

NATIONAL CLINICIAN SCHOLARS PROGRAM

# Curriculum Summary for Advanced Health Sciences Research Course Participants

JULY 2023 - JUNE 2024

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## **CURRICULUM SUMMARY FOR ADVANCED HEALTH SCIENCES RESEARCH (AHSR) COURSE PARTICIPANTS**

The National Clinician Scholars Program (NCSP) core curriculum has been an integral part of the Scholars Program at Yale for over 40 years. The curriculum has evolved over time, maintaining the initial strengths in clinical epidemiology and quantitative research methods, while adding substantive content in qualitative methods, health policy, and community engagement. AHSR participants take these classes alongside the NCSP Scholars. While not part of the NCSP Program, the AHSR participants are able to apply this NCSP coursework towards an MHS Degree. The MHS Degree requirements, including the thesis, are overseen by the AHSR fellows home departments, and are not part of the NCSP.

The core curriculum includes three courses: 1) Biostatistics; 2) Clinical and Health Services Research Methods; and 3) Principles of Health Policy and Management. All core classes are open to AHSR course participants.

In addition to the core courses, we offer a Community-Engaged Research (CErR) course and a two-year seminar series in which participants meet with national, state, and local health policy leaders. This seminars series, called Seminars in Health Policy and Delivery (SHPD), meets on average twice a month. In the fall of 2023 and spring of 2024, the focus will be on the private sector. During the fall of 2024 and spring of 2025, the focus will be on the public sector. AHSR course participants are welcome to attend both years of the seminar series.

Course participants will receive ~80 hours of classroom time in the summer, ~90 hours in the fall, and ~100 hours in the spring, if participating in all available courses. We use approximate hours because we may bring in additional content during the year as requested by Scholars or if an outstanding expert is on campus.

**Please note:** When signing up to take courses through the NCSP, it is expected that you will take the courses offered within a single academic year (with the exception of SHPD, which is spread over two academic years). **You will not be permitted to spread coursework over multiple academic years.** Because we restrict class size, when you are accepted as an AHSR fellow you are expected to arrange your schedule accordingly to accommodate classes. If you are not able to attend classes for any reason, you will not be permitted to retake courses at a later time.

## **SUMMARY OF COURSES AVAILABLE TO AHSR COURSE PARTICIPANTS**

### **I. Biostatistics (Summer: Marney White PhD, MS for class & lab; Fall/Spring: Maureen Canavan, PhD, MHS, Laura Cramer, PhD, and Madhav KC, PhD, MPH for classes & labs)**

This course is designed to develop expertise in biostatistical concepts and applications. At the completion of the course, participants will be able to:

1. Design appropriate statistical analyses for diverse data sets and studies
2. Conduct bivariate and multivariable statistical analyses
3. Interpret and critique statistical methods used in medical journal literature

**Summer** (Class & Lab combined: ~12, 3 hour sessions)

- Descriptive and simple statistics (one and two-way analyses including ANOVA and simple linear regression; non parametric analysis)

**Fall** (Class: ~10, 2 hour sessions; Lab: ~4, 2 hour sessions)

- Multivariate analyses (linear regression, logistic regression, survival analyses)

**Spring** (Class: ~13, 2 hour sessions; Lab: ~7, 2 hour sessions)

- Special topics: hierarchical analyses, Poisson regression, general linear models, repeated measures and longitudinal analysis, weighting, factor analyses, Bayesian analysis, meta-analysis

**II. Clinical and Health Services Research Methods (Mayur Desai, PhD, MPH, Shelli Feder, PhD, APRN, FNP-BC, ACHPN, Sakinah Suttiratana, PhD, MPH, MBA, and invited lecturers)**

The course is designed to build expertise in quantitative and qualitative research methodologies. It is taught in two parts. The first part focuses on quantitative methods and the second part focuses on qualitative methods. At the completion of the courses, participants will be able to:

1. Design study methodology to examine diverse topics in clinical and health services research, using both qualitative and quantitative methods (includes study design, sampling strategies, data collection, measurement approaches, and data analysis)
2. Critique published studies in terms of their research methodologies
3. Understand the implications of various methodological approaches to optimize internal and external validity of the study

**Summer** (~12, 2 hour sessions)

- Principles of clinical and health services research, quantitative methods (~12, 2 hour sessions with Mayur Desai)

**Fall** (~20, 1.5 hour sessions)

- Principles of clinical and health services research, qualitative methods (~10, 1.5 hour sessions with Shelli Feder, Sakinah Suttiratana, and invited lecturers)
  - Use of software in qualitative analysis
- Principles of clinical and health services research, quantitative methods (~10, 1.5 hour sessions with invited lecturers)
  - Special topics in clinical and health services research

**Spring** (~5, 1.5 hour sessions)

- Principles of clinical and health services research, quantitative methods (~5, 1.5 hour sessions with invited lecturers)
  - Special topics in clinical and health services research

**III. Principles of Health Policy and Management (Joseph Ross, MD, Howard Forman, MD, John Hughes, MD, and invited lecturers)**

This course introduces major tenets in health policy and health management. At the end of the course, participants will be able to:

1. Describe major components of health care delivery, financing, and regulatory systems in the US
2. Apply several tools to policy and management problems (conduct comparative analyses of alternative policy interventions, design policy implementation plans, perform cost-effectiveness analysis, implement a management problem solving method, and implement tools of quality improvement)
3. Describe the policy and or management implications of their own research

4. Identify health policy and management levers of change to increase the translation and impact of their own research into clinical practice

**Summer** (~7, 1.5 hour sessions)

- Health care financing and delivery system
- Policy agenda setting
- Evaluating policy alternatives
- Policy implementation
- Designing and implementing policy at the state level

**Fall** (~8, 1.5 hour sessions)

- Special topics

**Spring** (~6, 1.5 hour sessions)

- Special topics

**IV. Foundations of Community-Engaged Research (Jose DeJesus, Kimberly Sue, MD, PhD, Sakinah Suttiratana, PhD, MPH, MBA, and invited lecturers)**

This course orients participants to the theoretical components and practical skills required to conduct stakeholder-engaged research. For the growing interest in patient-centered care research and implementation science, this course offers a foundation and orientation to that field of practice. At the completion of the course, participants will be able to:

1. Describe the etiology of social determinants of health, strategies to address health inequities, and challenges in their measurement
2. Assess community health and community assets by partnering with community stakeholders using secondary data on regional communities, and design ideal practices of primary data collection through surveys, interviews, and focus groups
3. Participate in local health-related activities to link community research to health improvement
4. Apply program management skills in research including designing viable work plans and budgets
5. Design process and summative evaluation designs for community health programs and describe the different values and benefits of each
6. Describe principles of stakeholder-engaged research and understand its use in assessment, planning, and evaluative research that Scholars may conduct with community partners
7. Review the principles of patient-centered care research
8. Apply the principles of stakeholder-engaged research to case studies; distinguish its unique characteristics, including barriers and facilitators to its implementation, and ethical considerations

**Summer** (~6, 1.5 hour sessions)

- Introduction to New Haven and CEnR
- New Haven History, Part I, Part II, and Part III
- Viewing of "The Hill"
- New Haven and Introductory Concepts
- Walking tours of New Haven neighborhoods led by neighborhood leaders

**Fall** (~10, 1.5 hour sessions & 1 all day special event)

- Application of CBPR Principals
- Project Access Meet & Greet
- Fundamentals of Critical Race Theory
- Population Health, Part I
- ERIC/OHER Health Equity Research Bootcamp
- CEnR Case Study: SEICHE
- Cornell Scott Hill Health Center Site Visit (Meet & Greet)
- CEnR Case Study: Imani Project
- CEnR Case Study: Afghan Children
- Receiving Requests for Research Partnerships
- Fall Debrief

**Spring** (~11, 1.5 hour sessions)

- The challenges of researcher and subjects in the context of race, class, and ethnicity
- Ethics in stakeholder-engaged research
- Engaging community members as researchers
- Academic and community-oriented dissemination
- Various other topics

**V. Seminars in Health Policy and Delivery (Joseph Ross, MD and Reshma Ramachandran, MD, MPP, MHS)**

Seminars focus on the public and governmental sectors in one year and in the alternating year, the focus will be on the private sector. These sessions enable participants to:

1. Understand government operations and the role of community, local, state, and Federal governments in regulating healthcare and shaping health care policy
2. Understand the role of the private sector, nonprofit healthcare providers and advocacy groups

**Fall/spring of first year** (~15, 1.5 hour sessions per year)

**Fall/spring of second year** (~15, 1.5 hour sessions per year)

**TUITION AND APPLICATION PROCESS**

The tuition fee is \$9,500 and is the same price regardless if one, or all available courses are taken. Course participants are responsible for purchasing the books and software for the courses they take.

The AHSR coursework can partially fulfill the requirements for the MHS degree for individuals who are working within the context of their departmental master's programs. Participants who are interested in pursuing an MHS degree should discuss this option with their home clinical departments. The National Clinician Scholars Program does not oversee the MHS degree process for AHSR participants.

Any person interested in taking part in these courses will need to submit their completed application form by the application date each year. **Spots are limited** and applications will be reviewed on a first come first serve basis. You will be notified by May 15<sup>th</sup> of your acceptance into the program. Tuition payments must be received by June 15<sup>th</sup> to secure your spot.

If you are interested in becoming an AHSR course participant, please email Chelsea Gubbins and Karen Angelicola ([Chelsea.Gubbins@yale.edu](mailto:Chelsea.Gubbins@yale.edu) and [Karen.Angelicola@yale.edu](mailto:Karen.Angelicola@yale.edu)). They will provide you with information regarding the application process.