CHIA.
center for health information and analysis

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:	**Evaluation of the Lahey Lowell Joint CHART Initiative**
IRBNet Number:	TBD
Organization Requesting Data:	**Brandeis University**
Organization Website:	http://www.brandeis.edu
Authorized Signatory for Organization:	**Stanley M. Bolotin**
Title:	Director, Pre-Award Services, Research Admin.
E-Mail Address:	bolotin@brandeis.edu
Address, City/Town, State, Zip Code:	Office of Research Administration, MS 116, Brandeis University, 415 South Street, Waltham, MA 02453-2728
Primary Investigator:	**Mary Brolin, Ph.D.**
Title:	Scientist
E-Mail Address:	brolin@brandeis.edu
Telephone Number:	781 736 5737
Names of Co-Investigators:	Dominic Hodgkin, Constance Horgan, Lee Panas, Sharon Reif, Grant Ritter

E-Mail Addresses of Co-Investigators:	hodgkin@brandeis.edu, horgan@brandeis.edu, lpanas@brandeis.edu, reif@brandeis.edu, ritter@brandeis.edu

III. FEE INFORMATION

1. Consult the Fee Schedule for Case Mix and Charge Data and select one of the following options:

☒ Researcher
☐ Other
☐ Reseller

2. Are you requesting a fee waiver?

☒ Yes
☐ No

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]

☐ 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)	

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

The purpose of the project is to assess the effect of the Lahey/Lowell CHART intervention on service utilization and outcomes, including changes in acute service utilization and use of behavioral health treatment services. We are obtaining data on the Lahey CHART hospitals directly from Lahey. But we hope to use CHIA data to create a comparison group of similar hospitals.

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**: 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.*

Hospital systems and insurers face major challenges in terms of patients' repeated utilization of high cost services, particularly hospitalizations and emergency department (ED) services. These challenges are exacerbated for patients with co-occurring disorders who fail to link with community-based behavioral health services and turn to acute treatment services when in crisis. The goal of the study is to evaluate an intervention aimed at addressing the needs of moderate and high utilizers to break this cycle and improve health care and health outcomes while also decreasing costs. If Lahey's intervention proves successful, other health systems are likely to adopt it, resulting in wider public benefits.

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.

☐ **Hospital Inpatient Discharge Data**

☐2004 ☐2005 ☐2006 ☐2007 ☐2008 ☐2009 ☐2010 ☐2011 ☐2012 ☐2013 ☐2014 ☒2015

Describe how your research objectives require Inpatient Discharge data:

The initiative we are evaluating seeks to reduce use of inpatient and emergency department care by providing intensive case management and counseling support to moderate and high utilizers of acute treatment services, and linking them to appropriate behavioral health treatment services. Impact on inpatient hospitalization is one of the key study questions.

☐ **Outpatient Observation Data**

☐2004 ☐2005 ☐2006 ☐2007 ☐2008 ☐2009 ☐2010 ☐2011 ☐2012 ☐2013 ☐2014 ☒2015

Describe how your research objectives require Outpatient Observation data:

The initiative we are evaluating seeks to reduce use of inpatient and emergency department care by providing intensive case management and counseling support to moderate and high utilizers of acute treatment services, and linking them to appropriate behavioral health treatment services. One key question is whether this will shift some care from inpatient to outpatient settings.

☐ **Emergency Department Data**

☐2004 ☐2005 ☐2006 ☐2007 ☐2008 ☐2009 ☐2010 ☐2011 ☐2012 ☐2013 ☐2014 ☒2015

Describe how your research objectives require Emergency Department data:

The initiative we are evaluating seeks to reduce use of inpatient and emergency department care by providing intensive case management and counseling support to moderate and high utilizers of acute treatment services, and linking them to appropriate behavioral health treatment services. Impact on emergency department utilization is one of the key study questions.

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

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.

☐ 3-Digit Zip Code (Standard)	☒ 3-Digit Zip Code & City/Town ***	☐ 5-Digit Zip Code ***	☐ 5-Digit Zip Code & City/Town ***

We will be using these data to create a comparison group for our Lahey CHART hospitals. This may involve identifying which potential comparator hospitals serve catchment areas that are demographically similar to the areas served by the
Lahey CHART hospitals. Three-digit zip codes are not detailed enough for such comparisons. E.g. the 3-digit zip code for Lahey Burlington (018) also includes Haverhill, Lawrence and towns along the New Hampshire border. Adding in the town information will allow a more fine-grained analysis of which hospitals would make a valid comparison group.

Demographic Data
Choose *one* of the following demographic options:

☐ Not Requested (Standard)	☒ Race & Ethnicity***

Justification: Our study aims include testing for differences in outcomes by key demographic and patient characteristics, including race/ethnicity.

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

☐ Year (YYYY)(Standard)	☐ Month (YYYYMM) ***	☒ Day (YYYYMMDD)***

Our outcome measures include measuring a patient's use of acute care over a defined period after an index admission (e.g. 6 or 12 months after). Exact dates are needed in order to define each patient's 6 or 12 month window, and then compute the measure.

Practitioner Identifiers (UPN)
Please choose *one* of the following options for Practioner Identifier(s):

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

☐ Not Requested (Standard)	☒ UHIN Requested ***
We need the ability to track a patient's acute care utilization across different hospitals that may use differing patient identifiers.	

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

☒ Not Requested (Standard)	☐ Hashed Mother's SSN Requested ***
*** If requested, provide justification for requesting Hashed Mother's SSN. Refer to specifics in your methodology:	

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.

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.

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

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.

We plan to prepare a report for the Lahey Clinic detailing our findings. We also plan to write manuscripts for submission to peer-reviewed journals. In both cases we will comply with CHIA's cell size suppression policy. The PI and research team will review all tables before any dissemination occurs, to check that no cells include numbers that violate the cell size suppression policy.

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.

We anticipate that the results of our analysis will be published in peer-reviewed research journals, and thereby made publicly available. The journals we tend to publish in are either open access or available through academic libraries without a fee.

3. Will you use CHIA Data for consulting purposes?
- ☐ Yes
- ☒ No

4. Will you be selling standard report products using CHIA Data?
- ☐ Yes
- ☒ No

5. Will you be selling a software product using CHIA Data?
- ☐ Yes
- ☒ No

6. Will you be reselling CHIA Data in any format?
- ☐ Yes
- ☒ No

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.

Mary Brolin, Ph.D. Dr. Brolin has worked in the substance abuse field for 27 years and specializes in research and evaluation with community-based programs using mixed methods. Her research interests focus on the intersection of substance abuse treatment services with other service systems, including the healthcare system. Dr. Brolin was a key researcher on Brandeis' Using Recovery Support Navigators and Incentives to Improve Substance Abuse Medicaid Client Outcomes and Costs. Funded by a Health Care Innovation Award from the Centers for Medicare & Medicaid Services, this study aimed to (1) reduce detox readmission rates, (2) improve substance use disorder treatment initiation and engagement, (3) improve Member health outcomes, and (4) decrease overall health care costs. The CMS study used both claims analyses and stakeholder and site input. The health care cost portion of the study involved analysis of hospital claims data, which Dr. Brolin directed.

Dominic Hodgkin, Ph.D. Dr. Hodgkin, a health economist and Professor at IBH, has 25 years' experience of working on economic issues in behavioral health, including benefits design, managed care and psychotropic medication prescribing. He has used hospital discharge abstract data from Maine and New Hampshire to analyze of cardiac care utilization patterns; survey data from the American Hospital Association to examine hospital cost trends; and hospital claims data from Medicaid and private health plans to analyze how different financing arrangements affect utilization of hospital care.

Constance M. Horgan, Sc.D. is a Professor at the Heller School for Social Policy and Management at Brandeis University and is the founding Director of its Institute for Behavioral Health. She has used Medicaid claims from Massachusetts to examine alternative payment mechanisms for behavioral health. Dr. Horgan is a national expert on the organization, financing and quality of behavioral healthcare and has led studies for a range of organizations, including the Agency for Healthcare Research and Quality (AHRQ), the National Institutes of Health (NIMH, NIAAA, and NIDA), the Center for Medicare and Medicaid Services (CMS), the Substance Abuse and Mental Health

Administration (SAMHSA); state governments; and foundations, including Robert Wood Johnson. She serves as a board member for the Massachusetts Health Policy Forum, the Massachusetts Health Council, and the Greater Boston Council on Alcoholism.

Lee Panas, M.S. is a senior statistical programmer at IBH. Mr. Panas used hospital discharge data for participants of Medicare Current Beneficiary Survey. These data were used to examine the relationship between alcohol consumption/alcohol disorder diagnosis and receipt of recommended medical services in the medicare elderly population.

Sharon Reif, Ph.D. is a Senior Scientist at IBH. She has over 25 years of experience conducting health services research related to substance use treatment, focused on the treatment system, what happens to clients during and after treatment, and how that relates to the providers who treat them. Dr. Reif has been PI or co-investigator on numerous health services research studies, including evidence-based management practices, medications for treating addiction, clinician characteristics and access to behavioral health services within private health plans, financing and access to care, the role of incentives in driving quality and the impact of health reform and parity on behavioral health service delivery. Dr. Reif has used Medicaid claims data from 10 states to analyze behavioral health readmissions following an index admission for any cause.

Grant Ritter, Ph.D. Dr. Ritter, statistician for the project, has twenty five years of experience analyzing hospital claims and patient centeredness data in both the governmental (e.g., Medicare, Medicaid, Tri-Care) and the private sector (third party insurance, Premier). The many hospital-related projects he has worked on during this time have involved numerous issues regarding quality, cost-containment, efficiency, and value.

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 Agency assumes all responsibility for the use, security and maintenance of the CHIA Data by its agents, including but not limited to contractors. The Agecny 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 amendemtn 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:	
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.

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.

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.

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 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)	Stanley M. Bolotin
Printed Name :	Stanley M. Bolotin

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

☐ 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)

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

a. **Title of study** – Evaluation of the Lahey Lowell Joint CHART Initiative.

b. **Purpose of study** – Hospital systems and insurers face major challenges in terms of patients' repeated utilization of high cost services, particularly hospitalizations and emergency department (ED) services. These challenges are exacerbated for patients with co-occurring disorders who fail to link with community-based behavioral health services and turn to acute treatment services when in crisis. Lahey Health, including Addison Gilbert, Beverly and Winchester Hospitals, and its partners Circle Health-Lowell General Hospital and Lahey Health Behavioral Services, recognized the importance of addressing the needs of moderate and high utilizers[1] to break this cycle and improve health care and health outcomes while also decreasing costs. Lahey Health and its partners applied for and received funding from the Massachusetts Health Policy Commission to implement the Lahey Lowell Joint CHART Initiative. This initiative provides intensive case management and counseling support to moderate and high utilizers of acute treatment services in efforts to link them to appropriate behavioral health treatment services and reduce use of emergency room and hospitalization services.

   Subsequent to the award from the Massachusetts Health Policy Commission, Lahey Health Behavioral Services applied for and received funding from the Argosy Foundation to evaluate outcomes and disseminate findings from its Lahey Lowell Joint CHART Initiative, since the Massachusetts Health Policy Commission did not provide funding for such an evaluation and dissemination effort. For this project, Brandeis will conduct site visits and key informant interviews to describe the intervention in detail and secondary data analysis of health care utilization and case management data to assess CHART service utilization and outcomes, including changes in acute service utilization and use of behavioral health treatment services.

c. **Sponsor of study & COI** – Lahey Health Behavioral Services (LHBS) is contracting with Brandeis to conduct the study. LHBS received a grant from the Argosy Foundation to conduct the study and to disseminate findings. Neither Brandeis, the PI (Brolin), nor the other researchers on the team (Horgan, Adams, Dunigan, Hodgkin, Lee, Panas, Prost, Reif, Ritter, Miles) have a conflict of interest with LHBS, its partners, or the Argosy Foundation.

d. **Principal investigator's professional qualifications** – The evaluation for the project will be led by Dr. Mary Brolin from Brandeis University's Institute for Behavioral Health within the Schneider Institutes for Health Policy at the Heller School for Social Policy and Management. Dr. Brolin has worked in the substance abuse field for 27 years and specializes

[1] Moderate utilizers are patients with 8-13 visits to the Emergency Department (ED) within 12 Months and a behavioral health diagnosis during one of the ED visits counted in the 12 month period. High utilizers are patients with 14 or more ED Visits within 12 months and any diagnosis.

in research and evaluation with community-based programs using mixed methods. Her research interests focus on the intersection of substance abuse treatment services with other service systems, including the healthcare system. Dr. Brolin was a key researcher on Brandeis' Using Recovery Support Navigators and Incentives to Improve Substance Abuse Medicaid Client Outcomes and Costs. Funded by a Health Care Innovation Award from the Centers for Medicare & Medicaid Services, this study aimed to (1) reduce detox readmission rates, (2) improve substance use disorder treatment initiation and engagement, (3) improve Member health outcomes, and (4) decrease overall health care costs. The CMS study used both claims analyses and stakeholder and site input. Initially, the CMS study was co-led by Drs. Elizabeth Merrick and Constance Horgan. Before the end of the study, Dr. Merrick retired and Dr. Brolin took over as co-PI. Dr. Horgan will be co-lead the Lahey study.

e. **Student Researcher's qualifications (for student-initiated research)** – Not applicable.

f. **Other Research Personnel** – evaluation team for the evaluation of the Lahey Lowell Joint CHART Initiative includes Drs. Constance Horgan, Rachel Sayko Adams, Robert Dunigan, Dominic Hodgkin, Margaret Lee, Sharon Reif, and Grant Ritter, as well as Mr. Lee Panas, Ms. Carol Prost, and Ms. Jennifer Miles.

Constance Horgan, ScD -- Professor and Director of IBH, Dr. Horgan will co-lead the proposed work. She is a national expert on the organization, financing and quality of behavioral healthcare. Her research is focused on how alcohol, drug and mental health services are financed, organized, and delivered in the public and private sectors and what approaches can be used to improve the quality and effectiveness of the delivery system. Dr. Horgan has led studies for a range of organizations, including the Agency for Healthcare Research and Quality (AHRQ), the National Institutes of Health (NIMH, NIAAA, and NIDA), the Center for Medicare and Medicaid Services (CMS), SAMHSA; state governments; and foundations, including Robert Wood Johnson. She leads the Brandeis/Harvard Center to Improve System Performance of Substance Use Disorder Treatment funded by NIDA. She is a member of the National Committee on Quality Assurance's (NCQA) Behavioral Health Care Measurement Advisory Panel and the National Quality Forum's (NQF) Behavioral Health Standing Committee. Dr. Horgan received the 2010 Anderson Award from the National Association of State Alcohol and Drug Abuse Directors (NASADAD) for distinguished contributions in the field of addiction, research, training and evaluation. She serves as a board member for the Massachusetts Health Policy Forum and the Massachusetts Health Council.

Rachel Sayko Adams, Ph.D. – A Scientist at IBH, Dr. Adams has been conducting health policy research studies for twelve years. She conducts mixed methods studies of military personnel and their families, the use of complementary and integrative medicine as a complement or substitute for opioids in treatment of chronic pain, the health effects of

deployment on military spouses and children, and the impact of early behavioral health treatment in reducing long term substance use and psychological health problems post-deployment. She will partner with Dr. Brolin to lead the day-to-day work of the process evaluation and key stakeholder interviews. She will also contribute to the dissemination of the evaluation findings.

Robert Dunigan, Ph.D. – A Senior Research Associate at IBH, Dr. Dunigan has over 15 years of experience conducting studies on health disparities and evaluating substance use disorder treatment programs. Dr. Dunigan conducts many process evaluations using qualitative methods. He will conduct site visits and focus groups as part of the process evaluation, conduct interviews with key stakeholders and help disseminate findings of the evaluation study.

Dominic Hodgkin, Ph.D. – Dr. Hodgkin, a Health Economist and Professor at IBH, has 25 years' experience of working on economic issues in behavioral health, including benefits design, managed care and psychotropic medication prescribing. Dr. Hodgkin will partner with Dr. Brolin to lead the day-to-day work of the quantitative outcomes analysis. Dr. Hodgkin will also contribute on the dissemination of the evaluation findings.

Margaret Lee, Ph.D. – Dr. Lee is a Scientist at IBH. Her work focuses on healthcare quality and performance measurement. Dr. Lee will help prepare literature reviews, conduct the quantitative outcome analysis, and contribute to the dissemination of the evaluation findings.

Lee Panas, M.S.– Mr. Panas is a Senior Database Programmer at IBH with more than 20 years of experience as a statistical analyst/programmer in the behavioral health field. He will conduct statistical analyses of CHART claims/electronic health data and case management data, as well as any available comparison data.

Carol Prost, M.Ed., M.A. – Ms. Prost is a Research Associate II and Project Manager at IBH and has worked in the substance abuse field since 1996 conducting qualitative evaluations in community- and school-based settings. Ms. Prost will conduct site visits and focus groups as part of the process evaluation, and conduct interviews with key stakeholders.

Sharon Reif, Ph.D. – Dr. Reif is a Senior Scientist and Deputy Director of IBH. She has over 25 years of experience conducting health services research related to substance use treatment, focused on the treatment system, what happens to clients during and after treatment, and how that relates to the providers who treat them. Dr. Reif will contribute to the quantitative outcomes analysis and the dissemination of evaluation findings.

Grant Ritter, Ph.D. – Dr. Ritter is an Associate Research Professor at Heller and a Statistician in the Schneider Institutes for Health Policy. He has provided statistical guidance on behavioral health studies for over 20 years, particularly regarding evaluation of interventions and programs, the measurement of quality and its relationship with outcomes, and disparities in provision of services based on gender, race, and ethnicity. He will contribute to the quantitative outcomes analysis and the dissemination of evaluation findings.

Jennifer Miles, MA – Ms. Miles' is a 3rd year Ph.D. student at the Heller School. Her research interests include development of a chronic care model for the treatment of alcohol and drug use disorders, innovations in the payment and financing of substance use treatment, and the mechanisms for change necessary to transform treatment systems to better assist individuals with AODs. Prior to her graduate studies, Ms. Miles worked as a research

assistant in the Center on the Continuum of Care at the Treatment Research Institute, where she was involved with a number of projects, including the first study of recovery residences in Philadelphia, for which she is a co-author on several presentations. She also worked on an NIAAA-funded study that focused on how treatment could be adapted to meet the needs of individual patients. At the Heller School, Ms. Miles has served as a graduate research assistant on a study of the use of recovery navigators to improve post-detox outcomes and a study of using community factors to identify disparities in alcohol and drug use treatment. Ms. Miles will support the site visit teams and conduct and report on key informant interviews. She will also support literature reviews, quantitative analyses and reporting on study findings.

g. **Results of previous related research** – As mentioned above, we recently completed the Using Recovery Support Navigators and Incentives to Improve Substance Abuse Medicaid Client Outcomes and Costs study. In this study, repeat detox clients could access a Recovery Support Navigator (RSN group) and some also could receive incentives for meeting specific goals (RSN+I group). RSN and RSN+I clients were compared to clients in treatment as usual (TAU). Although the study did not show a significant reduction in detox readmission rates, Members in the RSN intervention group were significantly less likely to use ED services after the index detox compared to those in the TAU group. Further, Members in the RSN group had lower costs relative to Members in the TAU group. There was an average savings of $1,016 per Member for a total savings of $2,710,058. Taking into account the investment needed for this new service ($258 per Member), the initial investment would be fully recaptured in 3.1 months with a total ROI of 393%. An initial paper on the incentive component was published in 2017 and a second paper on cost outcomes is under review.[2]

h. **Subject characteristics & inclusion/exclusion criteria** – The evaluation study involves four types of study subjects:

1. We will conduct site visits and interview staff of the CHART programs associated with the four intervention hospitals (Addison Gilbert, Beverly and Winchester Hospitals in the Lahey Health System and Circle Health-Lowell General Hospital). These visits will involve the case managers, social workers and other key staff working within the CHART program. All staff will be invited to participate in the visit and interviews, but participation will be voluntary. For those who consent to participate, we will also send a follow-up electronic survey to allow individual input about the program that staff may not feel comfortable sharing in a group interview.

2. We will conduct interviews with key collaborating agencies connected to each CHART program, as part of the site visit. This will include key staff in the emergency room of the intervention hospitals, and key staff at related programs including urgent care centers,

[2] See **Brolin, M.,** Torres, M., **Hodgkin, D., Horgan, C., Lee, M.,** Merrick, E., **Ritter, G., Panas, L.,** DeMarco, N., Hopwood, J., Gewirtz, A., Straus, J., Harrington, J., Lane, N. (2017). Implementation of Client Incentives within a Recovery Navigation Program. *Journal of Substance Abuse Treatment, 72*, 25-31.

mobile crisis teams and telephone triage team, as well as collaborating behavioral health treatment programs. The Lahey Leadership or staff from the CHART team will identify the appropriate people for the interviews with the collaborating agencies. If someone declines, they will be asked to suggest an alternative or Lahey Leadership or the CHART team will be consulted for an alternative person.

3. We will conduct stakeholder interviews with administrators of the key organizations that implement the CHART Initiative, including hospital administrators, emergency room directors, and Lahey Health and Circle Health leadership. The CHART team and Lahey Leadership will identify the appropriate people for the stakeholder interviews. If someone declines, they will be asked to suggest an alternative or the CHART team and Lahey Leadership will be consulted for an alternative person.

4. Finally, we will conduct secondary data analyses on patients who enter one of the intervention hospitals (Addison Gilbert, Beverly and Winchester Hospitals in the Lahey Health System and Circle Health-Lowell General Hospital) and meet the eligibility criteria. We will also work to include patients from a comparison hospital that is not implementing the CHART Initiative. This might be Burlington Hospital, which is also part of the Lahey Health System.

   Patients are eligible if they received services in the Emergency Department (ED) of an intervention or comparison hospital and (1) had 8-13 visits to the ED within the past 12 Months and a behavioral health diagnosis during one of the ED visits counted in the 12 month period (moderate utilizers), or (2) had 14 or more ED Visits within the past 12 months, regardless of diagnosis (high utilizers).

   The study will use an intent-to-treat approach to mitigate the possible selection effects of patients choosing whether or not to accept or engage in services. Under the intent-to-treat approach, all study eligible patients will be included in the administrative analyses, regardless of whether or not they used the CHART services. Each client will be assigned to an analysis group (moderate utilizer or high utilizer; intervention or comparison) based on his/her eligibility at the index admission. Patients will continue to be classified based on their original assignment throughout the course of the study, even if they later change utilization status (e.g., high utilizer becomes a moderate utilizer).

i. **Justification for use of any special/vulnerable subject populations, if applicable** – Repeat users of ED services with and without behavioral health diagnoses are vulnerable subjects because of their health status. This study will assess the benefits of an intensive case management program for this population, and must, therefore, include these subjects in the study.

j. **Recruitment procedures** – The four types of study subjects will be recruited as follows:

1. We will conduct site visits and interview staff of the CHART programs associated with the four intervention hospitals (Addison Gilbert, Beverly and Winchester Hospitals in the Lahey Health System and Circle Health-Lowell General Hospital). We will also send a shorter follow-up electronic survey to gather additional input. These visits, interviews and surveys will involve the case managers, social workers and other key staff working within the CHART program. Lahey leadership will provide contact information for staff at each of the implementation sites. The Brandeis evaluation team will then contact these staff to explain the evaluation, invite them to be part of the site visits (see recruitment script in Attachment B), and schedule a site visit time that works for both groups. At each of the site visits, we will obtain written consent from all staff involved in the interview(s) and surveys (see consents in Attachment A).

2. We will conduct interviews with key collaborating agencies connected to each CHART program, as part of the site visit. This will include key staff in the emergency room of the intervention hospitals, and key staff at related programs including urgent care centers, mobile crisis teams and telephone triage team, as well as collaborating behavioral health treatment programs. Lahey leadership or staff from CHART intervention sites will provide contact information for staff at each of the collaborating agencies. The Brandeis evaluation team will then contact these staff to explain the evaluation and invite them to be part of the collaborating agency interviews (see recruitment script in Attachment B). If the identified collaborating staff member declines to participate, we will ask for a referral to someone else in their organization or ask Lahey Leadership or CHART staff for another referral. At each of the collaboration agency interviews, we will obtain written consent from all staff involved in the interview(s) (see consents in Attachment A).

3. We will conduct stakeholder interviews with administrators of the key organizations that implement the CHART Initiative, including hospital administrators, emergency room directors, and Lahey Health and Circle Health leadership. Lahey leadership or staff from CHART intervention sites will provide contact information for stakeholders at key organizations. The Brandeis evaluation team will then contact these individuals to explain the evaluation and invite them to be part of the stakeholder interviews (see recruitment script in Attachment B). If a stakeholder declines to participate, we will ask for a referral to someone else in their organization or ask Lahey Leadership or CHART staff for another referral. At each of the stakeholder interviews, we will obtain written consent from all individuals involved in the interview(s) (see consents in Attachment A).

4. Finally, we will conduct secondary data analyses on patients who enter one of the intervention (Addison Gilbert, Beverly and Winchester Hospitals in the Lahey Health System and Circle Health-Lowell General Hospital) and meet the eligibility criteria. We

will also work to include patients from a comparison hospital that is not implementing the CHART Initiative. This might be Burlington Hospital, which is also part of the Lahey Health System. Lahey staff recruited patients into the intervention in-person or by phone but did not use a standard script. Patients who engaged in CHART services were asked to sign a consent form to participate (see consents in Attachment A). At that time, Lahey had not planned an evaluation of the intervention, so the consent does not discuss releasing data for the evaluation. All data reported to the funder (Massachusetts Health Policy Commission) are reported in aggregate.

k. **Study design** – For this evaluation, the Brandeis Team will (a) conduct a process evaluation of the CHART Initiative to fully understand and document the intervention, including variations by sites; (b) gather input from key healthcare system stakeholders to learn about system barriers and facilitators for adoption and sustainability; and (c) conduct a quantitative outcomes analysis of the CHART Initiative, using a pre/post comparison design to determine if the CHART model successfully reduced use of, and costs related to, acute treatment services. See Attachment F for the Grant Proposal.

Conduct Process Evaluation of CHART Initiative

Process evaluation is essential to outcomes evaluation to fully explain client outcomes, confidently attribute them to the intervention under evaluation and, when interventions prove effective, replicate best practices (Rossi et al., 2004; Harachi et al., 1999; Jerrell & Ridgely, 1999; McHugo et al., 1999). To document implementation and identify barriers and challenges, changes to program design and successes, including policy changes and sustainability efforts, the process evaluation will involve site visits at each of the implementation sites and review of key documents. The site visits will include interviews with staff involved in the day-to-day operations of the CHART Initiative, as well as interviews with collaborating agencies including ER staff, urgent care staff, and behavioral health staff. For those who staff who consent to participate, we will also send a follow-up electronic survey to allow individual input about the program that staff may not feel comfortable sharing in a group interview. The goal is to document (see Attachment C for study instruments):

- Staffing patterns by roles and responsibilities, identifying the makeup of the multi-disciplinary team and who is responsible for what portion of patient care, as well as the mix of fee-for-service versus permanent employees in the team composition;
- CHART service hours, location of services, how long patients wait before receiving services, screening and assessment tools and other protocols used by each site, where and when patient engagement takes place, and how patients are determined to receive which services, and successes and challenges in service provision;
- How the telephone triage system works, integration of services in the ER, whether mobile crisis has been enhanced and how that interfaces with CHART services, how

urgent care centers are used, and ways staff use data systems (e.g., EPIC, NetSmart, Study Trax) to facilitate their work;

- How CHART staff communicate/share information about patients with each other;
- Whether the CHART Initiative is reaching all patients who are eligible and, if not, what proportion of patients are reached and why some patients participate and others do not;
- Whether CHART services seem to work better for some populations than others;
- Typical referral networks and how CHART staff help patients engage in community behavioral health services including follow-up protocols; and
- Barriers and facilitators of success.

Information from the site visits, interviews, surveys and document review will allow us to describe the CHART Initiative implementation within and across sites. These findings will be used to explain differences in outcomes by sites and support replication if proven successful.

Gather Input from Key Healthcare System Stakeholders

To fully understand how the CHART Initiative operated within the larger healthcare system and to identify barriers and facilitators for full adoption and sustainability, we will conduct interviews with key healthcare system stakeholders, including hospital administrators; directors and/or staff of the ERs, urgent care centers and behavioral health services; supervisors of the social workers and community health workers staffing the CHART initiative, and leadership from Lahey Health and Circle Health. Through this data collection effort, we will describe (see Attachment C for study instruments):

- Changes made by each of the healthcare systems involved, including challenges in making these changes and challenges in sustaining them;
- Staffing successes and challenges;
- Special initiatives or reforms made to the hospital system to address barriers regarding client access;
- Benefits and challenges of the new service provision model and they systems supporting those services (e.g., telephone triage system, integration of services in the ER, urgent care centers, and data systems); and
- The likelihood of sustainability and what hospital administrators would need to learn from this project to fund it from operating costs.

The findings from the interviews with key healthcare system stakeholders will be integrated into the process evaluation findings and used to better understand outcomes and future replication.

Conduct a Quantitative Outcomes Analysis of the CHART Initiative

For the quantitative analysis, the Brandeis Team will conduct a pre/post analysis using an intent-to-treat design. The study will test the impact of the CHART model on reducing over-utilization of acute care services and overall health care costs for eligible patients who are moderate and high utilizers of ER services. We will also work with Lahey Health Behavioral Services to identify and, if possible, access an appropriate comparison group from a comparable community hospital(s) either directly (e.g., Burlington Hospital) or through the Massachusetts All Payer Claims Database maintained by the Center for Health Information and Analysis (CHIA).

The study will use an intent-to-treat approach to mitigate the possible selection effects of patients choosing whether or not to accept or engage in services. Under the intent-to-treat approach, all study eligible patients will be included in the administrative analyses, regardless of whether or not they used the CHART services. Each client will be assigned to an analysis group (moderate utilizer or high utilizer) based on his/her eligibility at the index admission. Patients will continue to be classified based on their original assignment throughout the course of the study, even if they later change utilization status (e.g., high utilizer becomes a moderate utilizer). Key outcomes for the intervention and comparison patients will be measured six-to-twelve months before and six-to-twelve months after the index event to study change.

The outcomes analysis will use administrative and/or electronic health record data to assess (see Attachment D for variables that will be requested and a sample of administrative data that will be provided):

- The proportion of eligible patients who engage in CHART services;
- The proportion of patients who receive services from a multi-disciplinary team and the intensity of services received;
- Changes in ER admissions and costs;
- Changes in hospital admissions, lengths of stay and costs;
- Changes in access to behavioral health services (use of appropriate behavioral health services);
- Net healthcare savings given the investment in the CHART Initiative and any increases in use of behavioral health services. These analyses will also estimate the timeframe in which the initial investment will be recouped;
- Cost-benefit analyses to determine if the benefits of the CHART model outweigh the costs of implementation; and
- Differences in outcomes by key demographic and patient characteristic groups (e.g., gender, race, moderate or high utilizer), intensity of services received, and site.

The findings from the outcomes analysis will be integrated with the process evaluation findings for a complete summary of the CHART Initiative.

I. Procedures to be performed

Process Evaluation of the CHART Initiative

We will conduct site visits, interviews and follow-up surveys at each of four intervention sites. At the site visit, we will meet program staff and conduct a detailed staff interview with these staff in a group, although some questions may be addressed with staff individually if they are not able to attend the full group interview. We will tour the program site and collect all documents related to the program including policies and protcols, client handbooks and any reports or other key documents generated by the program. Following the site visit, we will send a shorter electronic survey to staff who agree to participate in the study to allow individual input about the program that staff may not feel comfortable sharing in a group interview. We will send two follow-up emails to staff who have not completed the follow-up survey. We will only make these three attempts asking for staff to complete the survey.

We will also conduct interviews with collaborating agencies, including those who refer clients into the CHART program and those to which the CHART program refers clients for additional services. Interviewees will be identified by CHART program staff and Lahey leadership. If someone in a particular organization is identified but not willing or able to complete the interview, we will ask that person for an alternative contact. We will try to conduct these interviews in-person as part of the site visit. Depending on scheduling needs of the organizations, the site visit may take place over two non-consecutive days. For collaborating agencies that cannot meet during the site visit, we will conduct interviews by telephone.

For all interviews, we will ask interviewees to complete a consent form prior to the interview. For in-person interviews, this will take place just before the interview. For telephone interviews, we will send the consent form via email and discuss over the telephone. We will ask the interviewee to send the completed consent form by email or fax prior to the interview.

Input from Key Healthcare System Stakeholders

We will also conduct stakeholder interviews with key healthcare system staff from Lahey and collaborating agencies, including those who refer clients into the CHART program and those to which the CHART program refers clients for additional services. Interviewees will be identified by CHART program staff and Lahey leadership. If someone in a particular organization is identified but not willing or able to complete the interview, we will ask that person for an alternative contact. We will try to conduct these interviews in-person as part of the site visit. Depending on scheduling needs of the organizations, the site visit may take place over two non-consecutive days. For collaborating agencies that cannot meet during the site visit, we will conduct interviews by telephone.

For all interviews, we will ask interviewees to complete a consent form prior to the interview. For in-person interviews, this will take place just before the interview. For telephone interviews, we will send the consent form via email and discuss over the telephone. We will ask the interviewee to send the completed consent form by email or fax prior to the interview.

Analysis and Reporting of Process Evaluation and Stakeholder Interviews
The qualitative team will maintain a log of all interviews scheduled and completed. This log will identify interviews using a code that identifies site and individual. A master key of all codes will be kept by the PI in a locked cabinet. The team will take detailed notes during all interviews and supplement those notes with information from the audio recordings. The team will compile one set of comprehensive notes for each interview. These notes will be coded by hand or analyzed using Atlas Ti qualitative software. The data will be analyzed by developing typologies and using grounded theory, in which themes arise from the data (Glaser & Strauss, 1967; Charmaz, 1990; Strauss & Corbin, 1990). We will use the data to develop comprehensive CHART site reports that highlight the components of each individual project. Additionally, we will use the data to develop a description of the overall CHART site approach. The qualitative team will work with the quantitative team to determine if any site variables should be coded into the quantitative data and used to analyze client outcomes.

Quantitative Outcomes Analysis of the CHART Initiative
The quantitative team will get client-level data on healthcare utilization from 2014 to 2017 for clients from the four intervention sites and potentially from a comparison site. These data will be used to conduct a pre/post comparison analysis of changes (difference in difference) in healthcare utilization by demographics and CHART service utilization. We will also receive data from Lahey on clients' use of CHART services. These data come from a web-based case management database that CHART staff use to record data on each client contact. Brandeis will receive data from the beginning of CHART services for each client through the end of 2017. See Attachment D for variables that will be requested and a sample of administrative data that will be provided. See Attachment E for the Data Use Agreement between Lahey and Brandeis.

Brandeis researchers will link the healthcare utilization data and the case management data to conduct comprehensive analyses. As described above, these data will be used to describe patients eligible for CHART services, as well as those who engage in CHART services. Multivariate analyses will describe changes in healthcare utilization and costs for eligible CHART clients overall, and for specific subpopulations. These data will be used to assess the outcomes of the CHART Initiative. Qualitative and quantitative data will be combined in a comprehensive report of the CHART Initiative. Results will be shared with Lahey and its

partners, at a policy forum convened by Lahey and through publications. Brandeis will also work with Lahey to present and share findings with other audiences of interest.

m. **Anticipated risks and benefits to subjects –**
The risks to subjects in this study are minimal. For those taking part in interviews and the staff survey, the questions focus on their organization's implementation of and collaboration with the CHART program. However, any time personal information is collected there is a small risk that it might be seen by someone who is not part of the program. Therefore, we will take great care to protect all information by keeping it in locked files and password protected computer files that can only be accessed by members of the study team.

Secondary data and other records related to the evaluation of this study will use a non-identifying subject code to serve as the only identifier on each record. Data submitted to researchers at Brandeis will not include any identifying information included on the data set except for this assigned code that will be linked to a list maintained by Loopback Analytics (data contractor for Lahey) and Lahey supervisors in case any specific data for an individual needs to be verified. Therefore any data results or reports that are presented for review after the analysis and reporting has been completed will not have links to specific individuals who participated in the study.

There are no direct benefits to subjects from taking part in the study. Those who take part in the study will help us learn about the CHART program and how to improve healthcare for repeat users of emergency department and hospital services. They will also have a chance to share their experiences with us and help improve CHART services. Participation in this evaluation study will also help policymakers and service providers better understand the potential effectiveness of the CHART services, whether or not it should be sustained, and ways to facilitate and improve sustainability. Information learned from this study will inform others about this particular intervention which may, if proven effective, lead to continued or expanded funding for similar programs in the future.

n. **Provisions for managing risk** – Brandeis researchers are trained in confidentiality procedures and will be instructed to strictly follow these procedures. Lahey will not have access to any raw data collected by Brandeis researchers. All client data passed to Brandeis will be de-identified. To further minimize any risk of distress, study subjects may contact the Principal Investigator or Brandeis IRB to discuss any aspect of the data collection or process with them.

o. **Cost and compensation to subjects** – We do not expect study subjects to incur any costs as a result of the evaluation study. All subjects taking part in the site visit interviews and surveys, and collaborating agency and stakeholder interviews will be professionals involved

in the CHART Initiative. Brandeis evaluators will conduct interviews in the interviewees' offices or by telephone. Interviews will be conducted during normal business hours, thus subjects will not be compensated for the interviews. Surveys will be conducted online and can be done during work hours. Subjects for the quantitative analysis will not be contacted directly. These analyses are secondary data analyses.

p. **Plans for obtaining and documenting informed consent** – We will obtain informed consent from staff, collaborators and stakeholders invited to take part in interviews and surveys.

1. Prior to the site visits, Brandeis researchers will contact staff at each of the CHART sites and, using the script, invite them to take part in the study. Then, at each of the site visits, staff who are willing to take part in the study will be asked to complete a written consent form. The Brandeis researchers will review the consent form with the staff, answer any questions they have and, if the staff are willing, together they will sign two copies of the consent form. One copy will be given to the staff person and one will be kept in the study files at Brandeis.

2. Prior to the collaborator interviews, Brandeis researchers will contact staff of collaborating agencies identified for the interviews and, using the script, invite them to take part in the study. Then, at each of the in-person interviews, collaborators who are willing to take part in the study will be asked to complete a written consent form. The Brandeis researchers will review the consent form with the collaborator, answer any questions he/she may have and, if he/she is willing, together they will sign two copies of the consent form. One copy will be given to the collaborator and one will be kept in the study files at Brandeis. If the interview is conducted by telephone, the Brandeis researcher will send the consent form by email and call the collaborator prior to the interview and review the consent form, answer any questions he/she may have and, if he/she is willing, the Researcher will ask the Collaborator to sign the form and send it back by email or fax. The Brandeis Researcher will then sign the returned form and send a complete copy to the Collaborator and keep a copy for the Brandeis study files.

3. Prior to the stakeholder interviews, Brandeis researchers will contact stakeholders at collaborating agencies identified for the interviews and, using the script, invite them to take part in the study. Then, at each of the in-person interviews, stakeholders who are willing to take part in the study will be asked to complete a written consent form. The Brandeis researchers will review the consent form with the stakeholder, answer any questions he/she may have and, if he/she is willing, together they will sign two copies of the consent form. One copy will be given to the stakeholder and one will be kept in the study files at Brandeis. If the interview is conducted by telephone, the Brandeis researcher will send the consent form by email and call the stakeholder prior to the interview and review the consent form, answer any questions he/she may have and, if

he/she is willing, the Researcher will ask the Stakeholder to sign the form and send it back by email or fax. The Brandeis Researcher will then sign the returned form and send a complete copy to the Stakeholder and keep a copy for the Brandeis study files.

4. We will not gather consent from clients in the secondary data analysis. Lahey did ask all CHART participants to sign a consent to participate form (see consents in Attachment A). Because Lahey did not know they would be conducting an evaluation at the time, this consent form does not include information about the evaluation.

q. **Plans for data storage** – All paper copies of data forms, surveys and field notes will be kept in locked filing cabinets at Brandeis, in the Principal Investigator's or collaborating researchers' offices. Only the Principal Investigator and collaborating researchers will have direct access to these files. Brandeis will not have any patient-identifying information. Electronic data files sent to Brandeis, audio recordings and field notes that are electronically summarized will be stored on a secure computer system, following the Heller School's Information Security Policy, with access limited to the evaluation team. Study data will be destroyed no more than 7 years after the completion of the study. Electronic files will be deleted and paper files will be shredded.

r. **Bibliography/Citations**

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