Breast Cancer in Arab American Women: Knowledge Levels & Screening Barriers

Breast cancer is the most common malignancy afflicting women, with an estimated 1 out of 8 U.S. women developing the disease in the course of their lifetime. Although women with affected first-degree relatives are at a higher risk of developing breast cancer themselves, numerous other non-heritable factors have shown to correlate with increased risk of breast cancer. Many breast cancer assessments are based on a cohort of White American women and hence the majority of the studies may not be generalizable. Identifying and comparing general knowledge or risk factors in geographically or ethnically diverse women can help target the specific health needs of individual communities and populations. Because of the paucity of data on breast cancer in Arab American women, we designed a survey, composed of 59 questions, to assess knowledge, risk factors and screening barriers for Breast Cancer in this community. The survey is administered at ACCESS, Arab Community Center for Economic and Health Services. We had a total of 100 women who participated: 40 breast cancer survivors and 60 healthy controls. Of the 11 knowledge topics assessed in our study, the most notable deficiencies were in knowledge around cancer presentation and cancer risk among various races and ethnicities. Additionally we noted that over 35% of participants over the age of 40 have not had a screening mammogram in the past 2 years with leading causes being: lack of health insurance, absence of family history and absence of symptoms.

Colorectal Cancer in Arab Americans: Knowledge Levels and Screening Barriers

Colorectal cancer, CRC, is the second leading cause of cancer related deaths in the United States in both men and women and the third most common cancer in both genders. Screening tests have shown to be successful at detecting precancerous polyps. Early detection and removal for polyps have shown to reduce colorectal cancer diagnoses. Unfortunately, about one third of adults aged 50 or older, the age group at greatest risk of developing colorectal cancer, have not been screened as recommended. In this study, we target particularly the Arab American community in Dearborn, MI. We aim to assess the knowledge of this community regarding colorectal cancer and screening methods. Moreover, we attempt to better understand the main screening barriers faced by the community, which prevents them from undergoing CRC screenings. Our study was conducted at ACCESS, Arab Community Center for Economic and Social Services, in Dearborn, MI. We here include survey results for 150 Arab American participants. We identified significant knowledge deficiencies in multiple domains including general knowledge on what CRC is or risk factors or screening modalities. Additionally our results highlight deficiencies in patient-physician interactions and discussions around CRC. Lastly, we identified barriers to CRC screening which included costs, lack of awareness, fear, insufficient physician education and insufficient understanding for screening modalities.

St. John Providence Cancer Genetics Program Experience with Genetic Testing for Hereditary Cancer Syndromes

Multi-gene panels have been widely used to assess hereditary cancer risk in individuals with a cancer diagnosis as well as in individuals with a high risk of cancer given their family histories. Multiple cancer genetic clinics as well as genetic laboratories have published findings of multi-gene panel testing. To date, the St. John Cancer Genetics Program has offered genetic testing for hereditary cancer since the inception of the program in December 15, 2013. Through our cancer genetics program, genetic testing for the BRCA1 and BRCA2 genes as well as other genes using multi-gene panels is recommended for cancer patients as well as patients with increased risk of hereditary cancer syndromes who meet testing criteria. The purpose of this study is to review our institution’s experience as well as report on unexpected/unique cases. This study will be a retrospective chart review of cancer genetic testing results for patients seen as part of the St. John Providence Cancer Genetics Program.
Beaumont Health
Megan Kilpatrick
megan.kilpatrick@beaumont.org

Supportive Care Art Series for Oncology Patients

The Wilson Cancer Resource Center at Beaumont Hospital, Troy, has created a Supportive Care Art Series for oncology patients. The series is a component of the Cancer Survivorship Program which includes Long-term follow-up, psychosocial support, program coordination, integrative medicine, nutrition, and oncology rehabilitation. This particular series falls under the psychosocial support program component. Through this series, patients are given the opportunity to be inspired through art by being able to express their emotions, become more self-aware and socialize with those around them. This art series benefits patients by providing an opportunity to decrease anxiety and depression, and enhance coping skills. Sessions are offered in a small group setting, both in the morning and afternoon on a bi-monthly basis and are completed within 2.5 hours. Each session is led by a Beaumont artist volunteer. During the sessions, participants are first shown a finished painting and are further guided by the artist volunteer through the steps on how to create that particular painting. Participants are encouraged to add their own style to the paintings to make it their own. A different painting is offered during each bi-monthly session to all oncology patients.

Beaumont Health
Ryan Wood
ryan.wood@beaumont.org

Rehabilitation Care and Quality of Life Assessment Through the Adult Multidisciplinary Cancer Survivorship Clinic for Colorectal, Gynecology and Genitourinary Cancer Survivors

The Adult Cancer Survivorship Clinic at Beaumont Hospital, Royal Oak, is a component of the Cancer Survivorship Program, offering comprehensive services through a multi-disciplinary team, focused on wellness and healing to supplement the long-term follow-up care that colorectal, gynecology and genitourinary cancer survivors receive from their treatment team. • one-on-one nurse navigator review of and provision of the individualized clinical summary and care plan • functional and impairment assessment, potential referral for rehabilitation treatment and follow up (access to specialized pelvic floor therapists) • nutritional counseling and education • social work assessment and education • quality of life assessment (FACT-G) and provision of related resources based on needs • information on healthy lifestyle choices, prevention and early detection of new cancers and surveillance for recurrence and late effects of treatment • relevant educational and resource materials related to specific needs and areas of concern • care coordination with physicians The quality of life assessment (FACT-G) and personal one-on-one visit with the physical therapist, provide an individualized assessment of rehabilitation needs and may result in a referral for individualized rehabilitation treatment from a physical therapist, specialized in pelvic floor therapy. Pelvic floor physical therapist specialists are trained and able to address many of the residual symptoms and dysfunction (bowel/bladder dysfunction, sexual dysfunction, pelvic pain) associated with specific cancer diagnoses, treatments and survivorship. Review of clinic services and outcomes, as well as data regarding satisfaction, survivor referrals for therapy and those who received treatment, FACT-G results and the associated resources provided, will be provided in this study.

Beaumont, Troy
Lisa D’Andrea
Lisa.D’Andrea@Beaumont.org

Breast Cancer Survivorship: Addressing Post Treatment Concerns with Referrals, Resources and Support

The Wilson Cancer Resource Center houses Beaumont, Troy’s Breast Cancer Survivorship Clinic, providing a forum to empower and support breast cancer survivors beyond their treatment. During this clinic, breast cancer survivors have the opportunity to gather in small groups for a brief educational presentation from our supportive resource teams. Afterwards, they meet one on one in a private setting, with a physical therapist and an oncology nurse navigator (ONN). During the one on one private setting of the clinic, the patient and ONN review a list of concerns that are commonly experienced after treatment is completed. The patient identifies the concerns that they are currently experiencing, and each concern is addressed with appropriate referrals, resources and ongoing support. The goals of this presentation are to: 1. Identify correlations between specific subgroups of patients, diagnosis, and their post treatment concerns 2. Highlight referrals, resources and ongoing support that empower the patient to achieve optimal quality of life during survivorship.
District Health Department #10
Karen Ripke
kripke@dhd10.org

**Tobacco Reduction Initiatives at DHD#10**
District Health Department #10 has been working across our jurisdiction to reduce the smoking rates of adult youth and pregnant woman, as well as to increase early screenings for lung cancer. Through the help of several grants; we have increased youth prevention programs, increased access to tobacco cessation programs, increased awareness of the benefits of early lung cancer screening and strengthened partnerships.

Division of Vital Record, MDHHS
Mei You
youm@michigan.gov

**Building Linkage Among Michigan Population Registration Systems**
We linked records of 777,817 women in the Michigan Care Improvement Registry (MCIR) born between 1980 and 1995 to the Michigan Birth Registry. Linkage to the Michigan Birth Registry is the first step in identifying a cohort of women with continuous residence in Michigan. Of those that linked to the Birth Registry, 7,010 (0.9%) were diagnosed and reported to the Michigan Cancer Surveillance Program (MCSP) with 6,890 (98%) in situ and 120 (2%) invasive cervical cancer lesions. Using immunizations reported to MCIR, we classified adherence to the HPV vaccine schedule recommended by the Advisory Committee for Immunization Practices as: no doses administered, series incomplete, and series complete. Overall, the rates per 10,000 woman of cervical cancer lesion incidence for cohort of no HPV vaccine, incomplete and complete HPV vaccine are: 115: 50: 18. This pattern continues when the cohort is adjusted by age.

Karmanos Cancer Institute, Population Studies and Disparities Research Program
Knoll Larkin
larkink@karmanos.org

**Detroit HealthLink for Equity in Cancer Care**
The Detroit HealthLink Program, a project developed by Karmanos Cancer Institute (KCI) and Wayne State University, is a region-wide coalition to identify and address cancer-related needs in the metropolitan Detroit area. Funded by the Patient-Centered Outcomes Research Institute (PCORI) in March 2016, Detroit HealthLink brings together community members, community-based organizations, and cancer researchers to develop research ideas and educational and service-based programs to meet specific needs within their communities. The project’s three specific aims are: Aim 1: Increase capacity among community stakeholders - i.e., cancer survivors, their caregivers, advocates, and non-research organizations serving these individuals - to engage as partners of PCOR in metro Detroit; Aim 2: Build trusting, collaborative, and mutually beneficial relationships between community stakeholders and cancer researchers; Aim 3: Identify cancer-specific PCOR priorities based on community stakeholder input. The HealthLink model represents an approach to community organizing with the goal of improving cancer care and outcomes. At the center of Detroit HealthLink are Cancer Action Councils (CACs), which comprise groups of community members and leaders who use their local expertise and knowledge to help improve the lives of cancer patients, survivors, and caregivers by identifying cancer research priorities to address gaps within their communities. Our HealthLink specialists facilitate three geographically distinct councils: 1) Voices of Detroit Initiative (VODI) Community Outreach Office (Conner Creek, Detroit); 2) Western Wayne Family Center (Inkster, MI); and 3) Karmanos Cancer Institute (Midtown Detroit). Detroit HealthLink has been extremely successful in recruiting and retaining CAC members. Across our initial three Councils, there are 44 CAC members, exceeding the original goal of 30. The VODI/Conner Creek has 17 members (94% African American); Western Wayne CAC has 12 members (100% African American); and Karmanos Cancer Institute CAC has 16 members (38%). Across all CACs, 20% are survivors and 40% are cancer caregivers. CAC members complete a 32 item evaluation every six months. In our most recent round of evaluations council members indicated strong satisfaction with the amount of influence they have over Council decisions (96% answered satisfied or extremely satisfied), the process used to create research priorities and generate research questions (96% answered satisfied or very satisfied), and felt a strong commitment to their Council (87% agreed or strongly agreed). Our poster will provide an account of the research priorities identified by our 3 CACs and will outline the process of developing and working with the councils as a best practices model.

Michigan Department of Health and Human Services
Karen Brown
**brownk34@michigan.gov**  
**Michigan Tobacco Quitline-Cancer Survivorship Partnership**  
This poster will demonstrate the results of a 5 year partnership with the MDHHS Michigan Tobacco Quitline, the MDHHS Cancer Control Program, Michigan Cancer Consortium and the Michigan Oncology Quality Consortium. The project was initiated to educate and encourage oncology practices on the importance of assisting their patients in quitting smoking in order to improve cancer treatment outcomes. A significant increase in cancer patient intake at the Michigan Tobacco Quitline has been seen since the initiation of this project.

**Michigan Department of Health and Human Services**  
**Amber Daniels**  
danielsa3@michigan.gov  
**Prescription Drug Overdose Prevention Project**  
The Prescription Drug Overdose Prevention Initiative with MHDDS focuses on data collection and surveillance related to the opioid epidemic, and encouraging responsible opioid prescribing behaviors.

**Michigan Department of Health and Human Services**  
**Susan Deming (2 Posters)**  
demings@michigan.gov  
**Linkages: Oral Cancer-HPV-Tobacco-Health Disparities**  
This is an update to previous submission: Will highlight oral cancer and HPV connection with information on the upcoming MDHHS project: Michigan Assessment of Oral Cancer Screenings and Knowledge of Human Papilloma Virus (HPV) Among Oral Health Professionals. Linkage of tobacco use with increased risk of HPV will be discussed and health disparities will be highlighted.

**Oral Cancer and the HPV Connection**  
Will highlight oral cancer and HPV connection with information on the upcoming MDHHS project: Michigan Assessment of Oral Cancer Screenings and Knowledge of Human Papilloma Virus (HPV) Among Oral Health Professionals

**Michigan Department of Health and Human Services**  
**Ann Garvin**  
garvina@michigan.gov  
**“The Fact that I have not heard of it or even come across it once…”: A look at communication around HPV vaccination to Latino residents living in rural Michigan**  
Introduction: Cervical cancer disproportionately affects the Latina residents of Michigan, and effective communication about the HPV vaccine is crucial for reducing this disparity. We sought to understand the HPV vaccination information known to Latino residents living in a rural Michigan community and ways to improve communication around this subject.  
Methods: We conducted a focus group for Latino men and a focus group for Latina women in the fall of 2016. Participants between the age of 30 and 50 years old were recruited by the local health department. Six men and 17 women participated. Translators were available to assist in both groups. The three discussion topics covered included: general cancer knowledge, HPV and cervical cancer specific knowledge, and reactions to three advertisements about HPV vaccination. Recorded notes were analyzed for themes and consensus across the two groups.  
Conclusion: Rural Latino Michigan residents who participated in this focus group were lacking key information about HPV and HPV vaccination. Focus group participants showed an interest in increased access to information about this topic and provided insight into effective approaches for sharing messages about HPV. Improving communication about HPV and the HPV vaccine must be a priority for reducing cancer disparities experienced by rural Michigan Latino residents.

**Michigan Department of Health and Human Services**  
**Bethany Hollender**  
HollenderB@michigan.gov
Awareness, collaboration, and action: reducing disparities in breast and cervical cancer screening in gay, lesbian, bisexual, and transgender residents of Michigan

Cancer remains the second leading cause of death in Michigan. Since 1991, the Michigan Breast and Cervical Cancer Control Navigation Program (BCCCNP) has worked with local health agencies, provider networks, health systems, tribal organizations, community based organizations, and other stakeholders to lead state-wide breast and cervical cancer prevention and control efforts. In 2017, BCCCNP began a focused effort to support screening among lesbian and bisexual women in Michigan. We used Michigan Behavioral Risk Factor Surveillance System (MiBRFSS) data from 2012 and 2014 to assess disparities in age-appropriate mammography and Pap testing among Michigan’s lesbian and bisexual residents. We calculated prevalence of age-appropriate screenings stratified by self-reported sexual orientation. We used multivariate logistic regression to control for insurance status, report of having one or more health care providers, household income, and age. Lesbian and bisexual women reported receiving a Mammogram and Pap-Test, 16.2% and 14.2% less frequently, respectively, than their heterosexual counterparts. After adjustment for the factors listed above, lesbian and bisexual women had a two-fold higher odds of lacking age-appropriate mammogram compared to heterosexual women. Differences for age-appropriate Pap test were attenuated in the adjusted model. Michigan’s lesbian and bisexual women experience barriers to cancer screening access not captured in MiBRFSS data. Literature review supports our findings, and suggests additional barriers include discrimination in the health care system, provider insensitivity, patient mistrust, lower perceived risk of cancer risk, and fewer prompts for regular gynecological services. BCCCNP and their partners are working to reduce these barriers.

Michigan Department of Health and Human Services
Angela McFall
mcfalla@michigan.gov

Lung Cancer Screening Awareness Campaign in Rural Michigan

Public Health Statement: The National Lung Screening Trial demonstrated a 20% reduction in deaths from lung cancer in current or former heavy smokers ages 55-74 that received screening. Purpose: An estimated 8,190 Michigan residents will be diagnosed with lung cancer and 5,650 will die of the disease in 2017. The National Lung Cancer Screening Trial demonstrated a 20% reduction in deaths from lung cancer in current or former heavy smokers ages 55-74 that received screening. Cancer registry data identified Michigan regions with higher than average lung cancer incidence and mortality rates. Methods/Approach: A lung cancer screening awareness campaign was developed to target the identified regions. The multi-component media campaign, “A Light of Hope,” included creative gas station advertising, radio public service announcement, and Google Display/Google AdWords. Market research indicates people age 55 and older visit gas stations approximately 4-5 times per month and that gas stations and convenience stores sell more than 60% of tobacco products. Results: Total audience reach for radio was 2,577,300. Google Display click through rate (ratio of users who click on a specific link to the number of total users who view a page) was 0.40% with the benchmark being 0.15%. Google AdWords showed a better click through rate for key words related to lung cancer than key words related to smoking. Conclusions/Implications: Cancer data and market research were used to target and deliver this campaign. Current or former smokers were encouraged to discuss lung cancer screening with their doctor. One campaign objective was to drive traffic to a related website for more information. People that saw the digital ads clicked-through to the website at a rate 2.5 times higher than industry standard.

Michigan Department of Health and Human Services
Audra Putt (2 Posters)
putta@michigan.gov

Collaborative Efforts to Reduce Barriers to Cancer Clinical Trial Participation

For nearly 20 years, the Michigan Cancer Consortium (MCC) has been involved in efforts to increase cancer patient participation in clinical trials. In 2001, the MCC partnered with providers, payers, patient advocates and legislators on the development of the Consensus Guidelines for Healthcare Coverage of Routine Patient Care Costs Associated with Oncology Clinical Trials. The goal of the consensus agreement has been to increase patient participation in specific cancer-related clinical trials by supporting the predictability of payment for clinical trial services. With changes related to health care coverage and advancements in treatment, the MCC Clinical Trials Workgroup reconvened in 2016 to examine cancer clinical trials coverage and reduce barriers to participation. Work began two years ago to survey stakeholders and assess barriers to timely prior authorization, and determine potential solutions for those barriers. This led to the creation of a fax cover sheet. This cover sheet was created for use when prior authorization for participation in a cancer clinical trial is required by a health insurance carrier. The cover sheet has been promoted through the MCC, cancer committee meetings, and other institutions. As next steps are determined, the workgroup has followed up with these different groups about their experience and use of the cover sheet.

Improving Quality of Life with Survivorship Care Plan Resource Documents

Over the past year, the Michigan Cancer Consortium’s Survivorship Workgroup has developed patient resource documents to accompany the survivorship care plan that each survivor receives following treatment for cancer. These documents aim to
provide helpful resources on effective healthy behaviors that can improve quality of life during survivorship. The workgroup collaborated over the past year to determine the topics of greatest importance to survivors and collect evidence based resources to share. The document topics include: physical activity, nutrition, fatigue, tobacco cessation, and healthy lifestyle choices. In order to promote health equity, the workgroup reviewed the documents to ensure they followed accessibility guidelines and were written at a 5th grade reading level. A focus group of cancer survivors also reviewed the documents and shared insight on their content and format for ease in reading and understanding. The documents will be available on the Michigan Cancer Consortium’s website.

Michigan Department of Health and Human Services
Taylor Seaton
seatont1@michigan.gov

Public Health Surveillance of Racial Disparities in Hereditary Cancer Counseling and Testing Using Clinical Cancer Genetics Data
Healthy People 2020 has two Genomics objectives: 1. to increase the proportion of women with a family history of breast and/or ovarian cancer who receive genetic counseling and 2. to increase the proportion of persons with newly diagnosed colorectal cancer who receive genetic testing to identify Lynch Syndrome. To address these objectives, the Michigan Department of Health and Human Services utilizes a surveillance system for Hereditary Breast and Ovarian Cancer Syndrome (HBOC) and Lynch Syndrome (LS). METHODS: Seventeen Michigan Clinics share data on patients being counseled for HBOC and LS. Patients with a family or personal history of cancers related to these two syndromes and sought counseling at one of these sites are included in this database. This includes information on demographics, insurance, personal and family cancer history, test results, and reasons for declining testing. RESULTS: Data for 20,177 patients have been entered for the years 2008-2015. Significant racial disparities are present. The age-adjusted rates for Blacks compared to Whites for breast cancer (71.48 vs 64.25 per 100,000 population, respectively) and colorectal cancer (49.86 vs 38.40 per 100,000 population, respectively) are much higher for Blacks compared to Whites; however, only 1,448 (7.69%) patients are Black. Furthermore, only 52 (0.26%) of the patients are Black males, and 51.74% of Blacks who received genetic counseling had a genetic test performed compared to 60.52% of Whites. DISCUSSION: These data are useful to continue monitoring Michigan’s achievement of Healthy People 2020 objectives and to identify racial populations who are not receiving genetic counseling.

Michigan Department of Health and Human Services
Debbie Webster (2 Posters)
websterd1@michigan.gov

Identifying the Needs of Cancer Survivors in Michigan
Public Health Significance: Identifying the needs of cancer survivors allows programs to more effectively deliver services that aim to improve survivors’ quality of life. Purpose: Our question was “What are the needs of Michigan’s cancer survivors?” We sought to leverage Michigan health surveillance data and cancer expert insight to identify the needs of cancer survivors. Methods: We used Michigan Behavioral Risk Factor Surveillance System (MiBRFSS) data from 2013 and 2014 to target Michigan cancer survivors. MiBRFSS is an annual, cross-sectional survey of the general Michigan population that ascertains cancer survivor status. MiBRFSS data were used to identify the prevalence of cancer survivors and factors that might indicate a need. To be included, a person had to report a previous cancer diagnosis. We then held group discussions with cancer experts. Cancer experts identified needs of survivors, which were compared to MiBRFSS data. Experts also identified gaps in data for measuring survivor needs. Analysis: MiBRFSS data were analyzed using age-adjusted frequency and percents for demographic data, and crude frequency and percents for all other indicators. Expert meetings were transcribed and needs were organized by theme. Results: Experts identified five themes for survivor needs: survivor assessment, provider education, survivor education, access to resources, and psychosocial support. MiBRFSS measured variables related to needs that fell under survivor assessment, provider education, survivor education, and access to resources. Gaps in assessment were identified across themes. Public Health Impact: MiBRFSS data when combined with qualitative data from focus groups of cancer survivors and cancer experts will be able to track many needs of cancer survivors.

Patient Navigation Promotion and Support Across the Cancer Continuum
Public Health Statement: Patient Navigators can impact cancer care by reducing the barriers to cancer screening, diagnostics, treatment and survivorship care Purpose: As the body of evidence around patient navigation grew, the state of Michigan hired
a patient navigation consultant to integrate patient navigation into its CDC funded cancer programs. Methods/Approach: The cancer patient navigation consultant has become an embedded expert on the specific issues related to breast, cervical and colorectal cancer screening and the implementation of patient navigation programming. This has allowed the integration of patient navigation into screening programs. In addition, the cancer patient navigation consultant has learned the specifics of clinic and hospital based navigation. Consultation is provided on system and policy change for navigation programming in provider offices and health systems. Support is also provided to navigators across Michigan. Results: The cancer patient navigation consultant has built patient navigation into cancer grants including Breast and Cervical, Colorectal, Comprehensive Cancer Control and Cancer Survivorship. In the Breast and Cervical Program, navigation starts with outreach and continues until the client is enrolled in treatment, if necessary. Through the Comprehensive Cancer Control Program, technical assistance is provided to health systems on the implementation or expansion of navigation for treatment and through survivorship. Conclusions/Implications: There are many ways that states can support the development of patient navigation. Michigan's approach has included a focus on policy and system change in provider offices, clinics, and health systems.

**Michigan Radiological Society, Ascension Health**  
Paul Chuba  
[paul.chuba@ascension.org](mailto:paul.chuba@ascension.org)

**Changing Implant Technique and Survival in Intermediate to High Risk Prostate Cancer**  
As part of an IRB approved retrospective review, 307 cases of intermediate risk prostate cancer were examined. 227 were treated with combined HDR brachytherapy and external beam radiation therapy and 81 were treated with combination of LDR brachytherapy and external beam radiation therapy. PSA failure free survival and overall survival were compared for the two groups. No statistically significant differences were noted.

**National Kidney Foundation of Michigan**  
Samantha Raad  
[sraad@nkfm.org](mailto:sraad@nkfm.org)

**Cancer Control Community Impact Project to Improve the Quality of Life for Cancer Survivors and Caregivers**  
The overall purpose of this project was to increase the number of cancer survivors and caregivers in under-served areas of Wayne County that participate in evidence based programs with a focus on Enhance Fitness, PATH (Personal Action Toward Health) and Cancer Thriving and Surviving. In addition to this, the project team aimed to further encourage self-help behaviors among smokers by creating referrals to the Michigan Quitline through various programming.

**University of Michigan**  
Kyla Cross  
[kycross@umich.edu](mailto:kycross@umich.edu)

**Impact of physical activity and spontaneous arm use on QoL in BCRL patients**  
Background: Lymphedema can be a long-term complication faced by breast cancer survivors. The negative consequences of breast cancer-related lymphedema (BCRL) can be both physical and psychological leading to an overall reduction in quality of life (QoL) (Ahmed et al., 2008). Research has shown that physical activity positively impacts QoL in breast cancer patients (Eickmeyer et al., 2012). The aim of this study was to examine the impact of self-reported activity, function and QoL with spontaneous arm movement measured by accelerometers. Methods: Nineteen women with any stage of breast cancer and unilateral upper extremity lymphedema were recruited to this IRB prospective clinical study. QoL was measured using the Patient-Reported Outcomes Measurement Information System (PROMIS) and patient-reported function measured by the Disability of Arm, Shoulder, Hand (DASH) questionnaire. Spontaneous arm use was assessed using wrist worn accelerometers during waking hours for seven days. Physical activity was measured using the International Physical Activity Questionnaire (IPAQ). Results: IPAQ scores were moderately correlated with spontaneous affected arm use ($r=.51$). However, IPAQ and accelerometry data were not predictive of perceived overall function (DASH) or quality of life measures (PROMIS). Fatigue domain scores (PROMIS) was moderately correlated with DASH scores ($r=.62$) but were not predictive of subjective physical activity or spontaneous arm use. Conclusion: The lack of strong correlations among the PROMIS, DASH and IPAQ scores with accelerometry data highlights the challenges to accurately predict physical activity, function and ultimately, quality of life in patients with BCRL. Further investigation in QoL is warranted.

**University of Michigan**  
Lynn McCain
**Identifying Patients at Risk for Hereditary Cancers**

Genetic testing for inherited susceptibility enables personalized cancer risk management which can reduce the risk of developing certain cancers by up to 95%. Unfortunately, 85% of individuals who harbor a pathogenic gene mutation in a cancer predisposing gene do not know their carrier status. Results of Michigan Dept. of Community Health cooperative research indicate that the most cited reason is that physicians never suggested they be evaluated. To better understand the barriers to identifying these patients, we met with physicians across the state of Michigan, as part of a quality improvement program initially funded by BCBSM. They indicated the barriers they face include • insufficient clinical time to collect a complete (three-generation) family history • lack of knowledge on how to properly interpret the family history for risk status assessment. Our research team developed an online tool (InheRET™) which allows patients to complete their personal and family health history at their convenience from any web-enabled device with the data and reports sent directly to their providers. This allows the physician to preview this data and generate a suggested care plan prior to the patient’s office visit. This poster presents the InheRET program with validation and testing data, lessons learned, next steps and the potential impact on patient outcomes and healthcare costs.

**University of Michigan**

**Jaclyn Pontell**

**jpontell@umich.edu**

**The use of body worn sensor technology to monitor arm use in patients with breast cancer-related lymphedema**

Background: Clinical assessment of functional capabilities of the upper limb in patients with breast cancer-related lymphedema typically involves strength, range of motion and subjective evaluation of daily activities. However, these measures provide limited information regarding arm use in more natural settings. The purpose of this study was to examine the use of body-worn sensor technology to quantify patient-initiated arm movements in a home/work environment.

Methods: Women with any stage of breast cancer and lymphedema were recruited to this IRB prospective clinical study. A separate, IRB approved study provided balance data in healthy controls using the same wrist-worn accelerometers (ActiGraph Link GT3X) on each wrist during waking hours over a seven-day period. Arm use was assessed using wrist-worn accelerometers (ActiGraph Link GT3X) on each wrist during waking hours over a seven-day period. Arm use was quantified by calculating the magnitude and direction of arm accelerations in three planes of motion for both arms from data collected from devices. Results: Nineteen women with lymphedema (mean age: 53+/11y) were recruited to this study. The wrist devices were well tolerated with no reports of adverse effects. One participant wore the devices while sleeping despite instructions to only wear them during day time hours. Conclusion: These preliminary results demonstrate that body worn sensors are a viable method to monitor spontaneous arm use in a natural environment for women with breast cancer-related lymphedema. Remote monitoring of arm use may be of value in determining the efficacy of treatment methods for lymphedema.
Improved exercise capacity and quality of life in cancer survivors after completion of a survivorship focused exercise program

Survivorcise™, a 12 week exercise program for cancer survivors, was developed by the West Michigan Cancer Center and Institute for Blood Disorders (WMCC) in collaboration with the YMCA. Survivorcise™ was modeled on the LIVESTRONG Cancer Survivorship Program with modifications to decrease class duration, decrease expenses, and increase accessibility. The goal of Survivorcise™ is to improve the exercise capacity and quality of life of cancer survivors. To achieve these goals, Survivorcise™ classes were composed of a maximum of 12 survivors, who completed active treatment. Each survivor received individual specialized attention to their physical abilities, and the small group setting served as a support group for survivors. Exercise trainers received training on cancer, its side effects, and exercise recommendations for cancer survivors. Specific Survivorcise™ exercise goals were to increase upper and lower body strength, balance, and aerobic capacity. Upper body strength was measured by the maximum weight achieved on a one rep chest press. Lower body strength was measured by the maximum weight achieved on a one rep leg press. Balance was measured by the number of seconds up to 60 that the participant could balance standing on one leg. Aerobic capacity was measured by the number of laps completed during a 6 minute walk test on a hard surface. Specific Survivorcise™ quality of life goals were to improve survivor self-reported concerns of loss of strength, stress, weight gain, adjusting to the new normal, depression, fatigue, change in mood and behavior, pain, lymphedema, memory, balance, walking, and mobility, sleep disturbance, neuropathy, anxiety, nausea and vomiting, hot flashes, poor appetite, osteoporosis, falls, tripping, and stumbling, and weight loss.