Public Health in Practice
An Overview of the Master of Public Health Program

The Master of Public Health Program, established in 2005, provides multidisciplinary graduate education and training in public health concepts and methods to health professionals and students through a focus in service learning. Close connections with the community, through the Wisconsin Division of Public Health, the City of Milwaukee Health Department, and other health care and not-for-profit agencies, enable students to apply their skills in a real world setting. The MPH program’s vision is to develop a workforce that is competent to advance the well-being of the citizens of Wisconsin and beyond.

The Master of Public Health Program offers a unique educational experience that focuses on public health applications. The MPH degree is supported by a strong core of departmental faculty as well as program faculty spanning a broad array of departments including Family Medicine, Biostatistics and Medical Informatics, Nutritional Sciences, Nursing, Pharmacy, Veterinary Medicine, Social Work and several other departments across the School of Medicine and Public Health and the University of Wisconsin–Madison campus.

Special Thanks to...

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UW Cleft Lip and/or Palate Study
Grace Nam

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Cleft lip and/or palate are some of the most common of all congenital birth defects affecting live births, caused by the non-fusion of the upper lip and/or the roof of the mouth in utero. This affects about 1 out of 1000 live births, with slightly increased incidence in pocket populations. A preliminary study conducted in Wisconsin showed that there is a significantly increased risk of being born with cleft lip and/or palate if born in the Fox Valley region. This area is known for their paper mills and high levels of pollutants in their water supply. Given this background information, a case-controlled study was created to look into finding an association between prenatal water exposure in both the Fox Valley region and Dane County with the development of cleft lip and/or palate. Preliminary results will be shared.

Grace Nam is a dual degree MD/MPH student, with an interest in maternal and child health. She is slated to start her pediatrics residency at Loma Linda University this summer.
Community Asset Mapping to Understand Infant Mortality Disparities in Dane and Racine Counties

Anna Graupner

Capstone Committee Members:
Patrick Remington, MD, MPH – Associate Dean for Public Health, School of Medicine and Public Health
Pam McGranahan, MSN – Prevention Coordinator, Public Health – Madison & Dane County
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Dane County’s African American infant mortality rate has decreased drastically over the last decade. Dane County, however, has been unique in this decline in Wisconsin and the region. The Infant Mortality Collaborative was created to research and try to understand what caused the dramatic drop in Dane County, and see if the results could be translated to other Wisconsin communities, such as Racine County, still struggling with infant mortality disparities. The purpose of the project is to accurately document and describe the community contexts in which racial differences in birth outcomes occur, specifically for Dane and Racine counties. Community assets were identified using the United Way’s 2-1-1 database for each county. Assets were defined as individual programs and resources in the community related to parent and child well-being. The second objective of the project was to map and spatially analyze the locations of the various community assets. Each asset was coded using the life course framework of Dr. Michael Lu’s 12-Point Plan to Reduce Disparities in Maternal, Child, and Adolescent Health. The assets were then mapped in each coding category and overlaid onto choropleth maps of demographic characteristics such as race and income. Side-by-side comparison maps of specific categories of assets were created for Dane and Racine counties and analyzed for significant pattern differences.

Anna Graupner has been serving as a Project Assistant at the UW Population Health Institute, working on the “Making Wisconsin the Healthiest State” and “Network for Health Equity in Wisconsin” grants while she is pursuing her MPH degree. She graduated from UW-Madison in 2005 with a BA in Violin Performance and a Certificate in African Studies, while also completing a pre-medicine curriculum. She has many areas of interest including global health and development, mental health, health disparities, and GIS mapping. She is looking forward to beginning a career in the public and population health field and is curious to see where it will take her!
Walk the Line to Better Balance
Jessica Link

Capstone Committee Members:
Beth Richardson, RN, Administrator, Attic Angel Place
Barbara Duerst, RN, MS, Associate Director, MPH Program
David Zimmerman, PhD, Professor, Industrial and Systems Engineering

Falls are a growing problem for people age 65 and over in the United States. As our aging population increases with the baby boomers hitting 65, the impact that falls are having on this population is increasing. Preventing falls has been a key issue with the Center for Disease Control and Prevention as well as being an objective in Healthy People and Healthy Wisconsin 2010. This type of injury is extremely preventable through fall prevention programs. The goal of this kind of program implemented at Attic Angel Place in Middleton, WI is to reduce the negative consequences of falling by teaching residents how to improve balance, boost confidence and learn the proper way to fall. The target population was independent and assisted living residents.

Jessica Link, CHES, started her education at the University of Wisconsin-La Crosse majoring in Community Health Education. This sense of community health has been what has guided her through her Masters. Jessica has spent most of her career working in long term care. Before moving to Madison she worked in Iowa as a Wellness Coordinator where she conducted senior fitness programs. She currently works in the Madison area as an Activities Director and plans to stay in this position for now. Her true interest lies in working with the elderly population and Jessica plans to become an Administrator in the long term care industry to offer effective preventive health care to all.

The Unmet Need for Family Planning In Rural Uganda: Analysis of Baseline & Midterm Evaluation of a Community-Based Family Planning Program in Uganda
Sweta Shrestha

Capstone Committee Members:
Cynthia L. Haq, MD, Professor, Department of Family Medicine and Population Health Sciences, Director, Center for Global Health
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Fertility rates and the availability of family planning are factors that have a great impact on maternal and population health. The total fertility rate in Uganda is higher than surrounding nations and soars over the rate for the rest of the world. Uganda also has a high maternal mortality rate. Education regarding availability and use of family planning services is a direct intervention to address maternal and child health in developing nations such as Uganda. Wellshare International, a U.S.-based organization, implemented a community-based family planning program in Central Uganda involving the education and training of volunteer family planning community health workers. In order to understand the barriers hindering the uptake of family planning, Wellshare conducted a baseline and midterm evaluation using a Knowledge, Practices and Coverage (KPC) survey. The KPC survey attempts to decipher the knowledge present among the women about family planning and child spacing, the use of contraceptive methods and barriers to family planning in the community. The results of the midterm survey along with the comparison with baseline data has allowed for the streamlining of current intervention activities. Addressing these barriers and decreasing the unmet needs of family planning is key to improving maternal health along with the health of the people of Uganda.

Sweta Shrestha is a graduate of the University of Wisconsin-Madison with a B.S. in Biology/Neurobiology and intends to complete her Master of Public Health Degree in May 2010. In addition to her MPH, she has completed her Certificate in Global Health. In addition to her graduate work, Sweta works as a research assistant at the Wisconsin Alumni Research Foundation where she is assisting with the WAF’s move towards socially responsible licensing and entrepreneurship. Sweta hopes to use the knowledge and skills garnered through her academic career to work on implementation of sustainable programs in developing nations in order to improve global health.
Connections: Bridging the Gap between Information and Knowledge regarding the Wisconsin Autism Private Insurance Mandate
Crystal Cayemberg

Capstone Committee Members:
Anne Bradford Harris Ph.D, MPH, RD, Clinical Assistant Professor, LEND Director, UW-Waisman Center
Amy Whitehead, MPA, CYSHCN Statewide Coordinator
Lauren Papp, Ph.D, Assistant Professor, Department of Human Development and Family Studies

This project examined information dissemination to families related to the Wisconsin Autism Private Insurance Mandate, which became effective November 1, 2009. A needs assessment, which contained two components, was completed. The first component of the assessment identified key stakeholders within the autism community. The second component identified perspectives of families of children with autism. The assessment identified what agencies are doing to provide the public with information regarding the autism private insurance mandate. It also assessed family knowledge regarding the mandate and how they retrieved that knowledge. The needs assessment was used to identify gaps in information and families’ preferred ways of accessing information. The assessment is being completed in partnership with the Wisconsin Children and Youth with Special Health Care Needs (Title V) program and the Connections Initiative (a state demonstration grant funded through the federal combating autism initiative). The findings of the needs assessment are being shared with the Title V program and other state partners to inform their ongoing training and outreach efforts.

Crystal Cayemberg is a first-year MPH student with interests in maternal & child health, policy and health education. She received her BS from UW-Madison in human development and family studies in 2009. She currently works with the Wisconsin Connections Initiative to help strengthen the state's infrastructure to improve services for children with ASD and other developmental disabilities. During her first year as an MPH student, she completed a Leadership Education in Neurodevelopmental Disorders (LEND) program through the UW-Waisman Center and hopes to continue her work focusing on developmental disabilities in her future career plans. She also worked as a project assistant in the UW Couples lab and loved the opportunity to teach. In the future, she hopes to work in health education or health promotion.

Journey of a Lifetime: A Social Marketing Campaign Designed to Help Women Handle Stress in Ways that Don’t Stress their Babies
Rashonda Jones

Capstone Committee Members:
Patrice Onheiber, MPA, Director, Health Disparities in Birth Outcomes
Lorraine Lathen, President, Jump at the Sun Consultants
Murray Katcher, MD, PhD, Chief Medical Officer for the Bureau of Community Health Promotion, Division of Public Health

Wisconsin’s African American infant mortality rate is one of the worst in the nation. This presentation will outline the steps taken to develop the Journey of a Lifetime campaign: a social marketing intervention that incorporates the lifecourse perspective and is aimed at eliminating racial and ethnic disparities in birth outcomes in Southeastern and Southwestern Wisconsin. The lifecourse perspective suggests that biological, psychological, behavioral and social protective risk factors contribute to health outcomes over a person’s life span. A major risk factor is stress. According to research, stress can cause women to have premature and low birth weight babies. A comprehensive survey was distributed to collect information about social networking, stress and the lifecourse perspective. Additionally, focus and support groups were held; as well as many meetings between community members and technical advisors. The information gained from the focus and support groups, as well as the input provided by an advertising agency and the TAG/CAB meetings was compiled to become a social marketing campaign designed to help women deal with stress in ways that do not harm themselves or their children.

Rashonda Jones graduated from the University of Wisconsin-Madison with a BS in Human Development and Family Studies in May 2008. She plans to complete her MPH in December 2010. Her previous public health experience includes school health programs, STD and HIV prevention, and breast and cervical cancer prevention. Her public health interests include maternal and child health, teen pregnancy prevention, and health disparities in birth outcomes. Her strong interest in birth outcomes led to her field work with the Wisconsin Department of Health Services. Upon completion of her MPH, she plans to continue working in the areas of parenting and birth outcomes.
Addressing Perceived Barriers to Prenatal Care in Milwaukee: Patient and Provider Survey Design and Implementation

Erin Gutowski

Capstone Committee Members:
Jackie Tillett, CNM, ND, FACNM, Director, Aurora Midwifery and Wellness Center
Trina Salm Ward MSW, CCRC, Maternal Health Program Manager, Center for Urban Population Health
Barbra Beck, PhD, Public Health Training and Education Coordinator, Master of Public Health Program

Prenatal care is important in establishing a trusting relationship between pregnant women and providers. Screening women for gestational diabetes, sexually transmitted infections (STIs), tobacco, alcohol and drug use, and intimate partner violence (IPV), improves birth outcomes and reduces infant mortality. When women seek prenatal care in the Emergency Department, practitioners are not able to dedicate the time necessary to address every issue relating to pregnancy and childbirth: they can only address the primary complaint of the patient. Without continuity of care from a collaborative group of prenatal care providers, women are at a higher risk for poor birth outcomes and are less likely to utilize women's health resources necessary for postpartum, interconception, and prenatal care in the future. In Milwaukee, the Aurora Midwifery and Wellness Center has focused on new, innovative ways to make prenatal care accessible for all women. The purpose of this quality improvement project is to address and understand perceived barriers to prenatal care for Milwaukee women. By developing a survey for pregnant patients who present to the Emergency Department for OB-Triage, it is possible to define barriers and make recommendations for change at Aurora Sinai Medical Center. The patient survey is a tool that will be used to assess psychosocial variables, facilitative conditions, and previous experiences that may affect prenatal care compliance in Milwaukee.

Erin Gutowski graduated from the University of Wisconsin-Madison in 2008 with a B.S. in Medical Microbiology and Immunology and plans to graduate in May 2010 with a Master of Public Health degree and certificate in Gender and Women's Studies. Erin also holds a Project Assistantship at the Center for Urban Population Health in Milwaukee, where she focuses on a number of maternal and child health projects, including the Infant Mortality Action Group, the Catalog of Initiatives to Address Infant Mortality and Disparities in Birth Outcomes, and sexual health education toolkits for educators and healthcare providers. Erin will be attending medical school in the fall and plans to specialize in pediatrics and adolescent medicine. In the future, she would like to return to Milwaukee to pursue her passion of combating health disparities in urban populations.

Culminating Experience Advisors:
Barbara Duerst, RN, MS, Associate Director, Master of Public Health Program
Christopher Olsen, DVM, PhD, Associate Dean of Academic Affairs, School of Veterinary Medicine

As culture and generations change, the field of public health must adapt to stay timely and meaningful. The addition of appropriate user-friendly technology has been implemented to make educational programs more relevant for course participants. A core course in the Master of Public Health program, the MPH Field Experience Seminar, prepares public health students for the practical experience of the curriculum. Previous versions of the course received constructive feedback from both students and public health partners. Student feedback has requested a more efficient use of students' time and resources. Consultation with public health partners who routinely work with students during the practical experience resulted in the advisement that certain skill sets be emphasized in the preparation course. The course redesign was a melding of students' expectations and time constraints with feedback and expectations of public health partners. The course mechanics focused on using practical technology to make the course more flexible. Projects and assignments were developed to encourage both independent learning and collaboration. Experiences from the adapted course are an excellent model demonstrating the need for public health information systems to remain flexible and multifaceted. Many individuals will benefit more from traditional learning styles while others excel with alternative options.

Stephanie Sierra is a dual degree candidate in the Veterinary Medicine and Master of Public Health programs. Stephanie graduates this May and plans to practice as a dairy practitioner. Production medicine has endless parallels with public health, focusing on minimizing stress and preventing disease in order to raise healthy, productive livestock. Similar to human medicine, prevention in veterinary medicine can be a difficult concept to sell. Training in public health will provide creative alternatives for communicating these needs effectively to clients. Stephanie's long-term interest in public health melds veterinary medicine and social justice. The systems training in the public health curriculum are particularly useful for developing strategies that focus on smart agricultural development as a means of local development in low-resource rural areas, both nationally and internationally.
Maps are increasingly used as a visual demonstration of spatial data, and have proven beneficial in representing air pollution data. The development and accessibility of maps has increased with the use of Geographic Information Systems (GIS) software. Studies and guidelines have been developed to assist in the presentation of maps in order to communicate risk related to air pollution. The presentation will focus on a review of the studies and guidelines available and their practical application in tracking air pollution data.

**Sara Ishado** is a part-time student in the MPH program. She works at the Department of Health Services in the Environmental Public Health Tracking Program as a public health educator. Ishado has focused her school and work experiences on health communication.

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Currently 25% of Wisconsin high school students are either overweight or obese. As a result, they are placed at increased risk for developing a variety of obesity-related conditions ranging from diabetes and heart disease to depression and anxiety disorders. In an effort to combat this trend, legislation was crafted in the Wisconsin State Assembly. 2009 Assembly Bill 620 was a school-based approach that aimed to counter the numerous obesogenic environmental factors in Wisconsin schools. The bill planned to accomplish this by placing limits on the sale of unhealthy competitive foods as well as mandating annual aerobic physical fitness tests for students. Working from the office of State Representative Chuck Benedict, crafting this piece of legislation and ushering it through the legislative process provided a rich experience in the practical aspects of public health policymaking. The lessons learned simultaneously illustrate both areas of opportunity for public health practitioners as well as potential pitfalls for those who wish to utilize legislation to address their community’s public health problems.

**Kyle Fischer** is a combined MD/MPH student whose public health interests lie in the area of health policy. Following the completion of his MPH, he will return to his final year of medical school before beginning a residency in emergency medicine. He plans to incorporate public health into his professional career by continuing involvement in the governmental policy development process.
Using Health Educators and Behavioral Activation to Enhance Collaborative Depression Screening Programs in Primary Care Settings

Kimberly Breidenbach

Capstone Committee Members:
Richard Brown, MD, MPH, Director of Clinical Services, Wisconsin Initiative for Promoting Healthy Lifestyles, Department of Family Medicine
Shel Gross, MPA, Director of Public Policy, Mental Health America of Wisconsin
Kathy Oriel, MD, University of Wisconsin, Department of Family Medicine

Depression is a serious public health threat given its high prevalence and substantial personal, social and economic costs. The US Preventive Services Task Force recommends “staff-assisted” depression screening in primary care clinics, yet sustained implementation of such collaborative programs has not occurred. A need exists to identify programs that address cost and complexity, common barriers to implementation. Four diverse primary care clinics are pilot-testing a collaborative depression screening program that differs from previous programs in two innovative ways, (1) cost-efficient health educators, rather than nurses or counselors, conduct screening and provide basic case management as guided by protocols, and (2) health educators are trained to provide a protocol-driven behavioral activation intervention to help patients engage in behaviors that mitigate depressive symptoms. Behavioral activation interventions are simple and effective and have not been emphasized in previous programs. Preliminary results suggest that health educators can efficiently administer collaborative depression screening programs and effectively provide behavioral activation interventions, and that such interventions reduce depressive symptoms for patients with sub-threshold or major depression. The flexibility of combining screening with behavioral activation interventions and/or care management accommodates secondary and tertiary prevention of depression in primary care clinics. Using health educators and focusing on behavioral activation interventions has the potential to improve effectiveness, decrease costs, and enhance implementation of collaborative depression screening programs in primary care settings.

Kimberly Breidenbach has a BS in Molecular Biology from the University of Wisconsin-Madison but found her passion for public health while working with Pat Remington as an undergraduate (Thanks Pat!). She is currently an MD/MPH student and will be returning to the MD program in July to begin her fourth and final year of medical school. After graduating, Kim plans to enter a residency in Family Medicine. Ultimately she would like to research and promote re-design of primary care delivery systems to better support whole person and maybe even whole community care. Kim is thankful for the love and support of her husband, Greg, her daughter, Claire, her dog, Gunner, and her running shoes.

Assessment of the Physical Activity and Nutrition Environments of Child Care Centers in Wisconsin

Hilary Hernan

Culminating Experience Advisors:
Amy Meinen, MPH, RD, CD, Nutrition Coordinator, Nutrition, Physical Activity and Obesity Program, Division of Public Health
Mark Wegner, MD, MPH, Medical Director, Bureau of Community Health Promotion, Division of Public Health

Of Wisconsin children age 2-4 participating in the WIC program, 29.3% are overweight or obese. The physical and mental health consequences of childhood obesity are significant and the economic impacts of obesity in Wisconsin were approximately $1.5 billion in 2000. Children spend a large amount of time in the child care setting, and behaviors surrounding nutrition and physical activity begin early in life. It is therefore important to understand the physical activity and nutrition environments of child care centers throughout Wisconsin to identify the areas that need the most improvement when developing a state-wide intervention focused on decreasing childhood obesity. Using a previously developed environmental assessment tool, six centers in Wisconsin, including three urban and three rural centers, were assessed. The results from these six assessments will help determine if the assessment tool captured all of the information about these environments that are desired when a 100+ center assessment is done in the coming months. The results from the environmental assessment will be paired with other formative assessment data previously collected to develop an intervention in child care centers throughout Wisconsin.

Hilary Hernan works as an Outreach Specialist for the UW Carbone Cancer Center in clinical trials research and has completed her MPH on a part time basis over the last three years. During that time, she has gained a lot of interest in obesity prevention, specifically among children. Her experience at DHS over the last year has helped her get an idea of the complexities involved at the state government level and has exposed her to an array of opportunities that have given her knowledge about obesity prevention, specifically related to nutrition. Hilary hopes to further her career in research, either in clinical research or community research.
Importance of Comprehensive Cancer Control
Partnerships to Improve the Survivorship Experience
Katherine Vaughn-Jehring

Culminating Experience Advisor:
Jeanne Schaaf Strickland, MA, Assistant Researcher, UW Comprehensive Cancer Center

The number of cancer survivors is growing in Wisconsin. Many organizations are working to improve the survivor experience through improved treatment, psychosocial support, and resource availability. The Wisconsin Comprehensive Cancer Control Program (WI CCC) and Wisconsin Cancer Council bring together WI organizations to implement the state Cancer Control Plan and help manage the resulting projects and initiatives. In January 2009, organizations working on different aspects of cancer survivorship were brought together to address WI survivorship issues. The partners were involved in two groups, the Survivorship Task Force and the Survivorship Chapter Workgroup. The Task Force assisted in the development of the WI CCC Plan 2010-2015, developed an action oriented Survivorship Forum, and dedicated future actions to implement the WI CCC Plan 2010-2015. The Chapter Workgroup developed the Survivorship Chapter of the WI CCC Plan 2010-2015. These partners have developed a strong coalition and enabled local, regional, and statewide organizations to develop partnerships, build trust, and ultimately create a community. The energy and enthusiasm from these partnerships will continue to propel the cancer survivorship movement into future initiatives.

Katherine Vaughn-Jehring will be graduating in May 2010 with masters degrees in public health and public affairs. Her public health career has focused on cancer. She began her career at Gilda’s Club and moved to the WI Comprehensive Cancer Control Program where she is currently a project assistant. She is passionate about chronic disease prevention and quality of life improvement, enabling people living in poverty to live healthy lives through empowerment and support, and utilizing partnerships to move the broader public health agenda forward. This summer she will begin a two-year appointment as a Population Health Fellow and continue her career to improve the health of Wisconsin’s public.

Developing Tools for a Collaborative Practice Lipid-Management Program
Amber Leavitt

Capstone Committee Members:
CDR Gloria H. Angelo, PharmD, Zuni Indian Health Services Pharmacy
Denise Walbrandt-Pigarelli, PharmD, Associate Clinical Professor, School of Pharmacy
Lori DiPrete Brown, MSPH, Assistant Director, Center for Global Health

The Native American population seen at Zuni Indian Hospital in Zuni, New Mexico has a wide array of comorbidities centered around high cholesterol, diabetes, and hypertension. Complicated patients, coupled with a low medication compliance rate, necessitate starting a program to help manage cholesterol at this site. A drug utilization evaluation performed on the drug simvastatin provided baseline information to justify this program and for use in future assessment of the pharmacy-managed, collaborative practice lipid clinic. Prior attempts at collaborative practice using the anticoagulant drug, warfarin have been quite successful, with patients better managed and physicians having more time to spend on other issues. A physician-approved protocol will allow pharmacists to make therapeutic changes based on pre-determined guidelines. Patients will be referred by their primary care provider for these services and still followed by them for other conditions. A collaborative practice approach allows for more patient-centered care and expands the role of the pharmacist for medication utilization.

Amber Leavitt is a dual degree Pharmacy/MPH student who will be graduating from pharmacy this May. She will be completing her MPH over the course of the next year while working part time at a pharmacy. After completion of the MPH she hopes to incorporate public health into her pharmacy practice and expand the pharmacist’s role in prevention services. Once established in her profession she plans to get involved in international practice.
Program Planning and Development in a Managed Care Organization

Morgan Groth

Capstone Committee Members:
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Susan Zahnner, DrPH, RN, MPH, Associate Professor, School of Nursing, UW-Madison
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Many people suffer unnecessarily from chronic illnesses that may be more ideally treated with regular preventive and proper disease care management. A gap exists between what is known to help people more successfully manage chronic conditions and what is actually done. This study examines the planning processes involved in developing health improvement initiatives for members with chronic illnesses, specifically for COPD and hypertension/hyperlipidemia, within the managed care organization of Physicians Plus Insurance Corporation. An analysis was performed of COPD members, examining overall cost and utilization relating to severity of disease and ER/inpatient usage. PPlus will consider piloting a self-monitoring home system for COPD members with personal case managers. Initial data suggests that current members with COPD and the PPlus organization would stand to benefit from implementation of a program which would help improve medical outcomes and reduce financial costs. A program which combines member and provider print materials, online disease management modules, and community classes was envisioned and is currently in the early stages of design. This program, termed the Heart Healthy Program, offers improved integration of currently available resources which would allow PPlus members an opportunity to experience more favorable cardiac-related health outcomes.

Morgan Groth recently graduated from medical school at the University of Wisconsin School of Medicine and Public Health last spring of 2009. Her interest in preventive medicine led her to delay residency for one year in order to pursue an MPH degree. Over the past year, she has enjoyed learning more about the planning processes involved in developing health improvement initiatives for chronic illnesses in a managed care setting as part of her field placement with Physicians Plus Insurance Corporation. After graduation, Morgan will be moving to Minneapolis, MN to begin an internal medicine residency at the University of Minnesota. She foresees a career in primary care with an emphasis in preventive medicine.

Invasive Neonatal Group-B Streptococcus (GBS) Disease in Wisconsin, 2002-2008

Hanne Nissen Bjoernsen

Culminating Experience Advisors:
Susann Ahrabi-Fard, M.S. Communicable Disease Epidemiologist, Bureau of Communicable Diseases, Division of Public Health, Wisconsin Dept. of Health Services.
Susan J. Zahnner, DrPH, RN, Associate Professor, School of Nursing, University of Wisconsin-Madison

Group B streptococcus (GBS; Streptococcus agalactiae) is a leading cause of neonatal morbidity and mortality in the United States. In collaboration with staff from Wisconsin Division of Public Health (WDPH), the epidemiologic features of invasive GBS disease among infants aged 0-90 days in Wisconsin during 2002-2008, were examined. Incidence and mortality rates were calculated, along with case-fatality ratios for GBS disease by gender, race, gestational age, and infants’ age at illness onset. A total of 212 culture-confirmed cases of invasive neonatal GBS disease were reported during this period. No consistent secular trends were observed during the study period. There were 19 reported deaths from GBS infection, for an overall case-fatality ratio of 9.4%. The case-fatality ratio for females was 15.5%, more than four times the rate for males. The case-fatality ratio for black infants was 14.3%, which was two times that for white infants. Between 2002-2008, disparities in GBS-related illness and mortality were seen. Additional analyses to further evaluate disparities in race and gender could help public health efforts target infants at increased risk of GBS disease.

Hanne Nissen Bjoernsen is an RN from Norway. She earned her BSN from Sør-Trøndelag University College in 2006. For the last 2.5 years Hanne has been living in the US where she has completed two master degrees at the University of Wisconsin - Madison: a Master of Science in Nursing and a Master of Public Health (MS/MPH). During her stay in the US she also gave birth to two beautiful daughters. Her main interests lie within prevention and management of infectious diseases, both from a local and global public health perspective. Future career goals include working with communicable disease surveillance, management and prevention at the Norwegian Institute of Public Health.
Using the County Health Rankings framework to create a Community Health Assessment (CHA) in Jackson County, WI

Clare O’Connor

Capstone Committee Members:
Bridget Booske, PhD, MHSA, Senior Scientist, Population Health Institute
Barbara Duerst, RN, MS, Associate Director, Master of Public Health Program
Patrick Remington, MD, MPH, Associate Dean for Public Health, University of Wisconsin School of Medicine and Public Health

A Community Health Assessment (CHA) is a valuable tool to assess current needs, identify community resources, collect information about health disparities, and find the gaps in community services and policies within a county. A Community Health Improvement Plan (CHIP) incorporates findings from the CHA as well as community feedback to create a long-term health plan for the community. While it is required by Wisconsin law for each county to conduct a CHA and CHIP every five years, there are not systematic strategies, tools, or resources in place to guide the process of creating and implementing a CHA/CHIP. This presentation will outline one method of creating a CHA and CHIP by using the County Health Rankings, a database that provides county level data and allows comparisons between counties within a state. The process of working with a rural Western Wisconsin community, Jackson County, to create a CHA, hold a community health forum, and create a CHIP with the local health department will be described.

Clare O’Connor is a graduate of Carleton College with a degree in Biology and intends to complete her Master of Public Health Degree in May 2010. In addition to her MPH she will be completing a certificate in Consumer Health Advocacy. She currently works as a project assistant at the Population Health Institute where she works on the County Health Rankings project. Her interests in preventive medicine, patient advocacy, health disparities, and coordination of care have led her to pursue a medical degree after graduating from the MPH program. She will be starting medical school at the University of Wisconsin-Madison, School of Medicine and Public Health in August 2010.

An Investigation into the Sustained Elevated Incidence of Human WNV Infections in North Dakota

Lesanna Lahner

Capstone Committee Members:
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Christopher Olsen, DVM, PhD, Associate Dean for Academic Affairs, School of Veterinary Medicine
Tony Goldberg PhD, DVM, Pathobiological Sciences, School of Veterinary Medicine

The current understanding of what drives the West Nile Virus (WNV) transmission cycle in North America is primarily based upon studies involving the eastern and midwestern United States. The sustained elevated incidence of WNV in the northern Great Plains likely has unique key factors involved in transmission and maintenance since there are fundamental differences in primary vector, human demographics, and environmental patterns compared to the eastern and midwestern United States. The study of disease dynamics with statistical analysis of spatial and temporal occurrence provides insight into the epidemiology of a vector borne disease in a population. The incidence of WNV infections in humans in North Dakota was analyzed with mapping techniques (ArcGIS) and Bayesian statistical analysis (WinBUGS). The evidence base for WNV public health interventions was reviewed and compared to current WNV prevention and control in North Dakota.

Lesanna Lahner is a third year DVM/MPH student. She has always had an interest in animal health as well as environmental and community health issues. Lesanna decided to pursue the MPH due to her interests in epidemiology and statistics, and her desire to study the interface of human, domestic animal, and wildlife health. Lesanna is excited to use the skills she has gained in the MPH program to better the health of individual patients as well as communities.
Molecular Epidemiology of Zoonotic Cryptosporidiosis in Humans, Primates, and Livestock from Western Uganda

Stephanie Salyer

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Lori DiPrete Brown, MSPH, Assistant Director, Center for Global Health
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Increased risks of anthropogenic and zoonotic disease transmission have been associated with habitat overlap caused by anthropogenic habitat disturbance. The pathogenic gastrointestinal protozoan parasite Cryptosporidium parvum was studied in people, livestock, and primates in the region of Kibale National Park, Uganda. Forest clearing near the park has resulted in forest fragments containing small, remnant populations of primates, where interaction between humans, livestock, and wild primates is high, and where cross-species pathogen transmission is thought to be correspondingly frequent. A nested diagnostic PCR of the Cryptosporidium oocyst wall protein (COWP) gene revealed a prevalence of C. parvum of 32% in humans, 8.6% in non-human primates, and 2% in livestock. Surprisingly, two additional red colobus samples were found to be infected with C. hominis. Although 48.5% of infected human volunteers reported gastrointestinal symptoms, this frequency was not significantly higher than in uninfected primates and livestock. Although C. parvum may be maintained through frequent transmission between species in this region, the parasite does not appear to have strong effects on human health, perhaps because of frequent exposure, immunity, and low-level shedding. Ongoing molecular phylogenetic analyses will test the hypothesis that “transmission links” exist between humans, livestock, and primates for C. parvum, and that particular genotypes may be associated with clinical disease.

Stephanie Salyer is in the dual DVM/MPH Program and is a recent graduate of the Global Health Certificate Program. She is interested in pursuing an international career involving zoonotic disease research and public health in developing countries. Her prior experience in the biotech, pharmaceutical, and diagnostic fields has allowed her to develop externship opportunities regarding avian influenza diagnostics in Egypt and molecular epidemiology of Cryptosporidium infections in Uganda. She plans to use her veterinary, public, and global health training to work in underserved communities abroad, imparting knowledge to improve the combined health of humans and animals.

Compassionate Care for Rape Victims in Wisconsin: Ensuring Policy Leads to Quality Care

Amy Olejniczak

Capstone Committee Members:
Sara Finger, Director, Wisconsin Alliance for Women’s Health
Susan Riesch, PhD, RN, FAAN, Professor, School of Nursing
Whitney Witt, PhD, MPH, Assistant Professor and Co-director, BioPop: Integrative Biopsychosocial Research in Population Health, Department of Population Health

The Wisconsin Alliance for Women’s Health (WAWH) conducted a review of the Compassionate Care for Rape Victims (CCRV) Act to determine the effectiveness of the law, uncover barriers to compliance, and provide recommendations for next steps. CCRV requires all Wisconsin hospitals to provide medically accurate oral and written information regarding emergency contraception (EC) to all victims of sexual assault and to dispense EC immediately upon request. Victims, however, are still not receiving compassionate care consistently. A survey was distributed to all Wisconsin Hospital Emergency Rooms (n=124) and after three follow-up phone calls an 83.7% response rate was received. Data was collected regarding the consistency of compassionate care provided as well as barriers to complying with this law. 78% of hospitals reported that they always offer EC immediately on-site. This is a dramatic improvement from 2007 when only 58% of hospitals reported that this was standard policy; 22% of hospitals, however, are still non-compliant with the law. 23% reported “lack of available resources” and 15% reported “individual provider beliefs or variations in provider practices” as barriers to compliance. Other barriers including “unfamiliarity with the law” and “religious affiliation of hospital” were also commonly noted. It is clear that knowledge about and adherence to CCRV is lacking in many Wisconsin hospitals. Dedicated outreach and education to hospitals is needed.

Amy Olejniczak, as a new public health professional and women’s health advocate, dedicates the majority of her time to ensuring that women in Wisconsin are able to reach their highest health potential. Amy preceded her MPH with an MS in Family and Consumer Communications in 2005. She aims to focus her public health efforts at the intersection of these interests with an expertise in health communication, outreach and education. Amy is currently owner of Third Culture Design, Inc., Project Coordinator for the Wisconsin Relationship Education Project (WiRE), member of Wisconsin’s Healthy Relationships Team (HeaRT), Board Treasurer for the Wisconsin Alliance for Women’s Health (WAWH), and Co-Chair of the Maternal & Child Health Section of the WPHA. After graduation, she hopes to spend the summer getting to know her baby girl, due June 10th, before rejoining the realm of public health as a women’s health advocate.
Assessing Nutrition and Physical Activity Behaviors in Hmong Adolescents, and Planning to Address Barriers

Vonda Shaw

Culminating Experience Advisors:
Susan Webb Lukomski, RN, Public Health Nurse – Health Promotion/Chronic Disease Prevention, Public Health – Madison and Dane County
Patrick E. McBride, MD MPH, UW Associate Dean of Medical Students, Associate Director UW Health Preventive Cardiology

The Hmong Healthy Living (HHL) Project of Public Health Madison Dane County (PHMDC) seeded collaborative efforts to reduce cardiovascular disease and diabetes risk in the local Hmong population. One HHL project component was assessment of physical activity (PA) and nutrition behaviors in one Madison neighborhood apartment complex. Dane county youth surveys from 2005 and 2008 revealed Hmong adolescents have much higher rates of overweight/obesity than White youth and are the least active racial/ethnic group. The HHL project’s adult health screening activities detected high rates of obesity, elevated blood pressure, and elevated fasting plasma glucose in young adults. A 30-question written survey was developed and administered to Hmong youth (n=20) ages 10-18 in one neighborhood. The survey examined obesogenic behaviors, use of available facilities/programs and barriers to PA and healthy nutrition habits. Resources and strategies to address identified problems and barriers along with stated interests were subsequently explored. Homework and family responsibilities were the most common barriers to PA and other modifiable nutrition behaviors were identified. Without improvement in PA and nutrition behaviors these youth are at increased risk for obesity-related diseases as adults. PHMDC and its community partners will address identified problems and barriers from this survey through neighborhood level interventions.

Vonda Shaw has interests in primary and secondary prevention of cardiovascular disease and specifically sharing the prevention message in underserved populations. Her professional career at the UW Health Preventive Cardiology Program for over 19 years, first as a clinical exercise physiologist and now as the manager, inspired her pursuit of an MPH. With over 12 years of overseas church based holistic ministry service, this MPH degree and accompanying global health certification will bridge her personal and professional passions. Vonda extends deepest appreciation to her wonderful preceptor, Susan Webb-Lukomski, RN, and her long time professional mentor, Dr. Patrick McBride. Additionally, Vonda is grateful to Barbara Duerst for her steady encouragement and guidance.

Fighting the System: Integrating Hospital-Based Palliative Care Teams

Jennifer Kowalkowski

Culminating Experience Advisors:
Karen A. Kehl, PhD, RN, Research Associate, School of Nursing
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Marlene Johnson, RN, BSN, CHPN, Palliative Care Nurse, William S. Middleton Veterans Hospital
Kate Ford-Roberts, RN, MA, CHPN, Associate Clinical Nurse Specialist Palliative Care, UW Health-University of Wisconsin Hospitals and Clinics

People are living longer and with a greater burden of disease and disability than at any other point in history. Causes of death have shifted from infectious diseases to chronic illnesses, resulting in a dramatic shift in the way people experience death in this country. Advances in medicine have extended life, but prolonged the dying process as well as the suffering associated with death. The specialty of palliative care developed in response to the need to aggressively relieve pain and other physical symptoms for the terminally ill. Little is known about system factors and institutional policies or practices that affect the delivery of palliative care services and patient outcomes. To examine this question, the Institute of Medicine’s Improving Palliative Care was used as a framework to examine two local hospital-based palliative care services. Activities included observations of clinical practices, key informant interviews, and a literature review on strategies for integrating palliative care into existing health delivery systems. Qualitative analysis revealed key findings related to systemic barriers to program integration, and programmatic limitations related to performance evaluation. These findings have informed the development and implementation of evidence-based quality improvement initiatives, and strategies to improve integration of palliative care within and across health systems.

Jennifer Kowalkowski is a graduate of the University of Wisconsin-Madison School of Nursing intending to complete her Master of Science in Nursing and Master of Public Health in August of 2010. Her research interests focus on the effect of system factors and policies on service availability and health outcomes for terminally ill rural populations. Currently she works with the University of Wisconsin Carbone Cancer Center’s Pain & Policy Studies Group on projects related to prescriptive authority of schedule II controlled substances for advanced practice nurses in the treatment of chronic pain. She is also employed by the William S. Middleton Veterans Hospital where she manages the outpatient Pain Clinic. After graduation, Jennifer will continue with PhD studies in Nursing and Health Systems Research focusing on disparities in palliative care for rural populations.