<div style="background:#1F77C0;color:white;text-align:center">

Commonwealth of Massachusetts
Center for Health Information & Analysis (CHIA)
Non-Government APCD Request for Data

</div>

This form is to be used by all applicants, except Government Agencies, as defined in 957 CMR 5.02.

<u>*NOTE:*</u> ***In order for your application to be processed, you must submit the required application fee. Please consult the fee schedules for APCD data for the appropriate fee amount. A remittance form with instructions for submitting the application fee is available on the CHIA website.***

I. GENERAL INFORMATION

APPLICANT INFORMATION	
Applicant Name:	Ashwini Ranade
Title:	PhD Student
Organization:	Northeastern University
Project Title:	Oral health services and oral-systemic health connections
Mailing Address:	316 Robinson Hall Department of Health Sciences Northeastern University Boston, MA 02115
Telephone Number:	617-373-5925
Email Address:	a.ranade@neu.edu
Names of Co-Investigators:	Dr. Jean McGuire
Email Addresses of Co-Investigators:	j.mcguire@neu.edu
Original Data Request Submission Date:	
Dates Data Request Revised:	
Project Objectives (240 character limit)	The purpose of this project is to evaluate trends in utilization of non dental settings for oral health issues along with examining the impact of policy change with respect to cutback in adult Medicaid benefits on these utilization patterns. The second part of the project is to study the relationship between periodontal disease and cardiovascular disease by examining if periodontal treatment lowers the risk of cardiovascular events.
Project Research Questions (if applicable)	1. To evaluate the trends in utilization of emergency departments and physician office settings for dental conditions like periodontal abscess, dental caries and cellulitis. 2.To examine the impact of policy change in the adult Medicaid dental benefits with respect to: a) Utilization patterns (setting of services, regional patterns) b) Medicaid expenditures 3. To study whether periodontal treatment lowers the risk of cardiovascular event using the APCD dataset.

II. PROJECT SUMMARY

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

This project will help identify trends in utilization of non dental settings for addressing dental related issues. Identifying the trends in utilization will improve our understanding of the role of medical practioners in addressing oral health issues, in lieu of the recently published HRSA document highlighting the importance of integration of oral health into primary health care. It will also help us identify opportunities for designing and implementing interventions based on information obtained from this analysis.

Since CHIA dataset includes records for a significant proportion of MA residents it will provide a comprehensive assessment of the state with respect to these utilization patterns.

As the dataset includes claims from 2009-2013 it is ideal to conduct a study to examine the impact of policy change in the adult Medicaid dental benefits on service utilization patterns for MassHealth enrollees, as there has been change in adult dental benefits in 2010.

The purpose of the second component of the project is to conduct a study to examine the relationship between periodontal disease and cardiovascular disease. Specifically, the study will examine whether periodontal treatment lowers the risk of cardiovascular events. Testing our research question requires access to a dataset that includes both medical and dental claims, the CHIA data is unique in that aspect and hence suitable for conducting our project.

Specific Aims:
1. To evaluate the trends in utilization of emergency departments and physician office settings for dental conditions like periodontal abscess, dental caries and cellulitis.

Oral health is an integral part of overall health and well-being but is often a neglected area of healthcare. Profound oral health disparities exist affecting the most vulnerable and underserved populations, including low-income populations, racial and ethnic minority groups, children, women, older people and persons with special health care needs[1]. The dental safety net is small compared to the medical safety net, and many safety-net providers are underfinanced, understaffed, and overburdened [2].Thus accessing oral health care becomes difficult and almost impossible for those who cannot afford private dental insurance or fall between the cracks of the dental safety net. Consequently, oral health services are likely to be accessed only when the condition becomes severe causing unbearable pain or cannot be managed at home. Given this scenario, we hypothesize that persons with most needs are likely to seek dental treatment at a physicians' office or in the emergency room. Several studies have looked at these utilization patterns in children but few studies have examined adult visits to the ED and physicians office for the treatment of dental conditions. This analysis will help inform future initiatives as we work towards integrating oral health into mainstream healthcare.

2.To examine the impact of policy change in the adult Medicaid dental benefits with respect to utilization patterns (types of services and regional patterns) and Medicaid expenditures.

The optional status of dental coverage under Medicaid and the varied uptake and uncertain maintenance of these benefits by the states suggest that they are not perceived to be as effective or valuable as other coverage [3]. A Massachusetts study found that after the elimination of Medicaid dental benefits in 2002, adult enrollees were less than half as likely to receive dental services, with 24% receiving services before the cuts and only 11% receiving services afterwards [4]. Moreover, findings from focus groups conducted with enrollees of MassHealth suggested that nearly all respondents interviewed were living with ''ongoing, serious pain from untreated dental problems''as well as diminished self-esteem[4]. This study makes a strong case for restoring adult Medicaid dental benefits

however, there was a cutback in dental benefits in 2010.

As a result of this cutback, we hypothesize that there will be an increase in the proportion of people accessing dental care in the ED and physician's offices. The types of services accessed will potentially be more severe. We would like to examine the impact of this policy change on the utilization patterns with respect to these hypothesis. Another aspect that has not been explored before is to study geographic differences in these utilization patterns, which will help identify underserved areas. We would like to extend our analysis to study the Medicaid expenditures asssociated with pre and post policy change as well. These objectives will give a comprehensive picture of the impact of policy change on Medicaid enrolles.

APCD dataset includes claims data for MassHealth enrolles and is ideal for this study as it captures the time frame both pre and post cutback in the benefits.

3. To study whether periodontal treatment lowers the risk of cardiovascular event using the APCD dataset.

It has been widely recognized that certain systemic conditions, like osteoporosis, diabetes and immune disorders may increase the risk for certain oral conditions especially periodontal disease. Recently research has also been focused to study if certain oral diseases increase the risk for systemic conditions like cardiovascular disease, diabetes, respiratory infections etc. representing a paradigm shift in how we think about causality and directionality of oral-systemic associations [5]. Given this background we propose to conduct a study to examine the relationship between periodontal disease and cardiovascular disease. Specifically, the study will examine if periodontal treatment lowers the risk of cardiovascular events. Based on our current understanding of the relationship, we hypothesize that periodontal treatment lowers the risk of cardiovascular events.

III. FILES REQUESTED

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

ALL PAYER CLAIMS DATABASE	Single or Multiple Use	Year(s) Of Data Requested Current Yrs. Available 2009 – 2013
☒Medical Claims	☐Single Use ☒Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013
☐Pharmacy Claims	☐Single Use ☐Multiple Use	☐2009 ☐2010 ☐2011 ☐2012 ☐2013
☒Dental Claims	☐Single Use ☒Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013
☒Member Eligibility	☐Single Use ☐Multiple Use	☒2009 ☒2010 ☒2011 ☒2012 ☒2013
☐Provider	☐Single Use ☐Multiple Use	☐2009 ☐2010 ☐2011 ☐2012 ☐2013
☐Product	☐Single Use ☐Multiple Use	☐2009 ☐2010 ☐2011 ☐2012 ☐2013

IV. REQUESTED DATA ELEMENTS [APCD Only]

State and federal privacy laws limit the use of individually identifiable data to the minimum amount of data needed to accomplish a specific project objective. Please use the APCD Data Specification Workbook to identify which data elements you would like to request and attach this document to your application.

V. FEE INFORMATION

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

APCD Applicants Only
☒　　　Academic Researcher
☐　　　Others (Single Use)
☐　　　Others (Multiple Use)

Are you requesting a fee waiver?
☐　　　Yes
☒　　　No

If yes, please submit a letter stating the basis for your request.   Please refer to the fee schedule for qualifications for receiving a fee waiver. If you are requesting a waiver based on the financial hardship provision, please provide documentation of your financial situation. Please note that non-profit status alone isn't sufficient to qualify for a fee waiver.

VI. MEDICAID DATA [APCD Only]

Please indicate here whether you are seeking Medicaid Data:
☒　　　Yes
☐　　　No

Federal law (42 USC 1396a(a)7) restricts the use of individually identifiable data of Medicaid recipients to uses that are directly connected with the administration of the Medicaid program. If you are requesting Medicaid data from Level 2 or above, please describe in detail why your use of the data meets this requirement. Applications requesting Medicaid data will be forwarded to MassHealth for a determination as to whether the proposed use of the data is directly connected to the administration of the Medicaid program. MassHealth may impose additional requirements on applicants for Medicaid data as necessary to ensure compliance with federal laws and regulations regarding Medicaid.

> The policy change affects the Medicaid population and therefore, it is important for decision makers to have comprehensive information, specific to MassHealth erollees.
> The Medicaid population is different from other populations with respect to their health status, service utilization and health outcomes, hence it is important to study this group to identify opportunities for

improving their access to healthcare and understanding their specific health needs.

VII. FILTERS

If you are requesting APCD elements from Level 2 or above, describe any filters you are requesting to use in order to limit your request to the minimum set of records necessary to complete your project. (For example, you may only need individuals whose age is less than 21, claims for hospital services only, or only claims from small group projects.)

APCD FILE	DATA ELEMENT(S) FOR WHICH FILTERS ARE REQUESTED	RANGE OF VALUES REQUESTED
Medical Claims	Age at service (Derived MC16)	18years and older
Pharmacy Claims		
Dental Claims	Age at service (Derived DC13)	18years and older
Membership Eligibility		
Provider		
Product		

IX. PURPOSE AND INTENDED USE

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

Barriers to accessing oral health care in a dental setting can lead to disproportionate use of non dental settings to access dental health services. Studying these alternate service utilization patterns will help close the gaps in our understanding of the role of medical practicers in addressing oral health problems. These findings will inform future initiatives focused on integrating oral health into primary care settings, as we try to improve access to care for the underserved and vulnerable populations. This study has the potential to impact how we think about oral health disparities and develop new research hypothesis in the future.

Evaluating a natural experiment like the policy change helps in understanding the effectiveness/ineffectiveness of such measures and how these changes affect certain populations. It also provides perspective into the cost-effectiveness of these policies.

Examining periodontal disease as a risk factor for cardiovascular disease has clinical implications for how we manage cardiovascular conditions. If indeed there is a causal relationship between periodontal disease and cardiovascular disease then including periodontal treatment as part of standard care for cardiovascular patients is an cost-effective measure of managing a risk factor. Looking beyond traditional risk factors will advance the current state of knowledge about the link between oral and systemic conditions.

2. **Attach** a brief (1-2 pages) description of your research methodology. (This description will not be posted on the internet.)

3. Has your project received approval from your organization's Institutional Review Board (IRB)? Please note that CHIA will not review your application until IRB documentation has been received (if applicable).

   ☒ Yes, and a copy of the approval letter is attached to this application.

   ☐ No, the IRB will review the project on _____.

   ☐ No, this project is not subject to IRB review.

☐ No, my organization does not have an IRB.

X. APPLICANT QUALIFICATIONS

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

I am a Doctoral Student (Population Health) in the Department of Health Sciences at Northeastern University. I have a Master's degree in Urban Public Health from Northeastern University and a Bachelor's degree in Dental Surgery (BDS) from India. I have worked as a dentist in private dental practice and have been involved in various projects involving oral health issues. My research interests include studying oral-systemic health connections, health education and program planning focused on addressing oral health disparities. My career goal is to promote, advocate and support oral health initiatives to strengthen population health evidence that can be translated to policy and practice.

2. Attach résumés or curricula vitae of the applicant/principal investigator, key contributors, and of all individuals who will have access to the data.   (These attachments will not be posted on the internet.)

XI. DATA LINKAGE AND FURTHER DATA ABSTRACTION

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

1. Do you intend to link or merge CHIA Data to other datasets?
   - ☐ Yes
   - ☒ No linkage or merger with any other database will occur

2. If yes, will the CHIA Data be linked or merged to other individual patient level data (e.g. disease registries, death data), individual provider level data (e.g., American Medical Association Physician Masterfile) , facility level (e.g., American Hospital Association data) or with aggregate data (e.g., Census data)? [check all that apply]

   ☐ Individual Patient Level Data
   What is the purpose of the linkage:

   N/A

   What databases are involved, who owns the data and which specific data elements will be used for linkage:

   N/A

   ☐ Individual Provider Level Data
   What is the purpose of the linkage:

   N/A

What databases are involved, who owns the data and which specific data elements will be used for linkage:

> N/A

☐ Individual Facility Level Data

What is the purpose of the linkage:

> N/A

What databases are involved, who owns the data and which specific data elements will be used for linkage:

> N/A

☐ Aggregate Data

What is the purpose of the linkage:

> N/A

What databases are involved, who owns the data and which specific data elements will be used for linkage:

> N/A

3. If yes, for each proposed linkage above, please describe your method or selected algorithm (e.g., deterministic or probabilistic) for linking each dataset. If you intend to develop a unique algorithm, please describe how it will link each dataset .

> N/A

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

> N/A

5. If yes, and the data mentioned above is not in the public domain, please attach a letter of agreement or other appropriate documentation on restrictions of use from the data owner corroborating that they agree to have you initiate linkage of their data with CHIA data and include the data owner's website.

XII. PUBLICATION / DISSEMINATION / RE-RELEASE

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

> This project will be conducted as part of my doctoral dissertation and I plan to publish several papers related to this project in health services research and oral epidemiology journals.

2. Will the results of your analysis be publicly available to any interested party? Please describe how an interested party will obtain your analysis and, if applicable, the amount of the fee.

> Publications will be available through the journals. I do not plan to charge any fee for reports or analysis done using the CHIA data

3. Will you use the data for consulting purposes?
☐   Yes
☒   No

4. Will you be selling standard report products using the data?
☐   Yes
☒   No

5. Will you be selling a software product using the data?
☐   Yes
☒   No

6. Will you be reselling the data?
☐   Yes
☒   No

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

> N/A

7. If you have answered "yes" to questions 3, 4 or 5, please describe the types of products, services or studies.

> N/A

XIII. USE OF AGENTS AND/OR CONTRACTORS

Third-Party Vendors. Provide the following information for all agents and contractors who will work with the CHIA Data.

Company Name:	
Contact Person:	
Title:	
Address:	
Telephone Number:	
E-mail Address:	
Organization Website:	

8. Will the agent/contractor have access to the data at a location other than your location, your off-site server and/or your database?

    ☐ Yes
    ☐ No

    If yes, please provide information about the agent/contractor's data management practices, policies and procedures in your Data Management Plan.

9. Describe the tasks and products assigned to this agent or contractor for this project.

10. Describe the qualifications of this agent or contractor to perform such tasks or deliver such products.

11. Describe your oversight and monitoring of the activity and actions of this agent or subcontractor.

XIV. ASSURANCES

Applicants requesting and receiving data from CHIA pursuant to 957 CMR 5.00 ("Data Recipients") will be provided with data following the execution of a data use agreement that requires the Data Recipient to adhere to processes and procedures aimed at preventing unauthorized access, disclosure or use of data, as detailed in the DUA and the applicant's CHIA-approved Data Management Plan.

Data Recipients are further subject to the requirements and restrictions contained in applicable state and federal laws protecting privacy and data security, and will be required to adopt and implement policies and procedures designed to protect CHIA data in a manner consistent with the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

By my signature below, I attest to: (1) the accuracy of the information provided herein; (2) my organization's ability to meet CHIA's minimum data security requirements; and (3) my authority to bind the organization seeking CHIA data for the purposes described herein.

Signature:	A.S.Ranade
Printed Name:	Ashwini Ranade
Title	Research Assistant/Doctoral Student
Original Data Request Submission Date:	
Dates Data Request Revised:	

References:

1] U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

2] IOM (Institute of Medicine) and NRC (National Research Council). 2011. Improving access to oral health care for vulnerable and underserved populations. Washington, DC: The National Academies Press.

3] Wallace, N. T., Carlson, M. J., Mosen, D. M., Snyder, J. J., & Wright, B. J. (2011). The Individual and Program Impacts of Eliminating Medicaid Dental Benefits in the Oregon Health Plan. *American Journal of Public Health*, *101*(11), 2144–2150. doi:10.2105/AJPH.2010.300031

4] Eliminating Adult Dental Coverage in Medicaid: An Analysis of the Massachusetts Experience. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; September 2005.

5] Garcia, R. I., Henshaw, M. M., & Krall, E. A. (2001). Relationship between periodontal disease and systemic health. Periodontology 2000, 25(1), 21-36.