

## Summer Institute of Advanced Epidemiology and Preventive Medicine Summer 2015

### Hospital Epidemiology and Infection Control Facing Emerging Pathogens - Course Syllabus

July 19-23, 2015 / 14:00-18:30

Final Exam July 24, 2015 / 9:00-11:00

Sackler Faculty of Medicine / Room 215

Course No. 0158.1204 / 2 Academic Credits

<b>Course Instructors:</b>	Jonathan Zenilman (JHU), Geeta Sood (JHU), Yehuda Carmeli (TAU), Mitchell Schwaber (TAU), Tal Brosh (TAU), Amir Nutman (TAU), Daniel Cohen (TAU), and Manfred Green (U of Haifa)
<b>Teaching Assistant:</b>	Ms. Rotem Cohen
<b>Date / Time / Room:</b>	July 19-23, 2015 / 14:00-18:30 / Room 215
<b>Location:</b>	Room 215, Sackler Faculty of Medicine
<b>Final Exam:</b>	July 24, 2015 / 9:00-11:00 / Room 215

#### Course Description

The course will provide a comprehensive approach to risk factors related to the spread of infections within the healthcare setting, surveillance and outbreak investigation principles as well as issues related to prevention, detection, treatment and control of these infections in patients and in healthcare workers.

Special attention will be given to preparedness and management activities related to recent emerging pathogens – including Ebola, Middle East Respiratory Syndrome Coronavirus (MERS-CoV), Clostridium difficile (C. difficile), Norovirus, and others.

This course is designed for participants interested in the areas of infection control, epidemiology, public health and health care management, global health, research, and risk communication.

#### Requirements

To receive academic credit for the course, participants must pass the final exam with a grade of at least 60 (D). Non-credit participants are not required to take the final exam.

## Instructor Bios

### **Tal Brosh-Nissimov, MD**

Dr. Brosh graduated the Sackler Medical School at Tel Aviv University in 1997. He qualified in internal medicine and infectious diseases at the Tel Aviv Sourasky Medical center. During his ongoing military service at the Medical Corps of the IDF he served at the Chemical, Biological and Radio-Nuclear (CBRN) Branch in various positions. Dr. Brosh's major expertise is countermeasures against biothreats, including bioterrorism and epidemics. He is a member of the Israeli Epidemic Management Team, and its previous coordinator. During the last Ebola outbreak in West Africa Dr. Brosh served as a consultant to the Ministry of Health, and helped to form the Israeli response plan to the threat of Ebola Virus Disease importation.

### **Yehuda Carmeli, MD, MPH**

Professor Carmeli is Chief of the Division of Epidemiology at the National Center for Antibiotic Resistance and a Professor of Medicine at Tel Aviv University. He is also on the research staff at the Division of Infectious Diseases, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA. Professor Carmeli received his MD degree from Ben Gurion University, Israel and his MPH degree at Harvard School of Public Health. He served his residency at Hadassah Medical Center, Hebrew University, Jerusalem, and then served as a fellow in Medicine at Massachusetts General Hospital, Boston. Professor Carmeli completed his fellowship in Infectious Diseases at Beth Israel Deaconess Medical Center, Boston, MA. His primary research interest is the epidemiology of resistance to antibiotics. He is the author of over 200 research articles, the recipient of multiple research grants and awards, and member of editorial board of major journals in the fields of Infectious Diseases and antibiotic research.

### **Daniel Cohen, PhD, MPH** (*Co-Director of the Summer Institute*)

Professor Daniel (Dani) Cohen is the Head of the School of Public Health, Sackler Faculty of Medicine at Tel Aviv University (TAU). Prof. Cohen is also the Director of the Stanley Steyer Institute for Cancer Epidemiology and Research and Diana & Stanley Steyer Chair of Cancer Prevention and Control. In addition, Prof. Cohen founded the Tiberio Swartz Forum on Epidemiology of Infectious Diseases and Biosecurity. He serves as an executive board member of the Middle East Consortium for Infectious Diseases Surveillance (MECIDS) and also acts on various national and international advisory boards in the field of infectious diseases and vaccines. Prof. Cohen has also been a consultant for the World Health Organization (WHO) on several occasions. He has received awards for his outstanding contribution to research and is the author of more than 180 peer-reviewed articles. A more detailed Bio can be found online: <https://en-med.tau.ac.il/profile/dancohen>.

### **Manfred Green, MD, PhD, MPH**

Professor Manfred Green is currently the director of the Global Health Leadership and Administration MPH program and previously served as head of the University of Haifa School of Public Health, where he is a professor in the Department of Epidemiology. He also serves as an adjunct professor at the University of Georgia College of Public Health in the United States. He received his medical degree at the University of Cape Town in South Africa, his MPH and PhD at the University of North Carolina, Chapel Hill, and his BSc in mathematical statistics at the University of Witwatersrand. He previously served as head of the public health branch for the Israel Defense Forces, as well as founding director of the Israel Center for Disease Control.

**Amir Nutman, MD**

Dr. Nutman is a physician in the Division of Epidemiology, Tel Aviv Sourasky Medical Center (TASMC). He serves as the infection control specialist in TASMC's employee health clinic, overseeing projects such as employee vaccination (including the annual influenza vaccination campaign) and investigations of outbreaks involving hospital staff. Dr. Nutman received his MD degree from Tel Aviv University and is currently finishing an MPH degree at Tel-Aviv University School of Public Health. He served as a military physician in the Israel Defense Forces. His research interests include the epidemiology of infections caused by multidrug-resistant organisms and vaccination of healthcare workers.

**Mitchell Schwaber, MD, MSc**

Dr. Mitchell J. Schwaber is the director of the National Center for Infection Control of the Israel Ministry of Health and an Associate Professor of Medicine at the Sackler Faculty of Medicine. Originally from Boston, MA, he received his BA from Princeton University, pursued his medical studies at the Albert Einstein College of Medicine, and completed his internship at Massachusetts General Hospital. He became a citizen of Israel in 1992 and did his medical residency at Hadassah University Hospital, Jerusalem. Upon completion of his military service in the Israel Defense Forces (IDF), he trained in infectious diseases and epidemiology at Beth Israel Deaconess Medical Center and the Harvard School of Public Health in Boston. In addition to his duties with the Ministry, he practices internal and infectious diseases medicine at the Tel Aviv Sourasky Medical Center and Maccabi Healthcare Services. He is an officer in the IDF Medical Corps Reserves, in which capacity he was called upon to serve in the IDF Field Hospital in Haiti following the January 2010 earthquake.

**Geeta Sood, MD**

Dr. Sood is an instructor of medicine and hospital epidemiologist at Johns Hopkins Medicine. She completed medical training, a residency in internal medicine and a fellowship in infectious diseases, at Temple University Medical School. Dr. Sood previously worked at Albert Einstein Medical Center, a 500-bed community hospital affiliated with Thomas Jefferson University, where she started an antibiotic stewardship program, and was actively involved in medical education as an associate program director for the Internal Medicine Residency Program and a clerkship director second-, third- and fourth-year medical students. She also served as hospital epidemiologist at Abington Memorial Hospital, a 600-bed community hospital outside of Philadelphia. While there, she chaired the Infection Control Committee, and CLABSI and VAP process improvement committees.

**Jonathan Zenilman, MD (Co-Director of the Summer Institute)**

Dr. Zenilman is Professor of Medicine and Chief of the Infectious Diseases Division at the Johns Hopkins Bayview Medical Center. He also serves as Executive Medical Director for the Business Development and Strategic Alliances Division of Johns Hopkins Medicine, and holds joint appointments at the Johns Hopkins Bloomberg School of Public Health in the Department of Population and Family Health Sciences and the Department of Epidemiology. Dr. Zenilman is known internationally for his work in infectious disease epidemiology. Prior to coming to Johns Hopkins in 1989 he was a medical epidemiologist at the US Centers for Disease Control (CDC) where he conceived, developed, and implemented the National Gonococcal Isolate Surveillance Program (GISP). GISP operated continuously since 1987, and has been responsible for identifying multiple types of resistant strains before they became large clinical problems. Dr. Zenilman has >300 publications and is an active teacher, and has mentored >50 fellows and residents during his career. He is board-certified in internal medicine and infectious diseases, and is a Fellow of the American College of Physicians and of the Infectious Diseases Society of America. A more detailed Bio can be found online: <https://en-med.tau.ac.il/School-of-Public-Health/Course2015-4>.

## Course Schedule

### Day 1: Sunday, July 19

14:00-14:15	Introduction to Infection Control	JZ
14:15-15:15	Basics of Surveillance	JZ, GS
15:15-16:00	Transmission and Prevention (including environment and medical devices)	GS
16:00-16:15	Break	
16:15-17:30	Role of the Microbiology Lab	JZ
17:30-17:45	Break	
17:45-18:30	Exercise: Surveillance	Faculty

### Day 2: Monday, July 20

14:00-14:45	Outbreak Investigation	GS
14:45-15:30	Study Design in Infection Control	GS
15:30-15:45	Break	
15:45-16:30	Infection control in low resource settings	JZ
16:30-17:15	Infection control as a behavioral issue - Hand Hygiene	JZ
17:15-17:30	Break	
17:30-18:30	Exercise: Ebola Outbreak and Management in the US	Faculty

### Day 3: Tuesday, July 21

14:00-14:45	Communication and Messaging in Infection Control	MG
14:45-15:45	GI Bugs: <i>Clostridium difficile</i> and Norovirus	JZ
15:45-16:00	Break	
16:00-16:30	Accelerated development and use of vaccines against emerging pathogens	DC
16:30-17:15	Occupational Health	JZ, AN
17:15-17:30	Break	
17:30-18:30	Exercise: Influenza Outbreak and Preparedness	Faculty

### Day 4: Wednesday, July 22

14:00-14:15	Respiratory Transmission (Pertussis, Influenza)	GS
14:15-15:00	Central Line-Associated Blood Stream Infection (CLABSI)	GS, MS
15:00-15:45	Catheter-Associated Urinary Tract Infection (CAUTI)	MS
15:45-16:00	Break	
16:00-16:45	Tuberculosis and Ventilator-Associated Pneumonia (VAP)	GS
16:45-17:30	Surgical Site Infection (SSI)	MS
17:30-17:45	Break	
17:45-18:30	Infection control at national level: Israeli carbapenem-resistant Enterobacteriaceae (CRE) intervention	MS

**Day 5: Thursday, July 23**

14:00-15:00	Multi-drug resistant organisms: Gram positives and negatives	MS, YC
15:00-15:45	Antimicrobial stewardship	JZ, YC
15:45-16:15	Middle East Respiratory Syndrome Coronavirus (MERS-CoV) : A unique set of circumstances	GS
16:15-16:30	Break	
16:30-18:15	Hospital preparedness plan at country level (US, Israel)	JZ, YC, TB
18:15-18:30	Course summary	Faculty

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**Exam: Friday, July 24**

9:00-11:00 Final Exam (Room 215, Sackler Faculty of Medicine)