



ADVANCING A HEALTHIER
WISCONSIN ENDOWMENT

**AHW ACCOMPLISHMENTS
USING SOCIAL RETURN ON
INVESTMENT FRAMEWORK:
FIRST TEN YEARS**

(2004-2013)

*PRESENTED TO
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I. THE ADVANCING A HEALTHIER WISCONSIN ENDOWMENT OVERVIEW

Mission

Improve the health of the people of Wisconsin

Principles

Collaboration between community and Medical College of Wisconsin partners will broaden program impact throughout Wisconsin by translating combined knowledge into community practice.

Transformation will be achieved through systemic change, emphasizing prevention, innovation and capacity-building.

Stewardship will guide the measurement of outcomes through effective oversight and rigorous evaluation.

Healthier Wisconsin Partnership Program (HWPP)

- ◆ Promotes public and community health and disease prevention initiatives in Wisconsin through support for community-MCW academic partnerships.

Research and Education Program (REP)

- ◆ Supports new scientific discovery and innovative programs that enhance the education of patients, public health professionals, health providers, residents, fellows, and medical and graduate students.

Key factors affecting the investment of funds for the first two five-year plans (2004-2013)

- ◆ Pent-up demand for release of funds
- ◆ Demand to engage community in the process
- ◆ Need for ideas to come from communities
- ◆ Need to include the multiple elements of the State Health Plans (11 health and five systems focus areas)
- ◆ Applicants self-identified multiple health and systems focus areas

By the Numbers

- ◆ 10 years
- ◆ \$436M in assets as of June 30, 2015
- ◆ \$185M investment in more than 300 initiatives
- ◆ More than 1,000 MCW and community partners across Wisconsin
- ◆ Approximately 300 faculty collaborators across 28 MCW departments
- ◆ Additional information and success stories are available at <http://www.mcw.edu/Advancing-Healthier-WI-Endowment.htm>

II. EXECUTIVE SUMMARY

This report summarizes the accomplishments of AHW's first ten years of investments and introduces a new framework for articulating the value of AHW's investments through the social return on investment framework.

First Ten Years of Accomplishments. As demonstrated in this report, AHW investments have had a significant impact on the health of communities across Wisconsin in the first ten years. Accomplishments reflect AHW's investment in more than 260 initiatives that have completed their awards. There are four messages that reflect our work.

Message 1: AHW is weaving health into the fabric of our communities. In 2004, AHW invested in its first 23 community-academic partnerships. Today, AHW has supported 1,000 partners in more than 400 collaborations across Wisconsin dedicated to health improvement. As a result, AHW's investments in community health have strengthened leadership and capacity for measurable health change, including increased cancer screening rates, improved oral health care, and reduced binge drinking. Investments have also led to policy change and workforce development.

Message 2: AHW is transforming the landscape of health professions education. Through AHW's investments in education, we have transformed the landscape of health professions education in Wisconsin through training and mentorship for the next generation of health researchers, physicians, and health leaders. Examples include: new graduate degree programs in public and community health, new pharmacy education programs, and regional medical education campuses to address physician shortage areas.

Message 3: AHW is translating research: from bench to bedside to community and back. Through AHW's investments in research, new scientific discoveries are being translated into new therapies to address the leading causes of death and disability. Examples include advances in pancreatic cancer treatment, new methods to treat diabetes, and translational research to address cardiovascular disease.

Message 4: AHW is bringing new resources to Wisconsin and conserving existing ones. Through its investments in research, education and community-academic partnerships for health, AHW's funded initiatives have leveraged an estimated \$195M in additional resources to Wisconsin. In addition, initiatives have resulted in system cost savings, including an estimated \$7.4M resulting from reduced Emergency Department visits in Milwaukee for non-emergency health needs.

Future Directions. Although impressive, these accomplishments only begin to identify the value that can be gained from AHW's investments. As we continue to implement our third AHW Five-Year Plan, we will explore new strategies and opportunities that reflect our expansion of focus from funding and administering awards to being a catalyst for positive change. Key to our success will be our ability to measure the value of AHW's investments, not only during the life of the funding period, but well beyond in the years to come.

As we move into our next ten years as changemakers, AHW will be positioned to translate our collective strategies for health improvement into a transformative impact.

In Our Own Words

Voices from MCW and Community Partners

"Without AHW, many areas of Wisconsin would be untouched."

"Continue to promote collaboration and encourage partnerships!"

"Taking the work to the step of systems is how things really change."

"These people here, I feel, saved my life."

"Whole city is better off."

"MCW and AHW are really changing the world."

III. HIGHLIGHTED ACCOMPLISHMENTS FROM THE FIRST TEN YEARS

Healthier Wisconsin Partnership Program

- ◆ Since 2005 when AHW invested \$25K in a dental clinic planning process, the Waukesha dental clinic has been established and provided more than \$8.3 million in dental care to more than 9,000 patients.
- ◆ Implemented a prescription assistance program at six clinics in the Greater Milwaukee Area resulting in 6,546 patients receiving access to medications.
- ◆ Reduced the number of non-emergent visits to area emergency rooms with over 8,000 patients referred to a community health center to receive care and establish a medical home. Project partners calculated the cost savings for patients and health systems to be approximately \$7.4 million dollars.
- ◆ Improved oral health for Milwaukee youth through school-based program resulting in decrease in urgent oral health needs (from 8% to 4%), decrease in children with early onset dental disease (68% to 46%)
- ◆ Led to Milwaukee receiving the Well City USA designation for its coordinated approach to results-oriented workplace wellness programs across 44 Milwaukee-based employers with a total of 130,000 area employees.

Research and Education Program

- ◆ Supported the design, development, and enhancement of the Clinical and Translational Science Institute, which has become a collaboration of more than eight academic and health system partners and serves as the leading resource for clinical translational research in southeast Wisconsin
- ◆ Developed an integrated clinical and translational cancer research program, aimed at preventing the development of cancers and improving therapeutic treatments
- ◆ Advanced research in Alzheimer's Disease (AD) by identifying a novel set of biomarkers associated with neurodegeneration
- ◆ Developed the first PhD in Public and Community Health program dedicated to training the next generation of community-engaged researchers and expanded MCW's Master of Public Health Degree Program by introducing a robust, digital platform to online learning
- ◆ Developed innovative curriculum for medical students to prepare them for leadership roles in health systems, health policy, community health and advocacy for patients

IV. AHW'S SOCIAL RETURN ON INVESTMENT FRAMEWORK

A Framework for Articulating the Value of AHW's Investments Using the Social Return on Investment.

Social value is created when resources, processes or policies are combined to generate improvements in the lives of individuals and society. Unfortunately, social value can be difficult to assess, especially in terms of financial return.

As noted by leaders from Harvard Business School among others, the social return on investment (SROI) framework can be a powerful tool for capturing the social and transformative return in value. The SROI framework offers a new strategy to measure and communicate the value of AHW's outcomes that provide social, health, and education services.

AHW has the potential to translate its ten years of investments in community, research and education initiatives into economic, socio-economic, social returns, and ultimately, a transformative impact on Wisconsin's health. Building from the SROI framework, metrics used to determine value include 1) outcome measures that indicate progress toward mission and long-term effectiveness and 2) capacity measures that evaluate progress at all levels, including progress toward the goals and program implementation.

The diagram below shows the inter-relationship of the three types of value. These three types of value rest upon a fourth dimension of value creation—that of Transformative Value.

AHW'S SOCIAL RETURN ON INVESTMENT FRAMEWORK

Impact	Capacity Building	Leveraging
Health Education and Promotion Measurable health improvements New knowledge New therapies and enhanced treatments Policy and system change Population Health Research and Education Translational Research	Assessments and inventories New tools, devices, methods Partnership and coalition Development Recruitment of new leaders and talented research experts to Wisconsin Strategic Planning Workforce development	Additional resources Monetary Non-monetary Cost savings



(*Adapted from Emerson, et al, Social Return on Investment: Exploring aspects of Value Creation in the Nonprofit Sector, 2000. <http://hbswk.hbs.edu/archive/1957.html>).

V. HEALTHIER WISCONSIN PARTNERSHIP PROGRAM:

Partner-Reported Accomplishments Using AHW's Social Return on Investment Framework (2004-2013)

Overview

Since 2004, Healthier Wisconsin Partnership Program (HWPP) has awarded more than \$48M to 161 community-MCW academic partnership initiatives that are aligned with the state health plan, of which 131 initiatives have completed their funded award periods.

The following summarizes the partner-reported accomplishments from the 131 initiatives. They have been initially categorized into key categories that align with AHW's Social Return on Investment (SROI) framework.

Projects have outcomes in several areas. For the purposes of this report, each project is categorized into one primary area based on its major outcomes. Key to our success will be our ability to measure the value of AHW's investments, not only during the life of the funding period, but well beyond in the years to come.

AHW'S SOCIAL RETURN ON INVESTMENT FRAMEWORK FOR HEALTHIER WISCONSIN PARTNERSHIP PROGRAM

Impact # Projects	Capacity Building # Projects
Health Education and Promotion 45	Assessments and inventories 17
Measurable health improvements 24	New tools, devices, methods 9
New knowledge 0	Partnership and Coalition Development 13
New therapies and enhanced treatments 0	Recruitment of new leaders and talented research experts to Wisconsin 0
Policy and system change 13	Strategic Planning 10
Population Health Research and Education 0	Workforce development 0
Translational Research 0	
Total 131 Projects	

HEALTHIER WISCONSIN PARTNERSHIP PROGRAM

Partner-Reported Accomplishments using the AHW Social Return on Investment Framework (2004-2013): Selected Set

IMPACT

Health Education and Promotion

- ◆ Improved child safety by conducting more than 15,000 screenings to assess and assist with car restraints and enrolled 700 families in vouchers for free or reduced priced car seats.
- ◆ Piloted a new approach and developed a series of education modules to help Veterans of Foreign Wars with hypertension control and blood pressure self-management.

Measurable Health Improvements/Pilots, Small Scale Interventions

- ◆ Implemented a strategy for low-income African Americans in which 41% met blood pressure goals; 78% showed a trend toward better blood pressure control; and, 51% experienced decreased weight.
- ◆ Improved oral health for Milwaukee youth resulting in a decrease in urgent oral health needs (from 8% to 4%), decrease in children with dental disease (68% to 46%), and increase in program participation (from 50% to 77%).

Policy and Systems Change

- ◆ Saved approximately \$7.4 million through a protocol between Emergency Departments and Federally Qualified Health Centers to reduce the number of non-emergent visits and increase the number of uninsured/underinsured patients connected with a medical home.
- ◆ Contributed to Milwaukee County Behavioral Health agreeing to enhance policies to include reimbursement for community mental health agencies and to provide a broader range of services

CAPACITY BUILDING

Assessment and Inventories

- ◆ Identified areas for improvement in communication and system navigation among medical providers, families and child welfare workers serving medically fragile foster children.
- ◆ Assessed five healthcare systems regarding their status of health care response, interface with other community agencies, gaps in services, and prevalence of abuse/violence patients seeking health care.

New Tools and Methods

- ◆ Created a web-based infrastructure that enables public health professionals, researchers and community groups to create customized maps showing comparative values of key public health statistics at different geographic levels.
- ◆ Developed an integrated database for identifying and tracking children birth to 3 years of age with developmental delays or disabilities in Milwaukee County.

Partnership and Coalition Development

- ◆ Developed a coalition and created a strategic plan to locate and provide low-cost medications, a referral network of specialty physicians and connections with social service providers at free or low-cost clinics.
- ◆ Developed a workplace wellness coalition that led to Milwaukee receiving the Well City USA designation for its approach to workplace wellness programs across 44 Milwaukee-based employers serving 130,000 employees.

Strategic Planning

- ◆ Developed a business plan that led to the creation of a community dental clinic in Waukesha that has provided more than \$8.3 million in dental care to more than 9,000 patients since it opened in 2007.
- ◆ Implemented a health improvement model for individuals involved with the underserved women in the criminal justice system in Milwaukee focused on increased access to health screening, preventive education and advocacy.

HEALTHIER WISCONSIN PARTNERSHIP PROGRAM

Partner-Reported Accomplishments Using AHW's Social Return on Investment Framework (2004-2013): Full Set (131 Projects)

IMPACT

Health Education and Promotion

- ◆ Screened and **educated 145 people regarding fall risk and prevention**, and contributed to increased awareness regarding falls prevention.
- ◆ Developed an **African American church-led coalition** that **increased awareness and knowledge regarding depression, cancer and heart disease** for parishioners and families across nine churches in Southeastern Wisconsin.
- ◆ Developed a public health **curriculum addressing violence against women** and hosted a week-long conference with more than 50 leaders and 17 college women and high school seniors.
- ◆ Developed and piloted an innovative model that combined the **strengths of theatre with health education** through a unique collaboration with **medical and nursing students and community members**. Knowledge gained through the new model was integrated by nurses into a context-informed diagnosis-intervention-outcome approach to improve Latino health in Racine.
- ◆ Developed a referral system for injuries in young children occurring in and around the home through collaboration with community partners, health care clinics, urgent care and emergency departments. Based on data resulting from 140 home visits, the partnership **provided home safety education and equipment to 125 families in high risk zip codes** and learned that repeated home visits as well as survey and 12-month assessments led to sustained improvements in home safety practices.
- ◆ Conducted a community needs assessment and **developed a school-specific, wellness curriculum** that integrates age appropriate cardiovascular intervention content into core subjects through four themes: Food, Fun, Fitness and Feelings.
- ◆ Developed the Farm-to-Fork Model that incorporates **gardening, cooking and walking clubs using a neighbor-to-neighbor approach** and that builds on shared experiences to improve community health. The partnership's success was featured through Wisconsin's 4th Street Forum and was recognized as a best practice by a resource (Louisiana state policy guide) published by PolicyLink, a national research and action organization and advancing economic and social equity.
- ◆ Developed a **curriculum for promoter training and patient education** called Mi Salud - Mi Vida that focuses on medical management of diabetes, nutrition and physical activity and was delivered through a new peer health promoter model. The partnership received recognition for its work at several national conferences, including the Society for Teachers of Family Medicine, the Behavioral Science in Family Medicine Conference and the North American Primary Care Research Group.
- ◆ Through a 32-agency collaboration, encouraged the use of the approved **MPS Human Sexuality Curriculum** with fourth grade students, a key change from existing practice, to prevent risk behaviors

and supported a statewide policy change by gaining additional information about the Medicaid Family Planning Waiver guidelines to its body of members.

- ◆ Enhanced capacity for policy leadership by providing **undergraduate students and medical students with increased awareness of health disparities** through community service learning and encouraged undergraduate students to seek careers in public service. Rutgers University expressed interest in using the service learning module and the results of the effort were disseminated through a newsletter to more than 10,000 contacts across multiple sectors.
- ◆ Developed and implemented multiple **health promotion and education activities in collaboration with students from Cardinal Stritch University, Mount Mary College and other higher education institutions**. Activities included: a health fair, a cookbook, health screenings, health education sessions, and community meals program, among other items.
- ◆ Provided **educational resources to 445 African American and Latino middle school students in 10 Milwaukee Public Schools** to increase students' interest in pursuing health care professional careers with the aim to identify strategies that could contribute to increased diversity among health care professionals and potentially reduce racial/ethnic disparities in health care access and outcomes.
- ◆ Developed and tested the Health Belief Model materials designed to **educate and encourage blood donors to seek medical care** when diagnosed with anemia. Qualitative data analysis helped to develop a new educational brochure with a listing of community-specific health care resources to help deferred donors access medical care.
- ◆ Improved Wisconsin's foster care model by developing teams from **faith communities that assist quality foster parents in their vocation**, thus decreasing their attrition rate and enhancing the wellbeing of youth in foster care. The effort was designed to positively impact youth in foster care by improving access to and compliance with health services, increasing their **educational and life skill supports**, improving the nurturing in the home, reinforcing healthy relationships by adding community contacts and promoting psychological healing.
- ◆ Worked with school nurses in Milwaukee and Waukesha counties to develop a **school nurse certification program**, including **curriculum and cost analysis**. UWM faculty used data from the project to prioritize new curricular offerings including the addition of an elective in the baccalaureate program in school health, a post baccalaureate certification in school nursing, and/or incorporating changes in both curriculums and to provide support to the students who are interested in school health.
- ◆ Developed and implemented a series of **educational sessions for WIC clients** on Water Quality and Health, Indoor Air Quality and Health and Toxins Around Your Home with pre-and post-tests identifying an increase in knowledge gained among participants from 4.2 to 4.73. As a result, the West Allis Health Department, following a "Train-the-Trainer" environmental health workshop, has incorporated the educational materials and information into practice.
- ◆ Developed and **delivered a Health Advocate curriculum** that resulted in participating youth's increased endurance and time engaged with physical activity as well as increased interest in health careers.
- ◆ Identified cross-cultural strategies to **overcome mistrust and cultural barriers in accessing health care** in the Hmong community.
- ◆ Combined with **health promotion and nutrition education programs in the schools**, established two school gardens that engaged community groups to promote healthy eating habits in youth and

families. The Pepin and Buffalo County Health Departments aimed for these efforts to help reduce the incidence of obesity and cardiovascular disease in their communities.

- ◆ **Increased awareness and use of the web-based Emergency Information Program for Children with Special Healthcare Needs** to promote a critical mass of families, organizations, and medical personnel in its' use resulting in materials shared with more than 5,300 patients and families and more than 1,900 EMS providers/physicians. Feedback from families indicated that, among respondents, 91% found the kit easy to use and 91% agreed that having an EIF is useful.
- ◆ **Trained public housing residents to be health advocates** to improve the health and quality of life in their buildings with diverse populations, including conducting health risk appraisals with a 30 percent response rate per building and development of individualized health plans for all participants. The resulting Community Health Advocate Toolkit was disseminated to 13 public housing sites and 22 community-based organizations.
- ◆ **Increased knowledge of community needs, strengths and access to local resources** as a result of church health action teams that worked with congregation members in African American churches to support health promotion and education in the areas of nutrition, heart disease, diabetes, and cancer.
- ◆ Developed several community resources to **increase awareness and education for suicide prevention**, including 18,100 community resource cards, toolkits used in 23 physician offices, and 1,245 people trained in suicide prevention and screening using the Question, Persuade, Refer (QPR) approach. Project partners collected 965 pounds of unused or expired prescription medication resulting in the use of permanent medication collection boxes throughout Kenosha County. This project led to Wisconsin being the first state to use an established teen suicide screening tool in a physician's office.
- ◆ **Implemented health education** efforts focused on prevention, awareness and capacity building through the development of a youth-led council with 96 members and a series of community outreach events, as well as diabetes and blood pressure screenings, **reaching over 3,000 church and community participants** and positioning the partnership as a recognized best practice at numerous conferences.
- ◆ Achieved a **change in children's knowledge and attitudes about outdoor play** in green spaces, health, and access to green spaces. Collected baseline information on geographical patterns of neighborhood quality to enable measurement of neighborhood-level change in the long-term.
- ◆ Developed a **Lay Trainer instructor manual and training process**. In addition, trained a small cadre of Lay Trainers and evaluated the Lay Trainer's teaching skills. The Lay Trainers disseminated project materials and information to over 100 families.
- ◆ Conducted two Latino summits to share the curriculum and project information with the community that led to **70% of participants with increased knowledge** and a more positive attitude toward educating their children about sexual and reproductive health and towards cancer screening.
- ◆ **Increased awareness and education of HPV infection** using peer teen advocates and social media channels. Also increase the intention to vaccinate among parents/guardians and adolescents.
- ◆ **Trained new individuals and organizations** to support the expansion of intimate partner violence (IPV) messages and resources through the **Wisconsin Rural Women's Initiative reaching approximately 1,200 people**.

- ♦ **Increased knowledge of Trauma Informed Care (TIC)** and developed and disseminated the Fostering Futures Blueprint to improve the health and care of children at risk for experiencing trauma/Adverse Childhood Experiences (ACEs).
- ♦ Designed a new model for addressing intimate partner violence (IPV) that **created sustainable change in the medical clinic culture**, changed health care providers' knowledge, attitudes, clinical skill and behaviors and improved the health of women in four medical clinics and led to the development of clinical and administrative policies to support continuous quality assurance.
- ♦ **Improved child passenger safety across Milwaukee and, ultimately Wisconsin**, by increasing awareness and knowledge regarding appropriate child passenger restraint, conducting more than **15,000 screenings** to assess child passenger restraint, enrolling **700 families** in vouchers for free or reduced car seats, and validating the Milwaukee Safe Passage **survey tool that is now used by all Women, Infant and Children (WIC) centers in Wisconsin**.
- ♦ Piloted a peer-support approach and **developed a series of education modules to help Veterans of Foreign Wars with hypertension control** and blood pressure self-management that resulted in funding for a larger, randomized controlled trial of a peer support intervention that was published in the American Journal of Hypertension.
- ♦ Implemented a community intervention program that **led to improved healthy choices and lifestyle behaviors in the rural Cumberland community**, including school nutrition, fitness and wellness policy changes, health education and screenings for metabolic syndrome, social marketing, and Healthy Lifestyle Coaching, among other activities. More than 760 adults were screened for metabolic syndrome and 113 graduates of the coaching program experienced significant reductions in weight, triglycerides, and cholesterol.
- ♦ **Created two community wellness sites in Milwaukee where medical students provided health education and patient treatment with UWM School of Nursing students**, including screenings, health education services, and cooking classes, resulting in 4,600 health screens, 430 treated patients, and more than 1,800 clinical encounters. The project was transformative in demonstrating that chronic disease can be effectively managed in a low-cost manner, more efficient manner that frees up clinical specialists to support more complicated care.
- ♦ Created and implemented an **innovative nutrition education program in an after school setting** over the three years to more than 1,000 teenagers, including food industry fieldtrips to Growing Power, local farms, Camp Whitcomb/Mason to work on a rural farm and attend the Eat Smart Camp Conference, MSOE, grocery stores, restaurants, cheese factories, Amish communities, grain mills; and participated in physical activity including: games, yoga, aerobics, walking, geocaching, as well as participation in cooking classes and focus groups with 1,614 participants; 538 youth participated in the Eat Smart Garden Classroom; and over 1,000 Market Baskets were presented to families through the Eat Smart Participation Dollars earned by youth in the Clubs.
- ♦ Developed and implemented an **effective health alert and communication network** among participating faith-based organizations, increasing leadership and advocacy training in health programs, planning, policy development and advocacy. The project was a leader in the community by working with faith-based leaders to provide resource information to their membership, providing timely and accurate information through door-to-door and community-wide distribution of H1N1 fact sheets, having project generated articles published in the African American newspapers, working with CBOs and working directly with childcare providers and families that had confirmed H1N1 cases.

- ◆ **Increased awareness and healthy habits among 75 fifth graders and 220 six through eighth graders** to support healthy food and fitness choices in environment that may not be optimal for health. Participants reported putting healthy tips provided in the program into practice in their everyday lives.
- ◆ **Improved the health and safety of at-risk elders** by increasing awareness, recognition, response and referral of elder maltreatment through a multi-level community-based education program targeting professionals who provide medical, home health and emergency response services to the elderly. Developed and disseminated customized educational materials to improve the recognition and reporting of elder abuse and neglect. On average, 12 to 20 new staff participated in the Training Modules each month.
- ◆ Planned and **developed training curricula to Elder Community Health Upholder (ECHU) volunteers from nine partner churches** focused on the following types of chronic disease: arthritis, heart disease, depression, cancer and diabetes. Developed an ECHU pastoral leadership network which resulted in greater advocacy work on the part of the pastoral leaders, raising breast cancer research funds, and funding the revitalization of a county park in an area in need of safe outdoor space for senior activity.
- ◆ **Engaged neighborhoods in programs designed to create a sustained culture of health and community sufficiency** through the Neighbor to Neighbor (N2N) model that used a “learn, do, teach” strategy to support access to local produce, building skills for cooking and preparing healthy meals, and creating opportunities for safe physical activity.
- ◆ Institutionalized a **123-bed community garden in a park that had previously been overrun with drugs and prostitution**, a new network for mental health services for the uninsured, dental health prevention and promotion in Riverwest schools, and the piloting of an innovative method to capture population-focused community health services.
- ◆ Created and disseminated **health literacy materials in the form of fotonovelas** and provided information about health resources in the community. All three fotonovelas were tested with 200 Latino community members to demonstrate change in knowledge, behavior, and intended behavior.
- ◆ **Provided HIV prevention information and education to individuals at high risk for HIV infection.** Enrolled 596 individuals with enhanced referrals and coordinated services for medical, social, and prevention services available through project collaborators.
- ◆ Cultivated community partnerships and **increased understanding of the risks of underage drinking**, liabilities of hosting drinking parties for underage youth, and the need for increased and consistent enforcement of underage drinking laws. Partnered with local law enforcement to improve the enforcement of underage drinking.

Measurable Health Improvements/Pilots, Small Scale Interventions

- ◆ Implemented a **prescription assistance program at six clinics** in the Greater Milwaukee Area resulting in 6,546 patients receiving access to medications.
- ◆ Developed and evaluated an innovative intervention to improve diabetes knowledge, knowledge retention, and screening behaviors among Latinos using telenovelas (similar to a soap opera program) that resulted in high audience ratings (99% liked the format) and **increased knowledge regarding diabetes among more than 500 community members.**

- ◆ **Increased accessibility to healthy food in Milwaukee's central city** through education and gained the support of urban corner store owners to offer nutritious foods resulting in more than 1,100 people benefiting from the program through community outreach activities in addition to increased nutritious food options.
- ◆ **Reduced the prevalence of obesity** and being overweight in Ashland, Bayfield, Iron, Price and Sawyer counties. Led to school districts adopting nutrition and fitness policies to benefit all students based on the development of a community action plan using proven strategies. Engagement of area employers led to implementation of environmental changes that promoted healthy lifestyles.
- ◆ Tested a model of care designed to **reduce adverse effects of chronic health conditions**, including asthma, diabetes and obesity. As a result, health indicators measured after the pilot study indicated that children were positively affected in all domains (physical, emotional, social and school) and parents were affected most strongly in emotional and mental health domains. In collaboration with Froedtert Health System, a new glucometer downloading and interpretation software was used during the pilot that resulted in increased efficiency, reduced human error and standardized reporting.
- ◆ Conducted a unique, community-based intervention that involved a randomized trial of culturally-appropriate weight loss intervention for overweight Latino children in Milwaukee. The intervention **promoted lifestyle changes through a low glycemic index weight loss regimen**, one or more physical activities and dietary counseling including cooking classes for parents.
- ◆ Provided the Project Staying Alive curriculum dedicated to **preventing and reducing violence to 4,104 youth**; developed and piloted a curriculum for 9th graders in collaboration with James Madison Academic Campus; evaluated the program and disseminated project results at over six state and national conferences. 47 firefighters have been trained in the curriculum. 109 teachers were trained to co-teach the curriculum, presented the four component Project Staying Alive curriculum opportunities through **313 sessions at 31 schools, and an additional 2,948 students through 219 sessions in 23 schools** received the entire curriculum through leverage with other funding.
- ◆ Increased **cancer screening measures at Red Cliff Community Health Center (RCCHC)** by raising awareness of the importance of screening among staff and community members. As a result, RCCHC has seen improvements in cancer screening rates from the March 2011 baseline data to March 2013 data: **Breast Cancer Screening Rates from 20% to 60%; Colorectal Cancer Screening Rates from 12% to 42%**; and Cervical Cancer Screening Rates from 30% to 42%.
- ◆ Improved health of Latino family caregivers through a small scale intervention that resulted in a **25% reduction in depression among Latino caregivers** of relatives with dementia.
- ◆ Developed, implemented and evaluated **a portable, cost-effective hypertension control strategy** in a primary care setting that served low-income African Americans. Improved health of participants: 80% of participants who attended the first session of a cohort completed the entire program; 41% met their blood pressure goal; **78% showed a trend toward better blood pressure control; 51% experienced a decrease in weight**; and 100% reported making positive diet and physical activity change.
- ◆ Reduced the HBA1c levels of food pantry clients, changed food bags at the Food Pantry of Waukesha County (FPWC) and the meal program at The Salvation Army to better meet nutritional needs, and provided point-of-service **nutritional education at FPWC to approximately 2,600 clients**.

- ◆ Provided **sustainable oral health services and education to 256 at-risk pregnant African American and Hispanic women**, exceeding project goal of 125 women. Also promoted improved oral health literacy, increased patient compliance, and improved physician and provider counseling.
- ◆ Enrolled **87 at-risk seniors in health checks** program to help improve their safety, health and stability through a network of pastors, nurses, care support workers across ten urban Milwaukee church communities. A related pastoral advocacy series is working to train and support ex-offenders from the community to provide home improvements to allow seniors to remain living in their homes longer.
- ◆ **Assessed effectiveness of Motivational Interviewing (MI) intervention** in promoting healthy body weight among 60 obese African American women. Partners are conducting qualitative and quantitative assessment of data to determine the effectiveness of the intervention.
- ◆ Provided **health and support services to more than 200 prostitutes** in Milwaukee to help reduce their risk for violence and injury, including: 55% participated in case management to assist the women in nine key health and safety categories, including referral to needed community services and supports; 48% participated in gender-responsive and trauma-informed programming; 31% developed personal safety plans; 21% self-reported exiting prostitution for at least one month; 70% of participants stayed in the program beyond six months.
- ◆ Implemented a nutrition and curriculum at the Bruce Guadalupe Middle School resulting in increased knowledge and awareness of **healthy habits for 58 families and 195 students, parents, and other family members**. Participants reported putting healthy tips provided in the program into practice in their everyday lives.
- ◆ **Identified and coordinated access to health care for under-insured** in Riverwest community, including dental screening programs for students at area elementary schools and referral sources for those needing primary and specialty health care services.
- ◆ Developed and implemented a comprehensive training program for low-income workers to provide W-2 clients with the skills needed to **overcome health-related barriers to employment** resulting in 100% of all eligible participants in the program (324 adults) attending and completing the Healthier Workforce training at job centers.
- ◆ Created a job training program for mental health consumers and a central hub for the mental health community in Manitowoc County, serving 50-60 individuals on a weekly basis supporting physical, social or emotional well-being. **Reductions in mental health related incidents reported through local crisis line** attributed to the new programs and services provided through this investment.
- ◆ **Increased access to dental care for low-income children in Waukesha** through a school-based outreach program of oral health promotion, screening and referral across nine schools. 83% of the participating children discussed the dental health educational modules at home and reported an increase in dental hygiene practices.
- ◆ **Improved oral health for Milwaukee youth** through school-based program resulting in decrease in urgent oral health needs (from 8% to 4%), **decrease in children with early treatment needs (68% to 46%)**, and increase in program participation (from 50% to 77%). In addition, the program increased providers' knowledge by training 151 primary care providers on performing oral health risk assessments, providing anticipatory guidance, and applying fluoride varnish.

- ◆ Improved care for those experiencing psychiatric crises by providing **recovery-driven crisis prevention and intervention services**. The Crisis Resource Center contributed to **reduction in homelessness, prevention of incarceration and emergency detention, reduction in emergency room visits**, and increased support for mental health.
- ◆ **Improved mental health support for students who had experienced violence** or trauma at La Causa School through the implementation of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) program.
- ◆ Improved in knowledge, confidence, and ability of nurse case managers and social workers to institute oral health prevention into routine care for children and mothers from low-income families living in underserved communities. Additionally, the project provided the opportunity and coordination for all participating children to secure a dental home following a risk assessment conducted by nurse case managers and social workers. **86% of children who participated in the pilot risk assessment process and did not originally have a dental home now have one.**

Policy and Systems Change

- ◆ Led to the **passing of Child Passenger Safety Law (Wisconsin Act 106)** and, ultimately, a reduction in unintentional injury resulting from motor vehicle crashes through advocacy and support for child booster seats.
- ◆ Contributed to **policy change within the foster care system** to improve inter-agency communication, referrals and care coordination for children with developmental delays, disabilities, or complex medical and social issues. Resulted in better care due to improved communication between agencies.
- ◆ Developed a school-based, nutrition and fitness program with the long-term goal of reducing the incidence of obesity in Cumberland, WI. Success resulted in **adoption of the Public School Wellness Policy by the Cumberland School Board** that oversees policies for the 950-student population.
- ◆ Used the NIH-based nutrition and physical activity curriculum and conducted pilots at two Milwaukee community centers that **resulted in organizational policy changes** regarding healthier food and beverage offerings to participants.
- ◆ Assessed public health workforce knowledge and attitudes about policy interventions and used assessment to identify elements necessary to **local health departments to engage in successful policy making** activities that can be used by health departments in Wisconsin to advance policy solutions.
- ◆ Established comprehensive policies and procedures for use of peer support specialists to improve mental and behavioral health, including quality improvement tools, recruitment strategies, and advanced training support. As a result, the collaboration contributed to **transforming behavioral health systems in two counties** through the addition of peer support specialists in the continuum of care and **led state policymakers to re-visit training requirements for peer support specialists.**
- ◆ Developed, piloted, implemented and evaluated a referral, intake and retention protocol between the Emergency Departments and FQHCs with the aim of **reducing the number of 'non-emergent' visits to area emergency rooms** and increase the number of uninsured and underinsured patients connected with a 'medical home'. Over **8,000 patients were referred to a community health center** to receive care and establish a medical home. The average number of referrals per month increased from 78 to 481 per

month. Project partners calculated the cost savings for patients and health systems to have patients referred for care to a FOHC to be approximately **\$7.4 million dollars** over the life of this award.

- ◆ Systemic change occurred through adoption of **enhanced referral processes at Children's Court** and other agencies resulting in improvements in family function, communication and problem-solving skills.
- ◆ Led **organizational policy change for UNCOM's eight member agencies** by ensuring cost-effective, nutritious and attractive food offerings were provided to families and youth served through the agencies. Examples of change include: decreased consumption of sweetened beverages, increase in fitness through walking groups and community fitness days, removal of vending machines in some agencies.
- ◆ Successfully **advocated for the smoke-free workplace statute** and contributed to systems change by integrating asthma management education and services across leading schools and community groups in Milwaukee, including MPS, Boys & Girls Clubs of Greater Milwaukee, and others resulting in **asthma education and support for nearly 4,400 individuals**.
- ◆ Influenced the inclusion of **nurse case management services in the redesigned Milwaukee County General Assistance Medical Program (GAMP)** that was then replaced by the BadgerCare Plus Core program. During the life of the project, more than 550 patients were contacted and 105 participated in case management services that included: patient education, medication management, help with identifying and accessing community resources, communication with physicians, supportive counseling and stress management.
- ◆ Contributed to the **successful passing of a Medicaid amendment** that enabled peer support services to become a billable funding mechanism by advocating for the **placement of Peer Support Specialists** throughout the behavioral health system and the project's experience in using a nationally recognized curriculum throughout Waukesha's Behavior Health Departments programs and services, community partner agencies, and in the criminal justice and child welfare systems to support personal recovery and employability.
- ◆ Contributed to mental health support for MPS students that resulted in **Milwaukee County Behavioral Health agreeing to enhance current policies to include reimbursement for community mental health agencies** in and to provide a broader range of services to WRAP and REACH students.

CAPACITY BUILDING

Assessments and Inventories

- ◆ Conducted needs assessment and developed strategic plan for **reducing risk of physical and emotional abuse of older adults** in Milwaukee County.
- ◆ Completed a comprehensive health assessment resulting in an **increased awareness of health concerns** and resources available.
- ◆ Conducted a **community mental health needs assessment** that resulted in the basis for a coalition with area schools, the Marion Area Family Resource Center and other appropriate organizations to address the mental health needs in the area.

- ◆ Developed a collaborative and conducted assessment of the **physical, emotional, spiritual and financial health needs of women offenders**.
- ◆ Conducted inventory of access points to **dental care for low-income children in Milwaukee** and developed a plan to improve oral health access. The plan intended to engage state legislators to re-evaluate existing oral health care access for children in Milwaukee.
- ◆ Conducted an assessment of **falls prevention resources**, identified gaps and evidence-based programs that could meet those gaps and developed an information card listing of key resources and contacts.
- ◆ Conducted data analysis on 80 interviews to determine **readiness to address intimate partner violence** in 6 Wisconsin cities: Eau Claire, Chippewa, Green Bay, Appleton, Madison, and Milwaukee.
- ◆ Evaluated Wisconsin's existing statutes and administrative rules, **assessed health services infrastructure in Wisconsin schools**, and published findings in a report that was distributed statewide to superintendents, school board presidents and local health departments.
- ◆ Inventoried existing health resources that serve the Hispanic community and analyzed data from more than 100 responses using a needs assessment tool that formed the basis for a culturally appropriate, cost-effective **Hispanic health patient navigator/community health worker model program**.
- ◆ **Five local healthcare system partners conducted assessments** that included: the status of health care response, interface of the healthcare system with other community agencies such as social service providers serving battered women and children and the criminal and civil justice system, gaps in services and prevalence of abuse/violence patients seeking health care.
- ◆ Conducted assessments in **three ethnically diverse neighborhoods in Milwaukee** regarding **food and fitness assets** and needs and existing health habits of the neighborhood residents and used knowledge gained to support policy and system level change in the city of Milwaukee, including the development of a Walkability Scan, refinement of a Fruit and Vegetable Audit tool, procedures to assess nutrition and fitness assets and barriers in other parts of the city.
- ◆ Explored the feasibility of implementing a **doula program for teen mothers in Beloit** in order to address health disparities and increase maternal and child health. Conducted a needs assessment of services and designed an implementation plan that resulted in conversations about policies regarding sexual education in the school district as well as those about who and how many individuals can accompany women in labor at the local hospitals.
- ◆ Based on an **assessment with more than 835 respondents**, the partnership identified areas for improvement in communication and system navigation among medical providers, families and child welfare workers serving medically fragile foster children. The partnership received national recognition and received first place in a research competition at the American Academy of Pediatrics annual meeting.
- ◆ Conducted a needs assessment and developed the **design for an online resource to increase awareness and access** to resources regarding well water quality, maintenance, testing, and corrective action.
- ◆ **Documented the extent of unmet need for services among veterans** who have and have not accessed Veterans Health Administration (VHA) services, and estimated the number of veterans who would access the services of the Dryhooch coffee shop by collecting survey data from 858 individuals. Twenty-one peer leaders were identified and trained to serve as peer counselors.

- ◆ Conducted community **needs assessments for La Crosse, Monroe, Trempealeau and Vernon County** with a total of 108 coalition members using the data to prioritize health needs and interventions, resulting in the development of Wellness Clinics in La Crosse, Monroe and Vernon counties to offer health screening, assessment, individual goal setting, education, and case management to members of the target population.
- ◆ Conducted a community-wide needs assessment of **behavioral health issues of Rusk County youth** and provided prevention services to 1,200 middle-school/high school Rusk County youth.

New Tools and Methods

- ◆ Developed an **integrated database** for identifying and tracking children birth to 3 years of age with developmental delays or disabilities in Milwaukee County. This system facilitated cooperation and data sharing among the partners and was used to support agencies providing services to these children.
- ◆ Developed tools for **phone-based and in-person cognitive assessment** and behavioral observation of older adults with cognitive impairment in collaboration with Carroll University nursing students resulting in improved systems and tools to better serve seniors in the community.
- ◆ Developed and piloted **quality assessment tools** to measure the institutional, caregiver and consumer components of **home care quality** with the expectation that the tools will be used to inform future policy regarding home care, including the Wisconsin Department of Health Services, home care providers and home care client organizational representatives.
- ◆ Used **social networking methods to increase identification of HIV-positive individuals** and connect individuals to services by developing procedures for identifying, training and monitoring recruiters and network associates. Wisconsin then adopted the social networking approach as one of its core strategies for addressing HIV and the partnership worked closely with State officials to share experiences to help similar programs be developed.
- ◆ Created a secure, **web-based infrastructure** that enables public health professionals, researchers and community groups to create customized maps showing comparative values of many key **public health statistics at different geographic levels**.
- ◆ **Improved data collection and accessibility** has improved population health studies in early childhood intervention not previously seen in the state of Wisconsin. The findings of such studies will significantly impact the provision of services to children with disabilities and their families throughout the state of Wisconsin.
- ◆ Developed a community-relevant illicit **substance abuse crisis hotline curriculum, screening tool and database**. The training module was created for hotline operators to ensure accurate and consistent information is provided to each caller. The hotline transitioned to a 24-hour, toll-free poison information for all individuals in the State of Wisconsin.
- ◆ Developed the **first organized entity in Wisconsin focusing on healthcare workforce data and forecasting workforce trends**. The collaborative continues to develop a more systemic approach to obtaining workforce data and labor market projections to meet the health care needs of Wisconsin residents.

- ◆ **Strengthened domestic violence screening tools**, increased awareness of domestic violence as a health concern, increased awareness and accessibility to advocacy and survivor support tools for survivors of abuse.

Partnership and/or Coalition Development

- ◆ Developed a coalition that became a **best practice in providing care to the underserved** and, based on a review of 4,149 chart reviews at 10 Milwaukee area free or low-cost clinics, created a strategic plan to locate and provide low-cost medications, a referral network of specialty physicians and connections with social service providers.
- ◆ **Strengthened leadership and capacity for community health workers** through development of the community health worker network for Wisconsin.
- ◆ Developed a coalition for workplace wellness that **led to Milwaukee receiving the Well City USA designation** for its coordinated approach to results-oriented workplace wellness programs across 44 Milwaukee-based employers with a total of 130,000 area employees. Milwaukee was the first city in the nation to earn the Well City USA award for the second time.
- ◆ Developed **injury prevention coalitions across five counties**, trained stakeholders in using data from the Wisconsin Interactive Statistics on Health (WISH) systems, and co-produced the Burden of Injury Report which was disseminated to health departments along with data and evidence-based injury prevention program information.
- ◆ Developed an **African American church-led coalition** that increased awareness and knowledge regarding depression, cancer and heart disease for parishioners and families across nine churches in Southeastern Wisconsin.
- ◆ Developed a task force to increase **public awareness on the impacts of aging** and education of resources and services in Marathon and Wood Counties that resulted in several communication tools and education programs, including a website with updated resources, community health forums, and dvds.
- ◆ Developed a state forum for rural health and economic development that resulted in the **inclusion of a workplace wellness focus for participating businesses in eight counties** and, ultimately, contributed to health improvement of rural community members and reduced health care costs for rural businesses.
- ◆ Developed **partnerships with local hospitals to refer patients into four area health systems** and provided primary care for an estimated 300 uninsured individuals who are not served by any other program. In 2009, Wisconsin changed its policies and expanded its Medicaid program to include childless Wisconsin residents. As a result, MilwaukeeCares became a BadgerCare enrollment site to initially enroll/transfer its patients to this program.
- ◆ Created system changes in the targeted counties that resulted in **better linkages between the medical and social service systems**, established dementia care networks, greater awareness of the importance of early diagnosis and increased access to information, education and consultation for people with dementia and their family caregivers, and ultimately, reduced the need to travel to Madison or Green Bay to receive these comprehensive services with an estimated reach of 16,084 people.

- ◆ **Increased the number of eligible children who enroll in Wisconsin’s Medicaid, BadgerCare and Healthy Start (Family Medicaid) public health insurance programs** through closer coordination between these programs and the state’s free and reduced price school lunch programs. Human systems, data management systems and bureaucratic systems were balanced in this project with family and professional relationships to promote a plan to improve enrollment in public health care insurance (primarily BadgerCare+) and access to health care services for low income Wisconsin families and all children via Wisconsin’s public schools and local organizations.
- ◆ **Created and sustained relationships with the PEARLS for Teen Girls** participants at multiple levels including building a community based collaborative model, improving the health, wellness, and safety of the teen girls, coordinated efforts of the Nursing Center, Pearls Coordinator and the Silver Spring Academy staff, empowering girls through PEARLS curriculum and setting and achieving specific self-identified goals and achieving other accomplishments representing their individual development and growth.
- ◆ **Increased capacity for teen dating and sexual violence prevention at 8 Milwaukee neighborhood centers** within United Neighborhood Centers of Milwaukee by building a strong partnership that was able to train 64 staff on mandated reporting, teen dating violence and the three prevention curricula. Through training on mandated reporting, all centers designed and implemented a policy which delineated a specific process for reporting suspected child abuse to the proper authorities.
- ◆ Through the Violence Prevention Initiative, **identified effective prevention and educational interventions to reducing violence**. More than 29 community agencies worked together to convene, communicate and build inter- and cross-agency capacity to deliver and study violence prevention programming with a focus on its fundamental causes. These committed stakeholders, representing community organizations, government, businesses, public health leaders, educators, grassroots activists, health care providers, and more, laid the foundation for this public health approach to reducing violence. Many individuals involved expressed that **the number of organizations and individuals that were brought together through the VPI was unprecedented in Milwaukee**.

Strategic Planning

- ◆ Developed a business plan that led to the creation of a community dental clinic in Waukesha. Since 2005 when AHW invested \$25K, the Waukesha dental clinic has provided more than **\$8.3 million in dental care to more than 9,000 patients**. The clinic serves as a home for community outreach and oral health prevention programs, as well as dental hygiene student education.
- ◆ Developed a business plan that led to the creation of a **community dental clinic** serving low-income and under-insured residents of Jefferson and Dodge counties.
- ◆ Identified several regulatory or voluntary testing strategies that have the potential to **increase well water testing for arsenic**. In addition, the readiness of Wisconsin environments at local and state levels for industry and regulatory changes related to arsenic testing and post-test outreach was assessed.
- ◆ Developed an advisory committee and **action plan to address health, wellness and self-esteem** for lesbian, gay, bisexual and transgender people of color in Southeast Wisconsin.

- ◆ Strengthened the Wisconsin Center for Health Marketing and Communication through the creation of a **business plan for expanding health marketing practices**, increasing health marketing knowledge, increasing health marketing capacity and establishing sustainable partnerships.
- ◆ Developed a strategic plan and a **comprehensive community based profile of STDs and unintended pregnancies**.
- ◆ Developed and disseminated a **burden of injury report** for La Crosse that included injury data, community assets and formed the basis of strategic plan with recommendations for policy change.
- ◆ Analyzed Wisconsin's existing data on public health workforce diversity and identified **strategies to enhance public health workforce** enumerations, recruitment, retention and development that culminated in a Call to Action report disseminated statewide.
- ◆ Increased capacity within Wisconsin's independent public health institute through enhanced marketing, creation of an evaluation framework and **development of a financial plan to aid sustainability**. In part because of this award, Wisconsin now has a viable, independent public health institute ready to bring together business, health care and public health partners to focus on some of our state's prevention priorities.
- ◆ Implemented a health improvement model focused on **increased access to health screening, preventive education and advocacy** for underserved women who are involved with the criminal justice system in Milwaukee.

VI. RESEARCH AND EDUCATION PROGRAM

Partner-Reported Accomplishments Using AHW's Social Return on Investment Framework (2004-2013)

Overview

Since 2004, Research and Education Program (REP) has awarded approximately \$136M to 175 MCW-faculty led research and education initiatives that are aligned with MCW priorities.

Accomplishments from each of the 132 completed projects have been categorized into key areas that align with MCW's key priorities and the categories of the AHW's Social Return on Investment (SROI) framework.

Research investments have focused on advancing links between basic science and clinical research to speed the translation of scientific discovery into new therapies. Several initiatives focused on increasing our knowledge of the underlying causes of disease. In addition, AHW has been a catalyst in advancing MCW's research capacity through the development and support for new tools, systems, and technologies.

As a result of AHW, MCW has secured some of the most talented experts in the field to bring their vision and knowledge to benefit the people of Wisconsin and contribute to MCW's vital research community.

Through AHW's investments in education, MCW has strengthened offerings through creating new graduate degree programs, fostering interprofessional collaboration, providing leadership development and training for the public health and physician workforce, and ensuring the next generation of health care professionals are best positioned to meet the challenges ahead in advancing a healthier Wisconsin.

As with HWPP, for the purposes of this report, each project is categorized into one primary area based on partner-reported major outcomes.

AHW'S SOCIAL RETURN ON INVESTMENT FRAMEWORK FOR RESEARCH AND EDUCATION PROGRAM

Impact.....# Projects	Capacity Building # Projects
Health Education and Promotion.....0	Assessments and inventories..... 0
Measurable health improvements0	New tools, devices, methods 26
New knowledge43	Partnership and Coalition Development..... 0
New therapies and enhanced treatments.....10	Recruitment of new leaders and talented research experts to Wisconsin 10
Policy and system change0	Strategic Planning 0
Population Health Research and Education7	Workforce development..... 31
Translational Research.....5	
Total 132 Projects	

RESEARCH AND EDUCATION PROGRAM

Partner-Reported Accomplishments Using AHW's Social Return on Investment Framework (2004-2013): Selected Set

IMPACT

New knowledge through increased understanding of the underlying causes of disease

- ◆ Identified mechanisms that underlie the development of cardiovascular disease and identified innovative approaches that could lead to new treatments of cardiovascular disease.
- ◆ Identified new ways to improve therapy and neuropsychological outcomes in patients with Parkinson's Disease through the study of 12 specific regions near the subthalamic nucleus where bilateral deep brain stimulation (DBS) was significantly correlated with changes in neuropsychological outcome scores for patients with Parkinson's Disease.

New therapies and enhanced treatments to improve the standard of care

- ◆ Improved the standard of care for radiation therapy of brain cancer through use of advanced medical imaging, magnetic resonance imaging (MRI) and physiologic MRI (pMRI).
- ◆ Applied a sensitive genomics-based blood test to human Type 1 Diabetes (T1D) in order to develop a means to reliably distinguish those individuals that will progress to T1D among those individuals possessing high risk. This is useful both as a diagnostic tool for prediction of T1D and a means of assessing targeted therapeutic intervention.

Population health research and education initiatives

- ◆ Contributed to the field of empirical ethics research through investigations in such areas as the relationship between ethics and policy issues in psychiatric genetics research, rural health care, stigma, end-of-life care, professional education, aging, surrogate decision-making, informed consent, and other topics.
- ◆ Determined barriers to colorectal cancer (CRC) screening by examining healthcare system, community and individual level barriers.

Translational research

- ◆ Provided essential support for translational research in cardiovascular disease that led to increased coordination for experiments that link basic science and clinical science.
- ◆ Developed an integrated clinical and translational pancreatic cancer research program with implementation of the first neoadjuvant clinical trial of personalized therapy for patients with localized pancreatic cancer and advancements in pancreatic cancer tissue recovery and analysis.

CAPACITY BUILDING

New tools, devices and methods, including shared research resources, instruments, and processes

- ◆ Developed a high-resolution database of physical parameters in the human brain that, when coupled with a segmented atlas of the human brain, can be used to improve the early detection, classification, and monitoring of treatment of brain diseases like multiple sclerosis (MS), Alzheimer's disease (AD), and Parkinson's disease (PD).
- ◆ Established infrastructure for high-throughput genomic analysis to identify genes that are involved in numerous diseases and conditions and identified genes that play a role in the development of or predisposition for the development of several diseases.

Recruitment of new leaders and talented research experts to Wisconsin

- ◆ Increased expertise in chemoprevention research through the identification of chemicals, drugs, or food supplements that can prevent the development of cancer.
- ◆ Recruited expertise to advance biopreparedness and infectious disease research, aimed at developing new therapeutics, vaccines, and diagnostics through translational science that will mitigate the impact of infections on the citizens of Wisconsin.

Workforce development through education for the next generation of physician, health professionals and scientists

- ◆ Enhanced medical education through development of a patient-centered, socio-ecological model framework that integrated population health competencies into medical student curriculum.
- ◆ Increased public and community health skills and leadership capacity by providing continuing education and training to the public workforce of Wisconsin, thereby enabling innovative community health improvement activities and effectively protecting and promoting the health of the public.

RESEARCH AND EDUCATION PROGRAM

Partner-Reported Accomplishments Using AHW's Social Return on Investment Framework (2004-2013): Full Set (132 Projects)

IMPACT

New knowledge through increased understanding of the underlying causes of disease

- ♦ **Advanced the understanding of the mechanisms involved in cancer progression** and the development of graft-versus-host disease, a life-threatening complication of bone marrow transplantation, by examining the role of different T regulatory cell subsets for their ability to kill tumor cells and the contact-dependent mechanism(s) used by T regulatory cells to suppress immune responses.
- ♦ **Increased knowledge of genetic mutations** involved in breast cancer susceptibility and resistance.
- ♦ Increased understanding of reasons for low functioning on Activities of Daily Living after stroke, reduced motor impairment and functional disability, and **increased carryover of gained functional abilities to real living environments**.
- ♦ Examined the role of plasma hemoglobin in sickle cell disease (SCD). Studies led to **new research directions for SCD therapy**, which has seen little recent movement, and forged collaborative links with other scientists and clinicians who study and treat SCD patients in Wisconsin.
- ♦ Examined if malfunctions in specific areas of the brain could be involved in development and/or maintenance of hypertension and if targeting these areas could have a potential therapeutic role, particularly for hypertension that does not respond to current treatments. Findings could provide **new directions to identify genetic factors and possible treatments** that could lead to new ways to treat hypertension.
- ♦ Studied a newly identified family of protein kinases (Vaccinia related kinases), which led to an **advanced understanding of cellular and genetic mechanisms that contribute to the development of cancer and infertility** and opened new opportunities for therapeutic intervention.
- ♦ Gained insight into how a drug-receptor-like protein modulates chromatin structure (the complex of DNA and protein that makes up chromosomes) and **advanced knowledge that has the potential to inform anti-immune and anti-cancer therapies**.
- ♦ Studied the metabolism of microsomal epoxide hydrolase (mEH) in the regulation of prostate cancer cell proliferation and invasion and **advanced knowledge that may lead to effective therapeutic treatments for prostate cancer**.
- ♦ **Identified better methods to protect the heart from injury** caused from ischemia (lack of oxygen, such as happens during infarction) and reperfusion (reconstitution of the blood flow). Understanding the mechanism for protection, and the mitochondrial proteins involved, should reveal new targets for improved cardioprotection that could help patients at risk for and who suffer from infarctions.

- ♦ **Studied the development of atherosclerosis** (hardening of the arteries) by examining the role of IKCa (intermediate conductance calcium-activated potassium channel) activity in vascular remodeling.
- ♦ **Leveraged advances in spectroscopy and pediatric clinical expertise** to investigate Bipolar Disorder by studying early biological markers for treatment.
- ♦ Provided **insight into the fundamental mechanisms that control lymphatic vasculature formation** and advanced our understanding of the molecular processes that go awry in cardiovascular anomalies.
- ♦ Building from the knowledge that 70 percent of protein-coding human genes are related to genes found in the zebrafish and that 84 percent of genes known to be associated with human disease have a zebrafish counterpart, this study investigated the molecular basis of a particular growth control mechanism that has **direct applicability to the diagnosis and treatment of cancer**.
- ♦ Contributed to the **design of new therapies for pulmonary hypertension** by studying the importance of hydrogen sulfide in hypoxic pulmonary vasoconstriction (HPV), a major component of chronic obstructive pulmonary disease.
- ♦ Studied the **prevention of re-injury after heart attacks** through systemically administering embryonic stem cells to the site of the myocardial damage via use of non-invasive imaging technology.
- ♦ Investigated the hypothesis that inappropriate endocannabinoid signaling can lead to bipolar disorder. Results **improved our understanding of bipolar disease** and in turn, contributed knowledge to discovery of new therapeutic treatments.
- ♦ Studied AMP-deaminase isoform E and erythrocyte metabolic dysregulation, which contributed knowledge that has the potential to **improve the health status, quality of life and longevity of those suffering from Sickle Cell Disease**.
- ♦ Assembled a critical mass of translational researchers to **identify the genes and pathways that contribute to the pathogenesis of chronic progressive renal disease** with the goal of identifying new treatments that will delay or reverse progressive injury.
- ♦ Supported several studies, using federally approved human embryonic stem cell lines, which examined the role of specific factors that have been linked to diabetes, heart disease, and cholesterol levels. By controlling the expression of such factors during the formation of pancreatic, heart and cardiac cells from embryonic stem cells, the investigators anticipate the **generation of cell models that will be used to understand the fundamental mechanisms underlying human pathologies and development**.
- ♦ Defined the regulators and pathways required to create the functional specificity of discrete regions of the small intestine such that we may ultimately manipulate these pathways to control function. This was a **first step toward the possibility of developing novel therapies to combat intestinal malfunction**, such as the use pharmaceuticals to restore lost functions to intestinal tissue and to engineer intestinal tissue in vitro for transplantation.
- ♦ **Increased understanding of the cellular pathophysiology of polycystic kidney disease (PKD)** using lentiviral vectors.
- ♦ Advanced understanding of how epilepsy develops and persists, and identified **mechanisms that can be pharmacologically targeted to prevent epilepsy**.
- ♦ Identified mechanisms that underlie the development of cardiovascular disease and identified small molecule drug-like candidates for **treatment of cardiovascular disease**.
- ♦ **Increased understanding of the cellular and molecular mechanisms that lead to neocortical epilepsy**, a

condition which predominantly afflicts children.

- ◆ Provided **fundamental insights into immune responses** that could **translate into therapies** for those who suffer from chronic autoimmune diseases such as type I diabetes, multiple sclerosis, inflammatory bowel disease and arthritis.
- ◆ Investigated the mechanism for cocaine-induced reduction of GABAergic inhibition in the reward circuit of the brain. This knowledge is critical for the development of medications for the **treatment of cocaine addiction** based on selective blockade of GABAergic inhibition.
- ◆ Studied the roles of Rap1b, a ubiquitously expressed member of the Ras superfamily of small GTP binding proteins, in B cell development and function, and the mechanism by which Rap1b regulates B cell biology. B cells are **an essential component of the adaptive immune system** and are the immune cells that produce antibodies.
- ◆ **Increased knowledge of Persistent Pulmonary Hypertension of the Newborn (PPHN)**, a disease that affects full-term newborn infants during their transition at birth. This disease **accounts for over 10% of all admissions to neonatal intensive care unit**. Improved therapies for PPHN will be of direct benefit to the families in Wisconsin.
- ◆ **Mapped a large number of traits associated with complex diseases of the heart, lung, blood, vasculature and sleep-related disorders** to individual chromosomes via consomic rats or to individual genes in the rat via the mutagenesis program.
- ◆ Facilitated the study of whether the addition of large numbers of third party myeloid progenitor cells could change tolerance induction using hematopoietic cell transplantation. Findings from this research could contribute to understanding resistance to bacterial and fungal infections, which advanced the long-term goal of **expanding the use of hematopoietic cell transplantation (HCT) for malignant and non-malignant disease**.
- ◆ Identified selective estrogen receptor down-regulators as **novel therapeutics for treating prolactinomas**, which are pituitary tumors that produce excess amounts of the hormone prolactin. Using a pharmacological approach, investigators confirmed that degradation, not just occupation, of the Estrogen Receptor is critical to suppressing cell proliferation.
- ◆ **Increased understanding of the cellular mechanisms** by which acrolein, a major component of cigarette smoke and a ubiquitous environmental pollutant, can contribute to endothelial cell (EC) dysfunction, atherosclerosis, and cardiovascular disease.
- ◆ Identified 12 specific regions near the subthalamic nucleus where bilateral deep brain stimulation (DBS) was significantly correlated with changes in neuropsychological outcome scores for patients with Parkinson's Disease. These results can be used to **improve DBS therapy and neuropsychological outcomes in patients with Parkinson's Disease**.
- ◆ Increased understanding of Type 2 diabetes through the **identification of a novel gene, and potential gene systems, involved in glucose regulation**.
- ◆ **Advanced research in Alzheimer's Disease (AD) by identifying a novel set of biomarkers** associated with neurodegeneration in AD, and conducted a longitudinal study which suggested that a quantifiable test for Alzheimer's disease progression can be developed using electron paramagnetic resonance. This will promote drug development by facilitating effective clinical trials of anti-Alzheimer's therapy.

- ◆ **Increased understanding** of the specific immunoregulatory pathways employed by the HTLV-2 Tax protein in human lymphocytes, and its potential **impact on the progression to AIDS among HIV infected individuals**.
- ◆ Advanced knowledge of receptors that are **potential targets for new cancer and psoriasis treatments**, and developed new molecules to block receptor function.
- ◆ Advanced research in Alzheimer's Disease (AD) by determining that functional magnetic resonance imaging (fMRI) can **identify differences in brain function in individuals with geriatric depression and/or Mild Cognitive Impairment**, which is associated with an increased risk of AD.
- ◆ Advanced our understanding of synaptic plasticity, the ability of nerve connections to vary in strength over time, which is known to be important for learning and memory. A better understanding of this characteristic may lead to the **discovery of new treatments for memory deficits**.
- ◆ **Increased neuroscience research** in nerve cell degeneration and regeneration, the impact of chronic pain on the brain, nerve cell changes in drug addiction, and the role of stress and stress resilience on psychiatric and behavioral disorders.
- ◆ Increased understanding of the thrombin receptor function and heart tissue damage, which will result in **improved clinical outcomes for patients with diabetes and cardiovascular disease**.
- ◆ Advanced our understanding of the role of brain reorganization in sensory and motor recovery following peripheral nerve injury and repair, which could lead to new pharmaceutical treatments, surgical procedures, tailored rehabilitation therapies, and individual exercise paradigms in the management of peripheral nerve injury. These results suggest a **new objective method of diagnosing brain plasticity following injury** and to **targeted therapies for improving the interaction of the peripheral and central nervous systems**.
- ◆ Identified and characterized a **new diagnostic marker and therapeutic target in lung, prostate, breast, and colon cancer**.

New therapies and enhanced treatments to improve the standard of care

- ◆ **Improved the standard of care for radiation therapy of brain cancer** through use of advanced medical imaging, magnetic resonance imaging (MRI) and physiologic MRI (pMRI). These images, MRI/pMRI, provide precise definition of tumor targets (e.g., location, extension, spatial biology) and critical normal structures necessary for the design of more effective radiation therapy.
- ◆ **Developed measurement tools** to identify children under 6 years of age who have attention and executive functioning difficulties as a result of neurological injury or illness, in order **to implement early treatment and improve recovery and skill acquisition**.
- ◆ Contributed knowledge to **improve the quality of care and outcomes of breast cancer** by using the analytical strengths of biomedical, neuroscience, and the social sciences to gain insight into treatment-induced cognitive deficits among those suffering from breast cancer.
- ◆ **Developed a key therapeutic manipulation of c-Src inhibition in human clinical trials**, which is soon to be translated into a major pharmaceutical trial. Research could lead to the **first effective therapy to ameliorate PKD and the renal failure it causes**.
- ◆ **Developed and implemented a clinical pharmacogenetics pilot project** at Children's Hospital of Wisconsin, which offered genetic screening to patients in Neurology. Evaluation suggests the pilot

program was valuable to physicians and **resulted in several instances of altered therapeutic intervention and improved outcomes based on the genetic testing.**

- ♦ Applied a sensitive genomics-based blood test to human Type 1 Diabetes (T1D) in order to develop a means to reliably distinguish those individuals that will progress to T1D among those individuals possessing high risk. This is useful both as a **diagnostic tool for prediction of T1D in at risk subjects** and a means of **assessing targeted therapeutic intervention**. We expect that this strategy will find applicability in many other human disorders.
- ♦ Contributed to knowledge that could **improve outcomes of patients with chronic kidney failure** by discovering new mediators that protect against, or recovery from, ischemic renal injury. This could lead to specific therapies limiting or preventing acute renal failure and delayed graft function.
- ♦ Provided a basis for **generating a procedure to treat ischemic heart disease** by identifying a population of progenitor stem cells that can be directly used to treat ischemic heart disease.
- ♦ **Established a collaborative and interactive team to care for patients with brain tumors** and created **new knowledge in basic and clinical science** through biomedical, behavioral and health services research.
- ♦ Increased local health provider expertise in the assessment and treatment of childhood nutritional disorders through a **Nutritional Disorders Telehealth Network**.

Population Health Research and Education Initiatives

- ♦ **Assessed health care utilization and expenditures** among various sub-populations of patients in Wisconsin to inform health care and health care financing policy discussions.
- ♦ **Determined barriers to colorectal cancer (CRC) screening** by examining system (insurance, access), healthcare (primary care provider, referrals), community (adequacy and availability of CRC information, low-cost screening resources) and individual (perceived/objective risk of CRC, saliency of testing, sociodemographic factors) level barriers. These results will be used to inform CRC screening interventions, ultimately **aimed at reducing CRC mortality**.
- ♦ Educated health consumers and the lay public on how to identify quality online health care information to **aid the public in health care decision-making**.
- ♦ **Strengthened science literacy and public engagement in science** through diverse educational programs using citizen deliberation methods. In addition to partnerships with K-12 education programs, the Center piloted the Science Café series and hosted the first southeast regional conference on pandemic influenza emergency planning.
- ♦ **Advanced injury research through seven funded seed projects**, the results of which were disseminated in peer-reviewed publications and national/international conferences and meetings.
- ♦ Supported the **development of multidisciplinary empirical ethics research with a focus on mental health and alcohol/drug abuse**. Studies were conducted to evaluate the relationship between ethics and policy issues in psychiatric genetics research, rural health care, stigma, end-of-life care, professional education, aging, decisional capacity, surrogate decision-making, informed consent, and related topics.
- ♦ **Increased capacity for community-academic partnerships for health improvement** in Wisconsin through educational opportunities, partnership development, and research.

Translational Research

- Provided essential administrator support for **translational research in cardiovascular disease**. The investment led to increased support and coordination for **experiments that link basic science and clinical science** by focusing on alterations in endothelial function and cardiac function.
- Supported the design, development, and enhancement of the Clinical and Translational Science Institute, which has become **a collaboration of more than eight academic and health system partners** and serves as the **leading resource for clinical translational research in southeast Wisconsin**.
(Please note: Accomplished through investment in three interrelated projects.)
- **Development of an integrated clinical and translational pancreatic cancer research program**; implementation of the first neoadjuvant clinical trial of personalized therapy for patients with localized pancreatic cancer; and advancements in pancreatic cancer tissue recovery and analysis.

CAPACITY BUILDING

New tools, devices and methods, including shared research resources, instruments, and processes

- ♦ **Developed neuroimaging approaches that will be applied to early disease detection**. Specifically, an approach was developed for use on clinical MRI systems and 7T MRI research systems.
- ♦ **Utilized the Biacore3000 instrument to detect molecular interactions and develop new strategies for the treatment of diseases** that impact the health of the people of Wisconsin, such as obesity and its impact on heart disease, substance abuse, and environmental health hazards that contribute to cancers.
- ♦ Advanced research in a **mechanistic understanding of the genetic, proteomic, and metabolic processes acting in the initiation and progress of metabolic syndromes** using a high-resolution mass spectrometer, which can lead to therapeutic treatment of metabolic syndrome and related diseases.
- ♦ Established a dedicated **Histology and Tissue Preparation Laboratory that rapidly prepares and analyzes tissue samples for research**, thereby shortening the time elapsed between discovery and application.
- ♦ **Developed a robotic facility for high-throughput protein crystallization trials**, which increased the productivity of structural biological and microbiological research, and enhanced our understanding of the molecular basis for disease processes and their prevention.
- ♦ Utilized task-activated functional magnetic resonance imaging (fMRI) to **identify and monitor biomarkers for early identification of Alzheimer's Disease (AD)** in patients with mild cognitive impairment.
- ♦ Developed **new methods for protein, peptide and small molecule analyses used in proteomics and metabolomics studies** that examine diseases such as cancer, cardiovascular diseases, neurological diseases, genetic diseases and environmental toxicity.
- ♦ Developed a prototype multi-parameter **imaging platform to provide information about the biology of brain tumors, and to predict the effects of treatment** on the surrounding, normal-appearing brain. This physiologic imaging information has the potential to improve the patient's quality of life by predicting outcomes and guiding therapy, but also can prove useful in the optimization and evaluation of both

conventional and new therapies, thus extending the length of the patient's life.

- ◆ **Enhanced basic biomedical research in proteomics, especially in areas related to chronic diseases** such as cardiovascular disease, diabetes and cancer, through use of the LTQ LC/MS technology.
- ◆ Established infrastructure for **high-throughput genomic analysis to identify genes that are involved in numerous diseases and conditions**, including cardiovascular disease, and identified genes that play a role in the development of or predisposition for the development of several diseases.
- ◆ Established infrastructure for **biophotonic imaging, a new technology that enhances understanding of and shows interactions between cellular molecules**, resulting in improved biomedical research capabilities.
- ◆ Established infrastructure for a **human embryonic stem cell core** that has led to increased federal and private funding to support the **discovery of stem cell therapies for several leading diseases**.
- ◆ Established new tools and equipment for a **Shared Electron Microscopy Facility** that enabled researchers to **perform improved ultrastructural analysis of molecules, cells and tissues**.
- ◆ Established a **mobile Fetal Magnetocardiography truck-based imaging system**, built in Wisconsin and operated by a Wisconsin business, so that women across the state can benefit from new technology that **improves fetal diagnosis and care**.
- ◆ Developed a **genetic tool based on lentiviral-siRNA technology** to efficiently knock-down a gene of interest in a laboratory rat model, validating human cardiovascular disease genes. This work contributed to the **identification of genetic factors responsible for hypertension**, improved the understanding of the genetic mechanism of hypertension, and supported the **development of effective therapies**.
- ◆ Determined whether high-field MRI imaging can be used to quantify plaque burden, which **advanced the understanding of MRI as a potential new technique in the early detection of arterial disease and modification of disease progression in order to prevent debilitating or fatal outcomes**, such as stroke. This project had a significant impact in contributing knowledge regarding the diagnosis, mechanism and treatment of cardiovascular disease in its many forms.
- ◆ **Expanded capabilities for biomedical research through new technologies and equipment**, including facilitating advances in the study of genetics, protein function, diseases of the heart, and metabolic diseases such as diabetes and obesity.
- ◆ Established **new technology to increase understanding of the underlying mechanisms of human diseases through the knowledge gained at the level of protein structure**, which will ultimately lead to a better understanding of drug and toxin metabolism and the physiology of diseases processes such as epilepsy, arrhythmia and cancer.
- ◆ Established a **research infrastructure to support investigators focused on understanding the pathogenesis of infectious disease, with the long-term goal of translating discoveries** derived from laboratory model systems into new products that will protect the health of the citizens of Wisconsin and the nation. A detailed exploration of the mechanistic aspects of toxin synthesis, secretion, antibiotic resistance, cellular invasion, innate immunity, adherence and modulation of cellular physiology will lead to the rational design of therapeutics, vaccines and diagnostic tests.
- ◆ Validated a **new tool to study kidney stone disease in humans**. The Ion Chromatograph allows the rapid measurement of urine samples for components that determine the relative super-saturation of stone-forming constituents in order to assess renal function.

- ◆ Contributed to the **development of an Electronic Health Record (EHR) template** that prompts Family and Community Medicine residents to identify geriatric conditions that put patients over 65 years of age at risk for functional decline and death.
- ◆ Supported new technology and infrastructure for **multidisciplinary, translational research collaborations in the area of biotechnology and bioengineering**.
- ◆ Established a **stem cell resource** with the purpose of maintaining, establishing, and providing education and training in the use of pluripotent stem cells **for therapeutic purposes**.
- ◆ Developed new animal models and technology for **innovative studies of photoreceptors and human blinding diseases**.
- ◆ Created an **integrated clinical data warehouse to facilitate collaborative, multidisciplinary studies** through the analysis and integration of existing and emerging data, thereby reducing the time it takes to turn research discoveries into improved bedside treatment.
- ◆ Developed a **high-resolution database of physical parameters in the human brain** that, when coupled with a segmented atlas of the human brain, can be **used to improve the early detection, classification, and monitoring of treatment of brain diseases** like multiple sclerosis (MS), Alzheimer's disease (AD), and Parkinson's disease (PD).

Recruitment of new leaders and talented research experts to Wisconsin

- ◆ **Recruited basic science experts to advance cancer research** in the areas of aberrant signal transduction pathways in malignancy, genetic disruptions which generate oncogenes, and genetic alterations that result in the loss of tumor suppressor genes.
- ◆ **Recruited expertise to advance research in the area of biopreparedness and infectious disease**, aimed at developing new therapeutics, vaccines, and diagnostics through translational science that will mitigate the impact of infections on the citizens of Wisconsin. Expertise of these recruitments spanned across traditional viral, bacterial, parasite and immunologic disciplines. (**Please note: Accomplished through investment in four interrelated projects.*)
- ◆ **Recruited clinical expertise to advance clinical translational research in cardiovascular disease**. By promoting more clinically oriented research, the initiative aimed to better position MCW in improving cardiovascular disease outcomes, one of the most important health concerns in Wisconsin.
- ◆ **Recruited a leading expert in vascular biology**, whose research focuses on cardiovascular diseases. An example includes studies to determine the contribution of eicosanoids, a class of fatty acids, and their mechanisms of action in hypertension, stroke, end stage renal disease, and metabolic syndrome. These findings **provide new avenues for research that may lead to new treatments for hypertension**, a disease that afflicts one-third of the adult population in Wisconsin, as well as other cardiovascular diseases.
- ◆ Recruited basic science expertise to **advance the understanding of virus-host interactions that lead to tumor production** and **facilitate the development of new therapies**.
- ◆ **Increased expertise in chemoprevention research** through the identification of chemicals, drugs, or food supplements that can **prevent the development of cancer**, and evaluation of the efficacy of these agents for cancer prevention in high-risk human populations.

- ◆ **Enhanced expertise in computational modeling and simulation** to assist efforts in drug discovery and development, pharmacokinetics and pharmacogenomics, and personalized medicine.

Workforce development through education for the next generation of physicians, health professionals and researchers

- ◆ **Developed the first PhD in Public and Community Health program dedicated to training the next generation of community-engaged researchers with an emphasis on rigorous research methods.** The program enhances the breadth and depth of research expertise in public and community health. *(*Please note: Accomplished through investment in two interrelated projects.)*
- ◆ **Enhanced and expanded MCW's Master of Public Health Degree Program** by introducing a robust, digital platform for online learning and strengthened the curriculum offerings. Since its expansion, the MPH program has **fostered pipeline and dual degree program relationships** with several academic institutions, including Mount Mary University.
- ◆ **Designed a new, integrated, four-year medical school model** emphasizing early and sustained clinical contact, active learning, integration of clinical and basic sciences, and individualized learning around students' interests via one of five scholarly pathways: clinician educator, global health, master clinician, physician scientist, and urban and community health. *(*Please note: Accomplished through investment in two interrelated projects.)*
- ◆ **Increased public and community health skills and leadership capacity** by providing continuing education and training to the public workforce of Wisconsin, thereby enabling **innovative community health improvement activities** and effectively **protecting and promoting the health of the public.** *(*Please note: Accomplished through investment in three interrelated projects.)*
- ◆ **Provided mental health education services** to multidisciplinary mental and physical health professionals throughout urban, rural, and frontier areas of Wisconsin, and to members of the lay public and consumers of mental health services in Southeastern Wisconsin. Developed a platform for sustainable partnerships with diverse stakeholders that **enhance Wisconsin's capacity for responding to the impact of mental illness.**
- ◆ Established the Standardized Teaching, Assessment, and Resource Center (STAR Center) that **enables medical students, physicians in training, and physicians in practice to obtain the skills necessary to perform outstanding clinical care** and to be assessed for clinical competency according to standardized assessment models and criteria.
- ◆ **Improved medical education in obstetrics care and reproductive health** through establishing an obstetric/gynecologic skills lab. The center's facilities aim to support programs for physicians to demonstrate new procedures, develop critical thinking skills and provide opportunities to learn new techniques in a controlled environment.
- ◆ Developed a **novel approach to clinical skills training to better prepare medical students for patient care** through the integration of new technology into curricula, which will ultimately improve the overall health of the residents of Wisconsin.
- ◆ Tested and **established a core curriculum to provide competency-based education for graduate medical students.** Promoted faculty development and teaching methods as well as the development of new curriculum components.
- ◆ **Developed an Integrated Grand Rounds educational series** to present case-based clinical problems emphasizing public health concepts developed by clinicians and basic scientists.

- ◆ Trained students in a set of **evidence-based skills for treating obese patients and their families** that led to integration of the modules into the MCW primary care clerkship curriculum.
- ◆ Fostered a collaborative learning environment to bring together medical and graduate students to **increase knowledge and core competencies in clinical translational research**.
- ◆ Developed an Objective Structured Clinical Exam (OSCE) to **assess Family and Community Medicine clerkship students' ability to provide community responsive care** with a focus on the impact of cultural beliefs and values, socioeconomic status and health literacy on the patient encounter and health status.
- ◆ **Established the MCW Humanities program** that incorporates medical humanities into the formal curriculum for medical students, while also increasing faculty interest.
- ◆ Developed a **practice-based learning and improvement curriculum for residents** to incorporate **principles of patient safety and quality improvement** into their bedside teaching.
- ◆ Enhanced medical education through development of a patient-centered, socio-ecological model framework that **integrated population health competencies into medical student curriculum**. This will better prepare young physicians with the knowledge, attitudes and skills needed to shape our system to improve the health of the public.
- ◆ Contributed to **improved emergency support for Latino patients** by incorporating cultural competency education modules with an emphasis on Latino culture into a two-year curriculum for Emergency Medicine residents.
- ◆ Explored strategies for **increasing accessibility of continuing medical education (CME) offerings for health professionals through distance-learning methods**. For example, CME offerings from several departments and divisions have the capability to be available to physicians across Wisconsin through new technology and web-based platforms.
- ◆ Developed a structured, modular-based **faculty development program** focused on evidence-based practices to **design, implement, and evaluate instruction methodologies and learners' experiences**.
- ◆ Launched an innovative approach to develop longitudinal integration of basic science courses and clinical clerkships by **creating linkages between basic and clinical sciences around geriatric curricula**, thereby changing students' perceptions of compartmentalization of these courses and topics.
- ◆ Improved resident education in physician-patient communication using simulated patient encounters. Good physician-patient communication results in **better patient participation in medical-decision making, improved patient compliance with treatment and higher patient satisfaction**.
- ◆ Used an 18-headed microscope to conduct a daily Peer-Review Conference in Surgical Pathology. The daily review of diagnostically difficult, challenging or problem cases not only **supported Quality Assurance**, but also served as a **powerful teaching tool for residents and fellows**.
- ◆ Developed a **new tool to improve resident training and performance**. Tested by the MCW Waukesha Family Medicine Residency Program, the MCW residency program was selected as one of 14 experimental programs to provide a 4th year residency dedicated to enhancing resident expertise.
- ◆ Developed **education and training tools for medical personnel to gain Disaster Medicine clinical knowledge and skills**. These tools were used to train MCW medical students, residents, fellows, faculty, and other community health care providers and leaders.

- ◆ Developed an innovative, sustainable **educational program to address the problem of missed opportunities for screening and prevention** by pediatrics, medicine and family medicine residents.
- ◆ Enhanced residency training through **redesigned curricula that anticipates the changing demands in the practice of medicine**, including innovative instructional methods, educational technologies, curriculum development, practice-based learning, and interpersonal and communication skills.
- ◆ Developed a curriculum for medical students to **prepare them for leadership roles in health systems, health policy, community health and advocacy for patients**.