Health Services Advisory Group
Data Science & Advanced Analytics

2020 Paid Summer Internship Program

HSAG HEALTH SERVICES ADVISORY GROUP

HSAG Data Science & Advanced Analytics 2020 Paid Summer Internship Program

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Compensated real-world experience
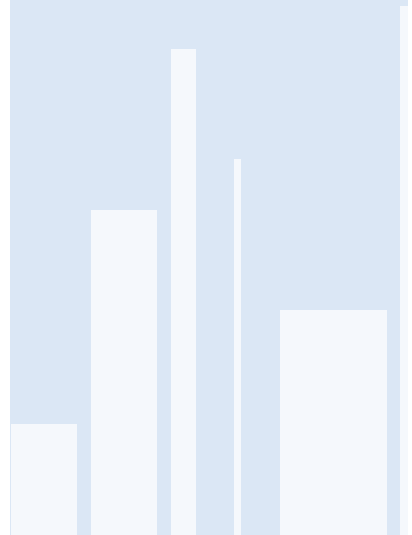
OVERVIEW

HSAG serves approximately:

12% of our nation's **Medicare** population

7.5 million

45% of our nation's **Medicaid** population

36 million

20% of our nation's **dialysis** population

98 thousand

HSAG Overview

Since our beginning in 1979, Health Services Advisory Group (HSAG) has advanced to become a multi-state Quality Innovation Network-Quality Improvement Organization (QIN-QIO), External Quality Review Organization (EQRO), and End-Stage Renal Disease (ESRD) Network contractor, serving approximately:

- 12 percent of the nation's Medicare population.
- 45 percent of the nation's Medicaid population.
- 20 percent of the nation's dialysis population.

HSAG is committed to improving the quality of healthcare services provided to patients to achieve the best possible patient outcomes.

Program Overview

The HSAG Data Science & Advanced Analytics Summer Internship Program (HSAG-SIP) is a comprehensive paid training program designed to recruit, train, develop, and retain undergraduate and graduate student interns post-graduation as prospective analysts. Intern applicants will be tested and interviewed via HSAG's standard screening process for analytic staff members. Selected interns will participate in the HSAG-SIP that comprises an eight-week "core training" series at the HSAG office in Phoenix, Arizona. Interns who complete the program can expect to experience and/or accomplish the following:

- Serve as an integral part of an actual HSAG Data Science & Advanced Analytics Project Team.
- Gain substantial knowledge and understanding of HSAG's proven methods for approaching and completing analytic work.
- Acquire subject matter expertise as it relates to the primary project assigned.
- Receive exposure to HSAG's diverse array of analytic projects and activities.
- Interact with nonanalytic staff members and customer leads on project work.
- Practice presentation and communication skills via the completion of an end-of-internship formal "Internship Experience Presentation."
- Receive formal training in the following areas during the eight-week "core training" series.
    - Track 1: Healthcare and Health Policy Overview
    - Track 2: Healthcare Data
    - Track 3: Research Methods
    - Track 4: Introductory SAS Programming

Overview

Each intern will be assigned to an active HSAG analytic project. There are typically over 100 active analytic projects at any given time. Once assigned to a project, interns will:

- Receive an overview of the project from the project director.
- Meet with the project team and begin to participate in all project team meetings.
- Be assigned an HSAG analyst "buddy" to serve as a day-to-day point of contact.
- Perform analytic assignments that contribute to the overall project.

Examples of prior internship projects include:

- The calculation of clinical performance measures in support of the evaluation of Medicaid health plans in a large state.
- The development of a Consumer Guide, also referred to as a Health Plan Report Card, depicting health plan performance across an array of healthcare domains.
- The evaluation of patient experiences with care using Consumer Assessment of Healthcare Providers and Systems (CAHPS®) data.[1]
- The development of hierarchical risk adjustment models for evaluating trauma-related admission rates.
- The application of a claims-based algorithm to determine the prevalence of nonemergent emergency department use within a population.
- The development of a series of machine learning algorithms to identify patients at greatest risk of a 30-day hospital readmission.

Internship Experience Presentation

- During the last week of the HSAG-SIP, each intern will be required to conduct a 45-minute presentation that includes the following:
    – Project overview
    – Project findings
    – Learning examples
    – Summary of contributions to the project
    – Discussion
- This will be a formal presentation that will be presented to HSAG's Chief Data Officer and senior analytic leadership. All staff within the division are welcome to attend.

[1]CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality.

TRAINING

Get **real-world work experience** for state and federal customers.

Be part of a **seasoned analytic team**.

Gain **exposure to a wide array** of data sources and analytic methods.

Participate in a **unique training** series that provides you **compensation** and a **competitive advantage**.

Overview

The "core" HSAG-SIP training will occur during an eight-week period and cover the following areas (referred to as SIP Tracks):

- Track 1: Healthcare and Health Policy Overview
- Track 2: Healthcare Data
- Track 3: Research Methods
- Track 4: Introductory SAS Programming

This section provides an overview of the topics that will be integrated into each track.

Track 1: Healthcare and Health Policy Overview

The primary objective of Track 1 will be to provide interns with a basic understanding of key healthcare and policy areas that shape HSAG's work. Potential topics in this track include:

- Overview of health policy in the United States
- Review of care settings (inpatient, outpatient, nursing home, home health, etc.)
- Medicare Fee-for-Service versus managed care
- Medicare, Medicaid, and the State Children's Health Insurance Program
- Medicaid External Quality Review activities
- Medicare Quality Improvement Organization activities
- Affordable Care Act
- National patient safety activities
- Inpatient and outpatient hospital reporting

Track 2: Healthcare Data

The primary objective of Track 2 will be to provide interns with a basic understanding of the primary types of healthcare data with which HSAG works. Healthcare data topics include:

- Administrative data (claims/encounters, enrollment/eligibility, provider, etc.)
- Vital statistics data
- Registry data
- Survey data
- Medical record review/case review data
- Electronic health record data
- Other sources of data (e.g., nursing home Minimum Data Set data, Outcome and Assessment Information Set data, etc.)

Track 3: Research Methods

The primary objective of Track 3 will be to provide interns with exposure to the common language and techniques used to study complex social phenomena, programs, and policies. The track will introduce interns to the components of the research process used to develop valid and reliable answers to questions, issues surrounding the measurement of key concepts, fundamentals of research design, and applications to program and policy evaluation. Attention will be paid to real-life examples from HSAG project work. Research methods track topics include:

- Overview of research methods
- Conceptualization and measurement
- Research design
- Evaluation research

Track 4: Introductory SAS Programming

The primary objective of Track 4 will be to provide interns with a basic understanding of common SAS techniques employed by HSAG, including HSAG's approach to SAS programming. Topics in this training track will include:

- Understanding the DATA step
- Applying common SAS procedures (PROCs)
- Using PROC SQL
- Planning and mapping out an analytic approach
- Using macros properly
- Mastering automation techniques
- Miscellaneous SAS topics

How to Apply

Candidates interested in participating in the HSAG-SIP can apply via HSAG's website: www.hsag.com/analytics-sip.

Interviews

Eligible candidates selected to be interviewed will be brought on-site for a formal, in-person interview session:

- **Analytic Testing:** Each candidate will be tested using a standardized analytic exam. The purpose of the test is to ensure that the candidate has the basic attributes necessary to contribute during the internship and gain valuable experience through the internship. Candidates that do not qualify due to low test scores are eligible to reapply for future internship sessions.
- **Group Interview:** After analytic testing, candidates will be interviewed in a group setting by members of the Data Science & Advanced Analytics Team. Candidates' technical knowledge, interest in the internship, rationale for pursuing the internship, verbal communication skills, and academic experience to date will be explored during the group interview sessions.
- **Follow-Up Interview (optional):** At the discretion of Data Science & Advanced Analytics leadership, some candidates may receive a follow-up interview to aid leadership in reaching a final determination on the candidate.

Candidate Selection

HSAG's Human Resources (HR) Department will inform selected candidates that they have received an HSAG-SIP offer. Candidates will have five business days to accept the offer.

Welcome Packet

Upon acceptance of a paid internship slot, each intern will receive an HSAG-SIP Welcome Packet. The packet will contain standard HR paperwork, an overview of the HSAG-SIP, the HSAG-SIP Core Training Schedule, a copy of the Data Science & Advanced Analytics New Employee Manual, and additional supplemental materials the intern should review prior to the start of the internship.

Overview

Interns that complete all HSAG-SIP requirements will receive the following:

- HSAG-SIP Certification of Completion
- Letters of accommodation/recommendation from HSAG leadership
- Preferential standing for an analyst position at time of graduation

Requirement Details

In order to receive the items detailed above, interns must satisfactorily complete the following:

- **Internship Experience Presentation:** Each intern will be required to complete a 45-minute presentation detailing his or her contributions to the assigned project. This will be a formal presentation followed by questions from Data Science & Advanced Analytics leadership.
- **Assigned Project Work:** All assigned project work must be completed by the end of the internship.
- **Training Participation:** Participation in at least 90 percent of all training sessions is required. Interns are expected to be engaged in training, participate with questions, answer questions, and find ways to contribute meaningfully to their own experience and the experiences of their peers.

Since 1979, Health Services Advisory Group (HSAG) has partnered with healthcare providers, federal and state agencies, community stakeholders, accreditation organizations, patients, families, and caregivers to deliver healthcare quality improvement support and services through a variety of channels. Our highly trained experts become an extension of our customers' teams, delivering customized support, technical assistance, training, and tools that improve healthcare delivery throughout the continuum of care.

❯ Quality: It's who we are and what we do.

Medicare Quality Innovation Network-Quality Improvement Organization (QIN-QIO)
- Reduction in opioid misuse
- Improvement in behavioral health outcomes
- Improvement in patient safety
- Prevention and management of heart disease, diabetes, and chronic kidney disease
- Care transition quality improvement
- Nursing home quality improvement
- Improvement in antimicrobial stewardship
- Improvement in infection control practices
- Provider burden reduction
- Patient and family engagement

Other Services
- Partnership for Patients Hospital Innovation Improvement Network (HIIN)
- MACRA: Medicare Quality Payment Program direct technical assistance for Small, Underserved & Rural Practices (QPP-SURS)
- Health services research
- Independent waiver assessments:
  – Medicaid 1115 waiver evaluations
  – Medicaid 1919(b/c) waiver independent assessments
- Health Plan CAHPS® surveys
- Clinician-Group CAHPS® surveys
- Dental CAHPS® surveys
- Home and Community-Based Services CAHPS® surveys
- Qualified Health Plan (QHP) enrollee surveys
- Data mining and machine learning
- Interactive dashboard creation
- Performance measure calculations
- Program evaluations
- Cost-effectiveness studies
- Consumer score cards
- Medical case review
- Fraud and abuse reviews
- Independent peer reviews
- Quality improvement plan development
- Utilization management
- Worker's compensation reviews
- Healthcare disparity studies
- Quality Measure Development

Medicaid External Quality Review Organization (EQRO)
- Performance improvement projects and validation
- Performance measure validation
- Compliance monitoring
- Encounter data validation
- Consumer Assessment of Healthcare Providers and Systems (CAHPS®) surveys
- Provider surveys
- Quality-of-life surveys
- Secret shopper studies
- Performance measure development
- Quality rating systems and consumer scorecards
- Auto-assignment algorithm development
- Provider report cards
- Performance measure calculations
- Clinical and non-clinical focused studies
- Technical assistance
- Technical reports
- Network adequacy assessments
- Readiness reviews
- Incentive payment validation

Audit Services
- NCQA Healthcare Effectiveness Data and Information Set (HEDIS®) Compliance Audits™
- URAC performance measure validation
- Pay for Performance (P4P) audits
- Information systems assessments/readiness reviews
- Centers for Medicare & Medicaid Services (CMS) data validation
- Health Insurance Marketplace qualified health plan audits

End-Stage Renal Disease (ESRD) National Projects and Network Contractor: Networks 7, 13, 15, 17
- National Coordinating Center (NCC)
- National Kidney Community Emergency Response (KCER)
- Quality improvement interventions and strategies
- Data management and analysis
- Grievance investigation and resolution
- Technical assistance
- Patient and family engagement

National Projects
- Medicare Health Outcomes Survey
- CAHPS® Hospital (HCAHPS) Survey
- CAHPS® Hospice Survey
- Medicare Advantage and Prescription Drug Plan CAHPS® Surveys
- CAHPS® for Accountable Care Organizations and Merit-based Incentive Payment System Surveys
- Inpatient psychiatric support
- Hospital inpatient value, incentives, and quality reporting outreach and education support
- Outpatient quality reporting outreach education support
- Ambulatory surgical center quality reporting
- Medicare-Medicaid financial alignment initiative operational support
- Patient safety organization privacy protection and national patient safety database support
- National Impact Assessment of CMS Quality Measures
- CMS Quality Measure Development Plan (MDP) for MACRA
- MACRA Cooperative Agreements Technical Assistance (CATA)
- ESRD Quality Reporting System outreach, communication, and training
- ESRD Quality Incentive Program outreach, communication, and training
- Healthcare quality information system access roles and profile training
- Skilled nursing facility value-based purchasing
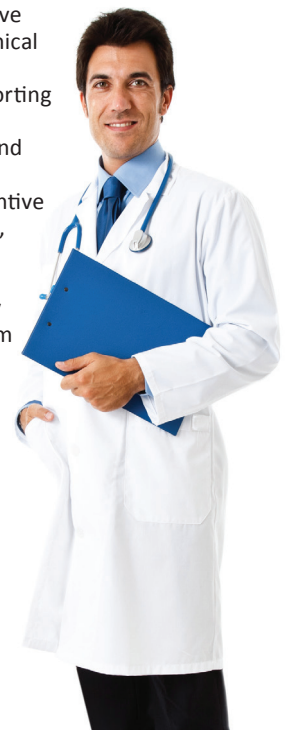
Quality: It's Who We Are and What We Do.

We embody quality in all we do: in the services we provide, in the knowledge we share, and in the relationships we build with providers, stakeholders, beneficiaries, families, and caregivers. Quality is our way of doing business and directs all of our actions and work.

Together we can spread positive change to make healthcare better.

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