

THE EMERGENCY ROOM FREQUENT FLYER: A 'ROOT' CAUSE ANALYSIS FOR UNMET ORAL HEALTH NEEDS

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Bobby, a 26-year-old white, uninsured male from an outlying rural community arrives to the emergency room at Coastal Regional Hospital in Maysville for his fifth trip in the past two weeks with a fever of unknown origin.

MAYSVILLE, NORTH CAROLINA

Historically, the region surrounding Coastal was an agriculture-based economy and was an important source for "Big Tobacco" production. Entire communities and economies were developed to support this industry including school systems, health care, and other service-based industries. Twenty years ago, the last of "Big Tobacco" farms were harvested, and the industry left to pursue international partnerships due to cheaper labor abroad. This departure created an economic vacuum because most residents were never trained for other industries such as manufacturing. Consequently, the residents of this community were never prepared for employment outside of the agricultural and services industries that were the mainstays of their local economies.

COASTAL REGIONAL HOSPITAL

Coastal Regional Hospital is a privately owned, non-profit community hospital. It is a 250-bed academic medical facility in the southeast that trains 30 family medical residents each year and serves as a regional trauma center for ten counties in the surrounding area. The area around the hospital includes the highest levels of poverty for the state and carries the highest rates of health disparities for a cadre of public health epidemics including obesity, diabetes, and asthma. Approximately 42% of the population in the surrounding area is Non-Hispanic African American, 2.5% Hispanic, 40% living in rural areas, and 25% aged less than 18 years.

Coastal owns or manage around a dozen small rural hospitals with an average bed count of 25 patients. Coastal also operates a vast network of primary and specialty care practices. Each county in the Coastal Regional service area are both primary

care and dental whole-county health professional shortage areas as designated by the US Department of Health and Humans Services. Those determinations are made by a ratio of providers to the population residing at the county level. Coastal's main hospital had approximately 1,000 emergency room discharges for unmet oral health needs such as untreated dental decay or gum disease. Not included in the number of cases are injuries such as falling and chipping a tooth. The insurance status of the ER cases is delineated in Table 1 and are different from national trends which suggest ER visits for dental reasons is more likely to be seen in Medicaid-funded populations (Sun et al, 2015).

TABLE 1
Insurance Status Of Emergency Room Visits For Unmet Oral Health Needs

Insurance Status or Type	Private Insurance	Medicare (65 Years & older)	Medicaid	Uninsured
Percent of ER Patients	21%	52%	17%	10%

To address the high degree of unmet need in the region, a state dental school and the family medicine residency training program at Coastal entered into a learning partnership. The purpose of this partnership was to confer competencies in oral health Interprofessional practice within the scope of practice for primary care physicians. Examples of these skills include oral health screening, oral health risk assessments, application of topical fluoride varnish, diagnosing oral trauma, and collaborative referral management. Faculty from the dental school routinely travel several hours to Coastal to provide onsite training. The Smiles for Life curriculum serves as the basis of the training program. Learning needs of the family medicine residents, as expressed by their program director, focused on addressing unmet oral health needs of the following vulnerable populations: pregnant women, nursing home residents, children, and adults with poorly managed diabetes. For each of these patient groups, unmet oral health needs exacerbate potentially avoidable morbidity.

BOBBY

Bobby has made four previous trips to Coastal Regional Hospital during the past twelve days with fever but no complaints of pain or swelling. His story is not unique as ER visits for dental needs is a growing trend nationally (Wall and Vujicic, 2015). At each visit, he is appropriately triaged and diagnostic tests include temperature and CBC (complete blood count) tests are performed, which inform diagnosis of leukemia or other serious conditions. After examination, Bobby is prescribed simple antibiotic therapy to address the fever and is referred to see his

primary care physician. In each of Bobby's four trips to Coastal, he is seen by an attending ER physician, not a resident.

On Bobby's fifth trip in twelve days, Bobby is yet again properly triaged by the nurse and seen by a physician. During discussions with the ER team, Cindy, one of the family medicine residents who completed the Smiles for Life curriculum (Douglas et al, 2010), spoke up and asked if Bobby had received an oral examination during a previous visit. It was determined that the patient had not received an oral health exam during the current or previous exams. Cindy was able to utilize her newly acquired skills and identified an intraoral abscess. On the fifth visit, Bobby received appropriate pharmaceutical therapies and the discharge nurse alongside Cindy coordinated a treatment referral to the dental program at the local community health center.

Bobby successfully kept his appointment and his tooth following the appropriate dental treatment to alleviate the abscess. Bobby's bill for dental treatment cost \$150 at the community health center. His previous five visits to Coastal Regional Health Center cost the patient \$818 per visit, excluding the cost of his antibiotics. The amount of the charge is congruent with national estimates that report ER-based care for dental needs can be as much as 10 times the amount of preventive care available in dental practices (Khan, 2012).

Resident Cindy reflected on Bobby's case during her weekly grand rounds with her ER attendings. As she considered the almost \$4,000 in unnecessary costs at the emergency room that did not solve Bobby's health problem, she wondered what could be done to make sure these visits stopped happening in the community.

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