input type="checkbox"/> Severity index tool |
| <input type="checkbox"/> Surveillance | <input checked="" 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) | |

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2. Provide a summary of the specific purpose and objectives of your Project. This may include research questions and/or business use Projects.

Research Question

The overall research questions for this study are:

1. Do older adults who have been readmitted to the hospital within 30-day of discharge differ from older adults who have not been readmitted to the hospital within 30-days?

2. Does older adult's access to pharmacy have an impact on their 30 day readmission rates?

3. Does older adult's socioeconomic status have an impact on their 30-day readmission rates?

4. Does older adult's sociodemographic status have an impact on their 30-day readmission rates?

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.

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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. *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.*

Medication compliance along with the increased number of medications older adult are managing continues to grow as this population lives longer with multiple co-morbidities. It is essential that older adults here in Massachusetts have ample access to pharmacy services to help keep them out of the hospital and not facing a readmission due to medication mismanagement. The purpose of this evidence based practice project is to inform and educate state-wide stakeholders of new strategies to guide their readmission work within the state of Massachusetts, and to help influence the 30 day all-cause readmission rate of 16.4% within the Commonwealth for 2015 compared to the national rate of 15.6% for the same year ("Massachusetts Hospital Statewide," 2015, p. 4). Exploring alternative rationales and causes of readmissions beyond diagnosis specific, or improving care transitions will be essential to expand the current understanding and knowledge of improving care within Massachusetts. This DNP scholarly project will examine how access to pharmacy, socio-demographic and socio-economic status compare with seniors who have been readmitted to the hospital within 30-days against those who have not suffered a readmission. To provide evidence and guidance on where statewide stakeholders should focus future readmission efforts.

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The problem of 30 day all cause readmission rates to acute care hospitals is a trending issue across the United State of America and a major risk factor identified with increased readmission rate is polypharmacy (Picker et al., 2015, p. 2). It is essential to continue to explore and engage healthcare leaders across the continuum of care who are trying to create a safe and seamless environment around care transitions for our patients. Healthcare providers have been working on reducing readmission in many ways over the years by looking at disease specific interventions, building cross continuum teams, educating health coaches, and building provider education programs to hopefully have an impact on the 30 day readmission rates within Massachusetts.

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Although there has been significant work conducted over the past several years around reducing the 30 day all cause readmission rates in the Commonwealth of Massachusetts and across the country there has been little research on how access to pharmacy may affect these rates. Exploring new avenues of social determinants of health or socioeconomic factors as a possible reason why the 30-day readmission rates remains relatively steady is crucial to developing new strategies for improvement. It is well documented that approximately 20% of Medicare patients experience a readmission, along with financial implications that cost the US approximately \$25 billion each year, which is why it is important to study this population of seniors (Luder et al., 2015, p. 246). Massachusetts hospitals are incurring more Medicare readmission penalties than compared to their counterparts around the country with 78% of Massachusetts hospital receiving penalties and only 54% nationally receiving the penalties (Boutwell, Noga, & Defossez, 2016, p. 6)

This reaseach is inteneded to provide insight on the comparison of 2 cohorts of older adults 65 years and older, one cohort that has sustained a 30 readmission versus the second that has not experienced a 30 day readmission. Then taking these cohorts and looking at their relationship between thie access to pharmacy. Access to pharmacy is defined as the number of licensed pharmacies within one’s zip code and the hours of operation of those pharmacies. This research will add to the body of knowelge that is known about readmissions. Also this researcher found a gap in the literature on this phinominom of pharmacy acces and its impact on the 30-day readmission rates here in the commonwealth.

Boutwell, A. E., Noga, P. M., & Defossez, S. M. (2016). *State of the state: Reducing readmissions in Massachusetts* [White paper]. Burlington, MA: Massachusetts Hospital Association.

Luder, H. R., Frede, S. M., Kirby, J. A., Epplen, K., Cavanaugh, T., Martin-Boone, J. E., ... Heaton, P. C. (2015, June). Transition RX: Impact of community pharmacy post discharge medication therapy management on hospital readmission rate. *Journal of the American Pharmacists Association*, 55(3), 246-254.

Massachusetts hospitals statewide performance improvement agenda report. (2016). Retrieved from <http://patientcarelink.org/wp-content/uploads/2016/09/PCL-SPIA-Readmissions-narrative-draft-SEP-2016-FINAL.pdf>

Picker, D., Heard, K., Bailey, T. C., Martin, N. R., Lapossa, G. N., & Kollef, M. H. (2015). The number of discharge medications predicts thirty-day hospital readmission: a cohort study. *BMC Health Services Research*, 15(1), 1-8.

VI. DATASETS REQUESTED

1. Specify below the dataset(s) and year(s) of data requested for this Project, and your justification for requesting each dataset.

<input checked="" type="checkbox"/> Hospital Inpatient Discharge Data	Deleted: <input type="checkbox"/>
<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 checked="" type="checkbox"/> 2015	Deleted: <input type="checkbox"/>
Describe how your research objectives require Inpatient Discharge data:	

To have the proper data to analyze 2 cohorts of patients the first cohort will be patients who have experienced a 30-day readmission vs the second cohort of patients who have not experienced a 3-day readmission and this data is housed in the hospital inpatient discharge data set with a 0/1 variable indicating whether the hospital admission resulted in a readmission.

Outpatient Observation Data
 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

Describe how your research objectives require Outpatient Observation data:

Emergency Department Data
 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

Describe how your research objectives require Emergency Department data:

2. Case Mix and Charge Data are updated each fiscal year. As certain Project objectives may require future years of data not yet available, CHIA will consider requests for additional fiscal years of the same data (i.e., same elements and files) without the need to submit a new application. Please note that approved requests will be subject to the Data Use Agreement and fees for additional data. Please indicate below whether this is a one-time request, or if the described Project will require future years of Data and if so, which years.

One-Time OR 2016 2017 2018 2019 2020

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VII. DATA ELEMENTS 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 additional elements listed below for inclusion in their analyses. Requests for additional elements 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 additional elements), please refer to [release layouts, data dictionaries](#) and similar documentation included on CHIA’s website.

1. Specify below which elements 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 Data
 The geographic sub-divisions listed below are available for CT, MA, ME, NH, RI, VT, and NY residents only for FY 2015 and after. Fiscal years 2004 – 2014 will contain the geographic sub-divisions listed below for all states. Choose one of the following geographic 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 ***
<p>***If requested, provide justification for requesting 5-Digit Zip Code or City/Town. Refer to specifics in your methodology:</p> <p><u>Data analysis will be conducted down to the zip code level to compare and analyze any correlation of readmission status and licensed pharmacy zip code location and hours of operation. Data analysis will also look at socioeconomic status and sociodemographic status as it relates to zip code.</u></p>			

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Demographic Data
 Choose one of the following demographic options:

<input type="checkbox"/> Not Requested (Standard)	<input checked="" type="checkbox"/> Race & Ethnicity***
<p>** If requested, provide justification for requesting Race and Ethnicity. Refer to specifics in your methodology:</p> <p><u>Race and ethnicity will be vital demographic data for analysis related to zip code of residence and pharmacy access</u></p>	

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Dates
 Choose one option from the following options for dates of admissions, discharges, and significant procedures:

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

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I will need the Day to determine the 30-day readmission status to determine how to divide the database in the two groups to be studied (case or control group) for statistical analysis.

Practitioner Identifiers (UPN)

Please choose one of the following options for Practitioner Identifier(s):

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

Unique Health Information Number (UHIN)

Please choose one of the following:

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

The Unique Health Information Number (UHIN) is necessary for tracking the targeted population of older adults 65 years or older within the case mix data to determine those who have had a 30-day readmission based on my methodology.

Medication compliance along with the increased number of medications older adult are managing continues to grow as this population lives longer with multiple co-morbidities. It is essential that older adults in Massachusetts have ample access to pharmacy services to prevent hospital readmissions due to medication mismanagement. The purpose of this evidence based practice project is to identify factors such as pharmacy access, socioeconomic status and sociodemographic data that increase 30-day hospital readmission in the state of Massachusetts in order to develop an educational program for key stakeholders. Exploring alternative rationales and causes of readmissions beyond diagnoses will be essential to expand the current understanding and knowledge of improving care within Massachusetts. This DNP scholarly project will examine how access to pharmacy, socio-demographic and socio-economic status compare with seniors who have been readmitted to the hospital within 30-days against those who have not suffered a readmission. The findings will be used to

provide evidence and guidance on where statewide stakeholders should focus future readmission efforts.

Hashed Mother's Social Security Number
Please choose one of the following:

<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:**

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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

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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):

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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.

Database of licensed pharmacies within the Commonwealth in 2015 aggregated by zip code and city/town level data
The two databases will be linked within the SPSS software with both the case and control groups to analyze older adults

who have incurred a 30-day readmission and those who have not, to the number of licensed pharmacies within their zip code of residence on file. The data will analyzed across the state of Massachusetts at the zip code and city/town level. Data subjects will be protected as the data will be presented in its aggregated form for zip code along with city/town level data for the state of Massachusetts only. There will be no identifying data that will be shared and once the analysis is completed the dataset will be destroyed.

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.

Statistical analysis will be done using SPSS software with a statistician and student researcher. The method will be deterministic as each of the case/control groups will be applied to the same level of statistical analysis, and will be compared to the same licensed pharmacies within the same zip codes of the older adults address on file. The two groups will be analyzed by zip code and city/town within the state of Massachusetts.

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

CHIA data information will not be used to identify patients or increase the risk of identification post-linkage. Final analysis will not include patient or record-level information, and will be limited to aggregate zip code level results.

IX. PUBLICATION / DISSEMINATION / RE-RELEASE

1. Describe your plans to publish or otherwise disclose CHIA Data, or any data derived or extracted from CHIA Data, in any paper, report, website, statistical tabulation, seminar, conference, or other setting. 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.

Initial product of the analysis will be shared with faculty at Regis College and current or past students during evaluation and writing of my DNP Capstone. Upon completion of my Capstone the data will be published in the Regis College Library with all other DNP Capstone projects. The data will be shared with my employers the Massachusetts Health and

Hospital Association and several of their standing committees and other Massachusetts stakeholders who are working on reducing readmissions. My results will also be share with the Jonas Foundation as I am a Jonas Nurse Leader Scholar and I am expected to present my research at state and national conference. This researcher may want to publish in national or state publications.

2. Do you anticipate that the results of your analysis will be published and/or made publically available? If yes, describe how an interested party will obtain your analysis and, if applicable, the amount of the fee, that the third party must pay.

If interested parties would like to obtain my analysis , I would consider such requests on a case by case basis. I do not anticipate charging any fees for such an anlysis/report, unless the request would impose significant additional work burdens or expense to do so

3. Will you use CHIA Data for consulting purposes?

- Yes
- No

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

- Yes
- No

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

- Yes
- No

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6. Will you be reselling CHIA Data in any format?

- Yes
- No

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If yes, in what format will you be reselling CHIA Data (e.g., as a standalone product, incorporated with a software product, by a subscription, etc.)?

7. If you have answered "yes" to questions 4, 5 or 6, please describe the types of products, services or studies.

8. If you have answered “yes” to questions 4, 5, or 6, what is the fee you will charge for such products, services or studies?

X. 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.

Dr. Oot Hayes is a professor of nursing and has been conducting research since the 1980's. Including randomized controlled trials. She will be overseeing this research along with a statistician from the college as well.

Lorraine Schoen has been responsible for coordinating the Massachusetts hospital in the Commonwealth Fund/IHI STAAR Project (State Action on Avoidable Rehospitalizations), represented MHA on the MHCD Care Transitions Workgroup, and directed the MHA Hospital Engagement Network efforts to reduce readmission and patient safety under a grant from CMS Partnership for Patients. I also oversee the Hospital Improvement Innovation Network which is and extension of the HEN work to reduce readmissions.

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

Please note: 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.

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:	
Company Website:	
Contact Person:	
Title:	
E-mail Address:	
Address, City/Town, State, Zip Code	
Telephone Number:	
Term of Contract:	

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

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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.

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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.

AGENT/CONTRACTOR #2 INFORMATION	
Company Name:	
Company Website:	
Contact Person:	
Title:	
E-mail Address:	
Address, City/Town, Zip Code	
Telephone Number:	
Term of Contract:	

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

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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.

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.

XII. 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 its agents.

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 :	

Attachments

A completed Application must have the following documents attached to the Application:

- 1. IRB approval letter and protocol (if applicable)
- 2. Research Methodology (if protocol is not attached)
- 3. CVs of Investigators

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4. 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)

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Applications will not be reviewed until they are complete, including all attachments.

TRACKING TABLE (to be completed by CHIA staff only)	
Complete Application Received	
Application Fee Received	
Data Privacy Committee Review	
Data Release Committee Review	
Linkages Approved (as described)	
Approved for additional years of data	
Executive Director Approval	
Data Fee Received	
Date of First Audit	
IT Extract #	

Attachment #1 – IRB Approval Letter & Protocol or Research Methodology

Attachment #2 – Data Management Plan(s)

