AUGUSTA UNIVERSITY

Rural Hospital Task Force

Committee Findings and Recommendations

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Supported by a grant provided by Healthcare Georgia Foundation

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Executive Summary

The delivery of health care in the United States is in flux, beset by unprecedented medical and fiscal challenges. As a result, health care services are challenged, and rural hospitals are reducing services and in many cases have closed their doors, leaving their communities with limited access to health care.

Augusta University and AU Health, as the state's public academic health center, is uniquely positioned to, and accepts special responsibility for, improving the stability of rural hospitals to benefit the health of the citizens of Georgia. President Brooks Keel recently stated in his Investiture address, "We need to help stabilize rural hospitals, not to bail them out, but help stand them up." To this end, Dr. Keel appointed the Augusta University Rural Hospital Task Force to identify key issues that need to be addressed and to make recommendations as to how Augusta University and AU Health can assist in stabilizing rural hospitals.

The task force worked to create a set of recommendations rural hospitals can implement in an effort to return to a more opportune level of productivity and profitability:

1. Effective orientation and ongoing education of rural hospital CEOs and board members
2. Reduction in expenses/maximization of reimbursement
3. Participating in shared services
4. Strategic planning
5. Focusing on being the gateway to emergent care
6. Support primary care
7. Strategic and effective use of technology
8. Greater use of Physician Assistants and Advanced Practice Registered Nurses
9. Develop programs for convalescing patients (transitional care or swing beds) and ambulatory services
10. Marketing
11. Enrollment in 340B drug pricing program
12. Integration

Augusta University and AU Health offers a unique set of expertise around education and health care and is prepared to assist with the stabilization of rural hospitals to ensure the citizens of rural Georgia have access to the care they need in their communities. The task force's recommendations will require continuing support, guidance and innovation to accommodate the unique circumstances of each hospital and community:

1. Make rural hospital stability an institutional priority

2. Create an office specializing in rural hospitals
    a. Work with hospitals to serve as an unbiased resource for the education, training, consulting and sharing of best practices for CEOs and hospital board members
    b. Work with the Augusta University Office of Government Relations to advocate for policy changes to benefit rural hospitals
    c. Maintain and cultivate new relationships
    d. Create advisory committee to keep abreast of issues in rural communities and their hospitals
3. Develop a model of clinical integration with selected rural hospitals
4. Create and enhance academic programming and continuing education
    a. Strengthen and develop rural tracks for our students
    b. Engage rural physicians to develop CME programs for rural physicians
    c. Telemedicine training and education for students and staff
    d. Create additional rural teaching hospital partnerships with Augusta University/AU Health and encourage the development of inter-professional faculty and student teams for learning and care delivery
    e. Develop a leadership model of clinical integration for PAs and APRNs in rural hospitals
    f. Increase academic offerings focused on rural health and hospital management
    g. Enhancing and/or develop residency programs for PAs and APRNs
5. Strengthen and expand telemedicine

In his charge to the task force, President Brooks Keel stated: "As the state of Georgia's only public academic health center and as a leader in health care policy, Augusta University and AU Health are committed to playing a part in meeting Georgia's health care challenges." We are poised to implement the proposed recommendations detailed in this report.

Overview

The delivery of health care in the United States is in flux, beset by unprecedented medical and fiscal challenges. Although rising health care costs and growing uncertainties affect every segment of our nation and state, rural areas face a particularly difficult set of challenges. As our nation has evolved from a predominately rural society to a suburban and urban one, rural areas have experienced declining access to basic services. The population in rural areas is decreasing as a percentage of total U.S. population, and rural residents are generally older, sicker and poorer. The economy in many rural areas is also suffering, with fewer opportunities for building quality of life and sustainable health systems. As a result, health care services are challenged, and rural hospitals are reducing services. In many cases, rural hospitals have closed their doors, leaving their communities with limited access to health care.

To address this growing problem, in April 2014 Governor Nathan Deal appointed a Rural Hospital Stabilization Committee "to identify needs of the rural hospital community and provide potential solutions." In the final report of the committee, Gov. Deal stated, "I recognize the critical need for hospital infrastructure in rural Georgia and remain committed to ensuring citizens throughout the state have the ability to receive care that they need."

In light of the Rural Hospital Stabilization Committee's report, Augusta University President Dr. Brooks A. Keel stated: "As the state of Georgia's only public academic health center and as a leader in health care policy, Augusta University and AU Health are committed to playing a part in meeting Georgia's health care challenges." To this end, Dr. Keel appointed the Augusta University Rural Hospital Task Force to identify key issues that need to be addressed and to make recommendations as to how Augusta University can contribute. (Appendix I).

The task force, chaired by William Kanto, MD, included 24 faculty and staff of Augusta University and was supported by a grant from the Healthcare Georgia Foundation. It began its work in February 2016 and met weekly for approximately 10 weeks. The task force solicited presentations from a wide array of persons with expertise and experience in rural health care (Appendix II) and included leaders from struggling as well as thriving rural facilities. In addition, the task force reviewed the literature on best practices in rural health care, and several members visited a number of rural health care sites.

The task force focused on the 30 Critical Access Hospitals (CAH) in Georgia as well as 33 other rural hospitals that are Prospective Payment Systems (PPS) facilities (Appendix III). Leaders from South Carolina hospitals also contributed to discussions and presentations, since most South Carolina rural hospitals face issues nearly identical to those in Georgia, and many South Carolina rural hospitals are in the AU Health referral area.

The findings and recommendations in this report are not intended as a scientific study, but rather an observational exercise to explore ways that Augusta University and AU Health can assist Georgia's rural hospitals. The task force acknowledges that "if you have seen one rural hospital, you have seen one rural hospital," and thus its findings and recommendations may not be appropriate for every facility. Nevertheless, certain findings recurred frequently and deserve to be considered as opportunities for improvement in other rural facilities.

The Importance of Rural Hospitals

Rural hospitals provide health care and critical care to 20 percent of Americans and are vital economic engines for their communities. They provide employment, assist in attracting new businesses to the community and stimulate purchasing in the region. The closure of these community assets negatively impacts the physical health of local citizens and has detrimental effects on the community itself. Rural hospitals:

1) **Provide health care and emergency care to local citizens**
   It is unreasonable to expect people who live in a rural community to travel to an urban area for all hospital-based care. Rural hospitals can deliver quality, targeted health care services, eliminating the need for some patients to receive care in an urban center. The rural hospital can provide short-term acute care, swing-bed options and ambulatory services necessary to support the local population.

   One critical need for hospital-based care in rural areas is emergency care. Emergency Departments (EDs) are expensive to operate; telehealth and integration with larger urban facilities are just two areas that could improve health, save lives and assist in reducing costs.

2) **Serve as economic engines for the community**
   University of North Carolina professor Mark Holmes studied the economic impact of 140 rural hospital closures nationwide (1). He found that three years out, losing a hospital costs a community, on average, "about 1.6 percentage points in unemployment, about $700 in per capita income, and that was in [year] 2000 dollars so that'd be probably about $1,000 currently."

   A community has local pride in its hospital. Hospitals in rural communities are typically one of the larger employers in the area and serve as a marketing tool for the community to attract new business. Industrial employers prefer to locate in communities with a hospital in the event an employee suffers a workplace injury. Lastly, the potential growth of the community and its ability to attract health care professionals is limited without a functioning hospital.

Factors Leading to Rural Hospital Closures

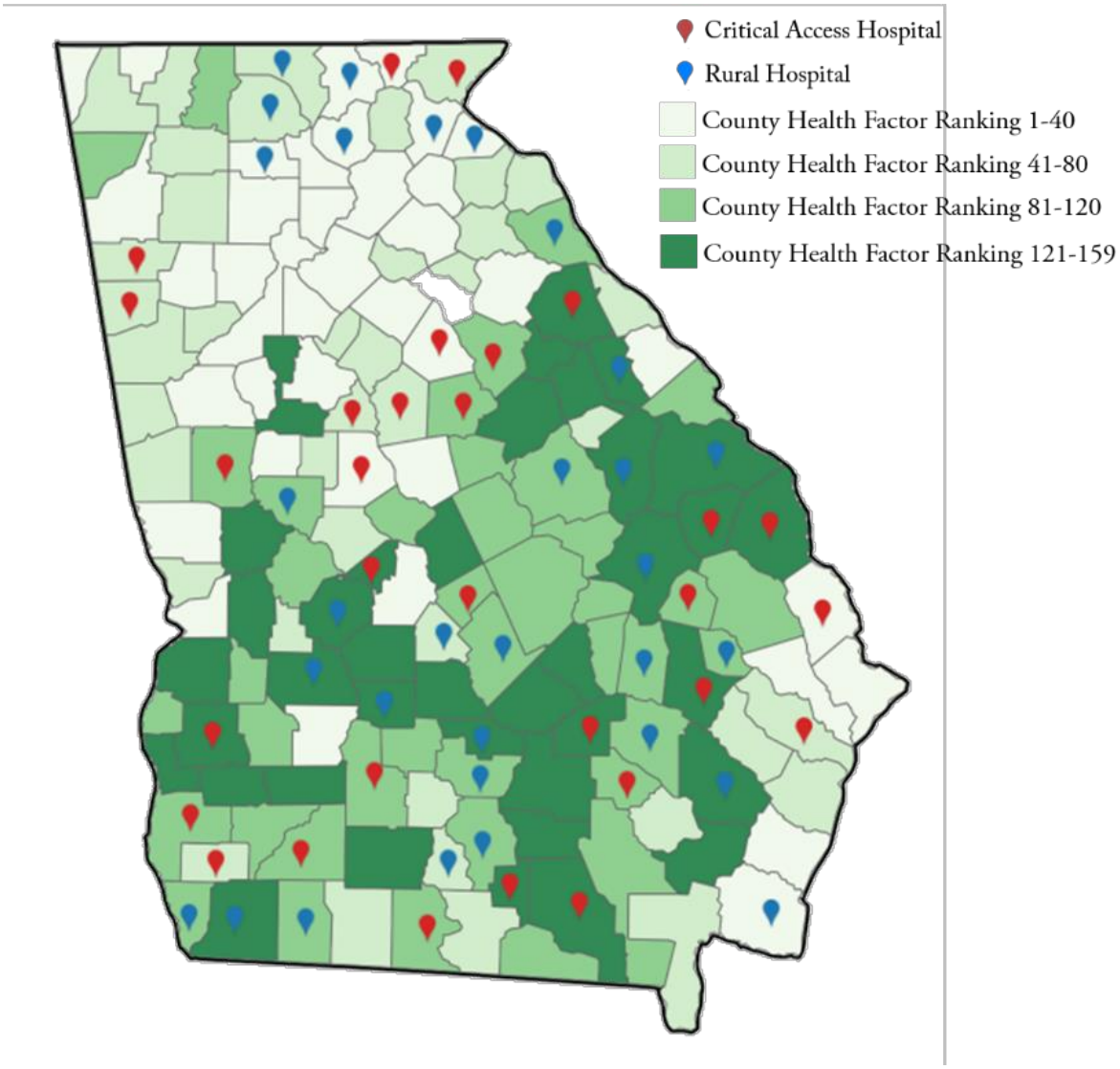
According to the North Carolina Rural Health Research Program, nationally 75 rural hospitals have permanently closed since January 2010, and Georgia's State Office of Rural Health reports that nine rural hospitals in Georgia have closed since 2001; one as recently as June 2016. Overwhelmingly, the primary rationale for closing a rural hospital is financial. Hospitals are facing declining patient revenues due to declining clinical activity and reduced reimbursements, while expenses have been steadily increasing as a percentage of revenue.

Many rural hospitals are not members of cooperatives or other organizations that offer an opportunity to maximize purchasing power. Rural hospitals must support infrastructure services such as information technology (IT) and compliance, which have become increasingly complex and expensive. Furthermore, the standard administrative leadership of a hospital is often too expensive for the limited clinical services revenue to support.

Frequent issues with contracting and revenue-cycle management exacerbate an already challenged cash flow. In addition to decreased revenues due to a decline in clinical services, services typically offered in a rural community hospital are not reimbursed as well as services and procedures provided in larger tertiary facilities. The Affordable Care Act (ACA) will further reduce revenues and disproportionate share hospital (DSH) dollars are scheduled to go away.

In many communities, insured residents have lost confidence in their hospital and are seeking other options for their health care. Thus uninsured patients, with less access to care in other venues, make up an increasing share of rural hospital customers. The inability to attract clinical providers to rural communities, particularly providers who can provide services that are well reimbursed, exacerbates the revenue issue.

Rural communities are more likely than urban ones to have an older population with a higher volume and severity of health concerns not covered by private insurance. The 2016 County Health Factor Ranking (2) is an estimate of the comparative future health of counties, measuring health-related behaviors, clinical care, social, economic and physical environment factors. It is abundantly clear viewing the map below that the vast majority of rural/critical access hospitals are located in counties with rankings in the bottom 50 percent of the state.



Anomaly of the Successful Rural Hospital

As part of the task force's deliberations, we invited presentations from representatives of hospitals that have been successful in the current environment. We also spoke with persons familiar with rural hospitals to identify characteristics contributing to the success of those facilities.

The following are our observations about successful rural hospitals:

1) **Successful rural hospitals have an engaged and knowledgeable board**
   Health care is complex, but rural health care is even more demanding given the clinical environment and evolving government regulations. Successful hospitals have governing boards that are active in developing strategic plans, and, while working collaboratively with management, realize that decisions ultimately rest with them. An educated and knowledgeable board is needed not only for rural hospitals in Georgia to be successful, but for rural hospitals nationwide (3).

2) **Successful rural hospitals have visionary administrative leadership**
   There is convincing evidence that visionary administrative leadership is one of the hallmarks of successful rural facilities. These leaders quickly recognize changes in health care and adapt their strategic plans to fit the new paradigm. They vigorously engage in cutting costs, improving revenues and adapting to the new environment. They realize that models that served rural hospitals well in the past will not suffice in today's markets. They actively use technology to improve their performance and look for other revenue streams to replace those that are drying up. An article analyzing 19 of the nation's top-performing critical access hospitals outlined nine strategic leadership elements (4):
   a) Educate and use the board
   b) Meet the needs of your physicians
   c) Take strategic planning seriously
   d) Don't leave cash on the table
   e) Look continually for cost-reduction opportunities
   f) Deliver services that the community needs and wants
   g) Take advantage of network affiliations
   h) Communicate and hold people accountable
   i) Hang on to good CEOs and CFOs

3) **Successful rural hospitals maximize operational efficiencies**
   Many successful facilities have formal or informal relationships with larger facilities that provide clinical integration and/or operational support. Of equal importance is a sustainable and financially viable strategic plan. Employing advanced practice registered nurses (APRNs) and physician assistants (PAs) as generalists and recruiting specialty clinicians is another strategy to create an efficient and effective rural hospital team.

4) **Successful rural hospitals facilitate medical staff alignment**
   In successful facilities, medical staff is aligned with the hospital board and hospital administration in a strategic plan. Medical staff is large enough to support the hospital and comprises a sufficient range of specialties to support its activities. In the event the necessary specialties are not available, telemedicine allows access to services that patients need.

5) **Successful rural hospitals are aligned with clinical partners**
   It is clearly beneficial for rural hospitals to partner with larger facilities. Such partnerships provide the opportunity to access services and resources either not usually available in smaller facilities or much more expensive when provided on site. The structure of the alignment varies, but some form of alignment is a constant. We also observed that either ownership of or close working relationships with nursing homes is a necessity.

Recommended Actions for Rural Hospitals

The task force assembled a list of suggested activities that, individually and collectively, will begin the process of restoring rural hospitals to a more opportune level of performance. These recommendations will benefit some hospitals more than others, as each hospital's circumstances are unique.

1) **Effective orientation and ongoing education of rural hospital CEOs and board members**

   The complexities of health care and the challenges facing rural hospitals require CEOs and board members to have a broad spectrum of knowledge in many complex areas. Among them are an understanding of their hospital and region, legislative policy issues and regulations, technology, population health, drug prices, reimbursement models, and financial and quality measures (3). In addition, CEOs and board members must be able to make necessary and sometimes difficult decisions that impact the neighbors and stakeholders they see and interact with on a daily basis.

   Providing proper orientation for new CEOs and board members and continuing education for existing CEOs and board members is a requirement for the success of any hospital, especially those in rural areas. It is important for each hospital to create a structured plan for board education and ensure that the board and CEO agree to a required ongoing commitment. Orientation and education can and should be provided on a variety of platforms.

2) **Reduction in expenses/maximization of reimbursement**

   As with hospitals nationwide, rural hospitals in Georgia are witnessing their revenues decline. This trend is caused by several converging factors:

   a) Increasingly complex and aggressive precertification and utilization review practices by managed care companies, which result in a higher percentage of claims denied for payment
   b) Inability to cope with the increasing complexity of rules, regulations and policies from Medicare, Medicaid and commercial payers
   c) Transition of a significant portion of Georgia's Medicaid program to private care management organizations (CMOs), which pay lower rates than traditional Medicaid reimbursements
   d) Decreases in DSH payments from the federal government
   e) Retirement or departure of a single physician resulting in a major loss of patient volume

f) Increasing number of uninsured patients
g) Cost of equipment
h) Cost of pharmaceuticals and other supplies
i) New IT systems and updated medical classifications systems
j) Aging facilities and deferred maintenance

Ongoing comprehensive efforts to reduce costs and maximize reimbursements will prove valuable for all rural hospitals. Unfortunately, most rural facilities are not sufficiently large to have resources on site that would ensure the operational efficiency necessary for financial survival.

Management and consulting groups can provide assistance with determining a strategy, but this is often cost prohibitive. Rural hospitals can create systems where many services are centralized and expenses shared by the hospitals within the system, while the needs of the individual facilities are still addressed. They can also consider integration with a larger hospital system to reduce expenses. But they must also be vigilant in their own hospital to reduce expenses wherever possible, such as the 340B drug pricing program. With government and payers frequently changing rules and regulations, hospitals need to determine a model that is constantly refined for their environment.

3) **Shared services**

IT, purchasing, compliance, health information management systems (HIMS), credentialing and privileging of staff, competency training and preparation for Joint Commission inspections are all critical services to the operation of a hospital, but they come with significant cost. Every opportunity to contain or reduce costs in these areas, while preserving the integrity and quality of the facility, should be explored. While these services can be outsourced, rural hospitals should consider creating a central system or integrating with a larger system that could provide these services at a lower cost.

4) **Strategic planning**

Strategic planning in rural hospitals, as in any organization, is essential to establish strategies and tactics that allow the organization to properly align resources with goals that support the hospital's mission, vision and values. The unparalleled challenges facing rural hospitals today make the importance of such plans even more vital. Working collaboratively with their communities, hospital boards, administration and medical staff, hospitals must tailor their strategic plans to the size of their service population as well as the specific needs of their population. Once a strategic plan is complete, it must be frequently re-evaluated and day-to-day operational tasks adjusted to maintain alignment with the overarching mission of the organization.

More specific suggestions for strategic planning include:

a) Recognize that with the broad array of medical treatments available, few hospitals can provide a complete spectrum of services and therapies in their facility. Rural hospitals must estimate the size of their service population to determine the average daily census they can expect, then determine if they can financially support that level. Appendix IV provides a table with estimates of hospitalization days for a given population, from which can be extrapolated anticipated admissions, days of care and average daily census of a rural hospital, depending on services provided. We believe a reasonable minimum target is an average daily census of five acute patients to support appropriate staffing and quality of performance. Eleven of the 63 hospitals we reviewed (17 percent) fall below that target.

   It is important to note that this table was generated based on national data and should be modified using data specific to the region. According to the U.S. Department of Health and Human Services, rural residents who remained in rural areas for their hospitalizations were more likely to be older and on Medicare compared with those who traveled to urban areas (5). More specifically, about half of rural residents hospitalized in rural hospitals were age 65 and over (51 percent), compared with 37 percent of those hospitalized in urban hospitals (5).

b) As part of the strategic planning process, components necessary to effectively provide treatment to patients should be reviewed and re-evaluated on a regular basis. Examples of such components include:
   - Emergency room
   - Hospital beds (both acute and swing beds)
   - Operating and/or procedure rooms
   - Health care workforce
   - Subspecialty clinics on site staffed by physicians from tertiary/quaternary facilities
   - Telemedicine connection enabling subspecialists to provide support for patient care when not on site

5) **Gateway to emergent care**

A recent study completed by the RAND Corporation indicates that: (1) EDs have become an important source of admissions for American hospitals; (2) EDs are being used with increasing frequency to conduct complex diagnostic workups of patients with worrisome symptoms; (3) despite recent efforts to strengthen primary care, the principal reason patients visit EDs for non-emergent outpatient care is lack of a timely option elsewhere; and (4) EDs

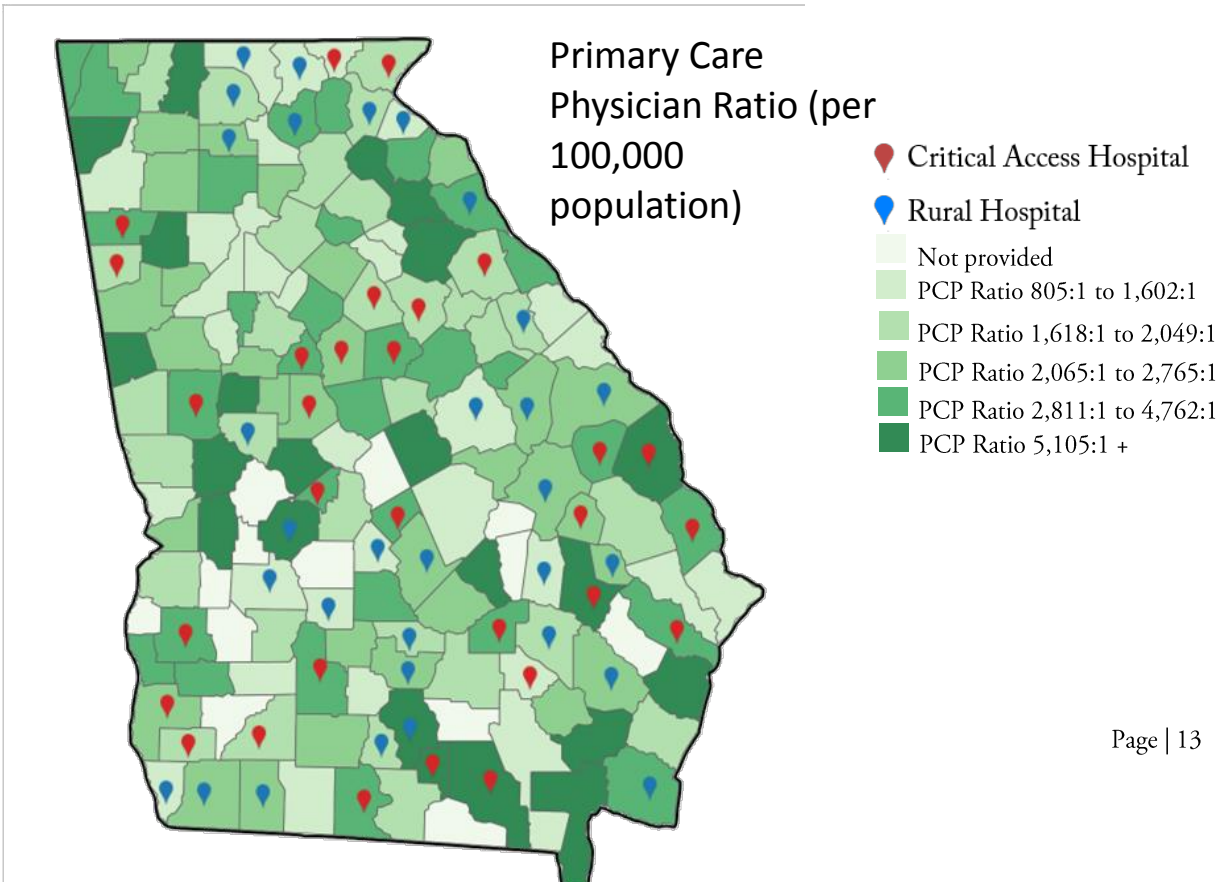
may be playing a constructive role in preventing some hospital admissions, particularly those involving patients with an ambulatory care-sensitive condition (6).

This study illustrates rural hospitals should be viewed as the entry point for emergent care. EDs in rural areas are typically the sole source for patient care. Equally important is their role in diagnosing and stabilizing a patient for transfer to a higher level facility, with the patient expected return to the rural hospital for discharge and appropriate follow up care.

The community should have confidence in their rural hospital's ED and use it as their first choice. Similarly the local emergency medical system (EMS) should share the facility's approach to patient care and work collaboratively with the ED to ensure patients are directed appropriately. Advances in telemedicine integrated with a higher level facility should be considered as a way to increase the level of care to patients while keeping them in their community.

6) **Support primary care**

The looming physician shortage across the United States is well documented and is exponentially greater in rural areas. The Association of American Medical Colleges (AAMC) recently reported that Georgia ranks 41st (out of 49 states, excluding the District of Columbia and Puerto Rico) for active primary care physicians (7). The map below shows many of the rural communities in Georgia have severe shortages in the number of primary care physicians compared to per capita population:



Rural hospitals need to explore effective ways to attract and retain primary care physicians in their communities. This can prove difficult as many young physicians prefer to locate in urban areas for family and career reasons (8). Innovative recruiting opportunities that could make rural hospitals more attractive include:

a) Rural hospital-sponsored scholarships for training at undergraduate and graduate medical education levels for prospective primary care providers with associated service
b) Financial incentives for rural primary care providers
c) Strategic recruitment efforts targeting physicians completing primary care residency programs in Georgia and contiguous states
d) Relationships with medical educators to raise their awareness of rural health care opportunities and to solicit their suggestions on how to increase interest in primary care physician training

Rural hospitals should also consider strategies to support and develop their health care services and facilities. These might include:

a) Expand the scope of services with telemedicine to facilitate peer-to-peer and subspecialty consultations with neighboring secondary, tertiary and quaternary hospitals, health systems and federally qualified health centers (FQHC).
b) Develop advanced primary care services on the platform of patient-centered medical home (PCMH) affiliated with a rural hospital or as a site of health care services with other ambulatory care assets with and without hospital affiliation. The recent Centers for Medicare and Medicaid Services FQHC Advanced Primary Care Practice Demonstration showed how the patient-centered medical home model can improve quality of care, promote better health and lower costs (9). Telemedicine capabilities could expand the scope and quality of such ambulatory health care services.
c) Hospital-affiliated primary care practices consisting of physicians, PAs and/or APRNs could expand the scope, complexity and location of health care services
d) Advanced and comprehensive primary care ambulatory services facilitating wellness and management of patient populations with high acuity of clinical problems (care coordination) in local settings, which could include the home
e) Peer-to-peer primary care consultations and support using teleconferencing/telemedicine to expand the reach and complexity of primary care services

7) **Use of technology**

In order to provide optimal care for patients, use of technology to expand telehealth, use and share electronic health records, and expand service offerings is essential for rural hospitals. Though expense and accessibility are serious concerns, rural hospital strategic plans must incorporate enhancing and increasing the use of technology.

a) Telehealth

Telemedicine offers a multitude of benefits for rural hospitals and the patients they serve. For the patient, the greatest benefits are wider access to services in a more convenient and expedient fashion. For the hospital, technology offers the ability to expand and diversify services and can assist in reducing expenses, especially in the ED of a rural hospital. Telemedicine provides immediate access to clinical knowledge that may not be available in rural hospitals. Successful models currently exist across the nation and within Georgia. In Mississippi, the TelEmergency program uses specially trained nurse practitioners, linked in real time by telemedicine with their collaborating physician at the University of Mississippi Medical Center Adult ED (10). In Georgia, the Global Partnership for Telehealth and REACH Health Inc., based in Alpharetta, Georgia, are both viable models. REACH, operated out of Augusta University, specializes in providing stroke treatment to rural Georgians (Appendix V). These applications demonstrate that complex care can be successfully initiated in community hospitals to the benefit of all involved.

b) Electronic health records

The advantages of electronic health records are abundant as are the costs of implementation, especially for rural hospitals. In fact, high cost is a principle reason rural hospitals adopt electronic health records systems more slowly than other hospitals (11). Rural hospitals must carefully analyze tangible and non-tangible costs and benefits to determine whether this service is a viable option.

c) Health information exchange

The advent of the health information exchange (HIE) provides a pathway to link disparate electronic medical record systems using interoperability methods, preventing the need for electronic medical record consolidation across organizations. HIEs provide several unique benefits for organizations seeking to achieve clinical integration; HIEs:

- Aggregate information across providers, creating longitudinal patient records. This brings more information to the provider at the point of treatment, thus driving better outcomes
- Eliminate the need for transferring and waiting for medical records, thus simplifying referral processes

- Are sources of aggregated clinical data that can be analyzed to inform quality metrics, clinical decision support, population health and care coordination

8) **Greater use of PAs and APRNs**

It is well known to health care planners that we are approaching a crisis in our workforce: There will simply not be a sufficient number of physicians to meet all health care needs. Based on current trends, the deficit will likely be more acute in rural areas. A single change will not solve the problem; addressing this shortage will require immediate implementation of several strategies. The medical education community is working to address these shortages by increasing enrollment and residencies, but it is unlikely that their efforts alone will provide a sufficient workforce in the required timeframe.

APRNs and PAs should be employed in greater numbers and in expanded roles to address health professions shortages, thus playing critical roles and adding value in rural health care. Students in these health professions should be exposed to clinical educational opportunities in practices in rural communities to facilitate their consideration of these venues as career options.

The clinical delivery model for contemporary rural health care incorporates the full scope of practice for all clinicians to prevent waste of resources, improve access, ensure quality and encourage innovation. Both APRNs and PAs have a common core of skills to include physical assessment, diagnosis and treatment of common illnesses. The effective model of a rural health team care would rely heavily on APRNs and PAs as first-line clinicians in many settings, including inpatient, ambulatory/community-based clinics and offices, long term care and swing beds, and homes. For maximum productivity, they also require ancillary support in many settings, thus requiring supervisory skills. Each one must have access to rapid or immediate consultation at advanced levels of complexity along with avenues for referral and transfer. Telemedicine is critical to optimizing advanced practice providers. The rural hospital should identify its needs and align the appropriate professionals, regardless of preparation.

9) **Develop programs for convalescing patients (transitional care or swing beds) and ambulatory services**

Larger urban hospitals have frequent difficulty placing patients because they do not have beds available. These patients often need care after they complete their convalescence and need ambulatory services or placement in an extended care facility. Many times these patients could be provided care in a transitional or swing bed, providing advantages for both hospitals. Specifically, a clinical integration of care between larger, more specialized hospitals working with smaller community hospitals could provide a continuum of care closer to the patient's home community.

Many urban centers may not realize the benefit of rural transitional care beds, and rural hospitals do not emphasize transitional beds sufficiently in their strategic plans. However, before a rural hospital proceeds with this strategy, it should fully understand the costs and potential reimbursement for this service. A major stimulus to such a program would be appropriate reimbursement through Medicaid for transitional beds. Simply increasing this reimbursement to the same level of payment for skilled nursing facilities would be an appropriate first step and might save Medicaid dollars. For instance, a recent audit at the AU Medical Center showed that almost 28 percent of patients referred to skilled nursing facilities had to be readmitted within 30 days, compared to an 8 percent readmission rate for patients transferred to swing or transitional beds.

10) Marketing

We urge rural hospitals to recognize the importance of marketing the quality of their care and partnerships with other facilities. Similarly, each hospital should listen to its community and respond accordingly to the community's perception of their services. Lastly, rural hospitals should encourage philanthropy, particularly with the passage of legislation allowing tax credits for donations to rural hospitals.

11) Enrollment in 340B drug pricing program

The Health Resources and Services Administration (HRSA) administers the 340B drug pricing program, which allows eligible organizations to purchase drugs at a significant discount. Critical access hospitals are eligible to apply for participation in this cost savings program, as are other hospitals under varying qualifications: federally qualified health centers, rural referral centers, sole community hospitals and more. We recommend that rural hospitals secure a retail pharmacy license and operate the pharmacy within the hospital. A program implemented using this method has the potential to reduce pharmacy costs to the hospital by 25 percent.

12) Integration

Many of our suggestions are necessary for a successful clinical integration model. Integration with a larger hospital system may offer the best opportunity for rural hospitals to survive. This would, in our opinion, provide the most appropriate care for patients. Integration can occur when the rural hospital is owned by the urban hospital, but it may also occur with affiliation and contractual agreements.

With a clinical integration model, a patient who presents to a rural hospital can be assessed by the practitioners and a decision made as to whether the patient should be managed in the rural community or in the urban facility. If the situation is not clear, a telemedicine

consultation may be arranged. If the patient is transferred, the condition will be monitored through communication between the two hospitals. (Here a HIE would be exceedingly valuable). As soon as the patient's condition permits, the patient will be transferred back to the rural hospital to complete the acute care and appropriate discharge will be arranged. The patient will receive continuing care within the community and may be able to see their urban subspecialist by telemedicine or in a satellite clinic at the rural hospital where a subspecialist from the urban hospital holds clinics on a regular basis. In some circumstances, there may be procedures performed at the rural hospital by staff from the urban facility.

Such a model can also be used to address issues associated with population health and could be a model for an accountable care organization (ACO), particularly if the rural hospital has a relationship with extended care facilities/rehabilitation. Such collaborations would benefit both the urban and rural hospital, now and in the future, if and when we alter our payment systems so they are based on population health.

Another looming change in hospital reimbursement is the bundling of payments. Integration will allow hospitals providing care for which the payments are bundled to have access to facilities so they can provide the entire spectrum of care necessary for these patients.

Just as there is clinical integration, so can there be operational integration. A HIE provides a pathway for linking disparate electronic medical record systems using interoperability methods. Integrated systems provide the opportunity for care coordination across multiple platforms, with HIEs at the center. This prevents the need for electronic medical record consolidation across organizations.

With integration, hospitals may share services such as IT, compliance, legal, etc., or some services may be fully or partially supplied by the larger facility.

How Augusta University/AU Health can Assist Rural Hospitals

The task force developed recommendations that Augusta University and AU Health can implement to assist the stabilization of rural hospitals and help ensure citizens of rural Georgia have access to the care they need in their communities. These recommendations require continuing support, guidance and innovation to accommodate the unique circumstances of each hospital and community:

1) **Make rural hospital stability an institutional priority**
   Augusta University and AU Health, as the state's public academic health center, is uniquely positioned to, and accepts special responsibility for, improving the stability of rural hospitals to benefit the health of the citizens of Georgia. Explicitly stating that institutional priority sends a powerful message to our community and state. As President Keel recently stated in his Investiture address, "We need to help stabilize rural hospitals, not to bail them out, but help stand them up."

2) **Create an office specializing in rural hospitals**
   a) The Augusta University Office of Rural Health (ORH) will work with hospitals to:
      - Serve as an unbiased resource for the education, training and sharing of best practices for CEOs and hospital board members. Pertinent information and educational offerings will be vetted and proposed by the Rural Health Advisory Committee detailed later in this report.

        Because of the complexity of health care, challenges facing rural hospitals and the high turnover of leadership, CEOs and members of the boards of rural and critical access hospitals need adequate orientation, training and continuing education (12).

        Augusta University's College of Allied Health Sciences has drafted preliminary educational programming. The Leadership Academy at Augusta University can assist in the education of CEOs and board members with additional resources available from the university's nine colleges and schools.

        The ORH can provide education, training and consultation, including:

        - An orientation program for board members to clearly define their roles and responsibilities
        - Ongoing education for board members in areas of impact

- Mentoring programs for new CEOs and CEO roundtables for more experienced CEOs
- Initiatives to reduce CEO turnover
  - Many of the issues faced by rural hospitals arise from lack of continuous leadership and focused priorities. The ORH would assist CEOs in navigating the complex world of hospital management in areas such as financial and strategic planning to help them be more successful. A successful leader is more likely to be content and remain in the position.
  - Coordinated opportunities for CEOs and board members to participate in planning and brainstorming sessions to share best practices is another way to foster CEO success
  - The innovative strategies and tactics of successful hospitals should be shared with others to assist in updating the strategic plan and mission of hospitals ready to make a change.
- Collaboration on strategic planning efforts
  - The ORH has access to experts in nine colleges, nine centers, 12 institutes and the entirety of AU Health
  - Within AU Health, our medical professionals are leaders in their respective fields, and 100 percent of our physicians are board certified or board eligible. This allows us to provide a superior level of clinical expertise to develop programs specific to the needs of rural hospitals in our state
- Create a web-based resource center for rural hospitals to use at their convenience that provides accessible information in PDF and webinar format on topics such as:
  - CEO leadership building
  - Board training
  - Current health affairs
  - Governance responsibilities
  - Self-assessment tools for the hospital
  - Roles and responsibilities

- Explore opportunities to collaborate with rural hospitals to understand the health needs of their community, measure and evaluate health status, and develop programs that will lead to improved health outcomes for their citizens and reduced costs for the facility.

b) Work with the Augusta University Office of Government Relations to advocate for policy changes to benefit rural hospitals in areas such as:
   - Telemedicine
     - The American Telemedicine Association published their "State Telemedicine Gaps Analysis: Coverage & Reimbursement" (13) in January 2016. This report gives Georgia a "B" and offers insights into areas of needed improvements to overcome telemedicine challenges:
       - State Medicaid policies impeding parity
       - Restrictions on patient settings
       - Eligible technologies
       - Eligible providers
       - Informed consent

   - Swing-bed funding
     - The task force agreed that patient discharge to a swing bed as opposed to a skilled nursing facility is advantageous for the patient and for Medicare due to a lower readmission rate. However, there are regulations prohibiting reimbursement by Medicaid for similar services. Several studies measure the rate of readmission from a skilled nursing facility. Specifically, Mor and colleagues published the readmission rate in Georgia from a skilled nursing facility in 2006 at 23.2 percent (14). And as noted earlier, a recent audit at AU Medical Center showed that almost 28 percent of patients referred to skilled nursing facilities had to be readmitted within 30 days compared to an 8 percent readmission rate for patients transferred to swing or transitional beds.

   - Physician shortages
     The AAMC reports there will be a shortage of between 61,700 and 94,700 physicians in the United States by 2025 (15). We previously discussed increasing and maximizing the usage of APRNs and PAs to mitigate primary care shortages, but much more will be needed.

     Medical schools (including the Medical College of Georgia at Augusta University (MCG)) are working to increase enrollment, but this should be in conjunction with statewide efforts to increase graduate medical education (GME). Since medical school graduates must complete GME training after graduation in order to become physicians, GME training must increase along with medical school enrollment.

CMS and ACGME guidelines allow residents in rural communities to practice independently, thus decreasing the costs and allowing the opportunity for more patients to be seen.

c) Maintain and cultivate new relationships
   - In order to effectively assist our rural hospitals, the ORH must actively and continually seek out best practices in such areas as clinical integration, telemedicine, academic programming, effective swing-bed utilization and ongoing management, financial modeling and many others. Connecting with hospitals that offer success stories and visiting successful sites in person will allow the ORH to gain valuable insight into the real-world practices of successful hospitals.

     As an example, the Center for TeleHealth at the University of Mississippi Medical Center was launched in October 2003 to help improve the poor health of many of the state's citizens. Today, it has remote connections with 165 sites, includes 35 specialties, and provides 8,000 visits per month and 100,000 visits per year across the state (16). The health of the state's small hospitals has improved along with the health of Mississippi citizens; their expenses were reduced by 25 percent while admissions increased by 20 percent.

   - The ORH will collaborate with state organizations already working with rural hospitals, such as the School of Public Health at Georgia Southern, the Governor's Committee on Rural Hospital Stabilization, the state's Office of Rural Health and others.

d) Create advisory committee
   A rural health advisory committee should be formed to keep abreast of issues in rural communities. The committee should be comprised of members actively engaged in their communities who have a rich understanding of the issues surrounding rural hospitals. The advisory committee would discuss trends and issues and propose solution options, with the ORH facilitating the implementation of suggestions.

e) The ORH will identify research opportunities around rural populations in an effort to better understand specific needs of the rural hospital patient. Those opportunities can then be shared with members of the AU family for further investigation and analysis. As the state's academic health center, Augusta University has the unique opportunity to capitalize on our synergism between clinical services development and health services research. The multidisciplinary environment, track

record of successful research expansion, applicable faculty competencies, and highly relevant educational programs provide an ideal infrastructure.

3) **Develop a model of clinical integration with selected rural hospitals**
Clinical integration can facilitate care coordination among many providers while increasing quality and effectiveness of care. The ideal clinical integration model for providing care to a rural population would include a CAH and a PPS hospital, so we would develop this model to demonstrate the advantages of an urban hospital working collaboratively with a rural hospital. Ideally, patients who need hospitalization would receive care in the rural hospital as long as it is able to meet their clinical needs, including through consultation via telemedicine. Patients who need care available only at the urban hospital would be transferred there until their condition allowed transfer back to the rural hospital, their home or an extended care facility. This integration has several advantages:
    a) Increases patient days in rural hospitals, while hospital beds in urban hospitals are used more efficiently.
    b) Allows for continuity of care, as the local physician or care provider is integrally involved in the management of the patient throughout the hospitalization and would arrange for the discharge and post-discharge care.
    c) Incorporates care coordination between the institutions to help patients with chronic illnesses.

4) **Create and enhance academic programming and continuing education**
    a) Strengthen and develop rural tracks for our students, so they will be interested in practicing in rural communities. If they then choose to locate to a rural area, they will have greater understanding of the challenges in a rural community and will be able to provide greater assistance in managing rural patients. Examples of successful programs at Augusta University that could be replicated and/or expanded upon to further benefit rural hospitals and rural communities include:

        - MCG affiliation with the Mayo Clinic Health System to offer the only rural training track program for residents in the state of Georgia. Inpatient training takes place at the Mayo Clinic Health System in Waycross, Georgia, and outpatient training occurs at Georgia Physicians South. Developing more such residency programs will introduce residents to rural communities and expose them to a wide array of rural health concerns, concentration areas and administrative procedures.

- MCG students may be assigned to Phoebe Sumter hospital in Americus, Georgia, in the areas of obstetrics/gynecology, internal medicine and orthopedics. Six MCG students live in that community during their rotations.

- MCG offers a Rural Health Certificate whereby students can receive training specific to the needs of a rural physician practice. The course can also count toward a Master of Public Health degree.

- First- and second-year medical students at MCG receive training in public and population health in their pre-clinical years of training. Guest lecturers from the field sharing their expertise in public health endeavors such as environmental health, community health, health promotion, disease prevention and emergency preparedness

- Fourth-year MCG students may elect to complete a four-week public health elective in one of the 18 public health districts in Georgia. Students are embedded in HIV clinics, family planning centers and WIC programs, where they gain an in-depth view of public health at the grass roots level.

- Phoebe Putney Memorial Hospital in Albany, Georgia, is the hub of MCG's first satellite medical campus for third- and fourth-year students. MCG students can complete clinical rotations in internal medicine, family medicine, OB/GYN, pediatrics, psychiatry, neurology, general surgery, cardiothoracic surgery, urology, orthopedics, plastic surgery, anesthesiology, radiology and palliative care at one of the SW Campus Hospital Partners or at private practices of clinical faculty.

- MCG students have an opportunity to study and live in Rome, Georgia, while completing their third and fourth years of medical school. Students follow patients through medical office visits, hospital, surgery, rehab and in-home visits, gaining clinical training in areas such as family medicine, pediatrics, internal medicine, obstetrics and gynecology, surgery, neurology and psychiatry.

  Floyd Medical Center, Redmond Regional Medical Center and the Harbin Clinic contribute facilities, personnel and support services to help educate students in Rome, improving health care access for the region. Other major supporters include Georgia Highlands College, the Greater Rome Chamber of Commerce, Blue Ridge Area Health Education Center, Berry College, Shorter University, Georgia Northwestern Technical College, as well as state and local officials.

- An early decision process was recently approved to attract students from rural Georgia to apply to MCG. Students interested in rural medicine and in service to our state can apply through a separate track to be considered for admission.

b) Engage rural physicians to develop CME programs for rural physicians

A common challenge for rural hospitals is physician retention. Recruitment is difficult in a rural community, so when a physician leaves, it impacts the health of the community and the bottom line of the hospital. Losing a physician costs the hospital the recruiting costs to hire, train and onboard them, as well as the costs associated with losing their patients and/or practice.

Job satisfaction is the key to physician retention. The lack of continuing education opportunities for rural physicians can lead to a feeling of professional isolation, affecting job satisfaction (17). The ORH will consult with physicians in rural hospitals to identify and implement continuing education opportunities most likely to improve job satisfaction.

One means to deliver continuing education is to connect via telehealth technologies with a larger facility. This has the added advantage of fostering relationships between rural physicians and colleagues in urban locations, which allows rural physicians to feel connected to a larger professional community while remaining in their own communities.

c) Students must become comfortable with the use of telehealth as a tool for patient management or professional consultation. Additionally, a needs assessment of staff and physicians of rural hospitals and our teaching sites should be conducted to determine if updated telehealth training is needed.

d) Create one or more additional rural teaching hospital partnerships with Augusta University/AU Health and encourage the development of inter-professional faculty and student teams for learning and care delivery (reciprocal learning). These sites could also be used for inter-professional education (IPE) rotations for team-based rural primary care, emergency care and coordinated complex care; all would include leading-edge telehealth equipment and training.
   - Currently, students on the regional campuses of MCG participate in IPE experiences in which third-year medical students present active patient cases to third-year pharmacy students to develop medical diagnoses/treatment plans.

e) Develop a leadership model of clinical integration for PAs and APRNs in rural hospitals after reviewing existing nurse-managed centers that integrate nursing care with an emphasis on care coordination and self-care.

   Augusta University can provide training and consultation and can assist rural areas in growing their own professionals from among local residents. The university can also rotate students interested in rural health through the critical access hospital services and design additional opportunities to help with recruitment and transition to the hospital workforce. Creating a learning community as part of the hospital culture would advance quality of care and promote inquiry.

f) Increase academic offerings focused on rural health and hospital management in an effort to produce more qualified, competent business professionals able to serve as CEOs of a rural hospital or on a hospital board.

g) Currently, there is a limited supply of APRNs/PAs trained to work independently in the ED or as hospitalists. Optimizing the use of APRNs and PAs can reduce costs and increase hospital profits without negatively impacting the readmission or mortality rate (18). While not required, residency programs for APRNs and PAs are increasing across the nation. Augusta University and AU Health should investigate enhancing and/or developing residency programs to increase the supply of these critical professionals to assist rural hospitals.

5) **Strengthen and expand telehealth**

A nationally recognized telemedicine service founded at Augusta University, REACH Health (Appendix V), is making neurological consults available to patients in rural areas 24/7/365 within an often life-saving 10 minutes. Through this pioneering telemedicine service, neurologists at AU Medical Center can diagnose and treat stroke patients at member hospitals from anywhere at any time, using a standard computer, webcam and broadband internet connection. A successful telehealth program requires dependable and easy-to-use technology, clinical and administrative staff committed to the project, and open lines of communication to discuss issues and find solutions for areas that need improvement. Augusta University and AU Health must leverage our experience and success with REACH to expand our telemedicine service offerings, both to the 28 hospitals with which we currently partner and to other rural communities.

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Brooks A. Keel, PhD
President, Augusta University
CEO, AU Health System
president@augusta.edu

January 28, 2016

Dear Colleagues,

The rural health care system in Georgia faces a number of challenges. Since 2001, 8 of Georgia's rural hospitals have closed, and several more are currently in danger. Governor Deal has recognized the consequences of losing these critical health care sites when he stated in his Rural Hospital Stabilization Committee's Final Report that "I recognize the critical need for hospital infrastructure in rural Georgia and remain committed to ensuring citizens throughout the state have the ability to receive the care that they need. "

As the state of Georgia's only public academic medical center, and as a leader in health care policy, Augusta University and AUHealth are committed to playing a part in meeting Georgia's rural health care challenges. In order to marshal our growing expertise in health care generally, and in rural health care specifically, I am calling for the convening of a Rural Hospital Task Force. This Task Force will bring together our experts to propose best practices and policies for the management of rural hospitals which could assist in ensuring that all Georgians maintain their access to quality health care.

Over the course of the next 90 days, this Task Force will meet with the express purpose of:

1) Identifying problems that threaten the survival of rural hospitals;
2) Assessing the role of rural hospitals in the health and well-being of rural communities;
3) Creating financially viable prototype clinical models which can meet the needs of the various rural communities;
4) Developing strategies to ensure rural communities have access to those clinical needs which cannot be met in prototype rural hospitals;
5) Developing a model of regionalization of care which has as a centerpiece a rural hospital partnered with tertiary facilities and allows for transfer of patients between facilities so the patient is getting the proper efficient care in the appropriate facility;
6) Developing clinical services for rural hospitals which can be offered in partnership with larger hospitals which will improve patient care within the rural community and be a source of financial support for the rural hospital;
7) Exploring alternative models for the operation of community hospitals such as co-ops and collective bargaining;
8) Examining how technology can be utilized to improve the clinical care of patients, those patients in rural facilities.

I am asking that Dr. Bill Kanto chair this Task Force. I know that this is a huge task to undertake, and I also realize that you will not be able to answer fully all of the above in such a short period of time. However, I am hoping that you will be able to identify the chief issues that need addressing, and will be able to offer some suggestions as to how AU can better position itself to do so. I look forward to receiving this committee's report in May of 2016.

Sincerely,

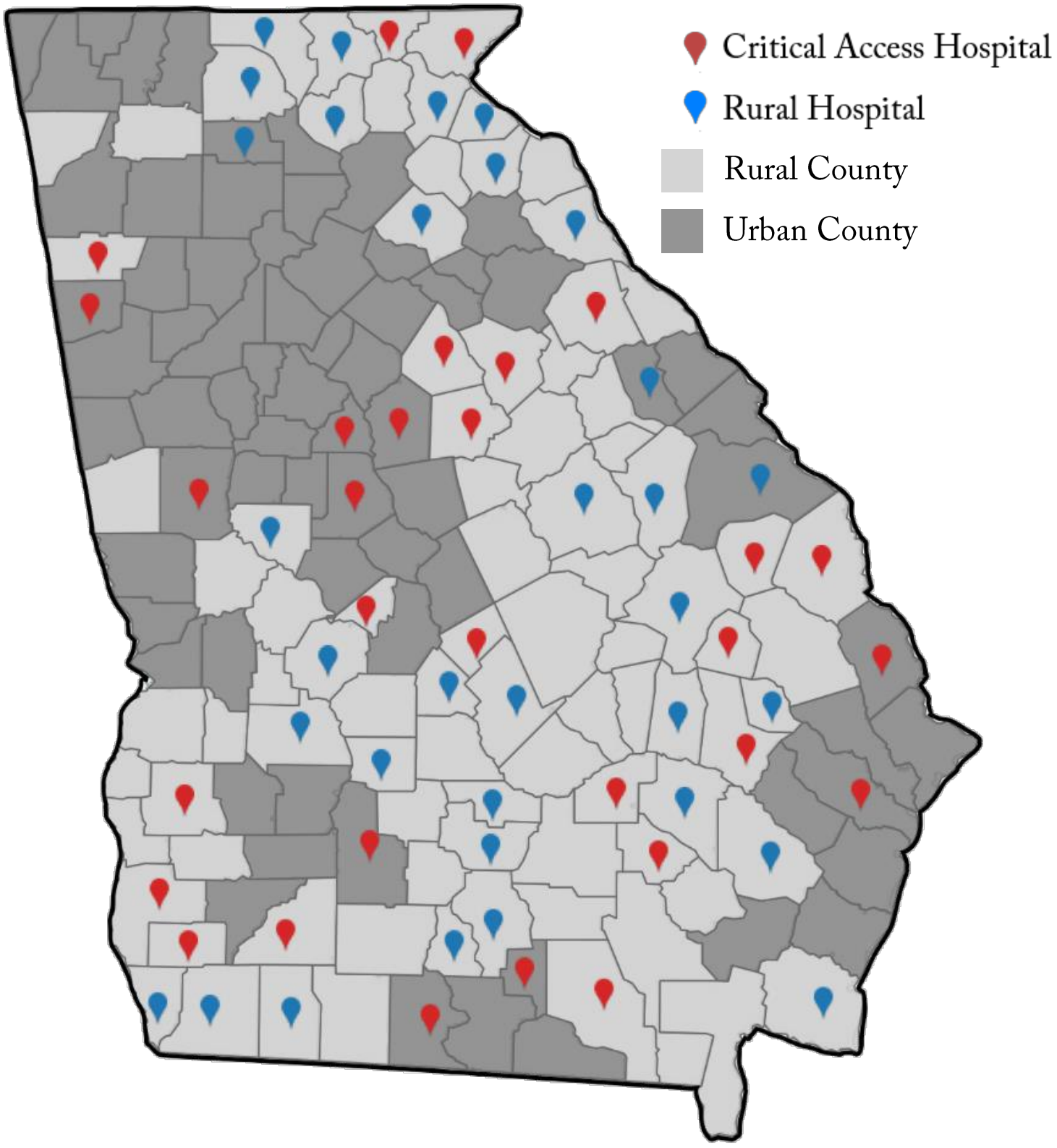
Brooks A. Keel, PhD
President, Augusta University
CEO, AU Health System

Appendix II
Presenter and Presentation

Presenter	Title	Location	Presentation
Dr. Gary Nelson, Ph.D.	President and CEO of Healthcare Georgia Foundation, Inc.	Atlanta, GA	The Two Georgias
Mel Pyne	Administrators at Emanuel County Hospital in Swainsboro	Swainsboro, GA	Experience with Integration in Other States
Damien Scott	Administrators at Emanuel County Hospital in Swainsboro	Swainsboro, GA	Rural Hospital Stabilization Project at Emanuel County
Jimmy Lewis	President and CEO of Hometown Health, LLC	Cumming, GA	The Voice of Georgia's 55+ Rural Hospitals
Bill Boling	Attorney, Health Law, Actively representing Rural Hospitals	Atlanta, GA	Notes From a Health Care Lawyer
Lari Gooding	CEO of Allendale Hospital	Fairfax, SC	Allendale County Hospital
Tammy Mims	COO of Effingham County in Springfield	Springfield, GA	Rural Health Systems: The Shaky Bridge to Stabilizations
Robin Rau	CEO of Miller County Hospital	Colquitt, GA	Hospital Authority of Miller County: Miller Nursing Home
Terry Thompson	Meadows Memorial in Vidalia	Vidalia, GA	Toward an Uncertain Future
Jim Davis	President and CEO of University Hospital - University McDuffie	Thomson, GA	Rural Hospitals
Joe Walters Pam Stewart	Washington County Regional Hospital	Sandersville, GA	Washington County
Charles Owens Patsy Whaley	Georgia State Office of Rural Health	Cordele, GA	Rural Hospital Stabilization Committee Pilot Progress Report
Dr. Balas	Augusta University Dean of CAHS	Augusta, GA	PAs in Rural Health,
Dr. Marion	Augusta University Dean Nursing	Augusta, GA	Nurses in Rural Health

Appendix III

Rural and CAH Hospitals reviewed by Task Force



Hospital Name	2015 Admissions Estimate	30% Capture Rate	Daily x 4.8 Avg. Length of Stay	2015 Estimated ADC
Appling Hospital	2104	631	3029.41	8.30
Bacon County Hospital	1288	386	1854.84	5.08
Dorminy Medical Center	1984	595	2856.88	7.83
So. Georgia Medical Center, Berrien Campus	2162	649	3112.97	8.53
Bleckley Memorial Hospital	1396	419	2009.81	5.51
Brooks County Hospital	1785	536	2570.42	7.04
Burke Medical Center	2593	778	3733.82	10.23
Sylvan Grove Hospital	2690	807	3873.03	10.61
Southeast GA Health System - Camden	5940	1782	8553.06	23.43
Candler County Hospital	1241	372	1787.05	4.90
Clinch Memorial Hospital	786	236	1131.55	3.10
Cook Medical Center	1952	586	2811.08	7.70
Crisp Regional Hospital	2608	783	3756.14	10.29
Memorial Hospital and Manor	3098	929	4460.88	12.22
Dodge County Hospital	2381	714	3427.99	9.39
Pioneer Community Hospital of Early	1206	362	1735.99	4.76
Effingham Hospital	6510	1953	9374.52	25.68
Elbert Memorial Hospital	2207	662	3178.79	8.71
Emanuel Medical Center	2589	777	3727.75	10.21
Evans Memorial Hospital	1230	369	1770.79	4.85
Fannin Regional Hospital	2771	831	3989.58	10.93
St. Mary's Sacred Heart	2543	763	3662.57	10.03
North Georgia Medical Center	3352	1005	4826.30	13.22
Grady General Hospital	2873	862	4137.65	11.34
Good Samaritan Hospital	1905	571	2743.11	7.52
Habersham Medical Center	5016	1505	7222.38	19.79
Higgins General Hospital	3289	987	4736.67	12.98
Irwin County Hospital	1054	316	1517.66	4.16
Northridge Medical Center	7223	2167	10401.18	28.50
Jasper Memorial Hospital	1554	466	2238.32	6.13
Jeff Davis Hospital	1701	510	2449.27	6.71
Jefferson Hospital	1836	551	2643.96	7.24
Optim--Jenkins	1021	306	1470.38	4.03
South Georgia Medical Center, Lanier Campus	1176	353	1692.82	4.64
Liberty Regional Medical Center	7121	2136	10254.58	28.09
Chestatee Regional Hospital	3581	1074	5155.94	14.13
Flint River Hospital	1554	466	2237.83	6.13
University Hospital McDuffie	2456	737	3536.01	9.69
Warm Springs Medical Center	2416	725	3478.55	9.53
Miller County Hospital	667	200	960.99	2.63
Mitchell County Hospital	2573	772	3705.75	10.15
Monroe County Hospital	3090	927	4449.23	12.19
Morgan Memorial Hospital	2057	617	2962.43	8.12
Medical Center of Peach County	3046	914	4386.36	12.02
Piedmont Mountainside Hospital	3455	1037	4975.53	13.63
Polk Medical Center	4734	1420	6816.58	18.68
Taylor Regional Hospital	1299	390	1870.77	5.13
Putnam General Hospital	2434	730	3505.31	9.60
Mountain Lakes Medical Center	1856	557	2672.69	7.32
SW Georgia Regional Medical Center	820	246	1180.80	3.24
Optim--Screven	1614	484	2324.83	6.37
Donalsonville Hospital	986	296	1419.49	3.89
Stephens County Hospital	2917	875	4200.20	11.51
Phoebe Sumter Medical Center	3509	1053	5052.68	13.84
Optim -- Tattnall	2876	863	4141.59	11.35
Meadows Regional Medical Center	3105	932	4471.88	12.25
Chatuge Regional Hospital	1275	382	1835.64	5.03
Union General Hospital *PILOT*	2538	762	3655.35	10.01
Upson Regional Medical Center	3006	902	4328.57	11.86
Washington County Regional Medical Center	2373	712	3417.15	9.36
Wayne Memorial Hospital	3367	1010	4848.30	13.28
Wills Memorial Hospital	1125	337	1619.77	4.44
Phoebe Worth Medical Center	2360	708	3397.95	9.31

Appendix V

Example of a successful rural telehealth initiative": treatment of acute Stroke with REACH

Stroke is the second leading cause of death worldwide, the fourth leading cause of death in the US and the leading cause of adult disability in the U.S. The coastal southeastern U.S. lies in the 'Stroke Belt where the incidence and mortality from stroke is the highest in the U.S. [1, 2] The coastal plain of Georgia has one of the highest stroke rates in the U.S. and African Americans are at particularly high risk of stroke and recurrent stroke.[3]

In 1996, tissue plasminogen activator (tPA) became the first approved by the FDA for the treatment of acute ischemic stroke. Since tPA has some risks associated with its use and requires specialist consultation, there was reluctance to administer the drug in many hospitals. When we surveyed our rural hospitals in 2002, we found that they had never treated a patient with tPA due to lack of specialists. This problem is not unique to Georgia; it is a worldwide problem. But we solved it in Georgia

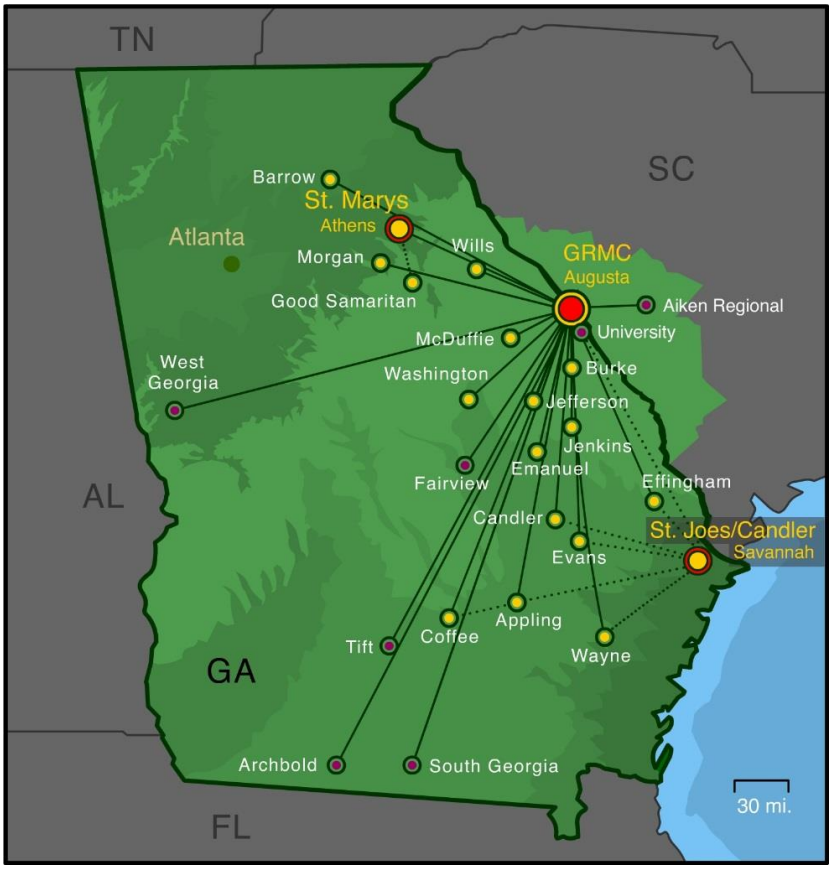


Figure 1: Multi Hub and Spoke Telestroke Network with AUMC (Augusta) and St Joseph's-Candler (Savannah) as "Hubs"

To meet these clinical needs, we developed a Hub and spoke telemedicine network in 2003 through a web-based telestroke program known as REACH that now serves 30 spoke hospitals linked to the Hub, AUMC (Figure 1). In 2002-3, we met with our rural hospital providers and designed the system to fit their needs. We piloted the REACH system in two rural Georgia hospitals in 2003, Emanuel County and McDuffie Regional. [4-7] We published our results in peer reviewed journals and our REACH system of stroke care formed the foundation for the American Stroke Association guidelines that recommended telestroke as a system of stroke care. [8, 9]

Our system became recognized as a model system of rural stroke care and the New York Department of Health wanted to purchase REACH so we spun out a company from AU, REACH Health Inc, www.reachhealth.com presently headquartered in Alpharetta GA. REACH Health, Inc supplies our system to many academic medical centers and integrated service delivery networks throughout the U.S. to help support their rural hospitals.

We later teamed with St Joseph's Candler Hospital in Savannah Ga, our Southeastern Medical Campus, to enhance stroke care in rural Georgia by expanding the network over a wider geographic area. Our service area in the Central Savannah River area (Augusta University Medical Center (AUMC) referral area) and Southeastern Georgia (St Josephs'-Candler Health System referral area) is located in the heart of the southeastern Stroke Belt, with the highest stroke mortality and stroke incidence in the U.S. (See figure)

These rural hospitals (spokes) are all provided call coverage by stroke specialists from Augusta University in Augusta, GA. We are available 24-7-365 and we respond within 5 minutes. Our model of care is the "right care at the right hospital by the right provider". After the telestroke consult, some of the patients can remain at the rural hospital ; other patients with greater severity are transferred to either AU Medical Center or St Joseph's Hospital in Savannah depending upon the location of the rural hospital they initially present. We have treated over 1000 patients with tPA in the network and have performed over 7000 acute stroke consults. Nearly half of the patients we treat with tPA in our rural hospitals are African American.

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