

BACKGROUND AND SIGNIFICANCE

The current International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Mersky & Bogduk, 1994).” When pain persists beyond three months, it has transcended into a chronic condition best understood from a biopsychosocial perspective. In fact, psychosocial factors play a key role in the persistence of chronic pain and associated disability in salient areas of personal functioning (Gamborg, Elliot and Curtis, 1991).

The prevalence of chronic pain is estimated to be between 15-20% in adults and accounts for 17% of primary care physician office visits (Williams, 2010). The costs to the individual patient include impaired daily functioning; psychological distress; risk for medication abuse and dependency; disengagement from valued-life responsibilities; relationships and activities; and reduced quality of life. The downstream-costs to the healthcare system include increased utilization of healthcare services and low-value interventions. The costs to society of chronic pain are also significant. Estimates place economic costs associated with chronic pain treatment, loss of productivity and compensation to be between \$70 and \$120 billion per year in the United States (Stanos & Houle, 2006).

Patients with persisting pain are at risk for developing a chronic-pain disability syndrome (Gamborg, Elliot & Curtis, 1991). Without early intervention from healthcare providers, patients with persisting pain may drift into a pattern of avoidant-coping responses and pain-related distress. Problems associated with increased pain-related disability include the following: avoidance of social and leisure activities, work or school absenteeism, fear of movement and exercise, catastrophizing and depression. In addition, responding to solicitous behavior from well-meaning significant others can reinforce a pattern of suffering and behavioral disability.

There is a growing body of literature that highlights the robust nature of multidisciplinary assessment and treatment of chronic pain to reduce disability and to improve quality of life. (Flor, Fydrich & Turk, 1992; Guzman, Esmail & Karjalainen, 2001). Multidisciplinary pain treatment encompasses the following methods: conservative medical interventions depending on pain severity, decreasing over-reliance on pain medication to the exclusion of non-pharmacological strategies, psychological treatment for pain-related distress and fears, and physical/occupational therapy for increasing fitness and reducing impairment in mobility, ADLs and fear of movement. While multidisciplinary pain care has strong research support for its efficacy, there is evidence that the recommended pharmacological and non-pharmacological recommendations are not being consistently followed in primary care settings (Mafi et. al, 2013). There is preliminary evidence that the primary care setting is an effective site for the delivery of comprehensive treatment to increase patient coping effectiveness (Lamb et. al, 2012).

In 2011, the U.S. Surgeon General, emphasized the importance of early intervention in healthcare to prevent the accumulation of medical, psychosocial, and financial costs associated with the progression of chronic health conditions. Therefore, it is important to study the

effectiveness of providing multidisciplinary care in a systematic way at the earliest point possible in the trajectory of chronic pain. Since patients with chronic pain are often first identified and treated in the primary care office, primary care physicians and their medical-home team members are in a key position to intervene with patients in the earliest stages of persisting pain (Dobscha et. al., 2009). A systematic approach to chronic pain in primary care would include a comprehensive evaluation; a treatment plan determined by the diagnosis and mechanisms underlying the pain; patient education; and realistic goal setting (Jackman, Purvis & Mallett, 2008). By engaging in early identification of persisting pain and then providing patients with education about their pain condition and effective multidisciplinary interventions, there is a unique opportunity to prevent and/or limit the impairments and costs associated with persisting pain.

While primary care physicians are involved in the diagnosis and treatment of patients with chronic pain, standard care often dictates that many of the non-pharmacological treatment components are located off site or are offered on a case-by-case basis. With the advent of the medical-home model for primary care there has been a movement towards co-locating multidisciplinary care, such that multiple services are offered in one setting. There is evidence that having all members of the pain-care team located in the same clinic setting leads to improved access, increased patient acceptance of multidisciplinary care and treatment adherence, increased quality and in some cases improved cost of care (Auxier et. al, 2012). In addition, primary care providers can help motivate patients with chronic pain to improve their coping effectiveness, and reduce fear of pain and movement.

OVERALL GOAL AND OBJECTIVES

The goal of this proposed project is to compare the effectiveness of two different approaches to treating chronic pain in the primary care setting. The first involves the combination of physician education with on-site patient-centered education and multidisciplinary treatment. The second approach involves standard care extended by provider education only. The following objectives will be targeted in this study:

1. To reduce the level of pain-related impairment and improve acceptance of pain among patients in the primary care setting who report a pain condition that has persisted for more than three months.
2. To increase family medicine physicians' use of pharmacological and non-pharmacological guidelines for the early detection and management of chronic pain.

Two hypotheses are projected. First, patients receiving an on-site regimen combining education on the neurophysiology of pain, and Acceptance and Commitment Therapy will report greater reductions in pain-related disability, improved acceptance of pain and willingness to remain fully engaged in life compared to patients receiving standard care extended by provider education. Second, educating family medicine physicians on pharmacological and non-pharmacological pain-care guidelines, and then training them to motivate patients to follow these strategies will increase their use of these guidelines.

TECHNICAL APPROACH: This project will test the effectiveness of on-site assessment and multimodal treatment of patients with chronic pain in the primary care setting. It is a unique approach to integrating key components of multidisciplinary care, such as education about pain and strategies for psychological coping, traditionally found in a pain clinic, and translating them into the primary-care family medicine setting. This approach is consistent with the Patient-Centered-Medical-Home model, which places the primary care practice in a central location for establishing pathways of care. This project will study the effects of provider education coupled with an innovative approach to delivering pain management. The project will highlight the use of family medicine physicians for early detection and treatment engagement for patients with chronic pain.

Current Assessment of Need in Target Area

In spring of 2013, the Beaumont Health System initiated a family medicine/pain medicine integration committee consisting of physician leaders in pain and family medicine, clinical health psychologists, nurses and a physical therapist specializing in pain management. The committee's mission is to develop a model for pain care in family medicine centers that helps providers reliably identify patients with persisting pain, and to implement pharmacological and non-pharmacological treatment components to best care for their patients.

The committee members identified gaps in the practice management of patients with persisting pain through review of data analytics that summarized patient outcomes and physician practice patterns. Several concerns were raised in committee meetings, including inconsistent identification of patients, practice variation in medication-management approaches, the over-reliance of patients on pharmacological strategies without sufficient attention to non-pharmacological strategies, the risks associated with utilizing opioid regimens, and the difficulty in helping patients with persisting pain to commit and maintain a pattern of effective self-management strategies.

The family medicine/pain medicine committee members completed a search of the chronic pain prevalence in the electronic health record of three Family Medicine Centers within the Beaumont Health System over a six-month period. The three Family Medicine Centers are in different regions across Metropolitan Detroit. The search queried the number of patients seen in these practices where chronic pain was listed as a primary reason for the visit for three consecutive appointments. This search identified approximately 400 patients. The committee established that there was no standard protocol for the assessment and treatment of these chronic pain patients in the three clinics. This was a likely contributing factor to the observed variation in treatment approach (e.g., medication, referral to pain medicine, and other salient referrals) across providers.

The primary audience for this project is patients seen at two high volume suburban primary care centers within the Beaumont Health System Family Medicine Centers (e.g., Troy, Michigan and St. Clair Shores, Michigan) who present with a primary complaint of pain that has been

persisting for at least three consecutive months. One physician or resident will see each patient for care. Physicians only work within their own respective Family Medicine Center.

Using a standard multidimensional pain-assessment tool to identify patients with chronic pain in the primary care setting will increase the chance that multidisciplinary treatment can be provided at an earlier point in the development of a chronic pain condition. Having the pain-assessment tool embedded within the electronic health record will facilitate ongoing monitoring of patients functioning across important outcome domains. This has the potential to establish a system of early intervention for chronic pain, which could decrease functional and psychological impairment and health care costs downstream.

The second audience will be family medicine physicians and residents. Many primary care physicians describe the treatment of chronic pain as a challenging and frustrating aspect of their practice. Their frustration often stems from the medication-management and co-morbid behavioral health challenges of pain care. Providing family medicine physicians with an effective method for identifying the physical, psychological and behavioral effects of chronic pain, and sound guidelines for establishing a collaborative care plan with patients can enhance treatment effectiveness.

INTERVENTION DESIGN AND METHODS

This project will consist of a two-phased study: 1) pre-treatment provider education and training and 2) a randomized controlled study within two Family Medicine Centers comparing the impact of enhanced standard care for chronic pain with a comprehensive on-site program for patients with chronic pain.

Pre-Treatment Provider Training

This project will consist of a randomized study in the Family Medicine Center comparing enhanced standard care for chronic pain with a comprehensive on-site program for pain. At the beginning of the study two initiatives will be conducted prior to recruitment of subjects. First, for each family medicine physician, a random sample of patients being treated for chronic pain prior to the study will be selected. Then audits of the patients' charts will be conducted by a trained staff member to identify each physician's pattern of utilizing pharmacological and non-pharmacological guidelines. A Chart Audit Scorecard will be used to measure: a) documentation of pain symptomology and functional/psychological impact; b) medication choice and narrative rationale; c) identification of complications and potential treatment barriers; and d) referrals for non-pharmacological treatment. Second, all family medicine physicians and residents in the two Family Medicine Centers (22 attending physicians and 41 residents) will complete an education and training program. The program will be offered to any new family medicine residents who start their rotation after the study has started.

The training program will consist of a two-part program. Part one will include two hours of education on guidelines for pharmacological treatment led by a senior pain physician. The same physician will provide all these training sessions. Specific medication guidelines linked to

the underlying cause of the pain (e.g., nociceptive, neuropathic, central sensitization) will be presented.

Part Two will include two hours of education on non-pharmacological treatment for chronic pain and motivational interviewing strategies led by a board certified clinical health psychologist and a physical therapist specializing in chronic pain management. The same psychologist and physical therapist will provide all of the physician education sessions. After the family medicine physicians complete this training program they will participate in two additional webinars (six months apart) developed by the study team. The webinars will offer the family medicine physicians an opportunity to discuss and review adherence to the guidelines and to review cases for problem solving. The webinars can help strengthen fidelity in practice patterns across physicians. The three instructors of the training program will participate in development of the webinar. Physician attendance at all training sessions and webinars will be monitored.

Motivational interviewing is a set of verbal-and-listening strategies for eliciting from patients their own inner motivation for making behavioral changes that have a positive consequence for their health (Rollnick, Miller & Butler, 2008). This strategy is based on a belief that the only permanent change in health behaviors made by patients occurs when each patient decides that change is necessary. Primary care providers trained in motivational interviewing would follow a set of guidelines that fosters a collaborative partnership with each patient, evoking the patient's own motivation to change rather than persuading the patient, while honoring the patient's autonomy to decide if he or she wants to change their approach to living with their pain condition.

Patient Treatment and Intervention

Recruitment: This program will employ a rolling recruitment and randomization of patients. This will allow the study to unfold naturally based on patients' patterns of scheduling an appointment at the Family Medicine Centers.

Upon notification of award, all patients presenting with a chief complaint of pain that has persisted for more than three months (data to be retrieved from the electronic health record) to either of the two participating Family Medicine Clinics will be identified by their physician. The research assistant will then call each patient on this list and offer him or her an opportunity to participate in the research study. Patients who are interested in participating in the study will be mailed a copy of several outcome measures, the Pain Outcome Questionnaire – Short Form (POQ-SF) (Clark, Gironda & Young, 2005), Chronic Pain Acceptance Questionnaire – 8 (Fish, McQuire, Hogan, Morrison & Stewart, 2010), a set of questions about healthcare utilization in the past three months, and a consent form. When a patient returns the measure and consent he or she will be assigned to a pre-randomization block of patients. The answers to the questionnaires for patients who consent to the study will then be entered into the electronic health record. Patients who choose not to participate in the study will be asked if the reason was one of the following reasons: a) time commitment, b) lack of schedule flexibility, c) lack of

interest, d) currently in mental health treatment, and/or e) other. This information will be used when analyzing and interpreting the findings of the study.

The POQ-SF is currently being used in the Beaumont Outpatient Pain Clinics and has been helpful in screening for symptom severity and establishing care plans for patients. The POQ-SF will be used to determine eligibility for the study. Patients who score 25 or more on a combined total for the Negative Affect and Fear domains will be determined to be eligible for the study and the research assistant will then provide an introduction and arrange to meet the patient to obtain consent. A score of 25 on these dimensions was selected because it is slightly below the mean level for patients seen in the Pain Clinics, but still represents increased psychological distress and pain-related fear. The physicians will identify additional patients as the study unfolds to reach the number of subjects projected for the study. When these patients are identified the research assistant will contact them

Exclusion criteria will include being pregnant; patients currently being seen by a psychiatrist or behavioral health professional; having an active substance abuse condition; presenting a primary complaint of headaches; currently receiving treatment in a pain clinic; participating in another clinical trial; actively involved in workmen's compensation or litigation; and being less than 18 years of age. Subjects who give their consent for the study will complete the remaining self-report measures and then will be randomly assigned to enhanced usual care or the treatment condition. Randomization of patients into the study will occur separately for each Family Medicine Center. When each Center has identified a block of 12 patients who are eligible and have given consent for the study, half will be randomized to enhanced standard care and half to the intervention condition. Subject randomization will be completed through computerized statistical software.

This rolling process of recruitment will continue within each Family Medicine Centers until the study is completed. This study will run for 24 months in the two Family Medicine Centers and it is projected that 150 patients will be eligible for the study and will provide consent. A 20% attrition rate is projected; this will leave 120 patients (60 control and 60 treatment) to complete the study.

Acceptance and Commitment Therapy (ACT) has been shown to be an effective intervention for improving the coping effectiveness of patients with chronic pain (Dahl, Wilson, Luciano & Hayes, 2005; Vowles, McCracken & O'Brien, 2011; Vowles & Thompson, 2011). This approach to treatment is an extension and qualitative modification of cognitive and behavioral therapy. Acceptance involves a willingness to experience pain and engagement in life, in an open and nonjudgmental manner (Hayes, Strosahl & Wilson, 2012). When practicing acceptance, individuals abandon avoidance strategies and learn how to tolerate pain, and move in the direction of re-engaging with what is valuable and meaningful in life. There is a key focus in acceptance strategies on how patients learn to cope from where they are and to focus in a mindful way on what they can control. Patients in pain are also taught a range of psychological flexibility strategies that allow them to pursue valued activities, experience more contact with the present moment, and defuse from unhelpful streams of thinking and feelings.

In addition, to the effectiveness of acceptance-and-commitment strategies, there is growing evidence that educating patients with chronic pain about the neurophysiology of pain can reduce catastrophizing, alter beliefs about the underlying mechanisms of pain, and improve physical performance (Mosely, Nicholas & Hodges, 2004). This education provides concrete and helpful information about the biological process of pain perception, excitatory and inhibitory mechanisms, and complements the ACT treatment approach on reducing pain-related avoidance strategies.

Control Condition: In the control condition patients will receive standard care from their family medicine physician who has been enhanced by the pre-treatment provider-training program. Since multidisciplinary pain treatment has been shown to be more effective than standard care, offering enhanced standard care will create a more robust control condition. In the enhanced-care condition patients can receive and then follow through on recommendations for non-pharmacological care from their physician. However these resources will be off-site, external to the primary care clinic.

Treatment Intervention: Patients assigned to the treatment condition will receive an on-site group treatment and education program to augment the treatment provided by their family medicine physician. The on-site program will provide a) one session of a video-taped education class on the neurophysiology of pain (90 minutes) and b) five sessions of group-based ACT led by a licensed psychologist with training in pain psychology (each ACT session will be 90 minutes). A treatment manual for a five-session regimen of ACT treatment will be written. The manual will incorporate guidelines from a workbook on using ACT to ease chronic pain (Dahl & Lundrugen, 2006). The manual will be used to assure that each psychologist follows a standard protocol in delivering the treatment intervention. There will be three psychologists conducting the treatment groups.

One psychologist will lead each group. The three psychologists will meet with the principal investigator for peer supervision on a bi-monthly basis to adhere to the treatment manual. A physical therapist with training in the neurophysiology of pain will produce the video. The psychologist who conducts the five-session ACT group will moderate the one-session videotaped class. The videotaped education class and the five-session ACT group will be conducted over six consecutive weeks. Patient attendance at the groups will be collected. A record will be kept of the patients who drop out of the study and the point at which they drop out. The physical therapist that produced the videotaped class will train each of the psychologists to moderate the discussion.

To facilitate the fidelity of the treatment groups, all licensed psychologists conducting the group program will attend a workshop on ACT and will participate in bi-monthly peer supervision to review the content and process of the groups. Three psychologists will conduct the education class and ACT groups; one psychologist will be assigned to each of the two Family Medicine Centers to cover patients, and one psychologist will provide additional coverage for the education class and ACT groups that the two psychologists can't cover alone.

Patients normally see their own family medicine physician or resident at each appointment. If a physician is out of the office on the day of an appointment, then the patient will be seen by another physician or resident in the same practice.

EVALUATION DESIGN

Primary Outcome Measures

Pain-Related Severity and Functioning: The first measuring tool is the Pain Outcome Questionnaire – Short Form (POQ-SF) (Clark, Gironde & Young, 2005). This is a 19-item measure of pain severity and functioning. It was developed as part of a battery of outcome-monitoring measures for chronic pain in the Veterans Administration Health System. The POQ-SF measures several domains: pain severity; impairment in mobility, ADLs and vitality; negative affect; and fear of movement. These domains provide a user-friendly assessment of pain severity, suffering and behavior. Each domain has a separate score and there is a total score. There is strong support for the reliability, validity and clinical use of the POQ-SF. The POQ-SF will be integrated in the Beaumont electronic health record.

Chronic Pain Acceptance Questionnaire – 8 (CPAQ-8): The CPAQ-8 (Baranoff, Hanrahan, Kapur & Connor, 2012; Fish, McQuire, Hogan, Morrison & Stewart, 2010) is an eight-item abbreviated form of the original 20-item version of the Chronic Pain Acceptance Questionnaire. It measures two aspects of the acceptance of chronic pain: 1) the degree to which one engages in life activities despite pain (activity engagement) and 2) the willingness to experience pain (pain willingness). These two factors are viewed as key markers of an individual's acceptance of pain and flexibility in coping with it. The total of items one, three, five and six equal the activity engagement score. The total of items two, four, seven, and eight (reverse scoring) equal the pain willingness score. Activity engagement + pain willingness equals the total score. The total score will be used for outcome analysis.

Secondary Outcome Measure

Health Care Utilization: Patients will be asked to report in the past three months how often the following have occurred: physician visits, hospital emergency room visits, overnight stays in the hospital and number of times admitted to the hospital.

Chart Audit Scorecard: A sample of charts for each attending resident and physician will be audited prior to the study and at the end of the study for adherence to pharmacological and non-pharmacological pain treatment guidelines. Answers on the Chart Audit Scorecard will be analyzed to identify change in the use of these guidelines from pre- to post-treatment.

Outcome monitoring: The monitoring of outcome for the enhanced standard care and treatment conditions will be conducted according to the following schedule. Patients randomly

assigned to the enhanced standard care condition will be offered the opportunity to complete the treatment condition after completing the post-treatment assessments.

Assessment Time Points

Pre-Treatment: Patients complete the POQ-SF, CPAQ-8 and measure of health care utilization.

Post-Treatment 2: Each block of 12 patients randomly assigned to the control or treatment conditions (six in each condition) will complete the POQ-SF, CPAQ-8 and answer the health care utilization questions three and six months after the subjects in the treatment condition complete their intervention. The outcome measures will be mailed to the patient at the three-month and six-month post-treatment points. Patients will be given a \$25 gift card for completing and returning their follow-up measures. Every effort will be made to collect post-treatment measures from all patients that drop out of the study before completing the control or treatment conditions.

Amount of Change Expected: The POQ-SF and the CPAQ-8 are the primary outcome measures for patients. Lower total and domain scores on the POQ-SF reflect decreased pain-related symptomology. Higher scores on the CPAQ-8 reflect increased activity engagement and pain willingness. From the pre- to post-treatment it is expected that patients in the treatment condition will experience at least 30% improvement in their scores on these measures compared to pre-treatment. Patients in the enhanced usual care condition are projected to experience some improvement from the physician education program, but this pre- to post-treatment change is predicted to be no more than 10-15 %.

Sample Size

A formal sample size calculation is not feasible given the absence of knowledge about the distribution of questionnaire scores on the pretest for either of the interventions, the variability in scores across different groups or the association in responses between the members of the same group. There is no pilot data available to provide reasonable estimates for the parameters needed for sample size calculations for the mixed models.

Statistical Methods

Continuous variables will be summarized with the mean, standard deviation, minimum, 25th percentile, median, 75th percentile, and maximum. Categorical variables will be summarized with frequencies and percentages. The assumptions behind all statistical inference methods will be assessed for reasonableness with the study data. If the diagnostics appear reasonable, the primary outcome variables of total scores of POQ-SF and of CPAQ-8 will be analyzed with hierarchical mixed models treating the individual groups of six patients as a clustering variable and the measurements on a given patient at different times as repeated measures. Nonparametric measures will be considered if necessary. The analysis will be based on intent to

treat based on the randomization to the interventions. Individuals who drop out will be compared to individuals who complete the study on demographic and pretest measures.

Dissemination of Results: The project team will distribute the results of this study through several avenues. First, the results will be monitored by the health system's Pain Integration Council, which is charged with monitoring the value of pain care throughout the system. Second, the Beaumont Health System is developing an annual Pain Conference, which would be a good venue for presenting the results of the study. Third, several of the project team members are active with the Midwest Pain Society and the American Pain Society. The team will submit the results for poster and/or symposium submissions to the annual scientific meetings of these associations. Finally, the team will write up the results and submit for professional publication.

DETAIL WORKPLAN AND DELIVERABLES SCHEDULE

ANTICIPATED START DATE FOR THE STUDY: March 1, 2014

DELIVERABLES	COMPLETION SCHEDULE
Develop and provide the pre-treatment education program for all family medicine physicians and residents.	To be completed within two months of the start of the study.
Write the manual for the six-week pain-management treatment intervention that will include the Neurophysiology of Pain education class and the Acceptance and Commitment Therapy treatment group. Train the psychologists who will conduct these components. Send the psychologists to a workshop on Acceptance and Commitment Therapy.	To be completed within two months of the start of the study
Enter the POQ-SF, CPAQ-8 and utilization questions into the Beaumont EHR and complete all necessary features for use by the family medicine physicians and residents.	To be completed within two months of the start of the study.
Recruit and randomize patients in each family medicine center to the enhanced standard care or treatment conditions each time 12 eligible patients provide consent and are ready to begin. Have each group of 12 patients complete the additional outcome measures. Six patients will be assigned to enhanced standard care and six patients will start together in the six-week treatment group/education program. Each time a new group of 12 patients are ready then the next group will be randomized and begin either enhanced standard care or another six-week group treatment intervention. This process will continue over the course of the study. This process will occur separately at each of the two Family Medicine Centers.	To start at month three and to be completed by month 13, which allows for 10 months of recruitment time to reach target enrollment.
Family medicine physician webinars.	To be completed six and 12 months

	after the completion of the pre-treatment physician training program;
Conduct treatment intervention (one session of education on the neurophysiology of pain and five sessions of Acceptance/Commitment Therapy).	To be conducted across the two Family Medicine Centers and completed by month 19.
Complete post-treatment assessment for each group of 12 patients (six in enhanced usual care and six in the treatment condition) three months post-treatment and six months post-treatment, and then repeat this process at each of the two Family Medicine Centers until the study is completed.	The last follow-up will be completed by month 19. This will allow for a six-month follow-up period for any patient recruited in month 13.
Conduct post-treatment physician chart audits.	To be completed at month 19.
Data Analysis	Months 20-22
Manuscript/abstract/presentation preparation	Months 23-24

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ORGANIZATIONAL DETAIL

Leadership, Organizational Capability and Staff Capacity

For more than 50 years, Beaumont Health System has been at the heart of health care delivery in Southeast Michigan. Today, Beaumont is a three-hospital, regional health care system with more than 14,000 full-time employees, 91 medical and surgical specialties, and a medical staff of more than 3,700 physicians and 4,800 nurses. Beaumont's mission is to provide the highest quality health care services to all patients efficiently, effectively and compassionately, regardless of where they live or their financial circumstances.

In addition, Beaumont Health System is a major teaching facility with 37 accredited residency and fellowship programs, an annual enrollment of 456 residents and fellows, and 205 research staff including 64 research nurses. Beaumont is affiliated with the University of Michigan and Wayne State University schools of medicine and partnered with Oakland University to establish the Oakland University William Beaumont School of Medicine in 2011. Beaumont also features a dedicated Research Institute established in 1966 with 620,293 currently registered research participants, 1,103 active laboratory and clinical studies, and 456 active principal investigators. The Beaumont Research Institute strengthens Beaumont's ability to conduct medical research and provides research training for the medical staff and graduate medical education students.

The Family Medicine Residency Programs at Beaumont Hospital offers residents an outstanding education in a highly supportive environment. We strive to cultivate knowledge, skill, compassion, leadership and lifelong learning principles in our residents. Our focus is to produce strong clinicians who can deliver high quality, comprehensive health care for patients and their families in a variety of practice settings.