CT head in syncope and near-syncope workup in Emergency Department: A Rural Versus Urban Comparison

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Syncope is defined as a symptom that presents with an abrupt, transient, complete loss of consciousness, associated with inability to maintain postural tone, with rapid and spontaneous recovery, whereas near-syncope (presyncope) are symptoms before syncope including extreme lightheadedness, or visual sensations, and variable degrees of altered consciousness without complete loss of consciousness[1]. The prevalence of syncope as a presenting symptom to the emergency department (ED) ranged from 0.8% to 3% in multiple studies[1, 2]. Many tests may be ordered for the workup of such episodes. However, expensive and low-yield diagnostic tests for syncope should not be routinely ordered. CT scans of the head are one of the most common tests in work-up of syncope or near-syncope[3]. Syncope is a common reason for visiting an emergency department and most episodes are not serious. Choosing Wisely from American College of Emergency Physicians recommend avoid CT of the head in asymptomatic adult patients in the emergency department with syncope without trauma and abnormal neurological evaluation[4].

We have studied Cabell Huntington Hospital and our purse is to study the rural ED visits for patients presenting to the emergency department with syncope of near-syncope. We will compare the results in different settings and do interventions to prevent unnecessary head CT scans.

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Impact of a Supervised, Patient Centered Medical Home, Multidisciplinary, Longitudinal Rural Homebound Visit Program on Patients and Learners

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By 2018 census data, there are 1,805,832 people in the state of WV,[1] the only state completely located within the Appalachian Region.[2] It is the 7th most rural state with over half of the population living in rural areas[3,4] and 67% residing in towns of 2,500 or less.[5] Hand in hand with this rural environment, comes a lack of medical resources. Fifty of the fifty-five counties in WV are designated medically underserved.[2,5] Furthermore, WV is the second poorest state in the nation. It is one of only two states to see an increase in poverty rate from 2016 to 2017, jumping from 17.9% of residents living below the poverty line to 19.1% the following year.[6] West Virginia is the fourth highest state in patients with multiple chronic conditions (34.6%; U.S. 25.7%).[7] 66% of those, who are 65 years old or older have multiple chronic medical problems.[2] Finally, with an average age of 41.3 years, which is four years older than the national average, its population is the 4th oldest. WV has the 2nd most citizens 65 years old and older, 17.8% compared to the national average of 14.1%.[4] These numbers are projected to almost double between 2012 and 2050,[9] passing the 20% of the total population mark in 2030.[3] West Virginia

will experience this population shift more dramatically than the nation in the 65 years and older population. This change in demographics will place increasing stresses on the state's economy and health care system.[6] Currently, 95% of money spent on health care is for chronic care. Medical costs for people, who are 65 years old or older are 3 to 5 times higher than non-seniors.[3] This combination of rural, underserved, poor, elderly and chronically sick creates huge problems in delivery of health care within the state.

The delivery of medical care is constantly changing, directed not only by evidence-based medicine but also by individual patient and population needs. In the 1940s, 40% of a primary care practitioner's practice revolved around home visits. Now it hovers below 1% for multiple reasons including lack of opportunity, cost, time and medical liability.[9] Still the advantages of home bound care include the potential to administer more comprehensive care, which aligns well the recent movement to inspire individuals out of their passive role of a patient to active participants in the management of their chronic problems.[10] Elderly patients with multiple chronic medical problems are especially vulnerable to this passivity in their medical care, either from their lack of medical knowledge or the physician's lack of understanding of the environmental factors within their daily life. Home-bound visits allow for increased input for both patient and physician to clarify these issues. Because of this, the PCMH model of care should be easily adapted to home visits. The difficulty is communicating these tenants to the next generation of health care providers. Providing clinical experiences during the training period increase familiarity and comfort for learners with the principles of PCMH.[11,12] This project plans to prepare medical, pharmacy, nursing and social work students to operate within a PCMH by allowing them to participate in a supervised, longitudinal, multidisciplinary medical team during routine home visits.

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Using Live Video Feed as a Diagnostic and Educational Tool to Prevent Unnecessary Burn Transfers from WV Rural Emergency Departments

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One of the most frequent traumas experienced in rural hospitals are burns. While some of the small, minor, or moderate burns can be treated and managed by a non-specialist settings, moderate or acute burns must be referred to a burn center for treatment.

A recent study by a Marshall Surgery resident examined the discrepancies in burn size estimates between transferring institutions and the Burn Center in Huntington, WV. [1] The study showed a significant difference in the burn size estimates given by outside facilities versus experienced burn center staff. The burn center staff use the Lund and Browder chart which is a more standardized tool in estimating total body burns for appropriate management. [1] The difference between the burn size estimates given by the outside facilities compared to the experienced burn center staff resulted in many patients being transferred to Cabell's burn center who would not have otherwise required transfer. [1]

The normal protocol after encountering a burn patient is for the physician to first stabilize the patient, cool and control the pain, and then decide whether to transfer the patient [2,]. If the criteria of The American Burn Association (ABA) are met, the patient can then be transferred to a tertiary burn hospital for further treatment.

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Utilization of tele-education to improve emergency treatment of students with asthma and food allergies in rural West Virginia schools

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Many school-age children are affected by asthma and/or life-threatening food allergies. Current recommendations encourage every child with asthma or food allergies to have a written action plan, which provides members of the school staff with a step-by-step protocol to provide potentially life-saving interventions. The state of West Virginia allows students to have medication available for administration, including rescue metered-dose inhalers and auto-injectable epinephrine. However, data recently collected by our team in a previous study of urban and rural school staff assessing attitudes toward written action plans suggested staff members at rural West Virginia schools had a low comfort level following written action plans, or with administration of the medication and use of medication delivery devices for these conditions. Our goal is to create an effective and efficient way to educate school staff in rural school systems about recognition of emergencies requiring these interventions, execution of the written action plans, and delivery of required medication and usage of the medication delivery devices.

Making Connections: Determining a Relationship Between Literacy and Rural Substance User Disorder Recovery

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It is widely known that the prevalence of substance abuse disorders among West Virginians is one of the highest in the nation. As such, according to the Behavioral Health Barometer, West Virginia study, 18,115 people in West Virginia were enrolled in substance use treatment on a single-day count on March 31, 2017. This was an increase from 9,990 in 2013. [1] Although in treatment, clients can be emotionally fragile, ambivalent about relinquishing chemicals and resistant to treatment. Much of the early treatment involves group participation is based upon imparting information to help the clients learn about what needs to be done to get through a day without chemicals. [2] To facilitate group meetings, clients are usually provided with handouts and worksheets to be completed by the client. Since much of the success of group therapy is to be able to complete the required

paperwork, this creates a barrier to illiterate clients who often feel overwhelmed and ashamed to continue and often drop out.

We propose to identify the illiteracy rate in which substance-user disorder (SUD) clients who are in treatment in Cabell, Wayne and Lincoln Counties to identify barriers to complete treatment. The second part of this study will assist rural illiterate SUD treatment clients through the recovery treatment process by identifying barriers that hinder their recovery. Our hypothesis is that by providing a treatment group designed specifically for illiterate clients and that promotes learning to read, a supportive and nonthreatening environment will reduce the relapse rate in illiterate participants and build self-esteem. A search of the literature indicates that little if any information is available to compare the rural illiteracy substance abuse treatments with urban.

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