

## **Better understand the barriers that patients in rural West Virginia face that may impact their decision to present for orthopaedic care**

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*Mentor:* Matthew Bullock, DO

75% of the citizens that reside in West Virginia live in counties that are designated as health profession shortage areas (HPSA). This can make receiving orthopaedic care a challenge for rural communities. Limited resources in these areas and personal barriers to accessing them can cause a delay in patient presentation to orthopaedic clinics. On top of this, rural populations face higher rates of morbidity and mortality than their urban counterparts. A delay in presentation can allow patient morbidities to progress in severity, potentially complicating orthopaedic surgical treatment that the patient may need. It is imperative to understand the disparities that rural communities face in accessing orthopaedic healthcare so that we can better serve this population. The purpose of this study is to gain perspective through the patient's point of view to better understand the barriers that exist in accessing orthopaedic healthcare. An 8-10 question survey will be given to orthopaedic clinics in areas designated as a HPSA. The survey will consist of questions to help identify areas that patients feel hinder their ability to access and receive orthopaedic healthcare. The results of the study will enlighten orthopaedic professionals on the issues surrounding access to rural orthopaedic care. In addition, it can potentially aid in reducing or eliminating some of these barriers that patients face, encouraging earlier patient presentation to rural orthopaedic clinics.

## **Establishing a General Surgery Rural Surgery Residency Program: Identifying Community Stakeholder Perception and Obstacles of a De Novo Residency in Rural Appalachia**

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The Marshall Community Health Consortium (MCHC) has received funding from the United States Health Resources and Services Administration (HRSA) to plan and develop a rural training surgery residency program accredited by the Accreditation Council for Graduate Medical Education (ACGME). This separated accredited rural training track residency will blend surgery training experiences at the Huntington, West Virginia based Consortium founding member campuses of Cabell Huntington Hospital, an urban 303-bed medical center academic medical center and Marshall Health outpatient clinics, with those at a rural community-based hospital. Our rural site of preference is Logan Regional Medical Center, a rurally located 132-bed acute care facility that offers a full range of health care services in a recently expanded facility. Marshall University has a long-standing (20 plus years) relationship with Logan Regional Medical Center in sending medical students and other learners. Jodi Cisco-Goff, MD a MUSOM alumni and member of the Surgery Department, is a very active faculty member who returns to Huntington from Logan on a regular basis for grand rounds and other CME opportunities.

Since this is the first rural surgery residency program in the nation, community involvement is essential to its planning and development to ensure its success on the local level. To involve the

Logan community, this project will survey Logan Regional Medical Center's patients, hospital care team members, administrators and other hospital staff to identify community perception and potential obstacles in establishing a rural surgery residency program.

### **Evaluation of predictors for risk factors that lead to utilization of high dose opioids in the urban and rural hospital setting**

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With the increased usage of opioids in the general patient population, studies indicate surgical patients with identifiable preoperative opioid use may have risk factors associated with prolonged use of opioid medications after surgery. This proposed research project will examine if the pre-hospital admission patient risk factors serve as predictors for post-operative high dose narcotics usage and increased adverse drug reactions in urban and rural patients. To determine this goal, a retrospective chart review will be conducted for surgical patients at Cabell Huntington Hospital and Logan Regional Medical Center (LRMC).

### **Assessment of Cortisol Levels as a Potential Indicator of Success in Abstinence Based Rural Recovery Programs for Substance Use Disorder**

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This study proposes to examine whether substantial changes in cortisol levels are predictive of success in Abstinence based programs for substance use disorder (SUD) in a rural population. Cortisol levels have the potential to serve as a useful numerical indicator of stress. Should a correlation be found between cortisol levels and patient retention, such a measure would benefit a recovery program by helping to recognize and address patient needs for stress management. Low resource areas would benefit greatly from such a tool, but the phenomenon has never been tested in a rural setting. An improved response to patient stress would likely lead to improved patient outcomes and a greater level of success in treatment. This project will analyze the association between both cortisol and oxytocin and success in an abstinence-based peer recovery program in Bluefield, WV.

### **Taking the First Step to Weight Loss: Addressing the Barriers in Rural Communities by Increasing Patient and Primary Care Provider Awareness of Bariatric Surgery and Pre/Post Care Treatment Options**

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For years, the State of West Virginia citizens have consistently ranked among the highest, if not the highest, in the nation for the prevalence of obesity with 37.7% of the State's population reported as obese. The prevalence of obesity in West Virginia is significantly higher in the southern counties of Fayette, Logan and McDowell than in the rest of the State.

This study will target two rural areas (Point Pleasant and Logan, West Virginia) to determine patient interest and increase the community's basic knowledge of available weight loss programs, including bariatric surgery. The study will also survey potential patients to identify perceived barriers to weight loss programs and address those barriers through Patient Educational Seminars. The second part of this study will examine the knowledge and comfort level of the local rural primary care physicians to provide support and healthcare to their obese patients during pre and post bariatric treatment and provide Continuing Medical Education (CME) opportunities to further physician education about postoperative care for the bariatric patient.

### **Nutrition Assessment of Rural Populations compared to Urban Populations with Substance Use Disorder**

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Substance Use Disorder (SUD) is a primary public health issue facing West Virginia that is further compounded by the medically underserved nature of the area. SUD takes deep roots in small communities and spreads rapidly due to the intimacy of the group structure. SUD complicates medical treatment oftentimes requiring a higher level of specialty care, a need in which rural communities have difficulty fulfilling. In addition, SUD can increase the risk of long-term health complications including malnutrition and metabolic disorders that compromise nutrition. The primary focus of this project is to assess general nutritional choices of those undergoing SUD treatment in both rural and urban areas. This would include general food choices, any boundaries to obtaining proper nutrition, and gauge the population's interest in receiving nutritional services. This objective will be assessed by an anonymous survey at both the rural and urban sites. The secondary focus is to assess nutritional services available at the treatment facilities. This would include assessing what services are available, how those services are presented, the frequency of which they are presented, and boundaries to obtaining nutritional services for the SUD population. This objective will be assessed via a structured interview at both the rural and urban sites.

### **Statin therapy in patients with coronary artery disease in the rural community versus an urban academic setting.**

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*Mentor:* Paulette Wehner, MD

Chronic disease is a major concern to rural healthcare systems and rural patients since it impacts quality of life, mortality, and healthcare costs. Rural patients often experience higher death rates

compared with residents of urban areas, particularly from potentially preventable causes such as cardiovascular disease. Since rural communities have fewer resources to prevent and treat chronic diseases and conditions than urban areas, providers and communities must work together to treat and prevent chronic diseases like heart diseases in rural America and address rural-urban disparities among patients with coronary artery disease.

This study will examine if those patients with coronary artery disease in rural and urban areas receive the same level of care on “high intensity statin therapy” in keeping with current guidelines. It will also provide an educational opportunity for rural physicians to increase their knowledge on statin therapy guidelines by offering CME opportunities. The project will focus on two rural areas: Point Pleasant and Logan, West Virginia.