



Division of Infectious Disease

Fellowship Training Program



Main Campus and North Campus Research Center



Michigan Medicine

- Large integrated health care system
 - 26,000 faculty, staff, students, trainees
 - All faculty are U of M employed
 - 3 hospitals (1000 beds)
- Multiple Outpatient Facilities throughout the Region
 - 40 outpatient locations
 - 2.1 million visits yearly



Michigan Medicine IM 7th Nationally (USNWR) and Hospital 8th Nationally (Newsweek)



University of Michigan--Ann Arbor

Ann Arbor, MI

- #7 in Internal Medicine Programs (tie)
- #17 in Best Medical Schools: Research (tie)
- #20 in Best Medical Schools: Primary Care (tie)

Ann Arbor, MI



HONOR ROLL

#11 in U.S. News Best Hospitals Honor Roll

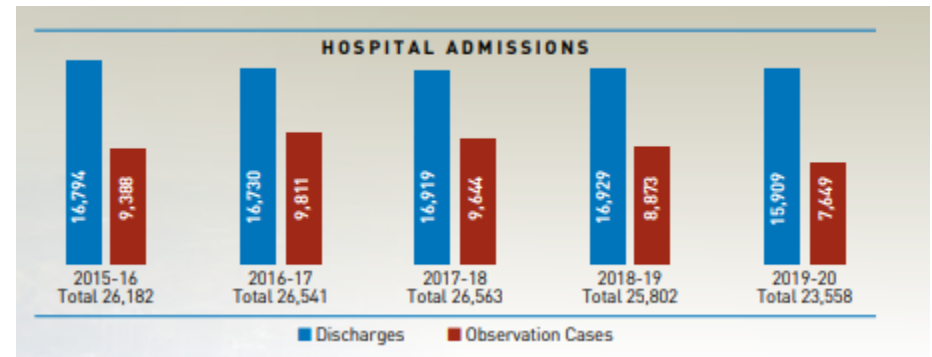
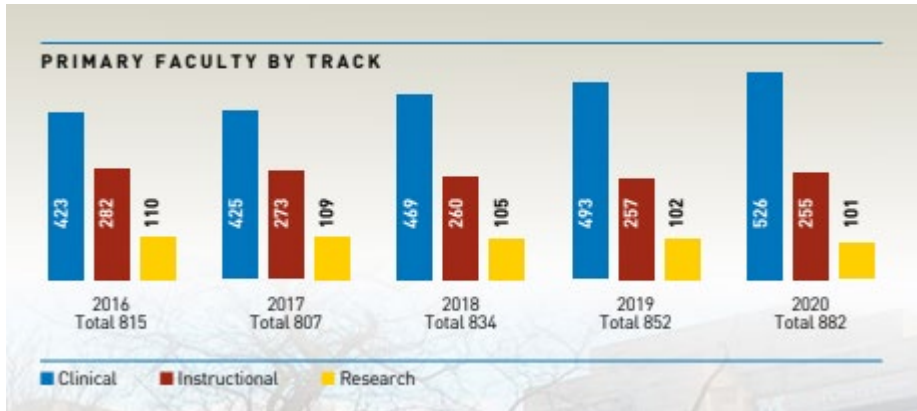
Rank ▲	Hospital	Score	City	US State
1	Mayo Clinic - Rochester	98.43%	Rochester	MN
2	Cleveland Clinic	92.36%	Cleveland	OH
3	Massachusetts General Hospital	89.05%	Boston	MA
4	The Johns Hopkins Hospital	84.59%	Baltimore	MD
5	Stanford Health Care - Stanford Hospital	79.92%	Stanford	CA
6	Ronald Reagan UCLA Medical Center	79.78%	Los Angeles	CA
7	The Mount Sinai Hospital	79.75%	New York	NY
8	University of Michigan Hospitals - Michigan Medicine	79.63%	Ann Arbor	MI
9	Brigham And Women's Hospital	79.34%	Boston	MA
10	New York-Presbyterian Hospital-Columbia and Cornell	78.81%	New York	NY
11	Duke University Hospital	78.62%	Durham	NC

VA Ann Arbor Medical Center




- 180,000 square foot clinical addition:1999
- New ambulatory clinic facilities and ICU's
- On-line order entry
- Computerized medical record system
- Electronic radiology system


Internal Medicine Statistics



Post-Graduate Education



DOCTOR RECOMMENDED



#6 IN U.S. FOR MEDICAL & SURGICAL RESIDENCY TRAINING

TOP 10 NATIONALLY IN 12 OF 20 SPECIALTIES

AMONG TOP 3 IN THE MIDWEST IN 10 OF 15 SPECIALTIES

1,199 RESIDENTS CURRENTLY IN TRAINING

105 ACCREDITED RESIDENCY AND FELLOWSHIP PROGRAMS OFFERED

40% RESIDENTS WHO CHOOSE TO STAY IN MICHIGAN AFTER TRAINING

Based on a survey by [doximity](#) residency navigator

- 4th largest post-graduate program in the U.S.
- Ranked in all 20 USNWR specialties
- 2/3 of incoming trainees from out of state

Division of Infectious Disease Faculty

- All full-time faculty
- **40** faculty members (research and clinical)
- Antimicrobial Stewardship program
- Hospital Epidemiology/Infection Prevention
- Transplant Infectious Disease Service
- Ryan White Funded HIV/AIDS program
- Multiple recently hired clinical faculty



Transplant Infectious Disease

University of Michigan Transplant Center



- 100 liver transplants
 - 200 – 300 kidney transplants
 - 25-30 heart transplants
 - 30-35 lung transplants
 - 200-250 hematopoietic stem cell transplants
-
- Dedicated transplant ID service
 - 4 faculty
 - Clinical research opportunities available
 - All fellows spend a minimum of 2 months rotating on this service

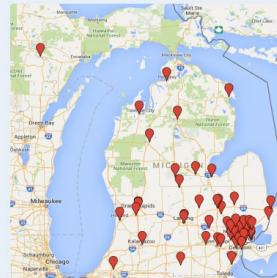
Antimicrobial Stewardship Program



HMS Hospitals



- 43 hospitals
- Diverse types / settings
 - Large AMCs-Small rural hospitals
- Hospital Participants
 - Physician Champion-hospitalist
 - Quality Lead
 - Data Abstractor
- Improving Care
 - Data / best practice sharing / facilitated implementation



JAMA Internal Medicine | [Original Investigation](#) | **LESS IS MORE**

Risk Factors and Outcomes Associated With Treatment of Asymptomatic Bacteriuria in Hospitalized Patients

Lindsay A. Petty, MD; Valerie M. Vaughn, MD, MSc; Scott A. Flanders, MD; Anurag N. Malani, MD; Anna Conlon, PhD; Keith S. Kaye, MD, MPH; Rama Thyagarajan, MD; Danielle Osterholzer, MD; Daniel Nielsen, MS; Gregory A. Eschenauer, PharmD; Sarah Bloemers, MPH; Elizabeth McLaughlin, BSN, MS; Tejal N. Gandhi, MD



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN



MDRO Service

2-month experience (divided)

Optimize antimicrobial selection

Weekly case conference

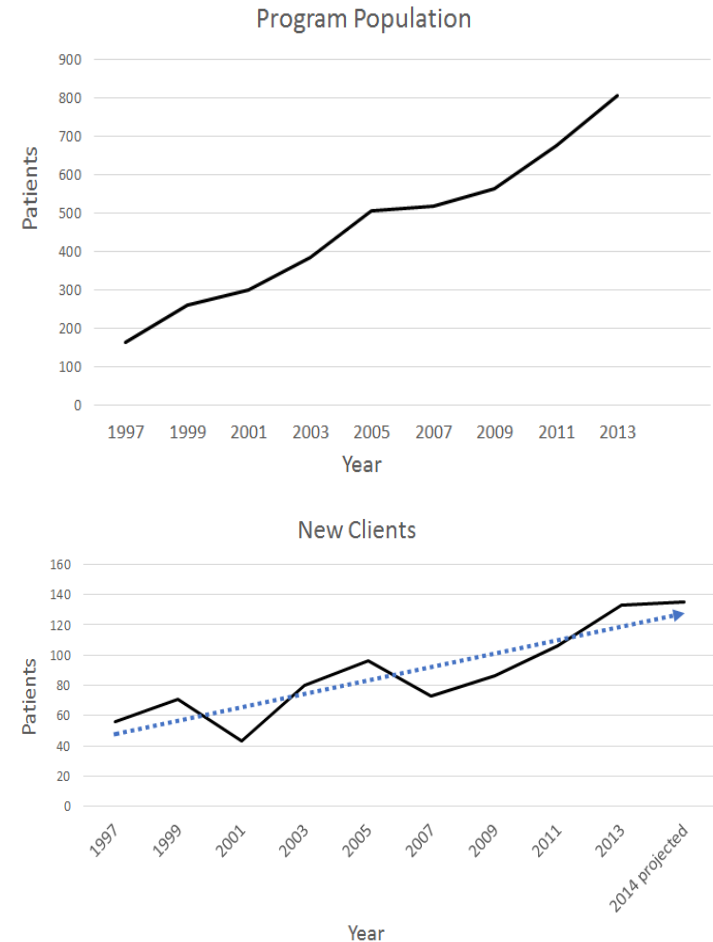
Closely integrated with AST pharmacists

Microskills on MIC interpretation and dosing



HIV/AIDS Treatment Program

- Ryan White Funded since 1997
- 900 active patients
 - 100 to 120 new patients each year
- Dedicated RN, multiple social workers
- 2 medical assistants
- Additional 150 HIV patients at VA



Antimicrobial Stewardship and HEIC

ANTIMICROBIAL STEWARDSHIP	
CORE	
All fellows completing the training program will have foundational training in AS allowing participation in all elements of interdisciplinary AS programs after graduation.	
<i>Elements of the curriculum</i>	
<i>IDSA Core Curriculum for Antimicrobial Stewardship</i>	<ul style="list-style-type: none"> Fellows complete between month 7-18 Mentored experience over 1-2 weeks
<i>Attend at least once either</i>	<ul style="list-style-type: none"> Date, time and link can be obtained from Dr. Gandhi (UH) or Dr. Patel (VA)
<ul style="list-style-type: none"> VA quarterly Antimicrobial Stewardship Meeting UH weekly Antimicrobial Stewardship Meeting 	
<i>MDRO rotation</i>	<ul style="list-style-type: none"> MDRO in 10 video series <ul style="list-style-type: none"> Lab testing for antimicrobial susceptibility VRE -mechanism of resistance and treatment MRSA -mechanism of resistance and treatment options for persistent bacteremia PK/PD principal – AUC, AUC/MIC ratio, rationale for extended infusion Stenotrophomonas: mechanism of resistance and treatment options Acinetobacter: resistance mechanisms and treatment strategies Pseudomonas- mechanisms of resistance, novel agents Amp C beta-lactamase CRE mechanisms OXA, KPC, MBL and how that changes preferred treatment Antifungal resistance
<ul style="list-style-type: none"> 8 weeks over two years Includes weekly case conference 	
<i>Microbiology Micro Rounds</i>	<ul style="list-style-type: none"> 2-week rotation Time to be individually arranged
<i>Didactic curriculum (2 year curriculum)</i>	<ul style="list-style-type: none"> Antimicrobial Resistance (gram +) Antimicrobial Resistance (gram -) Antimicrobial Resistance (yeast) Overview of Stewardship Disease Based Stewardship Outpatient Stewardship Board Review (AST)
ADVANCED	

HOSPITAL EPIDEMIOLOGY/INFECTION PREVENTION	
CORE	
Purpose: Fellows completing the training program will have foundational training in Hospital Epidemiology and Infection Prevention allowing participation in these programs after graduation.	
<i>Elements of the curriculum</i>	
<i>SHEA course</i>	<ul style="list-style-type: none"> Has been cancelled due to COVID-19 Planned 2023 (Colorado) On-line option (https://learningce.shea-online.org/content/primer-healthcare-epidemiology-infection-control-antimicrobial-stewardship-0#group-tabs-node-course-default4)
<i>Attend at least once the following:</i>	<ul style="list-style-type: none"> Contact Dr. Washer for links to meetings
<ul style="list-style-type: none"> Infection Prevention Workgroup Topic specific Meeting <ul style="list-style-type: none"> CAUTI and/or CLASBI Infection Control Committee (Hospital wide) 	
<i>Didactic curriculum (2 year curriculum)</i>	<ul style="list-style-type: none"> Respiratory viruses in Hospitalized Patients Prevention of Ventilator-Associated Pneumonia Control of Antimicrobial-Resistant Organisms Outbreak Investigation Prevention of Surgical Site Infections Prevention of Central Line-Associated Infections Management of Communicable Diseases Prevention of Catheter-Associated Urinary Tract Infections Gastrointestinal Infections in Hospitalized Patients Occupational Health for the ID Physician Infection Control Board Review
ADVANCED	
Fellows with an interest in pursuing a career focused on HEIC will have additional training to prepare for a leadership role and scholarly work in HEIC. Interested and qualified fellows may benefit from a third year of training.	
<i>HEIC Project</i>	<ul style="list-style-type: none"> Mentor from HEIC faculty
<i>SHEA spring conference</i>	<ul style="list-style-type: none"> HEIC track
<i>SPH Summer Session on Epidemiology</i>	<ul style="list-style-type: none"> Biostatistics and/or Epidemiology course More advanced course work available for those with pre-requisites



HIV and Transplant ID

HIV/AIDS	
CORE	
Purpose: Fellows completing the training program will be able to competently care for HIV positive patients.	
Elements of the curriculum	
<i>HIV on-line course</i>	<ul style="list-style-type: none"> • https://www.hiv.uw.edu/
<i>Patient experience:</i>	<ul style="list-style-type: none"> • One weekly NP HIV slot beginning month 7 of fellowship
<ul style="list-style-type: none"> • Care for at least 10 HIV infected patients new to the University HATP beginning month 7-18 of fellowship • VA ID clinic 	
<i>Didactic curriculum (1 year curriculum)</i>	<ul style="list-style-type: none"> • Antiretroviral Therapy • Opportunistic Infections • Adverse Reactions to HAART • Malignancy and Other Complication • Women's Health • Primary Care of the HIV Infected Patient • HIV and STDs • HIV Board Review
<i>Structure HIV Care in the US- Ryan White Program</i>	<ul style="list-style-type: none"> • Amy Jacobs
ADVANCED	
Fellows with an interest in pursuing a career focused on HIV/AIDS will have additional training to prepare for a leadership role and scholarly work in HIV/AIDS	
<i>Additional HATP clinic</i>	<ul style="list-style-type: none"> • Thursday morning
<i>HIV/AIDS research project</i>	<ul style="list-style-type: none"> • Various
<i>Conferences</i>	<ul style="list-style-type: none"> • CROI

TRANSPLANT INFECTIOUS DISEASE	
CORE	
Purpose: Fellows completing the training program will be able to recognize and treat complications of HSCT and SOT and understand strategies to prevent post-transplant infections.	
Elements of the curriculum	
<i>Transplant in 10</i>	<ul style="list-style-type: none"> • https://ast.digitellinc.com/ast/conferences/6/view <ul style="list-style-type: none"> ○ How to screen and manage BK ○ My donor is infected: Safe to accept? ○ Vaccination in SOT patients ○ Drug-drug interactions and immunosuppression ○ PTLD ○ Opportunistic Transplant Infections (free but registration required)
<i>Attend at least once the following:</i>	<ul style="list-style-type: none"> • Monday 12:30-1:00 PM F4133 •
<i>Didactic curriculum (2 year curriculum)</i>	<ul style="list-style-type: none"> • Donor Derived Infection, vaccination, pretransplant evaluation, safe living after transplantation • CMV infection • Non-CMV viral infections • Infections associated with LVADs • Fungal infections after HSCT and SOT (epi and diagnosis) • Fungal infections after HSCT and SOT (treatment and drug monitoring) • Prevention of infection in cancer patients • Infection risk associated with various forms of immunosuppression • Respiratory viral infection after transplantation • PTLD • Transplant ID board review
ADVANCED	
Fellows with an interest pursuing a career focused on Transplant ID will have additional training to prepare for a leadership role and scholarly work in Transplant ID, interested and qualified fellows may benefit from a third year of training.	
<i>AST Comprehensive Trainee Curriculum</i>	<ul style="list-style-type: none"> • https://ast.digitellinc.com/ast/courses • (program will cover cost, appendix sequences topics relevant to ID)
<i>Monday transplant meeting</i>	<ul style="list-style-type: none"> • Regular attendance
<i>Conferences</i>	<ul style="list-style-type: none"> • ATC



Innovative Educational Practices



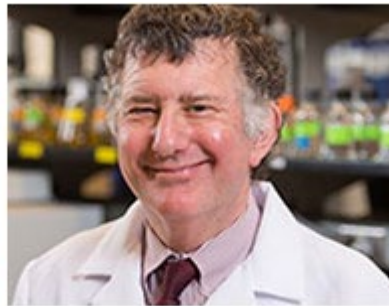
**Emily Ann Abdoler,
MD, MAEd
(Associate Program
Director)**

**Microskills (MIC
interpretation and
dosing)**

Reflective Practices

Infectious Disease Division Research

- Full spectrum of basic and clinical research opportunities available
- Collaboration with School of Public Health and other members of the University community
- Particular strength in antibiotic resistance intersection with antimicrobial stewardship



Divisional Research Committee

Date	Time	Attendees	Purpose
Year 1: July	Wednesday 9 AM	Committee First year fellows	Explain structure and requirements of research rotation
Year 1: July-August	Thursday 8 AM	Tom Schmidt First year fellows	Lecture focused on content of scientific proposal (one page)
Year 1: Oct-Nov	Thursday 8 AM	Committee First year fellows	Review proposed mentor and project (topic area); fellows will provide one-page written plan at least one week in advance
Year 1: Jan-Feb	Thursday 8 AM	Committee Mentor First year fellows	Review detailed proposed project; discuss GR presentation
Year 2: July-August	Thursday 8 AM	Committee First year fellows Mentor	Review progress

ID Consult Service Structure

General Rotation Template (flexible)

Year 1: July-December	UH ID General Consult Service (2 months) AAVA ID Consult Service (2 months) MDRO or Transplant ID Consult Service (2 months) Weekly Continuity clinic (UH)
Year 1&Year 2: January-December	Research Rotation Weekly Continuity (AAVA) Weekly Continuity clinic (UH)
Year 2: January -June	ID General Consult Service (2 months) AAVA ID Consult Service (2 months) MDRO or Transplant ID Consult Service (2 months) Weekly Continuity clinic (UH)

UH= University Hospital; AAVA=Ann Arbor VA; MDRO=multidrug resistant organism

Outpatient Clinic

6 months	12 months	6 months
Tues AM (U)	Tues AM (U)* Fri AM (VA)	Tues AM (U)

- * may “atrophy” if primary research career is goal



Elective Rotations

- Microbiology
 - Additional transplant ID
 - BMT service
 - Renal or liver transplant
 - Hepatitis C
 - Additional HIV
 - School of Public Health courses
- SHEA hospital epidemiology course
 - Travel medicine
 - International rotations/research
 - IDSA practice course



Summer Session in Epidemiology

M | SUMMER SESSION IN EPIDEMIOLOGY

JULY 11–29, 2022 | IN PERSON OR ONLINE



2022 Program Schedule

		Week 1 July 11–15	Week 2 July 18–22	Week 3 July 25–29
Morning Classes (8:30 am–12:00 pm, Monday–Friday)				
EPID 701	Fundamentals of Biostatistics (3-week course)	online	online	online
EPID 703	Applied Infectious Disease Modeling		online	
EPID 716	Clinical Epidemiology and Evidence-Based Research	in person*		
EPID 717	Design and Conduct of Clinical Trials		in person*	
EPID 718	Analysis of Clinical Trials			in person*
EPID 720	Applied Mediation Analysis			online
EPID 730	Simulation Modeling of Tobacco Use, Health Effects and Policy Impacts (full-day course)			online
EPID 766	Analysis of Longitudinal Data		in person*	
EPID 777	Geographic Information Systems for Epidemiology		online	
EPID 780	Applied Epidemiologic Analysis for Causal Inference	online		
EPID 793	Introduction to Complex Systems Modeling for Public Health Research (full-day course)	online		
Afternoon Classes (1:30–5:00 pm, Monday–Friday)				
EPID 709	Fundamentals of Epidemiology (3-week course)	in person*	in person*	in person*
EPID 702	Analysis with Missing Data in Epidemiology	online		
EPID 706	Mixed Methods in Epidemiologic Research			online
EPID 708	Machine Learning for Epidemiologic Analysis in the Era of Big Data			in person*
EPID 719	Methods in Genetic and Epigenetic Epidemiology		in person*	
EPID 721	Applied Sensitivity Analyses in Epidemiology			online
EPID 724	Leadership and Strategic Planning for Public Health			online
EPID 730	Simulation Modeling of Tobacco Use, Health Effects and Policy Impacts (full-day course)			online
EPID 742	Generalized Linear Models		in person*	
EPID 747	Successful Scientific Writing		in person*	
EPID 757	Systematic Reviews and Meta-Analysis		online	
EPID 778	Spatial Statistics for Epidemiologic Data		in person*	
EPID 787	Introduction to Multilevel Analysis in Public Health		in person*	
EPID 793	Complex Systems Modeling for Public Health Research (full-day course)	online		

Course Clusters Causal Inference Modeling Special pricing available (visit website for details)

*All in person courses will have an online-only registration option.

<https://sph.umich.edu/umsse/index.html/>

ID Core Didactic Curriculum

2021 ID Fellows Summer Conference Schedule Thursday from 8:00am to 9:00am Room F4175 UH South

7/1/21	Quality Improvement Projects <i>Rishi Chanderraj, M.D.</i>
7/8/21	Common Adverse Reactions to Antibiotics and how to Manage Them <i>Lindsay Petty, M.D.</i>
7/15/21	Fellow Mental Health Awareness <i>Daniel Kaul, M.D.</i>
7/22/21	Basic Wound Care <i>Shiwei Zhou, M.D.</i>
7/29/21	Intravascular Catheter Management <i>Shara Scheys, RN (UM Vascular Access Service Team)</i>
8/5/21	Reflective Practice <i>Emily Abdoler, M.D.</i>
8/12/21	PK/PD <i>Jerod Nagel, Pharm.D. (ID Pharmacy)</i>
8/19/21	Vanco-AG Dosing and Monitoring <i>Sam Aitken, Pharm.D. (ID Pharmacy)</i> (Zoom)
8/26/21	Fundamentals of Fungus: What Every ID Fellow Needs to Know <i>Katie Linder, M.D. and Marisa Miceli, M.D.</i> (9-10am)

ID Fellows Conference 2021-2022 Schedule Thursday 8:00 – 9:00am Room F4175 UH South	
	<i>Carol Chenoweth, M.D.</i>
2/24/2022	International Careers/Careers in Public Health <i>Natasha Bagdasarian, M.D., M.P.H. (Chief Medical Executive MDHHS)</i>
3/3/2022	Antimicrobial Resistance (gram +) <i>Jerod Nagel, Pharm.D. (ID Pharmacy)</i>
3/10/2022	Cancelled
3/17/2022	Outbreak Investigation <i>Carol Chenoweth, M.D.</i>
3/24/2022	Non-CMV viral infections: adeno, BK, JC, Parvo, EBV – limited-, HHV-6, HSV <i>Kevin Gregg, M.D.</i>
3/31/2022	Prevention of infection in Cancer Patients <i>Daniel Kaul, M.D.</i>
4/7/2022	Introduction to Public Health <i>Laura Power, M.D., M.P.H.</i>
4/14/2022	Fellow Journal Club <i>Preeti Malani, M.D., and Zoe Raglow, M.D.</i>
4/21/2022	Immunosuppression and Risk of Infection <i>Kevin Gregg, M.D.</i>
4/28/2022	Hepatitis C <i>Bob Fontana, M.D.</i>
5/5/2022	Meningitis/Encephalitis <i>Daniel Kaul, M.D.</i>
5/12/2022	Orthopedic Device Infections/Joint Infections <i>Kathleen Linder, M.D.</i>
5/19/2022	Parasitology I <i>Powel Kazanjian, M.D., Ph.D.</i>
5/26/2022	Parasitology II <i>Powel Kazanjian, M.D., Ph.D.</i>
6/2/2022	Practice Management: Introduction to Practice Settings <i>Anu Malani, M.D.</i>
6/9/2022	Fellow Journal Club <i>Preeti Malani, M.D. and Stephen Maurer, M.D.</i>
6/16/2022	ID Pathology <i>Laura Lamps, M.D.</i>
6/23/2022	Donor derived infections, vaccination, pre-transplant evaluation, safe living after transplantation <i>Daniel Kaul, M.D.</i>



Case Management Conference

Biweekly Fellows Case Management Conference

Purpose: to explore commonly encountered management issues and allow fellows to discuss cases/management issues in a small group setting.

Selection of cases/topics:

- Any case where management uncertainty is reasonable to consider
- Does not (and perhaps should not) be anything highly obscure
- Focused clinical question (typically regarding management) some examples might include:
 - Should integrase inhibitors be avoided in patients at high risk for diabetes?
 - Are short courses of antibiotics appropriate for immunosuppressed patients with pneumonia?
 - How should this case of HIV be treated in a patient with some resistance and unable to swallow pills?
 - Are there any antibiotics that are not risk factors for developing C-dif in a patient with a recent history of C-dif?
- Presentations should not take more than 1-2 hours to prepare
 - Present case
 - Frame the question and query colleagues
 - Provide the evidence/guidelines succinctly and your impression of the best management decision (this can be done with the help of the faculty content expert appropriate for that topic).
- Plan for 20-30 minutes



Preventive Medicine Residency

https://sph.umich.edu/pmr/index.html



SCHOOL OF PUBLIC HEALTH
PREVENTIVE MEDICINE RESIDENCY
UNIVERSITY OF MICHIGAN

APPLY VISIT GIVE

Search



Overview Academics Practicum Apply Faculty Residents Alumni News Contact



Preventive Medicine Residency

- PMR Home ▾
- Overview ▶
- Academics ▶
- Practicum ▶
- Apply ▶
- Faculty ▶
- Residents ▶
- Alumni Testimonials ▶
- Alumni
- News ▶

Purpose and Mission

The University of Michigan School of Public Health houses one of the oldest Preventive Medicine Residency programs in the country, dating back to 1969.

The central mission of the School of Public Health's residency in General Preventive Medicine and Public Health is to train highly-qualified physicians for careers in clinical preventive medicine and public health.

The mission is accomplished through the provision of rigorous academic course work resulting in a Master of Public Health degree in one of the following core areas of public health:

- General Epidemiology
- Environmental Health Sciences
- Health Behavior and Health Education
- Health Management and Policy

This mission is also accomplished by the provision of broad practicum experiences with concentrations in applied epidemiology, public health practice, and clinical preventive medicine, which are typically provided for populations with high levels of unmet health care needs.

1969

Year the U-M SPH Preventive Medicine Residency Program began



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN



Post-Fellowship Positions

- **University based faculty**

- University of Michigan
- Emory University
- University of Kentucky
- Medical College of Wisconsin
- University of Illinois Chicago
- Michigan State University
- OHSU
- University of Minnesota (TID)
- University of Arizona
- University of Pittsburgh

- **Hospital Employed**

- St. John's Health system
- St. Joseph's Hospital
- Queen's Health Care (Honolulu)
- Cleveland Clinic
- Oakwood Hospital
- Henry Ford Health System

- **Private Practice**

- Pittsburgh, PA
- Carolinas Hospital (Charlotte NC)
- Toledo, OH
- Petosky, MI
- Duluth, MN
- Seattle, WA
- Traverse City, MI

- **Additional training**

- London School of Tropical Medicine
- Doctors Without Borders
- CDC EIS Officer
- Mayo Clinic Transplant ID fellowship
- UM preventive medicine residency



House Officer Benefits

Salary Schedule + lump sum

- HOIV \$74,205 (FY23) \$7420 lump sum

Meal Allowance

Medical/Dental/Disability Insurance

Maternity/Paternity leave

Parking

Exercise Facility

Travel Allowance



About Ann Arbor

MAY 8, 2017

Ann Arbor Named 'Best City to Live' in America

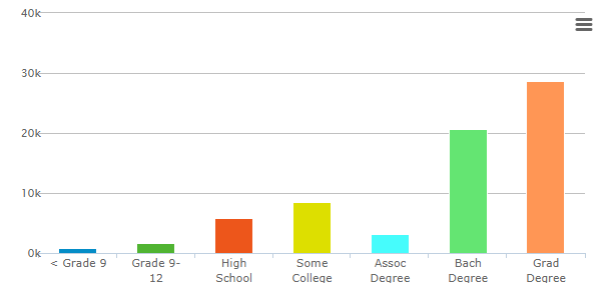
PRINT 

SHARE    

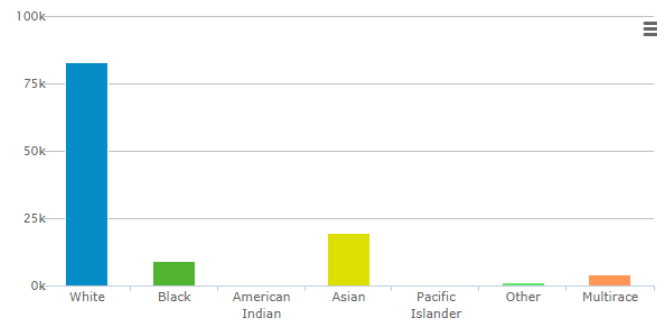


If you live in Ann Arbor, you already know this city is a great place to call home. But a new list confirms what you may have suspected: Ann Arbor is the best city to live in America.

Population: 119,280



Race Distribution



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN



Sleeping Bear Dunes



Contact Information

Program Director

Daniel Kaul MD
•kauld@umich.edu

Associate PD

Emily Abdoler MD
•eabdoler@umich.edu

Program Coordinator

Andrea Ernst
•aernst@umich.edu

