## Adolescent and Transition Medicine

### RESEARCH AND TRAINING DETAILS

<table>
<thead>
<tr>
<th>Category</th>
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<td>Faculty</td>
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<td>Joint Appointment Faculty</td>
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<td>Research Students</td>
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<td>Support Personnel</td>
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<tr>
<td>Direct Annual Industry Support</td>
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<td>Peer Reviewed Publications</td>
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### CLINICAL ACTIVITIES AND TRAINING

<table>
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<tr>
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<tr>
<td>Clinical Staff</td>
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<td>Staff Physicians</td>
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<tr>
<td>Inpatient Encounters</td>
<td>1,366</td>
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<tr>
<td>Outpatient Encounters</td>
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Research Highlights

Jessica Kahn, MD, MPH
Dr. Kahn conducts interdisciplinary research focused on prevention of diseases related to human papillomavirus (HPV) in young women and men. She is currently examining the epidemiology and risk factors for genital HPV infection in adolescent girls and boys; the epidemiology of oral HPV in HIV-infected youth; the efficacy of HPV vaccines in HIV-infected youth; the impact of HPV vaccination on the epidemiology of HPV in the community; predictors of HPV vaccine recommendations by clinicians and uptake by parents and adolescents; and risk perceptions and behaviors after HPV vaccination. This work is funded by an R01 from NIH (NIAID) for which she serves as principal investigator and a U01 from NIH (NICHD) which supports the Adolescent Medicine Trials Network for HIV/AIDS Interventions, for which she serves as a member of the Therapeutic Leadership group and a chair or co-chair of several protocols. She recently co-edited a supplement in the *Journal of Adolescent Health* presenting the results of public health demonstration projects to improve adolescent vaccination across the U.S.; she chaired the grant program, which was funded by the Society for Adolescent Health and Medicine through a grant from Merck.

Ellen Lipstein, MD, MPH
Dr. Lipstein conducts research focusing on improving the care and health of children and adolescents with chronic conditions by improving the treatment decision-making process. This year she and her team published the first longitudinal, qualitative examination of how decisions are made in pediatric chronic conditions. To further understanding of decision making in this setting, they also fielded a survey examining rheumatologists' and gastroenterologists' perspectives about sharing treatment decisions with parents and adolescent patients. This is the largest survey, to date, focused on pediatric providers' perspectives of shared decision making.

Tanya Mullins, MD, MS
Dr. Mullins conducts research focusing on outcomes of human papillomavirus (HPV) vaccination in adolescents and the use of new biomedical HIV prevention methods among adolescents, such as pre-exposure prophylaxis (PrEP). Dr. Mullins recently published a study demonstrating that higher knowledge about HPV vaccines among mothers and girls was linked with more accurate HPV vaccine-related risk perceptions among girls who received the vaccine. She recently presented data demonstrating that HPV vaccine-related risk perceptions are not associated with subsequent risky sexual behaviors among vaccinated adolescent girls. With support from the NIH-funded Adolescent Trials Network for HIV/AIDS Interventions, Dr. Mullins and her team interviewed clinicians who provide care to adolescents with HIV and found substantial variability in clinician practices with regard to the characteristics of appropriate candidates for PrEP and the use of PrEP in HIV serodiscordant couples. Because of her work in this area, she was an invited participant for the UNICEF-sponsored conference “Consultation on Clinical and Operational Considerations for the Implementation of Pre-Exposure Prophylaxis (PrEP) in Sexually Active Older Adolescents.”

Lea Widdice, MD
Dr. Widdice conducts research focusing on optimal testing for sexually transmitted infections (STI) in adolescents and young adults. She is currently collaborating with community organizations to demonstrate acceptability and feasibility of providing STI screening and treatment in the community. Lack of access to private space for patients to collect samples can be a barrier to testing because current diagnostic tests for the most common bacterial STIs require genital or urine samples for testing. However, her research has shown that people attending community events report collecting genital samples in a privacy shelter to be acceptable. Her team has also demonstrated that STI screening can be provided without access to healthcare facilities, including clinics or bathrooms. In a retrospective review of emergency room records, she demonstrated that the adoption of a rapid test for trichomoniasis was associated with a decrease in overuse of antibiotics among women tested for sexually transmitted infections in the emergency room. These findings suggest that the adoption
of a rapid test for gonorrhea could decrease the overuse of antibiotics for these infections which is important because of the world-wide increase in antibiotic-resistant gonorrhea.

**Significant Publications**


This was a qualitative research study that examined the evolution of parents' treatment decisions. In this study, decision making was an iterative process occurring in three distinct patterns. Understanding these patterns and the varying elements of parents' decision processes is an essential step toward developing interventions that are appropriate to the setting and that capitalize on the skills families may develop as they gain experience with a chronic condition.


This study reported on the feasibility and acceptability of providing point of care testing for sexually transmitted infections in a community setting. When provided with different options for testing, the majority of participants chose point-of-care or near-patient testing.


Little is known about the epidemiology, natural history, or risk factors for oral HPV in HIV-infected youth, and it is unknown whether HPV vaccination is effective in preventing oral infection with types targeted by the vaccines. In this first study of the prevalence and risk factors for oral HPV infection among HIV-infected youth, prevalence rates of oral HPV were high (19.5%). No men fully vaccinated for HPV were infected with vaccine type HPV.


This study was the first to examine HIV clinicians’ attitudes and behaviors regarding prescribing pre-exposure prophylaxis to prevent HIV infection. Clinician reported steps for initiating, monitoring, and discontinuing PrEP were largely consistent with written guidance. The study findings suggest that variation in practice could be reduced through interventions to educate clinicians about the content and rationale for guideline recommendations.


Little is known about the epidemiology of syphilis among adolescents and young adults. This study examined, among more than 17,000 youth, trends in rates of syphilis testing and infection; characteristics of infected adolescents; and agreement about syphilis staging and treatment between provider and chart reviewer. Rates of syphilis testing increased but rates of syphilis infection did not increase significantly over the 5-year period. A majority of infected men reported only opposite-sex sexual contact. High agreement between providers and chart reviewers was found. These findings underscore the need for complete assessment of risk factors and use of local epidemiology in screening practices.


# Faculty, Staff, and Trainees

**Faculty Members**

Jessica Kahn, MD, MPH, Professor
- **Leadership** Assistant Chair, Academic Affairs and Faculty Development; Interim Director, Division of Adolescent and Transition Medicine (10/1/14 - Present)
- **Research Interests** Prevention of diseases associated with human papillomavirus (HPV); HPV and other adolescent vaccines; HIV in adolescents.

Maria Britto, MD, MPH, Professor
- **Leadership** Director, Center for Innovation in Chronic Disease Care; Interim Director, Division of Adolescent and Transition Medicine (8/01/13-10/1/14); Faculty Lead, EPIC-Quality Integration Initiative; Co-Leader, Advanced Improvement Methods Course
- **Research Interests** Chronic disease; health care quality; health care preferences; clinical informatics.

Frank Biro, MD, Professor
- **Leadership** Interim Director of Research
- **Research Interests** Environmental influences on body composition and pubertal timing; impact of peripubertal changes on risk factors for breast cancer; childhood and adolescent precedents of adult disorders.

Paula Braverman, MD, FAAP, Professor
- **Leadership** Director of Community Programs; Interim Medical Director
- **Research Interests** Teen pregnancy and STI prevention; obesity prevention programming for teens.

Lee Ann Conard, DO, MPH, RPh, Assistant Professor
- **Leadership** Medical Director, Transgender Clinic; Director of Resident Education

Jamilah Hackworth, MEd, MdD, Assistant Professor
- **Leadership** Associate Director, Academic Affairs and Career Development
- **Research Interests** Faculty development/socialization, mentorship, and underrepresented minority faculty development.

Corinne Lehmann, MD, MEd, Professor
- **Leadership** Director, Medical Student Education for the Dept of Pediatrics (Clerkship Director); Director, Medical Students Scholar Program in Pediatrics; Medical Director, Family Care Clinic (for pediatric and adolescent HIV patients)
- **Research Interests** Pediatric, adolescent and adult medical education; HIV/STI; vaccines; underserved populations.

Ellen Lipstein, MD, MPH, Assistant Professor
- **Research Interests** Medical decision-making and chronic disease.

Laurie Mitan, MD, Associate Professor
- **Leadership** Director, Eating Disorders Program
- **Research Interests** Eating disorders.

Tanya Mullins, MD, MS, Assistant Professor
- **Research Interests** Prevention of sexually transmitted infections and HIV in adolescents.

Abigail Nye, MD, Assistant Professor
Leadership

Director, Transition Medicine Team

Research Interests Transition Medicine; caring for patients with complex medical problems as they approach and move into adulthood.

Sherine Patterson-Rose, MD, MPH, Assistant Professor
Research Interests Adolescent reproductive health; reproductive health disparities; community interventions.

Darcey Thornton, MD, Assistant Professor
Research Interests Transition medicine: caring for adolescents and young adults with special health care needs and chronic illnesses.

Lea Widdice, MD, Assistant Professor
Leadership Director, Adolescent Medicine Physician Fellowship Program
Research Interests Epidemiology of HPV; HPV vaccine immunogenicity and optimizing vaccine delivery systems.

Jason Woodward, MD, MS, Assistant Professor
Research Interests Transition of care in adolescents with special health care needs; health care services for young adults with developmental disabilities.

Joint Appointment Faculty Members

Carol Brown Engel, MD, Assistant Professor (Psychiatry and Behavioral Neuroscience)

Abigail Matthews, PhD, Assistant Professor (Behavioral Medicine and Clinical Psychology)
Research Interests Illness perception in family-based treatment of eating disorders.

Clinical Staff Members

- Erin Dawson, MS, RD, LD
- Ann Marie Dougherty, MS, RD, LD
- Laurie Dunham, MD, RD, LD
- James Ebert, MD
- Susannah Grimes, MSN, PNP, APRN Leader
- Robin Holmes, RN
- Allison Mack, MSN, CNP
- Anne Marraccini, RN, BSN, Program Manager, Transition Medicine Team
- Susan Meierjohan, RN, CNP
- Joy Melvin, RN, BSN, MSN, Care Manager, Eating Disorders Team
- Shannon Myatt, MSN, CPNP
- Jill Nelson, RN
- Sarah O'Cull, RN
- Jennifer Prather, RN
- Annette Rader, RN
- Rhonda Ruholt, RN
Cindy Samuel, RN, Clinical Coordinator

Anna Liisa Vockell, CNP

Debbie Voet, RN

Louise Watts, MSN, CPNP

Giselle Schneider Weller, MD

David Weybright, BSN, MSN, NEA-BC, Clinical Director

Anita Wilson, RN, Care Manager, Eating Disorders Team

Janet Wimberg, MSW

Trainees

Shelly Ben Harush Negari, MD, 3rd yr, Mt Scopus Hadassah Hospital, Jerusalem

Emmanuel Chandler, MD, 2nd yr, Medical University of South Carolina

Lindsay Ewan, MD, 3rd yr, Texas Children's Hospital, Baylor College of Medicine

Oriaku Kas-Osoka, MD, 3rd yr, Children's Hospital & Research Ctr, Oakland, CA

Shauna Lawlis, MD, 2nd yr, Texas Children's Hospital, Baylor College of Medicine

Maria Rahmandar, MD, 2nd yr, Texas Children's Hospital, Baylor College of Medicine

Grants, Contracts, and Industry Agreements

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<th>Grant and Contract Awards</th>
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<td>American Academy of Pediatrics</td>
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Britto, M
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<td>Agcy for Healthcare Research and Quality (Children's Hosp &amp; Reg Med Ct-Seattle)</td>
<td>U18 HS020506</td>
<td>3/1/2011</td>
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<td>'Adolescent Controlled Text Messaging to Improve Asthma Medication Adherence in Primary Care'</td>
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| 'Kahn, J
Epidemiologic Impact of HPV Vaccination
National Institutes of Health
R01 AI104709
1/18/2013-12/31/2017
$488,589' | ATN Coordinating Center | U01 HD040533 | 5/28/2011    | 2/29/2016  | $26,879  |
| 'Lipstein, E
Shared Decision Making In Pediatric Chronic Conditions: Biologics in IBD and JIA
National Institutes of Health
K23 HD073149
8/15/2012-7/31/2017
$120,797' | Mullins, T
'Physician Attitudes toward New Biomedical HIV Prevention Interventions in Youth
National Institutes of Health
K23 HD072807
9/19/2013-8/31/2018
$120,979' | Widdice, E
'Center for Point-of-care Technologies Research for Sexually Transmitted Diseases
National Institutes of Health (The Johns Hopkins University)
U54 EB007958
7/1/2012-6/30/2017
$105,994' |
| **Current Year Direct** | | | | | $1,125,691 |

**Industry Contracts**
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<td>Widdice, E</td>
<td>Gen-Probe Incorporated</td>
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**Current Year Direct Receipts**

| Total           | $78,886                     |

| Total           | $1,204,577                  |
Using new methods to determine hormone levels in prepubertal girls, a Cincinnati Children’s research team has demonstrated that significant changes in hormone levels can be detected prior to clinically evident changes in puberty — a finding that could help explain why breast cancer risks vary among obese and non-obese women later in life.

This longitudinal study examined relationships between adrenal and sex hormones in 252 peripubertal girls in Cincinnati who were recruited between 2004 and 2010. Participants entered the study between ages 6 and 7 and were followed from 30 months before to six months after the appearance of breast development. Detailed findings were published online July 16, 2014, in the Journal of Clinical Endocrinology and Metabolism.

“We noted radical differences between overweight and normal weight girls, and our data suggest that heavy girls are producing some of their circulating estrogens from their adipose tissue, rather than from their ovaries,” says Frank Biro, MD, first author of the study. “That finding is consistent with differing rates of breast cancer among postmenopausal women when comparing obese and non-obese.”

Gathering data on estradiol, estrone, androstenedione, and T serum concentrations required using high-performance liquid chromatography (HPLC) with tandem mass spectrometry, a newer and highly sensitive analytic approach. Dehydroepiandrosterone sulfate (DHEA-S) and SHBG were measured through established methods.

The research team reports that the average age of breast development in the study group was 8.78 years. Testing revealed that hormone concentrations of DHEA-S increased 30 to 18 months prior to breast development; androstenedione and estrone levels increased 12 and 18 months before onset of breast development; estradiol and T-serum concentrations increased while SHBG levels decreased six to 12 months before breast development.

Heavier peripubertal girls had lower estradiol levels at puberty. These findings suggest a mechanism, especially in heavier girls, for pubertal changes without activating the hypothalamic-pituitary-ovarian axis.
“Our data suggest that heavy girls are producing some of their circulating estrogens from their adipose tissue, rather than from their ovaries.”

Serum hormone concentration of estradiol by BMI group relative to onset of puberty. This figure demonstrates that estradiol concentrations are significantly greater at onset of puberty (as defined by onset of breast development), as well as six months after onset, in girls with below-median BMI.