Institute for Health Research and Policy

A university-wide multidisciplinary institute administered through the School of Public Health

Advancing Health Practice and Policy through Collaborative Research

www.ihrp.uic.edu
CHILDREN’S HEALTH—ONE FOCUS OF IHRP RESEARCH

Developing strategies to promote healthy behaviors and to reduce those that compromise health is fundamental to the mission of the Institute for Health Research and Policy.

From the institute’s founding in 1997 to today, our studies have covered health over the life span, from fetal development and early childhood through adulthood to old age. Our work focuses on priority areas that contribute to the leading causes of morbidity and mortality in the United States: tobacco use, poor dietary habits and a lack of physical activity. In this brief report, we highlight IHRP efforts to improve the health of children. (To learn about recent IHRP scientific contributions to health practice and policy regarding adults of all ages, please see our website at www.ihrp.uic.edu.)

Slightly over one quarter (27.6%) of the U.S. population is younger than 20 years old. During childhood and adolescence, health habits are set in motion for adulthood and may portend pathways to a multitude of chronic health conditions.

As you can see in the table below, substantial percentages of youth engage in behaviors that place them at risk for long-term health problems. These risk factors are not equally distributed among all youth, however, and disparities in health behaviors and outcomes exist for children of different ethnic, racial and income groups.

Reducing these health risks and disparities will not be easy. IHRP researchers begin to address this challenge by identifying the factors that predict and maintain patterns of youth health behaviors. With this scientific understanding, we create and test developmentally and culturally appropriate interventions to modify these factors at multiple levels, from the individual, to the family, to school systems, and to the broader social and policy environment. Thus, IHRP researchers take an ecological perspective on addressing health behaviors of our nation’s youth and consider the multiple, interacting and supporting contexts that influence the patterns and outcomes of youth health behaviors. Our research teams partner with schools, communities and policymakers in Chicago, throughout the state and nationwide, working to improve the health of America’s youth.

A CHILDREN’S HEALTH SNAPSHOT

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBESITY (PRESCHOOL CHILDREN)</td>
<td>12.4%</td>
</tr>
<tr>
<td>(14.6% FOR LOW-INCOME PRESCHOOLERS)</td>
<td></td>
</tr>
<tr>
<td>SMOKING (ELEMENTARY AND MIDDLE SCHOOL STUDENTS)</td>
<td>17.0%</td>
</tr>
<tr>
<td>ALCOHOL (HIGH SCHOOL STUDENTS)</td>
<td>13.0%</td>
</tr>
<tr>
<td>(AND 65.3% DON’T EXERCISE ENOUGH)</td>
<td></td>
</tr>
<tr>
<td>20.0% (AND 65.3% DON’T EXERCISE ENOUGH)</td>
<td></td>
</tr>
<tr>
<td>45.0% (AND 65.3% DON’T EXERCISE ENOUGH)</td>
<td></td>
</tr>
<tr>
<td>(AND 65.3% DON’T EXERCISE ENOUGH)</td>
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</tbody>
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A lifetime of good health begins with the development and practice of healthy behaviors in childhood. At IHRP, researchers examine the origins of good health habits and the factors that maintain them. They also design and test evidence-based interventions to help families, schools and communities cultivate health-sustaining behavior among children and adolescents. Here is a sample of such studies.

**OBESITY PREVENTION**

Over the past decade, Professor of Medicine and Health Policy and Administration Marian Fitzgibbon developed, implemented and tested an obesity prevention program in Chicago preschool classrooms. The 14-week program, called “Hip Hop to Health,” teaches the principles of healthy eating and physical activity using puppets, songs, dance and other age-appropriate activities. In a randomized trial, children who participated in “Hip Hop to Health” were less likely to gain excessive weight than children in classrooms without the program.

Fitzgibbon is now developing a “Hip Hop at Home” DVD for families, intended to complement the classroom curriculum and engage parents of preschoolers to improve their family’s dietary habits and physical activity levels.

**REDDUCING TOBACCO USE AMONG TEENS AND YOUNG ADULTS**

IHRP’s Helping Young Smokers Quit (HYSQ) project has studied smoking cessation programs for U.S. teens since 2001. Based on this research, HYSQ has developed a toolkit for teachers and counselors who lead such programs. Soon to be available online, the toolkit will help them evaluate their programs with standardized measures.

National surveys find smoking is decreasing among all age groups except adults between the ages of 18 and 24. Research shows that many young adult smokers want to quit but tend not to use methods that work. Robin Mermelstein, IHRP director and professor of psychology, and colleagues are testing ways to increase demand for evidence-based, Internet-based smoking cessation treatment among young adults.

**POSITIVE YOUTH DEVELOPMENT**

In research conducted in Hawaiian schools and begun at IHRP, rates of substance abuse, violence and early sexual activity have dropped among students enrolled in a program called Positive Action. The multiyear program is designed to reduce student problem behaviors and academic underachievement.

The research team led by Brian Flay, distinguished professor emeritus of community health sciences, and David DuBois, professor of community health sciences, also trained Chicago teachers to administer the curriculum in the third, fourth and fifth grades in 14 public elementary schools. Now, five years after 500 students began the program, researchers are analyzing the program’s effects.

**MONITORING ILLINOIS CHILDREN’S HEALTH BEHAVIORS**

The Illinois system for monitoring health behavior and practices in the state does not track children or adolescents. IHRP researchers are working to fix this.

Over the next few years, a group of researchers led by Children’s Memorial Hospital will develop, test and implement an expanded version of the Illinois Behavioral Risk Factor Surveillance System, which is used by public health officials to plan and improve programs throughout the state. Richard Campbell, professor of biostatistics, and William Baldyga, IHRP associate director, are contributing to this work.
The development and practice of health habits are also shaped by factors beyond the control of individuals and families. At IHRP, researchers examine the influences of public policy and other environmental factors on the health of children and adolescents. Here is a sample of such studies.

**Obesity Prevention Efforts by Schools**

Most U.S. school districts have wellness policies on the books. But IHRP’s Health Policy Center found those policies weak. In July 2009, a team led by Jamie Chriqui, senior research scientist, published the most comprehensive report to date examining school district policies on school meals, physical activity and education, food marketing and related issues.

This research was part of Bridging the Gap, funded by the Robert Wood Johnson Foundation and directed by IHRP’s Frank Chaloupka, distinguished professor of economics. Since 1997, Bridging the Gap researchers have identified policy, programs and environmental factors, including advertising and marketing, that influence health behaviors of U.S. youth. Scholarly publications by this team have shaped policies nationwide to reduce the use of alcohol, tobacco and illicit drugs among adolescents, improve their diet and physical activity, and reduce their obesity levels.

**Access to Health Care Insurance**

When Illinois established the All Kids health insurance program in July 2006, an estimated 253,000 children were expected to benefit. More than half were from families who earned too much to qualify for public health programs but not enough to afford private health insurance. The state of Illinois has asked IHRP’s Dianne Rucinski, senior research scientist, to measure the effects of that program and to examine health insurance coverage among Illinois children over the past decade.

Rucinski expects to find that an increasing number of children depend on the All Kids program as their only option for getting health coverage and therefore health care. She plans to submit a report of her findings to the state in spring 2010.

**Nutrition in Food Subsidies**

Almost 295,000 low-income Illinois residents participated in the federal Special Supplemental Nutrition Program for Women, Infants, and Children in 2008. In October 2009, the program, known as WIC, began covering a limited purchase of fresh produce, whole grains and other healthy foods for young children, their mothers and pregnant or breastfeeding women. Led by Marian Fitzgibbon, IHRP deputy director, IHRP researchers will follow 400 families in northern Illinois for two years to see how the program change affects children’s diets.

Angela Odoms-Young, assistant professor of kinesiology and nutrition, also is studying the relationships between neighborhood food access, household food availability and children’s diet and weight among low-income African American and Latino families with preschool-age children.

Learn more about these and other studies focusing on children’s health at [www.ihrp.uic.edu](http://www.ihrp.uic.edu).
Institute for Health Research and Policy

For the past decade, IHRP Director Robin Mermelstein has devoted much of her research to a question crucial to reducing tobacco use: Why can some teens try smoking and give it up while others become regular smokers?

In a series of longitudinal studies using innovative methods, Mermelstein is tracing the paths of teen smoking from experimentation to nicotine addiction. This knowledge will underpin the next generation of smoking cessation interventions for teens.

From 1998 until 2004, with $1.9 million from the National Cancer Institute (NCI), Mermelstein and colleagues studied early encounters with smoking among 560 eighth and tenth graders. After completing extensive questionnaires, the teens carried handheld computers for a week, several times over 12 months, completing surveys about their activity and mood when randomly prompted, when they had a cigarette, and when they refrained from smoking. Mermelstein was one of the first researchers to use this diary-like method, called ecological momentary assessment, for this age group.

“We learned that in the early trials of smoking, kids get an enormous mood boost—not all kids, but many. They feel better, calmer, happier after smoking,” Mermelstein said. “And the kids who get the most positive boost in those very early trials are the ones who seem to escalate and continue smoking.”

To study teen smoking escalation further, Mermelstein secured a $13 million NCI grant for a more complex study tracking 1,263 ninth- and tenth-grade students at risk for smoking. As in the previous study, some of the students completed “electronic diaries” via repeated cycles of surveys on handheld computers. In addition, the researchers analyzed videotapes of discussions between a group of teens and their parents about their relationships and family rules, and studied the psychophysiological responses of regular smokers to emotionally charged stimuli. Although the researchers are still analyzing 33 months’ worth of data, several important discoveries have emerged:

- The researchers identified five trajectory patterns of smoking use that predicted future smoking behavior.
- A subset of teens in the study reported symptoms of nicotine withdrawal or dependence at a much earlier stage of smoking than previously reported in scientific literature. Such teens, who smoked less than once a week, were at high risk for becoming regular smokers.
- The electronic diaries indicated that smoking not only lifts teens’ moods but also reduces mood volatility. This mood-stabilizing effect continued over two years of experimentation with smoking. “That may partly explain why they continue to smoke,” said Mermelstein.
- The laboratory study of regular smokers among the project’s teens echoed this finding. “Smoking a cigarette does decrease the arousal from negative stimuli,” Mermelstein said.

While developing scholarly papers about these findings, Mermelstein and colleagues are planning the next stage of this research, which focuses on smoking escalation patterns among young adults after high school and includes genetic analyses of study participants. A proposal for this new research has received an outstanding score (in the “High Impact” range) by NCI and is expected to be funded in 2010.

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IHRP Highlights in 2008-2009

RECOGNITION FOR IHRP RESEARCHERS

Frank Chaloupka was named UIC 2008 Researcher of the Year for Social Sciences and Humanities. Chaloupka, distinguished professor of economics, directs IHRP’s Health Policy Center. His research portfolio includes Bridging the Gap, which examines policy and environmental factors that influence health behaviors among youth.

Marilyn Willis, associate director for administration and community relations in IHRP’s Center for Population Health and Health Disparities, was one of four academic professionals campuswide selected for the 2008 Chancellor’s Academic Professional Excellence (CAPE) Award. A nurse by training, Willis was recognized for her contributions to building relationships between the university and Chicago communities to improve health.

CONTRIBUTING TO THE UIC INTELLECTUAL COMMUNITY

With funding from the Pfizer Visiting Professorship in Clear Health Communication, IHRP hosted a visit in April 2009 by a nationally respected expert in health communications. Matthew Kreuter of Washington University in St. Louis began his three-day visit with a campuswide lecture, “Communication-Based Strategies to Eliminate Health Disparities in Diverse Populations.”

In December 2008, James Jackson, the director of the Institute for Social Research at the University of Michigan, presented the IHRP Distinguished Lecture, “A Life-Course Perspective on Physical and Mental Health Disparities.”

SELECTED PUBLICATIONS

More than 110 articles about IHRP research were published in scholarly journals from July 2008 through June 2009. Below is a sample of those publications.


Training and Mentoring

INVESTIGATORS REACH NEW MILESTONES AT IHRP

Today’s new investigators are tomorrow’s innovators and leaders in health practice and policy. IHRP cultivates the development of investigators at all levels, including graduate students, postdoctoral fellows and junior faculty. Some career milestones of IHRP investigators are highlighted below.

In January 2009, Vince Freeman, a physician and assistant professor of epidemiology, was awarded his first grant as an independent researcher from the National Institutes of Health. With $3.1 million in funding over five years, he is leading a team of researchers to understand the link between body fat and the progression of prostate cancer. He conducted earlier stages of this research as part of IHRP’s Center for Population Health and Health Disparities.

Claudia Hernandez, assistant professor of dermatology, was awarded the 2009 Women’s Health Career Development Award from the prestigious Dermatology Foundation. The award provides three years of funding for Hernandez’s research on designing public health strategies to reduce skin cancer disparities. This project builds on work she conducted with an IHRP pilot grant, the development and testing of a community-based program that educates Hispanics about skin cancer screening and prevention.

“Without IHRP support, I could not have taken these early steps toward becoming a funded researcher,” said Hernandez, who directs UIC medical student education in dermatology.

The UIC Clinical Research Training Program, developed with an NIH grant to IHRP, graduated its first trainee in August 2009. Micaela Della Torre, a former UIC fellow in obstetrics and gynecology, graduated with UIC’s new master of science degree in clinical and translational science, awarded by the School of Public Health. Della Torre’s thesis was titled “Pharmacokinetics of Betamethasone in Pregnancy: Correlation with Maternal Weight and Order of Pregnancy.”

Dissertations Based on IHRP Research

In 2008-2009, UIC awarded doctoral degrees to eight students whose dissertations were based on IHRP research:

» Daniel Evatt, PhD, Psychology, “Effects of Smoking on Affect in Adolescent Smokers: The Influence of Attention and Arousal”

» Meredith Hanback, PhD, Psychology, “A Fifteen-month Examination of Unhealthy Weight Control Behaviors and Associated Problems in Adolescents”

» Niranjana Mani Kowlessar, PhD, Economics, “The Relationship between Tobacco Marketing, Beliefs about Smoking and Intention to Quit”

» Adabel Lee, PhD, Psychology, “Mechanisms in the Intergenerational Transmission of Depression: The Effect of Family Environment and Monitoring on Adolescents”

» Donka Mirtcheva, PhD, Economics, “Three Essays on Child Health: National School Lunch Program, Body Weight, Religion, and Health”

» Catherine Siebel, PhD, Sociology, “A Product Unraveled: American Newspapers and the Framing of Tobacco as a Crop, a Habit, and a Policy”

» Sally Weinstein, PhD, Psychology, “Depression, Mood Variability, and Smoking in Adolescence: A Prospective Analysis”

» Zhenxiang Zhao, PhD, Economics, “Neighborhood Effects on Obesity”

» Claudia Hernandez, MD

» Vincent L. Freeman, MD, MPH

» Micaela Della Torre, MD, MS CTS

» Roberta Dupuis-Devlin

» Kathryn Marchetti

» Kathryn Marchetti

» Catherine Siebel, PhD

» Micaela Della Torre, MD, MS CTS

» Roberta Dupuis-Devlin

» Kathryn Marchetti

» Kathryn Marchetti

» Claire Slocum
IHRP Snapshot

FISCAL YEAR 2009

IHRP EXTRAMURAL RESEARCH FUNDING, FY2009
(Total: $16,617,306)

- **Federal Government**
  - $10,547,746 (63%)

- **State Government**
  - $1,507,829 (9%)

- **Associations, Foundations and Private Agencies**
  - $4,561,731 (27%)

FINANCES

- Governmental, nonprofit and private agencies awarded institute-affiliated projects **$16.6 million** in new and continuous grants in FY2009.
- For every dollar of state support received in FY2009, IHRP generated **$26** in research funding.
- The institute has been awarded **$166.1 million** in research grants since it was established in 1997.

GRANT ACTIVITY

- Proposal submissions: **62**
- Active research studies: **68**

CAMPUS RELATIONSHIPS

- UIC schools and colleges whose faculty members conduct research at IHRP: **9**
- UIC departments whose faculty members conduct research at IHRP: **30**
- Collaborating faculty: **90**

COMMUNITY PARTNERSHIPS

- Community organizations, health agencies, advocacy organizations, and other groups that partnered with IHRP-affiliated researchers: **264**

STAFFING

- Professional staff members (full- and part-time): **196**
- Fellows funded by National Institutes of Health training grants: **15**
- Graduate students employed on research studies: **84**
- Undergraduate student employees: **19**

INSTITUTE FOR HEALTH RESEARCH AND POLICY
University of Illinois at Chicago, M/C 275
Westside Research Office Building
1747 West Roosevelt Road
Chicago, IL 60608
(312) 996-7222

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