Women’s Health in Rural Alabama: Labor and Delivery Shut Down as Harbinger of Hospital Closure
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The current plight of Reform, Alabama and the greater Pickens County area mirrors a nationally pervasive epidemic: the threatened closure of the local hospital. Far from unusual, the closure of rural hospitals has spread across the United States and is steeped in a convoluted milieu of factors influencing, exacerbating, and potentiating the spiraling of increasing morbidity for the national health care system as a whole. A survey of recent literature coupled with current events, focused specifically on Pickens County but widely applicable on a macrocosmic scale, attempts to address a seemingly overlooked and potentially underlying cause that may determine the closure of rural hospitals: the preceding closure of its obstetrics units. The importance of investigating underlying factors is twofold. Firstly, the future well-being of Pickens County Hospital teeters dangerously on a precipice between a path of crippling demise—that 46 other hospitals in Alabama have stumbled down since 1969—and the forging of a new path toward hope, health, and growth.

At such a crucial juncture, intervening measures that address underlying causes could orchestrate a more favorable outcome for this vulnerable community. Secondly, global is local. Pickens County serves as a perfect microcosm for what is occurring in thousands of overlooked towns for millions of underserved people across the country. The identification of and interventions for pivotal factors influencing hospital closures on a grassroots level could have far-reaching implications for improving health care management and legislation, leading to improved morbidity of the United States health care system on a broader, national scale. The structure of this discussion will be as follows: a community health assessment for the Pickens County area and identification of its chief complaint; health disparities more prominently featured within rural communities with a focus on obstetrics; research on the influence of obstetrics and speculation on how it drives the maintenance of the health care system; and possible interventions for the community.

Pickens County is one of 67 counties in the state of Alabama. As of 2013, it has a population of 19,401 people (345 fewer than 19,746 in 2010) within an 881-square-mile area. It has a population density of 22.3 people/mi², a median age of 42.5 years, and life expectancy at birth of 73.3 years¹-³. Comparatively, the average population density of the United States is 87.55 people/mi² (almost four-fold more people on average per square mile), and the median age and life expectancy at birth for the United States are 37.6 years (approximately 5 years younger) and 78.3 years (approximately 5 years longer), respectively⁴. The birth rate is 11.7 (US average: 13) and death rate is 12.9 (US average: 8) per 1,000 people². Of the 67 counties, the overall health outcome ranking is 50th of those 67³. Some telling features can be gleaned from a cursory glance at these figures.

This is a small, rural community that is becoming even smaller. The people within it are older and sicker, living in an environment with poor health outcomes; they are therefore dying earlier and at a faster rate. The younger subset of the population are either having fewer children than the average American, the children borne are suffering from a higher rate of infant mortality, or the reproducing population is emigrating and having their children elsewhere. An additional point of discussion worth mentioning here is that due to the recent closure of the obstetrics unit at Pickens County Hospital, a significant portion of expectant mothers native to the Pickens County area must logically be traveling to either Mississippi or Tuscaloosa County to deliver their infants. Depending on how birth rate, morbidity, and mortality data are collected, this may be skewing the aforementioned figures by padding those of the counties with the
closest obstetrics units while exacerbating the perceived morbidity and mortality within Pickens County by underestimating the number of births in the county by residence.

Interviews of local residents, health care leaders, and business owners throughout the county conducted during December of 2014 seem to suggest that the truth behind the numbers stems from an amalgam of factors. The community has suffered from an inability to attract industry to the area. The jobs that were supposed to follow the industry it has attracted (e.g. the women’s federal prison, Seven Corners) disqualifies a majority of the locals due to its educational requirements for employment, thereby requiring investment of more money to incentivize “outsiders” to move to and work in a rural community. Taking this to its logical conclusion, it is reasonable to suspect that some of this investment may then leave the community to support the families of those outsiders, should they reside out of town. This poses a potentially substantial and heretofore unconsidered outflow of county capital. Additionally, the shuttering of the labor and delivery wing of the local Hospital has forced many of the higher-educated into neighboring counties to find employment for their specific skill set.

Decreased opportunities for employment coupled with the loss of a major health resource whose sole purpose was guarding the safety of the future generations result in a net shrinkage of the vital life source for that community. The loss of a significant proportion of the work force and life source perpetuates the unfavorable industrial environment, drives away local entrepreneurs, and whoever and whatever are leftover are then unable to sustain the local businesses that have allowed the community to survive. Though there may be a push for more physicians to practice in underserved areas at the academic level, the overwhelming financial burdens of medical training and comparatively lower financial reimbursements that arise from serving a mostly Medicaid and Medicare-dependent population can understandably suffer in its pitch to emerging doctors shouldering upwards of hundreds of thousands in debt. The floundering health care support network then aggravates the higher-than-average degree of morbidity pervasive throughout the community and perpetuates its palpably inevitable collapse. Analogous to hypertension, diabetes, and heart disease, these individually detrimental disease processes then synergistically combine to create a perfect storm headed ostensibly for failure and death.

To save Pickens County Hospital, as well as innumerable other hospitals across the country on the brink of closure, we must identify the point at which we can interrupt this spiraling cycle. The first steps taken by a hospital in financial distress is cessation of the most costly and least profitable. Obstetrics units are notoriously perceived as cost ineffective. The most frequently cited reasons by non-metropolitan hospitals choosing to close their obstetrics units include medical malpractice pressure, low volume of delivery, difficulty in staffing an obstetrical unit (requiring anesthesiologists, surgeons, specialized nurses, operating room technicians, and expensive equipment), and financial vulnerability due to significant numbers of patients dependent on Medicaid for coverage—53% of obstetric patients in Alabama. A low volume of patients contributes to improper maintenance of the skill set necessary to safely practice, increasing potential liability and subsequent litigation for the hospital. When one then acknowledges the vanishingly thin margins in which rural hospitals must operate—about 1.1% in 2012—and the failure of the Alabama state government to expand Medicaid, the math becomes glaringly simple.

As a result, 44% of rural counties were unable to provide hospital-based obstetrics services to their local communities in 2002 compared with 24% in 1985, and that figure continues to climb. This means the already disadvantaged population that is sicker, poorer, and less educated is disproportionately affected by these closures. The upshot speaks for itself in infant mortality rates. In 2013, Alabama ranked close to
last of the 50 states with an average infant mortality rate of 8.6/1,000 births\(^7\) and 12.6/1,000 births\(^7\) for African American infants. Without a local obstetrics ward, the infant mortality rate for Pickens County in 2012 was 26.4/1,000\(^7\): being outranked by countries like North Korea (24.5/1,000\(^7\)) and Kazakhstan (21.6/1,000\(^7\)). The average United States infant mortality rate is 6.17, ranking near worst of the world’s 30 industrialized nations\(^8\). The country with the best infant mortality rate is Monaco, at 1.81\(^8\). Clearly the problem with our healthcare system transcends regional boundaries. If closing labor and delivery were all that were necessary to maintain financial solvency for hospitals, there would not be a continuing slippage down the slope of hospital bankruptcy. Indeed, the shuttering of obstetric units seems to harken the closure of the hospitals themselves, and that well travelled road continues to guide hospitals to their demise despite historical precedence. In light of such, it becomes imperative to highlight the necessity of compensatory alternatives and collaborations between neighboring communities in response to the closure of hospital-based obstetrical units and offer plausible interventions, on even an individual level, that are currently being considered within the literature.

The present environment of the US healthcare system is hotly debated and, for the time being, guided more by political fervor and divisiveness than genuine implementation of any evidence-based research. For the sake of sanity and relative conciseness, care will be taken to avoid any unnecessary digression into US healthcare system minutia. However, to contextualize the particular situation plaguing our nation addressed within this discussion, it should be mentioned that a substantial proportion of the hospitals within the healthcare network across the country were erected and supported with the instatement of the 1946 Hill-Burton Hospital Survey and Construction Act\(^10\). This piece of legislation, actually sponsored in part by Senator Lister Hill of Alabama, allowed for the provision of federal grants and loans to build, renovate, and expand facilities. Acceptance of any grant money necessitated not only providing uncompensated care to a “reasonable number” of patients who could not afford it, but also required municipalities to be able to match the amount of funding received from the government such that the federal subsidy totaled a third of the net costs.

Later, when Medicaid and Medicare were enacted, a provisional requirement for grant recipients stipulated a mandatory participation in those programs. Fast-forward to the present day where, as of 17 December 2014, twenty-two states have chosen to not move forward with Medicaid expansion. To further emphasize the political hues that color this issue, the distribution of these particular states bear a striking resemblance to the distribution of the country’s conservative states: focused in the Southeast and Midwest. The failure to move forward with Medicaid expansion then affects the ability of hospitals to stay afloat and provide care by turning down millions of dollars in federal grants and subsidies, resulting in the unintended consequence of targeting the most vulnerable people in the greatest need of care. While the concerns for waiving Medicaid expansion are valid in the sense that most cite long-term sustainability as impossible, no alternatives have been proffered in the debate.

As touched previously, the morbidity and mortality rates of individuals living in rural communities follow a similar trend as seen in Pickens County; women’s obstetrical and gynecological health are no exception. Secondary to comparatively limited access—defined as fewer per capita women’s healthcare providers, facilities, and resources—women in rural areas suffer poorer health outcomes when it comes to reproductive health\(^11\). Again, the importance of addressing rural health disparities as a salient national issue stems from the significant proportion of American society that resides in rural regions. 75% of the United States landmass is defined as rural and accounts for over a fifth (22.8%) of American females aged 18 years and older\(^11\). On a baseline comparison of general health, women in rural areas experience higher rates of unintentional injury, greater involvement in motor vehicle accidents, cerebrovascular disease-related deaths, depression, suicide, tobacco use, ischemic heart disease-related
mortality, and obesity. In terms of reproductive health, rural women are less likely to receive the recommended preventative screening tests (e.g. pap smears for cervical cancer and mammograms for breast cancer) resulting in higher rates of cervical cancer and increased rates of more-invasive-than-necessary management of breast cancer as first-line treatment (30% more likely to undergo surgical resection and 17% less likely to receive radiation therapy). Pregnant women were less likely to seek prenatal care and, if they did, were late to receiving prenatal care, resulting in higher rates of pregnancy-related complications and hospitalizations. The 5-year average infant mortality rate for the US from 2000-2004 was 6.9/1,000.

Over the same period of time, 51% of rural-defined communities had rates exceeding that figure. This means, over half of all rural communities suffer from a higher than average rate of infant mortality than the rest of the country. Additionally, women of reproductive age in rural communities relied far heavier on sterilization (35%) than those living in urban areas (24%). Whether due to limited physicians, resources, or patient education, a survey of women between the ages of 18 and 44 in the small towns of Colorado revealed decreased rates of contraceptive use and higher rates of unintended pregnancies. The trend becomes ever clearer that women living in rural areas experience higher rates of morbidity. This in addition to the higher rates of unintended pregnancy lays the groundwork for why increased, and not decreased, obstetrical and gynecological services are needed for all-around rural community wellness.

The deleterious consequences arising from a lack of obstetrical and gynecologic care in rural communities have now been undeniably established. The next step, then, is to illustrate the benefits of instating obstetrical care in underserved, rural areas. The overall impact, as of 2014, that a family physician practicing family medicine has in rural Alabama is an economic revenue to the clinic and local hospital of approximately $1,000,000.00. Starting in 1986, the Alabama Family Practice Rural Health Board has funded the Family Medicine Obstetrics Fellowship at the University of Alabama.

A 2014 study conducted by Daniel Avery, MD and Dwight Hooper, MD determined whether the financial investment into the fellowship program had any resultant economic impact on the rural communities in which those obstetrics-trained family physicians eventually served. A study of 10 such trained physicians were surveyed to identify the range of services and procedures as well as the mean number of deliveries performed. Fourteen common procedures were identified and an average number of 115 deliveries per year per physician were calculated; an estimated 20% of the family medicine practice was devoted to obstetrical and gynecological care. The findings of the study revealed that the monetary investment from the Alabama Family Practice Rural Health Board of $616,385.00 resulted in a $399.00 benefit to the community for every dollar invested. That is, the $616,385.00 invested translated to a net total $246,047,120.00 economic benefit to the combined rural communities over a twenty-six year period of time, and a yearly economic impact of $1,488,560.00 to the community for each physician.

Unfortunately, the implementation of this fellowship had not been in existence for long enough prior to the closure of the Pickens County labor and delivery ward to conduct an extended study on whether the economic benefits provided by these obstetrics fellowship-trained family physicians were able to offset the deficit perceived by hospital administrators.

Ensuring the health of women increases the likelihood that they seek healthcare for their children. This study performed by David Janicke et al in 2001 demonstrates the stronger influence of baseline well-being in single mothers of lower socioeconomic levels compared to those of wealthier standing as an independent factor in determining the motivation to seek child care. Past use of the healthcare system seems to be the best predictor for future healthcare use, and the maternal perceptions of child health
and maternal emotional functioning influence the decision-making process involved in seeking health care on behalf of children. A well-recognized social dynamic of family structures is that the matriarch of the family typically drives the decision-making within the family, be it the mother, grandmother, aunt, et cetera. The first step in creating a family is producing a new generation. The labor and delivery suite of the hospital is ground zero, or at the very least a critical component, for the foundation of our health care system. During interviews of healthcare leaders throughout the community, one person cited the recent renovations of the Women and Infants center at the University of Alabama at Birmingham, and how it was not a coincidence that the modernized facilities aimed to target maternal comfort and satisfaction with particular emphasis. The initial happiness and satisfaction of the mother with her birth experience will, from extrapolation of the previously mentioned study15, translate to higher rates of families seeking medical care when appropriate and, ultimately, an overall improved morbidity of the rural community.

The current state of un-wellness of involves a myriad of factors, and teasing out the most salient ones can be difficult. That then begs the question of how to we must define which are the most salient. They must be widely prevalent in a range of settings irrespective of regional differences and must be correctable with feasible interventions given the limitations of rural communities and their surrounding neighbors. Recent events have clearly demonstrated that rural hospitals are at a higher risk for discarding their obstetrical units. Slim profit margins in rural hospitals, large proportions of reimbursements coming from Medicare and Medicaid, medical malpractice pressures, and low patient volume all play their role. No one denies that the cost of obstetric units is sizeable, but up until recently, no one has offered any alternatives to the community after the closure.

The similarity between figures publicized by several hospitals attempting to justify their closure show that the revenue generated from maintaining a labor and delivery ward do not exceed the costs. However, the revenue calculated by hospital administrations are naively concrete, short-sighted, and fail to acknowledge the far-reaching and exponentially more deleterious impact of closing obstetrical units without a reasonable alternative to local residents. In order to provide a sustainable intervention, we must first strengthen the communities that the hospitals serve to establish a strong foundation of support for whatever is implemented. While there will certainly be a range of unique resources available to each community, the resounding opinion across most rural communities are that their smallness lends to a close-knit bond and mutual interest in not only the survival but success and future of their community. In collaboration with the family physicians who devote their lives to serving rural communities, more family medicine obstetric fellowships can be implemented to follow in the footsteps of the University of Alabama, with the hope that the economic boon will over time counter the costliness of maintaining what few labor and delivery wards remain in the rural communities13. By increasing OB/GYN clinics and services independent of the hospital to push for improved baseline prenatal and women’s healthcare—thus improving morbidity and mortality rates for families as a whole—and simultaneously partnering with the remaining hospitals in the area that offer labor and delivery support, we can begin to bridge the gap and create a more family friendly environment for the younger, reproducing generation of rural community citizens.

Additionally, the American College of Obstetricians and Gynecologists have enumerated a long list of recommendations to mitigate and help close the health disparities gap for women. This includes collaboration with maternal-child and rural health agencies of the state to identify the health needs of rural women and barriers to health care; partnering with family physicians and other women’s primary care providers to ensure that appropriate consultation and training are available for practitioners in rural areas; promoting site initiatives by offering financial incentives to rural health care practitioners
and providers of rural obstetric care and reproductive health services; encouraging graduates of obstetric gynecologic residency programs to participate in loan repayment programs that require practicing in rural locations for a specific length of time; and fostering and participating in efforts to utilize effective telemedicine technologies to expand and improve services for rural women.

Despite the prudent financial arguments against keeping the labor and delivery division of hospitals open, several institutions across the nation have in fact realized how injurious their decisions have been and responded to the overwhelming community outcry against the closures of their labor and delivery units. George County Hospital in Lucedale, MS reopened its unit in 2011 after financial concerns forced a 3-year closure\textsuperscript{16}. Hutcheson Medical Center in Oglethorpe, GA reopened its unit in December 2014 also after budgetary deficits forced closure\textsuperscript{18}. North Central Bronx Hospital in NYC reopened its unit in October 2014 after closing for over a year due to staff shortages, which have presently been combated with the additional employment of licensed midwives, nurse practitioners, physician’s assistants, and senior obstetricians\textsuperscript{17}. It is unclear how these facilities have been able to fund this turnaround, and instituting their methods to reopen the labor and delivery unit in Pickens County Hospital may be well beyond the reach of present possibility. However, the mere fact that these events have occurred signal hope. Though the current climate of the American health care system is precarious with many factors of regulation and politics beyond our control, as current practitioners and studious apprentices, we have an undeniable responsibility to those we serve to think critically and creatively about possible solutions, implementable on an individual level to not only advocate for our patients health, but that of the community within which we all live.

References