RUTGERS HEALTH
School of Health Professions

SHP Student Interns for Research and Scholarly Activities Project Proposal Form

Instructions:
Please fill each box to the right of the required fields, obtain the required signature and return via email to Michele Sisco (mcoral@shp.rutgers.edu) **by March 24, 2025**.

If you are sending attachments, please ensure your contact information is added to all your forms.

Faculty Contact Information:

Date submitted:	March 3, 2025
Faculty Name:	Dr Rahul Mittal
Department/Program:	Health Informatics
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Project Detail:

Project Title: (56 characters max)	Nosocomial Infection Rates in Patients undergoing Coronary Artery Bypass Grafting (CABG) Surgery
Project Hypotheses	Null Hypotheses: 1. There is no difference in incidence rates of nosocomial infection in CABG patients with comorbidities (diabetes, hypertension, hypothyroid) compared to those without such comorbidities. 2. There is no difference in the hospitalization outcomes (LOS, In-hospital Mortality, Total Charges) of nosocomial infection affected CABG patients (with or without comorbidities) based on demographics or socio-economic conditions.
Description:	The student will utilize the Health Cost Utilization Project (HCUP) Nationwide Inpatient Sample Datasets (after a brief online HCUP Data User Training). Either SPSS or SAS will be utilized to perform the necessary descriptive, inferential and predictive analyses. Predictive modeling using both multiple linear and logistic regression will be employed. Those students with strong machine learning skills can explore other techniques too to derive some novel features or information from the datasets.

Specific Student Responsibilities:	
of the project.	
	1. Perform appropriate literature review on the topic and refine the hypotheses
	2. Perform the required data analyses and share results with project supervisors.
	3. Write a report and a publication manuscript (required) as per the journal's formatting guidelines and submit it for publication.
	<u>Important Prerequisite</u>: Students should be very familiar with use of SAS/SPSS and have to start working with them from day one
Start / end date of project:	June 1, 2025 to August 30th 2025

WHAT OTHER EDUCATIONAL OPPORTUNITIES ARE AVAILABLE TO STUDENTS?	Students will become very familiar with a big federal data set (HCUP-NIS) of import for their future analytics projects
WHERE DO YOU PLAN TO PRESENT OR PUBLISH THE FINDINGS WITH THE STUDENT?	SHP Poster Day, Peer-reviewed Journals and any other appropriate forum

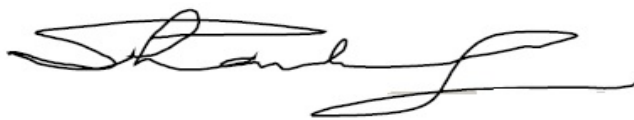**CHECK ALL APPROPRIATE BOXES BELOW AND PROVIDE REQUESTED INFORMATION.**

This project is: ☐ clinical ☐ laboratory ☐ behavioral ☐ survey ☐ educational

☒ Other: please specify___Public-Use Secondary Data Analyses

☐ This project involves the use of human subjects (including chart review, retrospective studies and questionnaires).

Pending ☐   Approved ☐   IRB Protocol Number _____

IRB approval must be obtained by June 2025

3/7/25

_____   _____
Signature of Department Chair   Date