COMMONWEALTH of VIRGINIA

JACK BARBER, M.D.
INTERIM COMMISSIONER

DEPARTMENT OF
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November 21, 2017

The Honorable Thomas K. Norment, Jr., Co-chair
The Honorable Emmett W. Hanger, Jr., Co-chair
Senate Finance Committee
14th Floor, Pocahontas Building,
900 East Main Street,
Richmond, VA 23219

Dear Senator Norment and Senator Hanger:

Item 319. C.2. of the 2016 Appropriations Act required the Department of Behavioral Health and Developmental Services (DBHDS) to "*hire a contractor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia."* Budget language also required that the plan *"shall be provided to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees and the Joint Subcommittee to Study Mental Health Services in the Twenty-First Century by November 15, 2016.* In consultation with the General Assembly, DBHDS was granted an extension on this report to repost and re-solicit requests for proposals with more appropriate deadlines, allow time for the selected vendor to contract with their own geropsychiatric experts, conduct needs assessments, and develop quality data, plans and recommendations.

Please find enclosed the report in accordance with Item 319 C.2. as prepared by Health Management Associates. Please do not hesitate to contact me if you have any questions about this report.

Sincerely,

Jack Barber, M.D.

Enc.

Cc: William A. Hazel, Jr., M.D.
Joe Flores
Susan E. Massart
Mike Tweedy

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November 21, 2017

The Honorable S. Chris Jones, Chair
House Appropriations Committee
900 East Main Street
Pocahontas Building, 13th Floor
Richmond, Virginia 23219

Dear Delegate Jones:

Item 319. C.2. of the 2016 Appropriations Act required the Department of Behavioral Health and Developmental Services (DBHDS) to "*hire a contractor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia."* Budget language also required that the plan *"shall be provided to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees and the Joint Subcommittee to Study Mental Health Services in the Twenty-First Century by November 15, 2016.* In consultation with the General Assembly, DBHDS was granted an extension on this report to repost and re-solicit requests for proposals with more appropriate deadlines, allow time for the selected vendor to contract with their own geropsychiatric experts, conduct needs assessments, and develop quality data, plans and recommendations.

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November 21, 2017

The Honorable Terry McAuliffe, Governor
Commonwealth of Virginia
Patrick Henry Building
P.O. Box 1475
Richmond, VA 23218

Dear Governor McAuliffe:

Item 319. C.2. of the 2016 Appropriations Act required the Department of Behavioral Health and Developmental Services (DBHDS) to "*hire a contractor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia."* Budget language also required that the plan *"shall be provided to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees and the Joint Subcommittee to Study Mental Health Services in the Twenty-First Century by November 15, 2016.* In consultation with the General Assembly, DBHDS was granted an extension on this report to repost and re-solicit requests for proposals with more appropriate deadlines, allow time for the selected vendor to contract with their own geropsychiatric experts, conduct needs assessments, and develop quality data, plans and recommendations.

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November 21, 2017

The Honorable R. Creigh Deeds, Chair
Joint Subcommittee to Study Mental Health Services in the Twenty-First Century
900 East Main Street
Pocahontas Building, Room E503
Richmond, Virginia 23219

Dear Senator Deeds:

Item 319. C.2. of the 2016 Appropriations Act required the Department of Behavioral Health and Developmental Services (DBHDS) to "*hire a contractor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia."* Budget language also required that the plan *"shall be provided to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees and the Joint Subcommittee to Study Mental Health Services in the Twenty-First Century by November 15, 2016.* In consultation with the General Assembly, DBHDS was granted an extension on this report to repost and re-solicit requests for proposals with more appropriate deadlines, allow time for the selected vendor to contract with their own geropsychiatric experts, conduct needs assessments, and develop quality data, plans and recommendations.

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Geropsychiatric System of Care in Virginia

A Report to the Virginia Department of Behavioral Health and Developmental Services

Health Management Associates

November 10, 2017

About Health Management Associates

Health Management Associates, Inc. (HMA) is widely regarded as a leader in providing strategic, technical, and analytical and implementation services to health care purchasers, payers, and providers, with a special concentration on those who address the needs of the medically indigent and underserved. HMA's behavioral health team is composed of individuals with extensive experience in both clinical practice and policy, making it uniquely positioned for behavioral health consultation in the areas of system review, needs assessment, and strategic planning. For this project, HMA selected an interdisciplinary team of clinicians, including a geriatrician, a psychiatrist, a psychologist, and a licensed independent social worker (LISW). In addition to this clinical expertise, our team included Medicaid behavioral health policy and financing experts, hospital accounting professionals, an attorney, health care construction specialists, and other colleagues to support completions of this very important project.

About Olshesky Design Group, LLC

Olshesky Design Group (ODG), an architecture, interior design, master planning and construction firm, was founded in 2000 and recently added environmental consulting to its practice. ODG is dedicated to a mission of providing design excellence while achieving optimal functional, economic and environmental performance. ODG has been designing sustainable projects since it was founded in 2000. ODG's architects and engineers have more than 30 years of experience preparing capacity studies and facility condition assessments.

Table of Contents

Abbreviations

AAA	Area Agencies on Aging
ADL	Activities of Daily Living
ALF	Assisted Living Facility
ALOS	Average Length of Stay
CAT	Catawba Hospital
CNA	Certified Nurse Assistant
CfCs	Conditions for Coverage
CFR	Code of Federal Regulations
CMS	Centers for Medicare and Medicaid Services
CoP	Conditions of Participation
CSB	Community Service Board
DAP	Discharge Assistance Program
DARS	Virginia Department of Aging and Rehabilitative Services
DBHDS	Department of Behavioral Health and Developmental Services
DMAS	Department of Medical Assistance Services
EBL	Extraordinary Barriers List
ECO	Emergency Custody Order
EHS	Eastern State Hospital
FCI	Facility Condition Index
HCBS	Home and Community-based Services
HGTC	Hancock Geriatric Treatment Center
HMA	Health Management Associates
ICPT	Incompetent to Proceed
IDD	Intellectual Disabilities or Developmental Disabilities
IMD	Institution for Mental Disease
LOC	Level of Care
LPN	Licensed Practical Nurse
LTCH	Long Term Care Hospital
LTSS	Long Term Services and Supports
MFP	Money-Follows the Person
NCD	Neurocognitive Disorders
NF	Nursing Facility (also see SNF)
NGRI	Not Guilty by Reason of Insanity
ODG	Olshesky Design Group
PGH	Piedmont Hospital
RAFT	Regional Older Ault Facilities Mental Health Support Team
SMI	Serious Mental Illness
SNF	Skilled Nursing Facility (also see NF)
TDO	Temporary Detention Order

Executive Summary

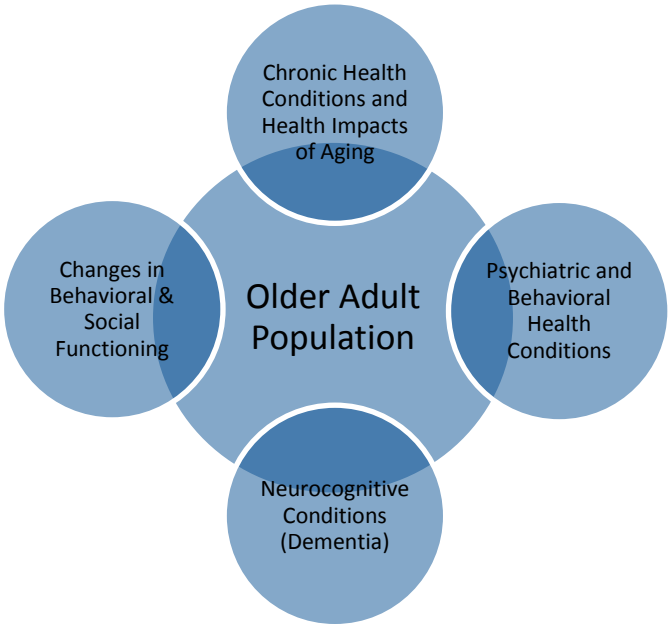
The Virginia Department of Behavioral Health and Development Services (DBHDS) contracted with Health Management Associates (HMA) to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia. According to Request for Proposal (RFP) # 720C-04525-17M, *Geropsychiatric System of Care Virginia*, as the physical plants of Virginia's mental health hospitals age, Virginia is faced with the choice of spending for increasingly costly maintenance and repairs of existing structures, building new hospitals, investing in community services infrastructure, or some combination of these alternatives. HMA embarked on a multifaceted approach to understand: the geropsychiatric population and their care needs; services provided in state-operated psychiatric facilities with geriatric units; the policy, regulatory, and payment environment relating to inpatient psychiatric services and their collective impact on geropsychiatric service delivery; the availability of community-based geropsychiatric services; and the physical plant structure of selected state-operated psychiatric facilities. Key findings, options, and recommendations are highlighted below and discussed in greater detail throughout the report.

Service Needs and Delivery System Implications for Older Adults

Virginia's public system of care for older adults is challenged due to the growing segment of this population and the distinct care needs of subpopulations, including those with a history of serious mental illness (SMI) or neurocognitive disorders such as dementia and Alzheimer's disease. This reality is manifested in the over reliance on state-run inpatient psychiatric facilities that, for some individuals, are not the appropriate level of care. Specifically, state-operated psychiatric facilities have become the primary provider for many publicly funded older adult populations, even those who would traditionally not be served in inpatient psychiatric settings.

The health care needs of older adult populations are often complex as illustrated in the figure below. Pinpointing the underlying causes of symptoms and determining appropriate treatment requires an understanding of medical, psychiatric, and neurocognitive conditions. Often, social and behavioral changes such as aggressive behavior can be secondary to these conditions. In Virginia, these different sub-populations are being blended and treated as one.

Figure 1 - Complex Care Needs of Older Adults



Virginia's delivery system for older adults has evolved over time and has been influenced by unintentional, yet misaligned policies that have impacted service access, treatment capacity, care transitions, and treatment costs to the state. The result is a state design with mixed levels of care within and across settings, treatment environments that can be counter-therapeutic, and a reduction of community capacity to serve older adults on Medicaid and Medicare. The sheer volume of service demand; growth and complexity of patient populations; and constraints to develop discrete models of care due to space, resources, and specialty staffing are persistent limitations for the Commonwealth.

State-operated facilities have served as an important safety net for many older adult populations. However, specific federal policies restrict payment for institutional services for some populations with mental illness in certain facilities. As a result, Virginia bears the overwhelming financial burden for services that, in some instances, are eligible for a federal share of reimbursement under Medicaid and Medicare. This is because a significant portion of care delivery and associated costs for the increasing older adult population is currently provided by the state-operated psychiatric hospitals. These hospitals are among the facilities federally categorized as Institutes of Mental Disease (IMDs) and ineligible for Medicaid funding as a nursing facility or to provide psychiatric services for adults aged 21-64.

In addition, due to the age of some of these facilities, the physical plants need repair and modernization to obtain or maintain certification and accreditation status for eligible reimbursements. The hospitals require modernization to meet patient care needs, including the redesign of facility layouts that can support the development of evidenced-based programs and staffing models. However, financial investments in building infrastructures, workforce capacity, and program redesign, would do little to remedy the underlying issue in the state: the lack of a comprehensive approach and long-term plan for addressing the care needs of publicly-funded older adults with complex conditions.

This report outlines HMA's options and recommendations for developing an intermediate strategy for a subpopulation of older adults consistent with RFP requirements and includes suggestions for implementing a longer-term reform strategy for older adults with complex needs.

Key Drivers of Fragmented Long-Term Services and Supports for Older Adults with SMI or Neurocognitive Disorders Served in State-Operated Facilities

Key factors creating blended sub-populations within state-operated inpatient settings include state culture and statutory changes that have disproportionately impacted individuals with public insurance. In the last few years, Virginia's focus on institutional care for older adults, limited nursing facility capacity for low-income individuals, and statutory changes (last resort law and treatment detention order) have accelerated the merging of these populations in state-operated treatment facilities as a result:

The service population in state-operated psychiatric facilities has expanded significantly due to increased number of overall admissions and decreased rates of discharges, resulting in a funneling effect (i.e., more patients coming in than can be discharged) within state-operated facilities, triggered by:

- **State policy changes** (Last Resort Law) related to individuals with mental health crisis;
- **Increased numbers of older age patients with medical complexities** such as individuals on oxygen and individuals with multiple medical conditions;
- **Increased acute psychiatric admissions with more difficult to treat mental health conditions** and who are difficult to discharge even when psychiatrically stable due to limited community-based placements;

- **Increased admissions of individuals with neurocognitive disorders with significant co-occurring behavioral challenges** who are denied care by community nursing facilities due to insurance type or because of behavior secondary to neurocognitive conditions (separate from any objective determination of appropriate level of care); and
- **Increased numbers of individuals with a combination of these conditions**.

In many ways, the use of state-operated facilities as the "catch all" for treatment of all older adults is a direct result of misalignment of incentives for community-based care. The community providers (Community Service Boards) responsible for admission, discharge and community placement do not have a primary responsibility for meeting the treatment needs of individuals with neurocognitive disorders, who represent a significant number of older adults served by the state hospitals. In fact, the lack of funding to CSBs for non-behavioral health related care to older adults and their current disconnect from other older adult systems of care (Area Aging Agencies, Medicaid long-term care funding, etc.) creates an over-reliance and use of state hospitals rather than community placement. The time pressure created by mental health crisis statutes also intensifies a reliance on inpatient capacity and use rather than providing DBHDS and CSBs the opportunity and resources to build and utilize community-based alternatives.

Key Decisions for Designing a System of Care for Older Adults

What programs and services should be available to ensure a full continuum of services for older adults where individuals receive the right service, in the right setting, when needed? Central decisions for the state in designing a system of care for older adults are:

1) What populations should be the focus of state-operated psychiatric facilities?
2) What populations should be the focus of community-based providers? How can capacity and the willingness to serve these populations (across older adult services, not merely behavioral health providers) be improved?
3) How should resources be aligned to incentivize care based on the decisions made and the ultimate design of the system?

Need for Development of a Full Continuum of Publicly Funded Services for Older Adults with Mental Illness or Neurocognitive Disorders

The older adult system of care has evolved without purposeful design in Virginia. State-operated facilities have had little time to develop a thoughtful and planned transition of the state hospital role amid recent statutory changes. Once the funnel effect began, resulting in increasing admissions and slower rates of discharge, state psychiatric hospitals have been largely in a reactive stance rather than being able to develop and implement a proactive response. Since passage of last resort statutes, the hospitals were forced to abandon any attempt at gradual transition of care models, roles/services, and function (i.e., changes to staffing and workforce expertise such as adding more medical expertise, including neurology). Instead the facilities had to rapidly make space for individuals as the patient populations quickly transformed.

Similarly, at the broader system level, the model(s) for serving the geriatric population has not been designed to ensure the availability of a full continuum of services. Virginia is unbalanced in the system with more focus on inpatient and institutional care with minimal development of the community-based continuum of services. This has primarily been a result of resource allocation—with more funding going towards institutional care making community services development challenging. As an example, there is a lack of respite options for families, and limited nursing facility options, in part because nursing facility providers do not receive additional training and support in managing individuals with neurocognitive conditions who have behavioral challenges. Although the CSBs have been in collaboration with the state

(even though individuals with neurocognitive conditions is outside of their defined population and funding focus) to pilot and experiment with new programming in multiple regions, these efforts currently remain limited.

Virginia is at a critical decision point with respect to the continuum of long term services and supports (LTSS) for publicly funded older adults. As the population is rapidly growing, the state needs to design the continuum of services needed and then build the continuum. This will likely require additional funding and resources to maintain existing services (funding of state-operated facilities) while increasing funding in the community to build provider capacity, incentivize service development for those with public insurance, and train a competent population-focused workforce. Central to this next phase of development is inclusion of all State agencies responsible for policies and reimbursement for older adult services. Although DBHDS' participation is vital, it is important that leadership from DMAS and DARS drive the planning and design of a system of care for older adults. Even more critical is the need for DMAS to establish the requisite parameters for obtaining Medicaid policy and funding authorities, establishing roles for quality oversight and accountability, and defining outcome measures, particularly given Virginia's movement toward a managed care model for LTSS.

Across the continuum of services, workforce is a major concern. As the demographics change in Virginia, there is a growing number of older adults combined with an exodus of workers who often lack the interest and/or competency to treat older adults. This is a primary concern for the state-operated facilities which are struggling significantly with maintaining and developing a trained workforce. The shortages across disciplines are significant, with nursing retention being at a crisis point for some facilities. This has placed significant burden on the system trying to adapt workforce and at times take on risk that may not be appropriate for the facility or clinical capacity (e.g., admission of individuals with significant medical needs that push the capabilities of a state psychiatric facility). The last resort statutes contribute to this challenge, as individuals are admitted due to time pressure rather than a clinical assessment, creating no ability for hospitals to manage appropriate versus inappropriate referrals. Admittance of inappropriate referrals only fuels workforce challenges as professional staff experience stress and face concerns that they are taking inappropriate personal risk with their licensure. These factors drive early retirement and make retention of new hires an uphill battle.

All combined, these findings point to the need for developing an older adult system of care through a two-tiered approach: an intermediate strategy that is implemented over the next five years and a long-term strategy that is put into place in the next ten years. Recommendations for a long-term strategy are initially discussed so that the State can establish a clear vision about the future system that needs to be designed. Intermediate recommendations follow and serve as milestones toward achieving the broader vision.

Long Term Recommendations for an Older Adult System of Care

To achieve the older adult system of care described above, the State should devise a strategy that:

- Rebalances the use of institutional long-term care (i.e., state-operated psychiatric facilities and nursing facilities) in relation to community-based services to ensure that the level of care accessed by the individual served is in a setting and for a duration that is suitable for the person's needs;
- Expands the capacity of community-based care and enables CSBs and providers of LTSS to more effectively attend to the integrated behavioral health/aging-related care needs of mutually served populations;
- Ensures timely transitions between appropriate levels of care and settings, and ensures that the receiving entity has established protocols and a prepared workforce to meet individuals' needs;

- Optimizes funding streams to enable payments from Medicaid and Medicare in a manner that does not compromise the level of services provided to an individual and that makes flexible state funds available for non-covered services;
- Promotes and provides incentives for use of best practices and evidence-based care;
- Leverages available federal authority (e.g., waivers and state plan amendments) to develop an enhanced array of services payable under Medicaid;
- Makes effective use of the recently established, comprehensive Medicaid managed care structure to ensure that an adequate delivery system and funding is available to address population needs; and
- Advances the use of data and other information across systems to allow for improved tracking of service availability and utilization across care continuum and ensures the accountability of all providers for appropriate services to older adults.

Intermediate Term Recommendations for an Older Adult System of Care

While the state develops a long-term strategy, attention should also be paid to development of a set of interim solutions, particularly in acknowledgment of existing state-regulations and strain on capacity for institutional services. An intermediate approach should leverage the collective strengths of DARS, DBHDS and DMAS to, at a minimum, continue State funding of pilot program development aimed at increasing collaboration between State facilities and CSBs to enhance community-based options for older adults. Additionally, Virginia should revisit the role of the State-operated facilities to determine whether they should provide long term services and supports for neurocognitive disorders in addition to the traditional focus on acute stabilization of psychiatric illnesses. Finally, the roles for community-based delivery systems should be further explored to identify potential opportunities for realigning functions and funding to more effectively meet population needs.

Long-term and intermediate term recommendations are further described in the Summary of Observations and Recommendations section of this report. Cost estimates were not developed for each recommendation as it is imperative that the State make critical decisions about the role of existing systems serving older adults with mental illness or neurocognitive disorders. As such, HMA recommends that the Commonwealth continue and expand on its interagency collaboration regarding the service population, delivery system, program design, financing and payment, and system infrastructure decisions the State will need to make regarding older adults with mental illness or neurocognitive conditions.

Introduction and Background

As the physical plants of Virginia's mental health hospitals age, the State is faced with the choice of spending for increasingly costly maintenance and repairs of existing structures, building new hospitals, investing in community services infrastructure, or some combination of this array of alternatives.

In August of 2016 the State of Virginia issued Request for Proposal (RFP) number 720C-04525-17M to establish a contract with a qualified vendor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia. The purpose of the RFP was to provide the Governor and members of the General Assembly with an independent and comprehensive review of the current state of geropsychiatric services to include options and recommendations for future decision making. Health Management Associates (HMA) was awarded the contract through a competitive procurement process. For the purposes of the RFP and this report, geropsychiatric services refers to behavioral health services provided to individuals age 65 and older with mental health, substance abuse, and/or age related neurocognitive conditions with behavioral challenges requiring intervention.

Section D.1., Item 319#3c of the 2016 Appropriations Act required DBHDS to hire a contractor to develop a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia that addresses the appropriate array of community services and state geropsychiatric facility services upon which Virginia's behavioral health system should be modeled. This report provides information related to the following required RFP elements:

- **State/Federal Laws and Regulations**: Relevant state and federal requirements for licensing and certification and related funding considerations;
- **Role of State-Operated Psychiatric Hospitals**: Role of state-operated facilities as the provider of last resort for civil and forensic inpatient admissions;
- **Admission and Discharge Trends**: Historical, current, and future inpatient admission and discharge trends by locality;
- **Inpatient Psychiatric Service Capacity**: Current private and state-operated inpatient psychiatric services capacity to include recommendations for the respective roles of private and state-operated facilities in providing capacity for needs and trends;
- **Individual Level of Care Needs**: individualized assessment of the level of care required for current individuals residing in state-operated geropsychiatric facilities and an identification of the needs of individuals who will be served by these facilities in the future;
- **Barriers to Discharge**: Examination of the number of individuals on the Extraordinary Barriers List and others who may be clinically ready for discharge and a review of the options needed to overcome the barriers to discharge;
- **Models in other states that address best and evidence-based practices**, ensure integrated service delivery systems, and an appropriate level of inpatient services;
- **Physical Plant Needs:** Physical plant needs and requirements of state-operated facilities, including a review of the costs of modernizing existing structures;
- **Community Capacity for Geropsychiatric Services**: Current community capacity for geropsychiatric services as reflected in the description and availability of an appropriate array of community-based services in each region and, to the extent possible, a description as well as an estimate of the cost and the amount of time required to develop services that are needed in the community;
- **Workforce: workforce transition and development needs** for any identified trends or shifts in the system of care; and

- **Options and Recommendations**: Options, including associated costs and revenues for each option, accompanied by recommendations for Virginia's future geropsychiatric system of care.[1]

HMA Approach and Methodology

The approach to completing a review of the current geropsychiatric system of care involved multiple phases of work and tasks to support developing the options and recommendations for the State's consideration. Multiple stakeholders participated in the project by sharing their perspectives, providing requested information, and engaging in discussions with the consultant team.

Project Phases

Specific activities that led to the completion of the scope of work consistent with RFP requirements, included:

- Engaging state leadership to understand the current system and vision for the future;
- Identifying clinical, functional, and social needs of consumers and consideration of the role of state-operated facilities as the provider of last resort for civil and forensic inpatient admissions;
- Obtaining and analyzing existing data, including individuals on the extraordinary barriers list;
- Understanding state and federal requirements and identifying best practices in geropsychiatric care;
- Assessing physical plant needs; and
- Development of the final report, including recommendations for the future.

Approach

This project was completed through a multi-pronged approach that included interviews with stakeholders, site visits and assessments of state facilities, and a review of applicable information including facilities data, legislative and regulatory requirements, and an environmental scan of best practices in serving the target populations of this project.

Kick-Off Meeting

HMA core project team members met with staff from the Virginia legislature as well as leadership from the Departments of Behavioral Health and Developmental Services (DBHDS), Aging and Rehabilitative Services (DARS), and Medical Assistance Services (DMAS). State staff were also available and amenable to participate in numerous follow-up phone discussions with consultants.

On-Site Visits to Virginia State Psychiatric Hospitals serving the Geriatric Population

HMA conducted site visits to four facilities with geriatric units: Southwestern, Catawba, Piedmont, and the Hancock Geriatric facility on the campus of Eastern State Hospital. Information regarding programming and general aspects of each facility was reviewed prior to the visits, including referring to the data collection and analysis discussed below. In addition, hospital administrators were interviewed prior to each visit to provide a general orientation to each facility.

Data Collection and Analysis

Concurrent with HMA's onsite reviews, DBHDS provided materials such as relevant internal and external reports as well as policies and procedures from both the central office and state hospitals. DBHDS central office staff also provided an overview of available data and systems and assisted with the resulting data

[1] As discussed in the report, HMA did not provide cost and revenue estimates for recommendations given the breadth of service population, delivery system, program design, financing and payment, and system infrastructure decisions the State will need to make regarding older adults with mental illness or neurocognitive conditions.

request. Data reviewed included demographic; admission, discharge, and transfer; and diagnostic information from the Avatar system as well as information about patients on the Extraordinary Barriers List (EBL) list. State staff met with HMA throughout the project to answer questions that arose during the data analysis process.

Facility Condition Assessment

HMA subcontracted with Olshesky Design Group, LLC (ODG) to conduct a facility condition assessment focused on the superstructure and systems of the four geriatric facilities to address the "aging physical plant" component of the RFP. Prior to the hospital site visits, ODG reviewed existing documents so that reviewers were familiar with the hospital structures. Documents included recent reports, facility studies, and drawings of the existing hospitals. ODG associates also conducted meetings with the DBHDS office of Engineering and Buildings in Richmond. ODG spent one week at each hospital and conducted meetings with building or systems managers to discuss the conditions of existing structures. Findings from these activities were incorporated in the development of recommendations for this report.

Review of Federal and State Regulatory and Payment Regulations, Guidance, and Relevant Reports

State or other regulatory requirements have a direct impact on service design and delivery. In addition, requirements of health care payers can also influence service availability and care models utilized by providers. HMA reviewed regulatory requirements to provide necessary context when discussing the current system service array and provider network as well as potential elements of an optimal geriatric system of care, including the limitation of potential settings in proving adequate services due to these requirements. DBHDS provided information to assist HMA with understanding certification decisions and participated in numerous phone calls to discuss funding sources and certification status of each facility.

Environmental Scan of Best Practices Utilized by other States or Providers

System delivery structures and relevant geriatric and psychiatric care models within other states were identified through a scan of publicly available peer-reviewed scientific journals and information available from organizations focused on the geriatric population. These included the University of Washington Department of Psychiatry, American Association for Geriatric Psychiatry, Kaiser Family Foundation, the Substance Abuse and Mental Health Services Administration (SAMHSA), Administration on Aging (AOA), the National Council on Aging (NCOA), and the National Registry of Evidenced-Based Programs and Practices (NREPP). State or provider successes outside of Virginia provided potential models for the State's consideration and certain elements were incorporated into recommendations found within this report. It is important to note that some care models were like those currently in use and endorsed by Virginia CSBs.

Interviews with Community Service Board Leadership

HMA met with staff from the Virginia Association of Community Service Boards (VACSB) as part of the system review process. In addition to providing information about Virginia's current system of care for Geriatric individuals, VACSB assisted HMA in scheduling telephonic interviews with a representative sample of CSBs. CSBs provided additional utilization data, information regarding geriatric-specific services within the community, as well as CSB perceptions of the current system's strengths and challenges in serving geriatric individuals with mental illness alone or in combination with neurocognitive disorders.

Outreach to Selected Area Agencies on Aging and Nursing Facilities

HMA sent a written request to discuss the current delivery system to each of the Virginia Area Agencies on Aging (AAAs), as well as the trade associations that represent nursing facilities and other providers in

the aging system. Through conversations with AAAs and association staff members, thought leaders were identified. HMA conducted ten conversations with individuals involved in the Virginia aging system. The verbal interviews consisted of three AAA directors and one program director of the Regional Older Adult Facilities Mental Health Support Team (RAFT). Additionally, HMA spoke with leadership from Leading Age Virginia, the provider association for not-for-profit long-term care facilities and other providers of aging services, four nursing facility administrators, and a well-known Virginia-based clinical geriatric psychologist. The conversations centered on understanding how well the current system addresses the needs of older individuals with behavioral health issues from the perspective of each interviewee. Interviews were synthesized across key themes to identify most relevant findings and make recommendations based upon the input received.

Key Environmental Drivers for Geropsych Strategic Planning

Virginia Code Chapter 3 Title 37.2 establishes DBHDS as the state authority for the publicly funded behavioral health and developmental services system. Under the supervision and management of the Commissioner, DBHDS is responsible for establishing, maintaining, and promoting the development of mental health, developmental, and substance abuse services in the Commonwealth in accordance with the policies and regulations and applicable federal and state statutes and regulations.

Virginia's state-operated facilities provide highly structured and intensive inpatient services, including psychiatric, psychological, psychosocial rehabilitation, nursing, support, ancillary services, and specialized programs for older adults, children and adolescents, and individuals with a forensic status.[2] Institutionally-based psychiatric inpatient services are primarily funded using state general revenue funds, Medicaid (for children under the age of twenty-one and adults age 65 or older), and Medicare for enrolled beneficiaries, though Medicare imposes a 190-day lifetime limit on inpatient psychiatric services.

In addition to the ongoing changes in national health care policy, state systems are also impacted by local events and environmental factors. Virginia has experienced several recent challenges that provide stimulus for system review and redesign. These include high-profile tragedies involving individuals with mental illness, system response following these events, and a recent U.S. Department of Justice settlement agreement, all during a time when the geriatric population within the State is growing and placing increasing demands on the systems affected by these events.

High Profile Events in the State

In 2007 a student with a history of mental illness shot and killed thirty-two students on the Virginia Polytechnic Institute and State University campus before taking his own life. In 2013, a day after being evaluated for a protective order and released, the son of a Virginia state Senator stabbed his father and then took his own life. Both events have led to scrutiny of Virginia's publicly funded behavioral health system, including the availability of and timely access to services and the effectiveness of commitment procedures. System response to these events are an important part of the recent evolution in the use of Temporary Detention Orders (TDOs) as well as a general spike in the demand for state-operated hospital beds. The direct impact of this for the geriatric system of care will be further discussed throughout this report.

[2] Department of Behavioral Health and Developmental Services. *Fiscal Year 2016 Annual Report*. December 1, 2016. Available at http://www.dbhds.virginia.gov/library/community%20contracting/occ-dbhds-2016-annual-report.pdf.

Demand for Virginia's State Psychiatric Hospital Services

Virginia's state-operated psychiatric hospitals have an established history of providing long-term inpatient services for adults age sixty-five or older. This includes those who require long-term services and supports (LTSS) for addressing acute mental illness alone or in combination with neurocognitive disorders such as dementia or Alzheimer's disease. However, the growth in this population within the state of Virginia is just one factor increasing the demand for beds within the state hospitals.

Provider of Last Resort

Recent statutory changes have also increased demand for state hospital beds. Virginia law now provides that state-operated hospitals cannot refuse the admission of a person held under an Emergency Custody Order (ECO) following a TDO evaluation when an alternative facility cannot be found and the ECO period is expiring. There are no exceptions to this requirement. As discussed later in this report, both community providers and state hospital staff report an increase in TDOs and subsequent ECO admissions under this statutory change. This is primarily because state hospitals are no longer permitted to deflect admissions when their units are full or they believe an individual might be more appropriately served in another setting.

Extraordinary Barriers List

In addition to an increase in patients entering the state hospitals, there are also challenges in discharging some individuals from the state hospital once they have been identified as ready for transition to a less restrictive setting. State hospital patients are added to the Extraordinary Barriers List (EBL) when the local Community Service Board (CSB) and state hospital treatment team cannot complete a discharge within fourteen days the date the person was determined clinically ready for discharge (prior to July 1, 2016, the period was thirty days). In December 2014, there were 144 individuals on the EBL due to the lack of acceptable, available, and appropriate community services. Fifty-two (or 36%) of the individuals on the EBL were between the ages of sixty to ninety-four. For Virginians age sixty-five or older, the duration of EBL placement ranged from thirty-five to 1500 days.

EBL Barriers to Discharge

In a prior report developed by the state, DBHDS identified the following issues as primary barriers to discharge for individuals on the EBL:

- No willing provider due to the nature of the patient's legal charge, being a sex offender, having complex medical conditions, and/or having a history of violence.
- Accepted at residential programs, assisted living facilities, or a nursing home, but not discharged because the accepting facilities do not have available and/or appropriate beds.
- Lack guardianship or in the process of obtaining a guardian.
- On forensic status and waiting on conditional release.
- Awaiting funding sources such as Medicaid or Discharge Assistance Program (DAP) funds.

As part of this review of the geropsychiatric system of care, an updated review of the EBL and barriers to discharge was completed and continued challenges in areas identified by the state remain and are discussed within this report.

Department of Justice Settlement Agreement

In August 2008, the U.S. Department of Justice (DOJ) initiated an investigation into conditions at the Central Virginia Training Center, a facility serving persons with intellectual disabilities or developmental disabilities (ID/DD). In 2012 the DOJ entered into a settlement agreement with the Commonwealth that

has led to an increase in community-based services for persons with ID/DD and resulted in the closing of the state's training centers. Virginia is approaching the midpoint of the timeline for the Commonwealth's ten-year implementation process for systems changes agreed to in the settlement. Despite successes in achieving the goals of the plan for the ID/DD system of care, the state reported that a death occurred in a regional jail while an individual was waiting for a bed at Eastern State Hospital. The death has raised concerns about a potential triggering of a DOJ investigation focused on the behavioral health system of care. While recent legislation was passed in response to this incident to ensure individuals identified as needing state hospital services will be admitted within ten days, the requirement has increased demand for beds within these facilities. As discussed later in this report, the growing demand for beds across populations, coupled with the inability to refuse patients from corrections or on an ECO for admission, have challenged the hospitals ability to maintain specialty units for geriatric individuals.

Geropsych Population Trends and Care Needs

National Trends

The U.S. is facing both an increase in the aging demographic with adults living longer and an increase in the number of older adults with the aging of the "baby boomer" generation. In addition, three out of four Americans over the age of sixty-five have multiple chronic illnesses that last more than a year and limit basic daily functional activity. Functional status is the best predictor of longevity and well-being and is defined as how well a person can provide for his or her own needs. Geriatric physical illnesses, such as progressive cardiovascular, arthritic, and neurocognitive diseases affect an older person's functional ability and independence and lead many elderly people to be reliant on others for basic needs that require close supervision or facility-based care.

Virginia's Aging and Geropsych Trends

The 2010 Census confirms, nationally and statewide, the predicted yet unprecedented growth of the older adult population. Today, roughly 1.4 million Virginians are over the age of sixty, an increase of more than 33% since 2000. The escalation is even more dramatic with the number of adults over the age of eighty-five, jumping more than 40% in just ten years and currently numbering 122,403.[3] A priority recommendation from the same 2011 report was to "develop a full continuum of collaborative care for older adults who have mental health needs, intellectual disabilities, and substance abuse issues" and to develop a conceptual framework for a continuum of care for older adults.[4] The rate of need for assistance with activities of daily living (i.e., bathing, eating, dressing, toileting, etc.) increases with age, due to the normal effects of aging and the increasing rate of multiple chronic conditions among the elderly. It is projected that over half of adults over the age of 85 will experience dementia, a progressive condition that generally requires 24-hour supervision as well as, eventually, significant hands-on care.

According to the Virginia Department of Aging and Rehabilitative Services (DARS), the percent of Virginia's population over the age of sixty will increase from 14.7% to 25% by 2025, at which point there will be 2 million people in this group. Recent population projections published by the University of Virginia's Weldon Cooper Center for Public Services demonstrate the acceleration of the aging population. The table below illustrates the number of Virginians expected to be eighty-five or older in each of those years. Because of the projected overall increase in the Virginia population, the percentage increase

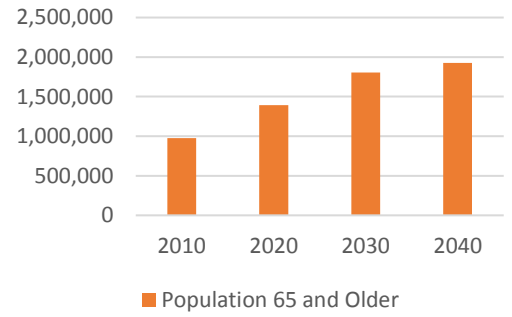
[3] Biennial Progress Report on Virginia's Four-Year Plan for Aging Services Across the Continuum — Across the Commonwealth, REPORT OF THE VIRGINIA DEPARTMENT FOR THE AGING IN COMPLIANCE WITH THE CODE OF VIRGINIA § 2.2-703.1 (D.), 2011. Retrieved on October 18, 2017 from https://www.vda.virginia.gov/pdfdocs/FourYearPlanUpdate-RD417-2011.pdf.
[4] Ibid.

relative to total population is not shocking, but between 2020 and 2040, there will be a 53% increase in the number of Virginians over age eighty-five.

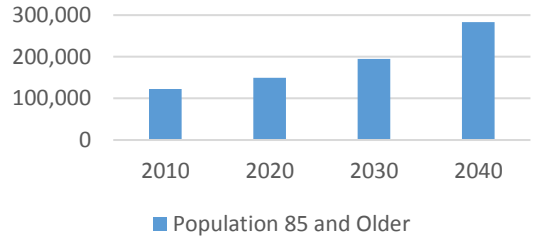
Table 1 - Virginia Aging Population Projections: 2020, 2030, 2040

Virginia Aging Population Projections: 2020,2030, 2040								
2020			2030			2040		
Total Population	Population 65 and Older	Population 85 and Older	Total Population	Population 65 and Older	Population 85 and Older	Total Population	Population 65 and Older	Population 85 and Older
8,744,273	1,392,849	149,399	9,546,958	1,803,404	194,658	10,201,530	1,925,150	283,507

Virginia's Projected Population Age 65 and Older



Virginia's Projected Population Age 85 and Older



Discussion of Findings

State and Federal Laws and Regulations

Overview:

State and other regulatory requirements have a direct impact on service design and delivery. In addition, requirements of health care payers can also influence service availability and care models utilized by providers. HMA reviewed regulatory requirements to provide necessary context when discussing the current system service array and provider network as well as potential elements of an optimal geriatric system of care, including the limitation of potential settings in proving adequate services due to these requirements. A summary of key state and federal regulations is provided below. *Appendix A: State and Federal Licensing, Financial, and Regulatory Requirements* contains all the licensure and financing regulations HMA utilized to draw conclusions and make recommendations in this report.

DBHDS operates fifteen facilities: seven behavioral health facilities, four training centers, a psychiatric facility for children and adolescents, a medical center, a psychiatric geriatric hospital, and a center for behavioral rehabilitation. Eight of these facilities operate as state hospitals providing behavioral health services for adults.

1. Catawba Hospital (CH)
2. Central State Hospital (CSH)
3. Eastern State Hospital (ESH)
4. Piedmont Geriatric Hospital (PGH)
5. Northern Virginia Mental Health Institute (NVMHI)
6. Southern Virginia Mental Health Institute (SVMHI)

7. Southwestern Virginia Mental Health Institute (SWVMHI)
8. Western State Hospital (WSH)

Virginia Code Section 37.2-702 requires that DBHDS establish and operate a separate geriatric unit within each state facility to serve elderly individuals. These units must provide care and treatment for individuals in a manner that reasonably separates them from the rest of the state facility. Facilities with units specializing in geropsychiatric treatment are Catawba, Piedmont, and Southern Virginia MHI. In addition, Eastern State Hospital Eastern maintains the Hancock Geriatric Treatment Center on its campus.

Licensure and Certification

State Licensure and Accreditation

State-operated behavioral health facilities are established under the authority of Chapter 7, Article 1 of the Code of Virginia and are subject to the supervision and control of DBHDS. State-operated hospitals are exempt from state licensure requirements. The Commonwealth relies on federal certifications and accreditation agencies to assess and monitor the quality and safety of its state-operated hospitals rather than conducting self-assessments which could create a conflict of interest. Non-state-operated inpatient psychiatric facilities and services, which includes private psychiatric hospitals, are governed by state licensure laws promulgated under Section 37.2-405 of the Code.

Federal Certification

All inpatient psychiatric hospital facilities must meet requirements mandated by the Social Security Act (the Act). The Act designates those providers that are subject to federal healthcare quality standards such as patient care institutions including hospitals (42 CFR Part 482), critical access hospitals, hospices, nursing homes (42 CFR Part 483 Subpart B), and home health agencies.

In addition, Section 1861(f) of the Act provides that an institution participating in Medicare as a psychiatric hospital must meet certain specified requirements imposed on hospitals under section 1861(e). Federal regulations at 42 CFR Part 482 establish the Conditions of Participation (CoP) for hospitals which include Requirements for Specialty Hospitals at Subpart E (482.60 – 42 CFR 482.62).

Medicaid Funding Requirements and Considerations

Inpatient Hospital Services Coverage: Section 1905(a)(1) of the Act mandates that all states cover inpatient services for Medicaid enrollees. Inpatient services are services ordinarily furnished in a hospital for the care and treatment of inpatients. Such items and services must be provided under the direction of a physician and, because of the Institution for Mental Diseases provision (discussed below), generally may not be provided in an institution maintained primarily for the treatment and care of patients with mental disease.

Institution for Mental Diseases (IMD) Exclusion: Section 1905(i) of the Act defines IMDs as a hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services. Section 1905(a)(29) (B) excludes federal reimbursement to state Medicaid agencies for any such payments made by the state with respect to care or services for any individual who has not attained 65 years of age and who is a patient in an IMD. This exclusion applies to the services delivered by the IMD, but also to services delivered by other providers while the person is a patient in an IMD. However, hospital and most other Medicaid services for a Medicaid eligible person age 65 or older are coverable while the patient is in an IMD.

Certification Status of DBHDS Facilities and Implications for Federal Payment

The table below provides a summary of the current certification, accreditation status, and funding sources for each of the eight DBHDS facilities, including the four facilities that are the subject of this report.

- All eight DBHDS facilities meet the definition of an IMD, given they primarily serve individuals with mental illness.
- Regardless of ownership type (i.e., state-operated, other public, private), services to Medicaid enrollees age 65 or older who are in an IMD are coverable under Medicaid if the facility meets federal CoP and is certified as a hospital/psychiatric hospital. This includes services outside the facility such as non-psychiatric inpatient, dental, physician, etc.
- Inpatient psychiatric facilities may also qualify for Medicare reimbursement if federal CoP are met. Medicare imposes a 190-day lifetime per beneficiary limit on inpatient psychiatric services.
- Federal CoP prohibits IMDs from participating as nursing facilities (NF). Therefore, a facility primarily serving individuals with mental illness cannot be certified (or reimbursed under Medicare or Medicaid) as a NF. See *Appendix A: State and Federal Licensing, Financial, and Regulatory Requirements.*
- While the patient population in a state-operated facility may otherwise meet NF level of care (LOC), an IMD cannot be certified as a NF and therefore cannot receive Medicaid or Medicare payments for the provision of nursing facility services. All services to address NF LOC needs in an IMD must be paid using state funds.
- While technically there are no federal financial regulatory barriers precluding state-operated psychiatric hospitals from receiving Medicaid and Medicare payments for inpatient psychiatric hospital services provided to Medicaid eligible patients age sixty-five or older, the survey and certification process may result in findings that impede certification and hence payment for services. The table below lists each hospital's certification and funding status to-date.[5]

Table 2 - Certification, Accreditation and Funding Sources of DBHDS Facilities

DHBHDS Facility	Unit(s)	Certified	Current Certification(s) Held	Current Accreditation(s) Held	Current Funding Source(s)		
					Medicare	Medicaid	State Only*
Catawba Hospital		Y	Long-Term Psychiatric Hospital	Yes		X	X
Central State Hospital	Adult Psychiatric Units	N		Yes			X
	Forensic Units	N		Yes			X
Eastern State Hospital	Adult Psychiatric Units	N		Yes			X
	Forensic Units	N		Yes			X
	Geriatric Units (Hancock)	N		Yes			X
Northern VA Mental Health Institute	Adult Psychiatric Units	Y	Psychiatric Hospital	Yes	X		X
	Forensic Units	N		Yes			X
Piedmont Geriatric Hospital		Y	Long-Term Psychiatric Hospital	Yes		X	X
South VA Mental Health Institute	Adult Psychiatric Hospital	Y	Psychiatric Hospital	Yes	X		X
Southwestern VA Mental Health Institute	Adult Psychiatric Hospital	Y	Psychiatric Hospital	Yes	X		X
	Immediate Care Facility	Y	Immediate care Facility (Nursing Facility)	Yes		X	X
	Adult Psychiatric Unit	N		Yes			X

[5] See the "Certification and Funding Options: Hancock Geriatric Treatment Center" report by Behavioral Health Policy Collaborative, LLC and Health Management Associates for a fuller discussion about Hancock GTC's current and previous hospital and nursing facility status.

DHBHDS Facility	Unit(s)	Certified	Current Certification(s) Held	Current Accreditation(s) Held	Current Funding Source(s)		
					Medicare	Medicaid	State Only*
Western State Hospital	Adult Psychiatric Units	Y	Psychiatric Hospital	Yes	X		X
	Adult Psychiatric Units	N		Yes			X
	Forensic Units	N		Yes			X

* State Only: No state facility is totally supported with Medicare/Medicaid. Only one facility has a forensic unit. All require some type of state appropriation. All facilities are accredited by Joint Commission as a hospital. If Medicare funded, facility has deemed status from TJC and is considered a psychiatric hospital.

History of DHBDS State-Operated Facility Certification Challenges

DBHDS state-operated facilities have a long history of meeting the ever-changing needs of Virginia's residents. Whether serving individuals with tuberculosis in 1972 or patients with geropsychiatric needs today, the physical infrastructure, staffing, and services have been adapted to provide quality care to those in need. As these changes are made, the certification status of each facility has also changed over time to reflect the populations served and the subsequent model of care being delivered to ensure receipt of applicable federal funding.

As regulatory changes are made at the federal levels, facilities across the country are challenged to remain compliant with extensive and complex requirements. Despite the detailed guidance CMS maintains for surveyors, the survey process requires individuals to make interpretations of the CoP which introduces subjectivity into the process which sometimes results in different outcomes across facilities. Facilities therefore must be constantly adapting to maintain compliance with CoP while simultaneously addressing state and local regulations and meeting population needs to receive federal funding.

The following provides a brief history of the recent challenges that select DBHDS facilities have faced in their efforts to remain compliant with Medicare CoP and participate as Medicare and Medicaid providers. A detailed history the four state-operated facilities that primarily serve the geriatric population (Catawba Hospital, Eastern State Hospital Hancock Geriatric Treatment Center, Piedmont Geriatric Hospital, and Southwestern Virginia Mental Health) are included in *Appendix A: State and Federal Licensing, Financial, and Regulatory Requirements.* A fuller discussion of the history of Eastern/Hancock as a nursing facility is provided in a separate report.[6]

Catawba and Piedmont Hospitals

Prior to July 1, 2004, Catawba (CAT) and Piedmont (PGH) were considered long-term care hospitals (LTCH) that cared for chronically ill residents. On June 3, 2003, the Commonwealth received notice from Medicare for both PGH and CAT indicating they no longer qualified as LTCH because they did not meet the average length of stay criteria of greater than 25 days. As a result, both PGH and CAT lost their LTCH status for Medicare, but not for Medicaid.

Interviewees indicated that the average length of stay was calculated by Medicare based on cost reports. While residents of the facility had lengths of stay that exceeded 25 days on average, DBHDs was splitting billings of those stays between Medicare and Medicaid due to the reimbursement policies of the program. Patients admitted for treatment of acute psychiatric needs were being billed to Medicare initially and once they were identified as requiring long-term care they were billed to Medicaid.[7]

Because of losing their LTCH status, the facilities were now identified by Medicare as acute care hospitals and were not surveyed for special CoP for psychiatric hospitals. In 2013, Catawba and Piedmont Hospitals were surveyed for compliance with the Medicare Conditions of Participation for Psychiatric Hospitals for

[6] Ibid.
[7] Beds at both PGH and CAT were dually certified as LTC beds for Medicare and Medicaid.

the period of January 1, 2006 - December 31, 2010. The HHS Office of Inspector General (OIG) indicated in its July 2014 reports[8] to the Commonwealth that Catawba and Piedmont did not demonstrate compliance with the special Medicare CoP during the audit period because while the Joint Commission accredited both facilities as a hospital the facilities were never specially surveyed to demonstrate compliance with the special Medicare CoP.[9] Therefore the inpatient hospital services to patients aged 65 and older did not meet the Medicaid definition of such services and all payments it received from the State Medicaid agency were ineligible for Federal reimbursement. DMAS has provided comments back to OIG strongly disagreeing with OIG's findings and recommendations on the grounds that the draft audit did not establish that the two hospitals did not comply with the federal regulations. While OIG has responded that it maintains its findings and recommendations, there has been no formal action taken by CMS related to this audit to date.

The challenges these facilities have experienced and the associated deficiencies noted by the surveys are critical information to take into account when considering the feasibility of successfully implementing strategies for transforming the geropsychiatric system of care.

Role of State-Operated Psychiatric Hospitals

Overview

Virginia's state-operated facilities provide highly structured and intensive inpatient services, including psychiatric, psychological, psychosocial rehabilitation, nursing, support, and ancillary services, and specialized programs for older adults, children and adolescents, and individuals with a forensic status.[10]

Following a tragic assault and death of a prominent Virginia legislator, a major reassessment of mental health law and practice was undertaken in Virginia. One outcome of the assessment was a series of new laws enacted by the Virginia General Assembly in 2014 which revised the Virginia Civil commitment statutes and DBHDS statutes. Specifically, changes were made to laws related to the issuance of ECOs and TDOs and compel the completion of the statewide web-based psychiatric bed registry.[11]

These changes have not only impacted the process for civil commitments in Virginia, but have had unintended consequences on the state-operated facilities as discussed in the Key Environmental Drivers section of this report. The following represent a subset of all the changes made in 2014 and were selected for this report due to the impact that they have had on the state-operated facility system.

- **Facility Last Resort:** Virginia law now provides that state-operated hospitals cannot refuse the admission of a person held under an ECO when an alternative facility cannot be found and the ECO period is expiring. There are no exceptions to this requirement. However, both the state facility and the CSB can continue to search for another willing facility for up to four hours after the expiration of the ECO.

[8] OIG, Virginia Improperly Claimed Federal Reimbursement for Most Reviewed Medicaid Payments to Catawba Hospital (July 2014).
OIG, Virginia Improperly Claimed Federal Reimbursement for Most Reviewed Medicaid Payments to Catawba Hospital (July 2014).

[9] While The Joint Commission (TJC) today has the authority to deem compliance for the special Medicare CoP, during the audit period such accreditation did not exist through TJC. Therefore, facilities had to be specially surveyed for the special CoP.

[10] Department of Behavioral Health and Developmental Services. *Fiscal Year 2016 Annual Report*. December 1, 2016. Available at http://www.dbhds.virginia.gov/library/community%20contracting/occ-dbhds-2016-annual-report.pdf.

[11] The Institute of Law, Psychiatry & Public Policy at the University of Virginia. Developments in Mental Health Law. Volume 33, Issue 3-4. December 2014. Available at http://www.ilppp.virginia.edu/publicationsandpolicy/index.

- **Bed Registry**[12]: A state-wide web-based Acute Psychiatric Bed Registry which must provide real- time information about the number of beds available at each facility or unit and, for each available bed, the type of patient that may be admitted, the level of security provided, and any other information that may be necessary to allow employees or designees of CSBs and employees of inpatient psychiatric facilities or public and private residential crisis stabilization units to identify appropriate facilities for detention and treatment of individuals who meet the criteria for temporary detention.
- **Notice to the State Facility**: Upon receiving notification of the need for an evaluation under an ECO, the CSB is required to contact the state facility serving the area to inform them that the individual will be transported to their facility upon the issuance of a TDO if an alternative facility cannot be identified by the expiration of the 8 hour ECO period.[13] Once the evaluation is complete, the CSB must give information about the individual to the state facility so it can determine the services the individual will need if admitted there. The state facility may search on its own for an alternative facility, including another state facility, for placement under a TDO.[14] Even if the ECO period ends and the state facility must accept an individual under a TDO, the state facility and the CSB may continue to seek an alternative temporary detention facility `
- **Transfer to an alternative willing facility even after initial TDO placement in a facility**[15]: Authorizes the transfer of a person to an alternative willing facility at any time during the TDO period if the alternative facility is a "more appropriate facility for temporary detention of the individual given the specific security, medical, or behavioral health needs of the person."

Discussion of Hospital Roles in Addressing Needs of Geropsychiatric Populations

State-operated BH facilities are working to fulfill their obligation to patients in need of immediate access to short-term psychiatric services pursuant to changes in 2014 civil commitment statutes and DBHDS laws. Facilities are also providing services to patients on forensic status. However, at the same time DBHDS was expanding access in response to emerging acute crises across all age groups, the state was also experiencing a lower rate of discharges compared with admissions, particularly for individuals age 65 or older.

As a result, the intended role of the facilities has broadened to include provision of custodial care for older adult patients with psychiatric conditions, including those patients whose primary conditions are neurocognitive or functional in nature. In many cases, the psychiatric issues have either stabilized or become dwarfed by Alzheimer's, dementia and other aging-related conditions.

Examples of the varying roles and challenges faced by state-operated facilities are that:

- Care and custody forensic patients. This includes patients who either age during their forensic admission/process or who are admitted with new criminal justice involvement as older adults. The hospitals identified a unique discharge challenge for adults aging during their forensic status. Adult patients on forensic status (Not Guilty due to Insanity (NGRI) or Incompetent to Proceed (ICPT)) age in the hospitals and begin to develop medical and neurocognitive challenges similarly to the general population. As their cognitive functioning declines, it is harder for them to complete the steps required for NGRI or ICPT. This places the individual somewhat in limbo—they are unable to be discharged to the community due to failed completion of their forensic stay, and yet they can no longer benefit from forensic programming and often no longer need this level of care.

[12] §§ 37.2-308.1
[13] § 37.2-809.1
[14] §§ 37.2-809E and 37.2-809.1
[15] § 37.2-809E

These patients, although not significant in number, take valuable resources and time in a setting that could be used for others who could more directly benefit.

- Older adults with serious mental illness with long-term hospitalization (as a result of illness that fails to stabilize or forensic status) face challenges with adequate space for pacing, space for verbal responding to auditory hallucinations without disturbing others; adequate staffing such as psych-techs trained in treatment delivery of psychiatric milieu and psychiatric rehabilitation and a focus on management of symptoms; challenges with offering adequate targeted treatment groups with content appropriate for psychiatric needs such as social skills, structured hygiene support, and medication adherence.
- Hospital discharge planners report that individuals who have a history of forensic status or criminal activity (even if decades old) face great difficulty in community placement. This appears to be true regardless of the individual's current presentation and assessed risk for future criminal behavior.

HMA worked with DBHDS to understand feedback provided by CMS and other State auditors on concerns related to psychiatric hospitals providing long-term services and supports. A central question for the State and for the project relates to how the State manages mixed populations of older adults with some needing psychiatric services and others needing more long-term care services. The State's goals are to provide quality care to both populations while maximizing reimbursement and financial sustainability.

As a result, DBHDS requested input on the question of state facilities certification as a nursing facility and the degree to which an ideal system combines these populations. HMA's assessment was that nursing facility certification was a difficult challenge for the State facilities given their IMD status and that it may be more appropriate for the state facilities to be leveraged as a primary psychiatric facility rather than trying to meet two distinct and separate populations' needs. A fuller discussion of the history of Eastern/Hancock as a nursing facility is provided in a separate report.[16]

Historical Context and Current Hospital Model of Care

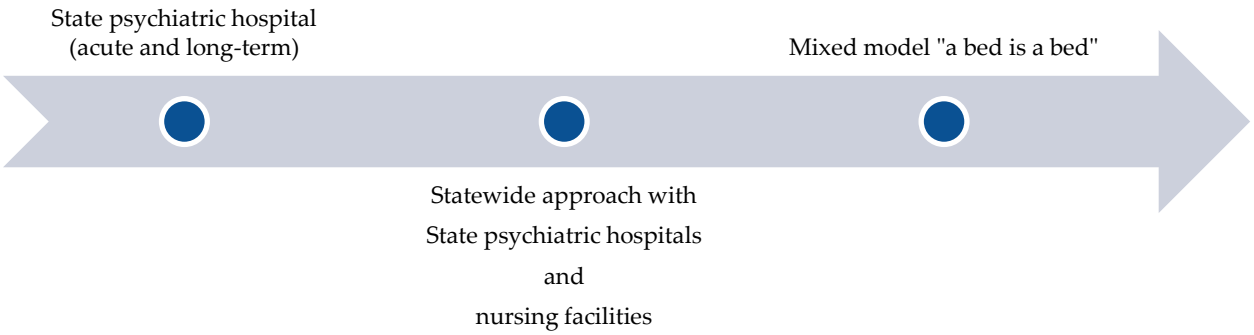
Historically, the state hospital system in Virginia served as the primary provider for publicly funded older adult populations. The hospitals provided primarily long-term psychiatric placement for individuals with serious mental illness (SMI) who aged in the institutions as well as served as the long-term placement for individuals with neurocognitive and/or behavioral issues. Hospital administrators described some acute psychiatric admissions for older adults that required traditional state hospital evaluation and stabilization, however this was not the majority of the older adult population served. In response to a growing number of individuals qualifying for nursing facility level of care without adequate community resources to discharge them, some hospitals developed nursing facilities or units and adopted a long-term custodial care model. This shift financially supported the state's care of a population with unmet need in the community—older adults on Medicaid or indigent insurance status. As dually licensed and credentialed facilities, these hospitals and or units within hospitals provided care for a mixed population; however, the primary focus of treatment was long-term care. As some facilities became certified, the state also began to leverage different hospitals for different populations based on model design. This allowed facilities to build a model including staffing to match the level of care and to match the population served. For example, Hancock shifted aspects of the model and staffing towards long-term nursing care and away from inpatient psychiatric care, and achieved federal nursing facility certification. Hancock then received referrals from across the state for individuals with neurocognitive long-term care needs and became the

[16] See the "Certification and Funding Options: Hancock Geriatric Treatment Center" report by Behavioral Health Policy Collaborative, LLC and Health Management Associates for a fuller discussion about Hancock GTC's current and previous hospital and nursing facility status.

discharge site for many of the other geriatric units within the state hospitals. In balance, other hospitals focused their model and specialties on inpatient psychiatric level of care to serve the population with SMI aging in the system and treating those with more acute psychiatric illness.

This statewide approach to serving multiple populations remained stable until the recent past. Starting in 2014, with changes in state policy and statute regarding admission to the hospitals (TDO and "last resort law"), the hospitals have experienced a significant increase in admissions, forcing hospitals to forgo specific models for discrete populations and instead attempt to serve all individuals in their region(s). This dramatic and rapid shift in the model of care for older adults has resulted in many unintended consequences for the hospitals and patients.

Figure 2 – Evolving Model of State Psychiatric Hospitals

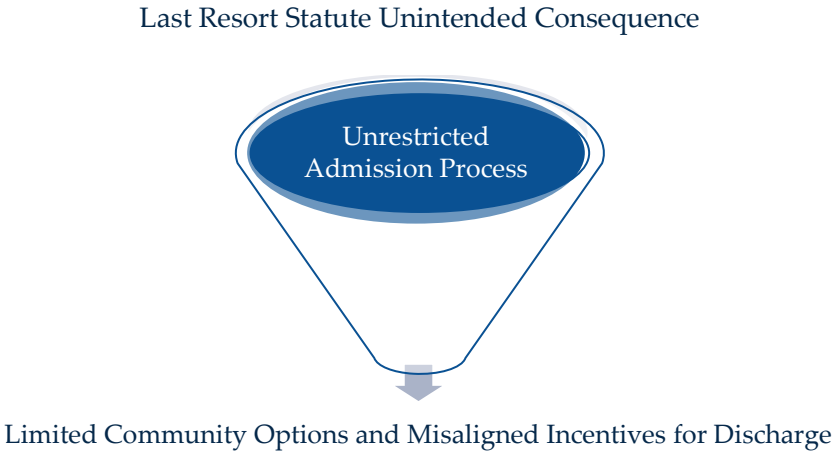


As discussed above, the rapid increase in admissions to state hospitals has been caused by multiple factors which in combination have created significant and unsustainable challenges. CSBs are often unable to stabilize or identify a community or private hospital alternative for an older adult in crisis (whether it is a crisis related to psychiatric or neurocognitive disorders). To meet the timeframe requirements, they are forced to refer individuals to the state facilities which are required to take them regardless of appropriateness for state facility care. There are clearly times that individuals are appropriately referred to the hospitals; however, the increase in numbers of admissions is also because there are individuals who do not need that level of care and are being referred simply as a byproduct of meeting new policy and statutory requirements. State hospitals and the CSBs also reported that other provider groups have taken advantage of these policy changes—private hospitals having an easier time refusing behavioral health admissions and nursing facilities knowing that discharge of a more "difficult" resident will result in state hospital placement, relieving these private providers of any risk or concern about refusing care to difficult-to-place individuals.

These factors combined have created what some called a "funnel effect" for the hospitals. The funnel is very wide at the top for admissions entering the state facilities, however very narrow and restricted at the bottom for returning to the community. This funnel results in individuals entering the hospitals and staying while the pressure at the top of the funnel continues. Most facilities are running at 98%-100% of capacity in terms of census, and some described multiple occasions of having to go over census. Average length of stay varies by hospital, but there are no short-term admissions due to the complexity of finding a placement even for the more "simple cases." One to three months is not uncommon for the shortest stays, with three to six months being an average length of stay. More worrisome is that some individuals

remain in the hospital for decades; most concerning is that not all of these individuals need an inpatient level of care.

Figure 3 - Funnel Effect of Admission and Discharge Post TDO/Last Resort Law Implementation



To respond to the sheer numbers of admissions, the hospitals have had to move back to a regional approach, focused on providing immediate access to beds for all populations served, and thus can no longer specialize with regard to population model and unit design. Instead, they are trying to serve multiple sub-populations of older adults on each unit. As a result, they are currently combining individuals who qualify for long-term nursing facility care due to neurocognitive conditions with two populations of individuals with psychiatric illness (those who are aging with SMI and are still not ready for community living and those with acute psychiatric episodes). This is essentially compressing two levels of care (nursing facility long-term care and inpatient psychiatric care) and cofounding two separate models.

An overarching theme from HMA's visit of the state hospitals is that there was little capacity or time to develop a thoughtful or planned transition of the state hospital role once the funnel effect began. Although all the state facilities have worked hard to adapt to this transition and to meet the growing demand for older adult inpatient beds, the added workforce and changes to the model of care have been reactive rather than planned and strategic. For example, as a certified nursing facility, Hancock was ill-prepared for an influx of acute psychiatric patients needing more traditional inpatient psychiatric capacity instead of custodial care. The philosophy of care, treatment model, workforce expertise and staffing ratios vary between these models, and it takes time for a facility unit to shift in one direction or another. Rather than a gradual transition with changes to staffing and workforce expertise (such as adding more medical expertise such as neurology), the facilities very rapidly had to make space for individuals, and the populations of the facilities quickly transformed. This has placed significant burden and clinical risk on state hospitals, (e.g., admission of individuals with significant medical needs that exceed the capacity of a State facility).

The population for State facilities has changed in the following ways:

- Increased numbers of admissions;
- Increased medical fragility such as individuals on oxygen and individuals with multiple medical conditions. Estimates ranged from one to ten to one in twenty admissions required the state hospitals to immediately refer individuals to acute care facilities due to acute medical need;

- Increased acute psychiatric admissions with more difficult to treat mental health conditions and who are difficult to discharge even when psychiatrically stable;
- Increased neurocognitive admissions with significant behavioral challenges who are denied care by community nursing facilities due to insurance type or as a result of behavior secondary to neurocognitive conditions (separate from any objective determination of appropriate level of care); and
- Individuals with a mix of these conditions.

Blended Populations and Confounding Levels of Care

The current population mix does not fit the underlying model of care offered in state facilities. The more acute and unstable population coming into the geriatric facilities is a poor fit for the historical model designed to provide long-term care for individuals who were living out their years within the state facilities. The model of care and budgets within the facilities has not been designed for this blended population, and state hospitals lack the right and adequate staff mixtures to appropriately respond. For example, the long-term care model requires more Certified Nursing Assistants (CNAs) to support patient hygiene and basic care, while acute psychiatric units require more trained psychiatric technicians who can provide milieu based psychiatric rehabilitation. Additionally, medical complex populations require additional specialties such as neurology and neuropsychology as well as greater numbers of registered nurses who can monitor and treat individuals at risk medically.

At the core of long-term care is a philosophy of custodial care, with an emphasis on hands-on assistance with activities of daily living. This is very different in nature, scope and pace from an inpatient psychiatric unit which is highly structured, treatment oriented, and regulated at a much higher standard. They are in fact two distinct levels of care with different licensure. HMA's observation is that each of the state hospitals serving older adults are trying to live with a foot in each world—offering custodial and long-term care to their stable adults with dementia and serving as an inpatient admission unit with rapid psychiatric care and stabilization for discharge to the community. Neither model of care is being delivered well and staff in the hospitals are left in a "limbo land" of sorts with regard to documentation standards, treatment model goals, and clear expectations.

The individual patient is the one who clearly suffers the most in this blended approach. As units are filled with mixed populations without full planned capacity for care, neither population gets their needs met fully. Acute psychiatric patients are receiving a less therapeutic milieu with specific treatment targets (instead, attending memory care classes) and individuals with dementia are being emotionally impacted and having individual rights restricted because of the presence of angry, sometimes aggressive and unstable psychiatric patients. As an example, HMA was visiting a hospital when an individual with dementia was assaulted by an individual with acute psychiatric needs.

In most states and in best practice models, these populations are not blended, because the level and model of care are so different and because mixing the populations is considered counter-therapeutic. The Virginia State Hospitals have each made a valiant effort to address this by creating sub-units or trying to create spaces for specific populations by pod, unit or even sides of the hallways. For example, Piedmont State Hospital has tried to assess and then separate populations by floor of the hospital, creating some changes in model (groups, milieu format, space on the unit etc.) to match the sub-population for each floor. Some of the other facilities are more hamstrung for space and beds and thus have had to compromise quality of care by mixing populations despite knowing it is not the standard of care.

For the geriatric units in Virginia, 50-75 percent of the patient population has neurocognitive challenges, though the percentage is changing with an increasing number of psychiatric admissions. Because of this

history of more long-term care of neurocognitive conditions, the treatment focus is on memory care (e.g., crafts, reminiscing groups, and social activities for distraction/quality of life), hygiene and daily living activities, and maintenance of ambulatory maintenance (e.g., walking). On many of the units, it appeared that the SMI patients received less than adequate psychiatric milieu programming because of staff time spent on hygiene and daily living for other patients and managing non-ambulatory populations. Multiple hospitals talked about staffing challenges that resulted in difficultly getting the psychiatric patients to the treatment malls or other treatment activities off the unit. This lack of mobility off the units also spiked concern over safe evacuation in case of fire, especially when the geriatric units were located on the upper floors of the facilities.

The transition and influx of complex patients has led to a cascading effect on other elements of hospital functioning. The workforce is more stretched and challenged, resulting in more early retirements or premature departures from the career workforce. Resulting workforce shortages in turn increase stress on remaining staff, who work to meet the demand with fewer and fewer resources. The more this happens, the more people leave and then the problem snowballs, becoming incredibly difficult to fix.

This "organic" transition of hospital purpose/role in the full continuum of care is a major contributor to the facility challenges and a loss of identity for geriatric care in the State. Hospitals need to know whether they are acute care facilities for psychiatric populations or long-term nursing facilities for neurocognitive conditions. Only then can they meet a set of licensure/certification standards, evidence-based model design, and effective and efficient delivery of care.

Inpatient Psychiatric Service Capacity

The trend between 1970 and 2014 shows that nationally, inpatient psychiatric hospital capacity has significantly decreased (90% decrease in state and county psychiatric hospital capacity, 160% decrease in public and private psychiatric hospital capacity, and 77% decrease in psychiatric unit capacity within general hospitals). Between 1980 and 2014, Virginia experienced a 69% decrease in the number of residents in state and county psychiatric hospitals (compared with a 65% national median decrease).[17]

Data from the National Association of State Mental Health Program Directors Research Institute (NRI) shows that in 2014 there were 49 inpatient (state-operated and other) facilities in Virginia serving 2,081 clients (25.3 inpatient clients per 100,000 population, compared with the national average of 31.6). For the same time period, Virginia's inpatient facility beds totaled 2,570 (31.3 inpatient beds per 100,000 population, compared with 33.1 per 100,000 beds nationally. For state-operated-only facilities, DBHDs calculates 17.3 beds per 100,000 population.[18]

Despite a smaller than average system capacity, NRI's 2015 State Psychiatric Hospitals, Residents and Admissions Profiles show that Virginia's state-operated psychiatric hospital admissions per 100,000 was 61.5 (compared with 35.6 per 100,000 nationally). This is likely attributable to statutory changes described earlier. DBHDS indicates in a July 1, 2017 presentation that Total State Hospital Admissions grew sharply from 2013 to 2017, representing a 54% increase. DBHDS reports that state hospitals are "over their safe operating capacity and utilization is increasing." DBHDS also reported that in July 2017, there were 185 individuals in state hospitals who have been clinically ready for discharge for more than 14 days, but appropriate community services are not available to facilitate a safe discharge.[19]

[17] Trend In Psychiatric Inpatient Capacity, United States And Each State, 1970 to 2014, National Association of State Mental Health Program Directors, August 2017.
[18] Development of Required Plan for the Financial Realignment of Virginia's Public Behavioral Health System, Virginia Department of Behavioral Health and Developmental Services, July 1, 2017.
[19] Ibid.

Admission and Discharge Trends of State-Operated Facilities

Analysis of DBHDS Data

To gain our own understanding of the state-operated inpatient system, HMA worked with DBHDS staff to obtain existing psychiatric hospital data to inform our analysis and to provide recommendations for a comprehensive plan for the publicly funded geropsychiatric system of care in Virginia. DBHDS staff confirmed the data sources available for our analysis and verified the number of years of data available for our use.

HMA subsequently requested data from two sources available through DBHDS staff. The first and largest data set came from the Avatar system.[20] Data was requested for anyone who was age 65 or older and was in one of four hospitals or discharged from one of four hospitals between 7-1-2015 and 3-31-2017. The four hospitals included in this analysis are Catawba, Piedmont, Southwestern and Eastern State. A total of 946 admissions, discharges and ongoing stays representing 875 unduplicated patients were extracted from Avatar. Some individuals experienced multiple admissions and discharges during this time frame and all are included in the data set. Others had additional admissions and discharges outside of the time frame and these admissions and discharges were not included in the data set. The longest stay in our data set was for a person admitted in 1954 and the shortest for several people admitted and discharged on the same day.

Additional data was requested from Avatar to perform a ten-year trend analysis. For each calendar year, 2007-2016, HMA requested the total number of admissions and discharges for each of the four hospitals that are part of the study. The data requested was for both those under age 65 and those age 65 and older. We also requested the average length of stay (ALOS) of all patients and those age 65 or older as of December 31st, of the given year.

The second data source contained information for individuals who are or were on the Extraordinary Barriers List (EBL) during the designated time frame. This source also provided patient seclusion and restraint data. Unlike the Avatar data, the EBL data included everyone on the list, not just those age 65 or older. HMA also requested EBL data for CY2007-CY2016 to establish a ten-year trend but was notified that the system did not keep historical data. Staff had manually kept the information and could provide EBL information from January of 2014 to present.

With the information available, HMA performed analyses to answer the following questions.

- By county within each CSB region, how many people age 65 or older were admitted to a given hospital in 2015, 2016, 2017, between 2000 and 2014, and between 1954 and 1999? Additionally, we asked how many were discharged in 2015, 2016, or 2017. Note that discharge can also include death.
- To better understand discharges, HMA identified by CSB region, county, and hospital the discharge type for all discharges that occurred between 7-1-15 and 3-31-17. Additionally, we

[20] The data are from 2 different populations. The Geropsych OnBooks report shows people who were on books from 7/1/2015 through 3/31/17 (not the first part of 2015). The admission report shows people admitted in the calendar year 2015. I added the discharge date to that report to examine the data just now and it appears there were several hundred geriatric admissions (age 65+ at the time of admission) who were admitted and discharged from 1/1/2015 through 6/30/2015. So those people would not be in the Geropsych OnBooks report, because they were gone before 7/1/15. On the other hand, there are people in the Geropsych OnBooks report who were 65+ by either their discharge date or the end of the reporting period (3/31/17), but not 65+ when they were admitted, which could have been in 2015. So those people might not be represented in the admissions report. I don't think these reports can be compared in this respect.

looked at the average, minimum, maximum and median length of stay associated with discharges within the CSB region, county and hospital.

- To address the level of care, Virginia staff suggested that Program Type within our data set represented level of care. The first question HMA asked was, by hospital, how many total patients were in our data set. We proceeded to separate patients into two buckets, those with a mental health diagnosis and those with a neurocognitive (i.e., Alzheimer's or dementia) diagnosis. The final part of the analysis looked at each of the two groups of patients and determined what program or level of care they were receiving and how many were discharged from that level of care.

To understand the impact of the EBL, HMA completed the following analyses.

- For each year of available data, 2014-2017, how many total people were on the EBL list and how many were discharged? HMA further broke this down by those who were under age 65 and those who were age 65 or older.
- The information above was then presented by each hospital.
- Looking specifically at the age 65 and older patients in our initial data set from 7-1-15 through 3-31-17, we examined the barrier reasons for both those who were and were not discharged. By CSB region and hospital, we identified the patients on the EBL and their LOS as well as all captured barrier reasons and discharge type, if they were discharged.

Analysis outputs for CSB and county-specific findings are contained in Appendix B: Admission, Discharge and EBL Worksheets. Below are selected high-level trends that both align with recent DBHDS findings as well as corroborate clinician's findings from onsite reviews of the four facilities.

Findings

10-Year Admission and Discharge Trend by Age Cohort

The below table shows admissions and discharges, stratified by those under 65 years of age and those over 65 years of age in facilities with geropsychiatric units (i.e., Catawba, Eastern/Hancock Geriatric Treatment Center, Piedmont, and Southern Virginia MHI). Overall, the table shows a greater number of admissions and discharges over the ten-year period (2007-2016). There has not been a consistent rate of change in either admissions or discharges over the **ten-year** timeframe. The data shows that there appears to be a decreasing rate in the number of discharges, of both age brackets, beginning in 2013.

Additionally, the table below shows that following implementation of the Last Resort statute, there has been an upward trend in Geropsychiatric Admissions in each facility. And figures 4 and 5 show that admissions began to outpace discharges following implementation of the statute.

Table 3 – Ten Year Admission and Discharge Trend by Age Cohort

Year	Total Admissions All Ages	Admissions <65 Years Old	Admissions 65+ Years Old	Total Discharges All Ages	Discharges <65 Years Old	Discharges 65+ Years old	Percent Change Total All Ages	Percent Change <65 Years Old	Percent Change 65+ Years Old
2007	1973	1746	227	1992	1742	250	0.96%	-0.23%	10.13%
2008	1810	1616	194	1880	1647	232	3.87	1.98	19.59
2009	1730	1503	227	1753	1526	227	1.33	1.53	0.00
2010	1484	1261	223	1543	1303	240	3.98	3.33	7.62
2011	1314	1109	205	1332	1091	241	1.37	-1.62	17.56
2012	1368	1140	228	1380	1156	224	0.88	1.40	-1.75
2013	1253	1064	189	1246	1047	199	-0.56	-1.60	5.29
2014	1607	1289	318	1578	1271	307	-1.80	-1.40	-3.46
2015	2001	1621	380	2001	1639	362	0.00	1.11	-4.74
2016	2195	1826	369	2158	1782	376	-1.69	-2.41	1.90

Figure 4 – Geropsych Facility Admission Trends for Individuals Age 65 or Older

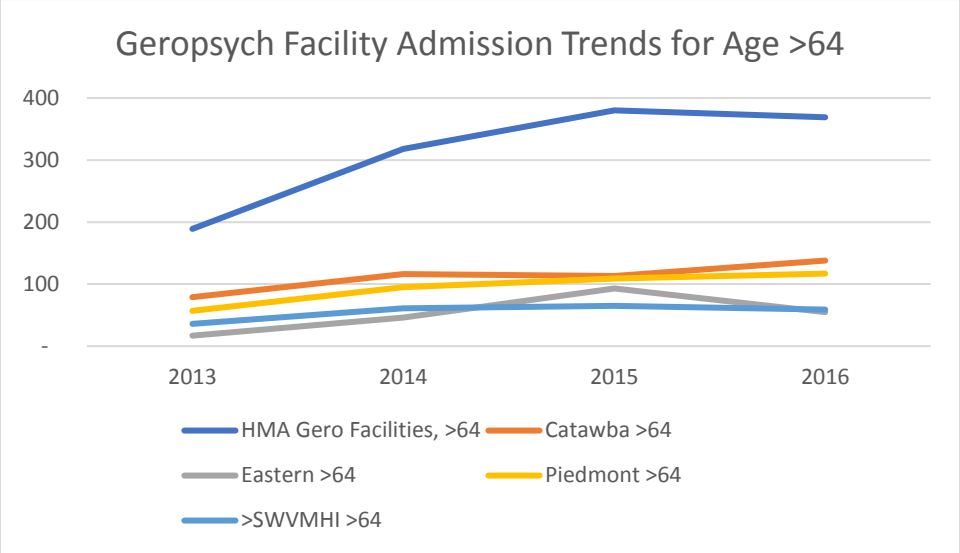
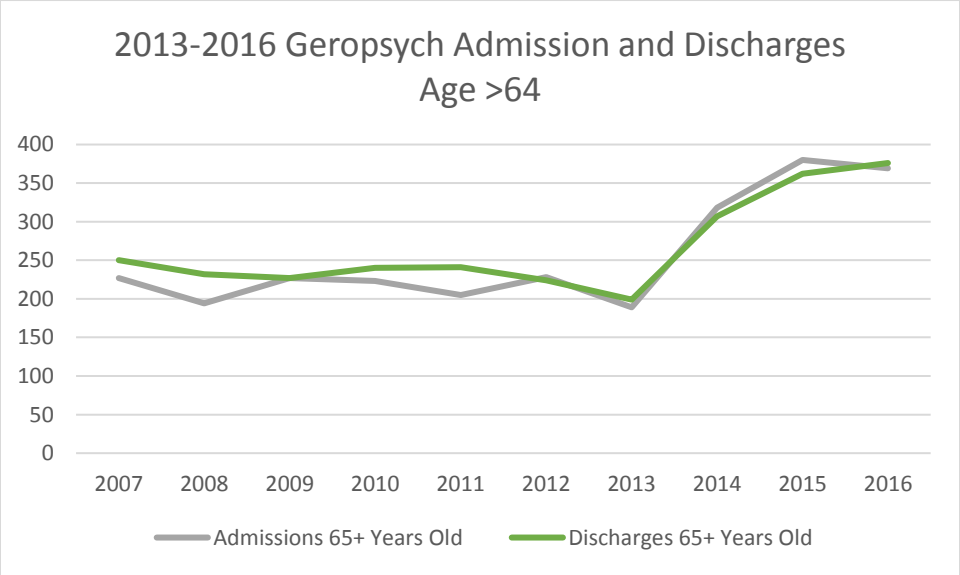


Figure 5 – 2013-1016 Geropsych Admission and Discharge Trend for Individuals Age 65 or Older



The 10-year trend by hospital also reveals that Southern VA MHI accounted for the largest proportion of total admissions and discharges for all age groups (56.7% of admissions, 56.1% of discharges). Catawba accounted for the largest percentage of admissions and discharges for those age 65 or older (39.6% of admissions, 38.1% of discharges). The lowest percentage of discharges for all age groups was Piedmont at 4.7%. The lowest percentage of discharges for those age 65 or older was Eastern State at 15.2% (followed by Southern VA MHI at 16.95).

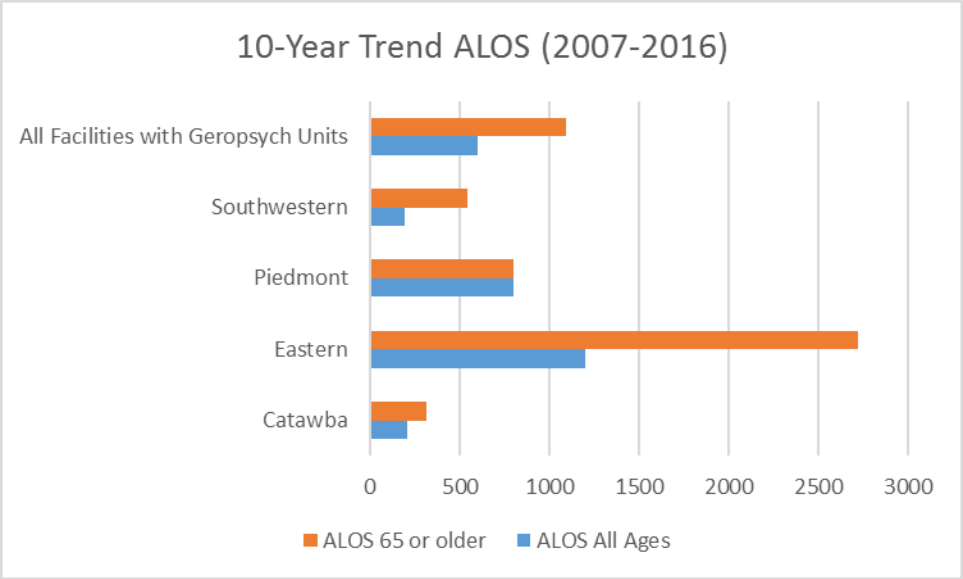
Ten Year Average Length of Stay by Age Cohort

Across all facilities with geropsychiatric units, the total average length of stay (ALOS) for all years was 599 days (1,092 days for age 65 or older). Not surprisingly patients at Eastern (Hancock Geriatric Treatment

Center), which historically served as a nursing facility, had the longest ALOS compared with other facilities.

Table 4 – Ten-Year Average Length of Stay by Facility by Age Group

Facility	ALOS All Ages	ALOS 65 or older
Catawba	209	315
Eastern	1199	2715
Piedmont	798	798
Southwestern	189	539
All Facilities with Geropsych Units	599	1092



Individual Level of Care Needs

Overview

HMA conducted site visits to Geriatric facilities at Southwestern, Catawba, Piedmont, and the Hancock Geriatric facility on the campus of Eastern State Hospital. Information regarding programming and general aspects of each facility was reviewed prior to the visits, including leveraging the data collection and analysis previously discussed. In addition, hospital administrators were interviewed prior to each visit to provide a general orientation to each facility.

Findings

Hospitals are working with many different populations and needs, and there was consistency between hospitals about the emerging trends in older adult needs that may be forecasting the levels of care that will be needed in the future. The first and most significant emerging trend is the aging of the "baby boomer" generation and the subsequent changes to demographic numbers older adults are living longer. The fact that people are living longer has also resulted in "younger older adults" meaning individuals entering the hospital more physically capable at an older age. Although this is generally a good thing, it can add complexity and risk to treating behavioral problems associated with neurocognitive conditions or psychiatric illness. The growth and longevity of the population points towards a need for significantly more capacity for long-term care nursing facilities—especially locked settings with adequate staffing, to support behavioral challenges and high capacity for medical complexity.

The geropsychiatric hospitals are also seeing some shifts in the kinds of challenges people are facing upon admission. One of the growing trends is significant substance use conditions and addiction specifically to pain medication. Although this is more so in the younger adult population, it is also impacting older adults. The challenge for the hospitals is management of pain addiction and potential withdrawal concerns for alcohol and other substances. This also creates challenges for the model of care as the treatment is generally not grounded in evidence-based substance use disorder treatment and so some hospitals are trying to add additional groups and other treatments specifically on substance use.

One of the more concerning challenges for geropsychiatric hospitals is the management of end of life care which is a rapidly growing need for the population served. Because individuals are at the hospitals for long-term placement (as long-term care patients or awaiting discharge), they are often there when they begin to die. Even some new admissions quickly experience a need for end of life planning and care as the medical complexity of the population also intensifies. Because of this trend, geropsychiatric state hospital physicians are facing increasingly difficult end of life care decisions and supports. None of the facilities have current palliative care or hospice type services, however all mentioned this as an emerging and growing need.

Even though there is no specific programming, resources, or expertise within the facilities, they are functioning as de facto “end of life centers” and trying to support individuals and their families in decisions and care. One physician talked about the "over treatment" that results for patients in state facilities because there is no real legitimate end of life treatment approach. This is a problem in part because so many patients do not have guardians who can make critical choices about care including stopping medical treatment for a terminal illness. The physicians end up having to “over” refer individuals to specialty providers to ensure that standards of care are being met which may end up being burdensome and non-palliative for the patient who has lost the capacity to make these difficult choices. Physicians in the hospitals also reported increasing concern regarding investigation or malpractice risk as they treat a population and medical conditions that are not typical of State hospitals. This increased risk forces them to engage in second opinions and additional tests and consults to ensure they are doing everything they can as a standard of care. The facilities also raised concerns about the difficulty of doing quality advanced directives or other end of life planning which reduces quality of life for patients and may impact how they die. This pressure point is clearly creating challenges for physicians and may ultimately lead to physician shortages and open the hospitals to lawsuits. Clearly, if State hospitals remain the State’s point of care for publicly funded older adults, the hospitals will need to address end of life issues and incorporate this as an element of care which will require additional resources.

Despite some nuance differences between hospital models and approaches, the facilities generally offer a similar array of services.

- All the hospitals have in-house medical teams comprised of general internists, family physicians and/or advanced practice nurses. These teams perform several functions:
    - They evaluate new admissions for medical care needs and screen for appropriateness of services that can be provided in the hospital;
    - They manage chronic physical illnesses, such as hypertension and diabetes;
    - They order and evaluate basic medical tests and arrange for outside diagnostic and therapeutic tests, if necessary;
    - They evaluate the need and make referrals for subspecialty care; and
    - They evaluate acute medical conditions 24/7 and assess the need for follow-up level of care, including arranging transfers.
- Some facilities have medical and other specialists, such as podiatrists, dermatologists, and nutritionists who provided regularly scheduled visits for subacute and chronic care;

- All the hospitals have relationships with local specialist providers and medical centers for subspecialty, procedural and emergency referrals;
- All hospitals provide extensive psychiatric evaluation and ongoing medication monitoring delivered by unit psychiatrists who lead the clinical team and approach to care;
- Psychological assessment ranged across hospitals however generally included individualized treatment plan development, functional behavior assessment and in some hospitals forensic evaluation;
- Group therapy with a range of options depending on the setting from memory care to psychiatric rehabilitation;
- Some units offered individual therapy with social work or psychology staff for individuals with psychiatric conditions;
- Music therapy and other recreational therapies;
- Social work discharge planning and resource and benefit determination and acquisition;

Services that were minimal or missing for older adult populations included:

- Minimal psychological testing except in forensic settings;
- Minimal neuropsychological screening with no onsite full neuropsychological assessment which makes exploration of etiology between neurocognitive and psychiatry and subsequent treatment planning more difficult;
- Minimal treatment specifically addressing substance use disorders;
- No hospital had neurology on site;
- All medical specialties were referred out except for dentistry at some hospitals (sometimes with long distances for patients to travel to appointments); and
- No end of life care such as palliative or hospice care.

Level of Care Required for Individuals Currently Residing in State Geropsychiatric Facilities

The level of care required for individuals currently residing in the state hospitals varies by sub-population as discussed throughout this report. Most of the older adults with neurocognitive conditions including those with behavioral concerns meet criteria for long-term nursing facility care. The older adults with poorly controlled SMI and acute psychiatric episodes require inpatient psychiatric care. In addition to being separate levels of care, the evidence-based models of care are quite different for the two sub-populations including different philosophies of care (custodial care versus active treatment), different staffing requirements/needs, and different requirements in terms of standards and regulations. Beyond the evidence-base, it seems intuitive for most people that these are not populations to combine. Most family members would not want their aging loved one with Alzheimer's to live on an inpatient psychiatric unit while most family members watching a loved one experience a psychiatric crisis would not want that care diminished to accommodate others with memory loss. Further complicating providing the appropriate care is that the budgets within the facilities has not been designed for this blended population and therefore state hospitals lack the right and adequate staffing mixtures.

The table below outlines in brief format the kinds of challenges hospitals experience currently in treating each sub-population, as well as outlining the needed workforce and resources to meet the needs of each specific sub-population. The table below highlights the similarity in challenges and need for all psychiatric populations versus all neurocognitive populations with smaller and nuanced differences for specific kinds of psychiatric or neurocognitive challenge.

Table 5 - Needs and Challenges of Older Adults with Psychiatric and Neurocognitive Conditions

Primary Condition/Disorder	Level of Care Needed	Existing Treatment/Management Challenges	Workforce/Resources Needed for Population
Older adults with neurocognitive disorders	Long-term Nursing Facility Care	Adequate space for wandering; adequate staffing for daily activities of living including bathing, toileting, and other functions; treatment focus on memory and pleasant activities to pass time and enhance quality of life; adequate medical support such as neurology as part of care planning. For some individuals secure or highly supervised settings.	Certified Nursing Assistants; RNs; Neurologist; Geriatrician and additional medical support such as palliative care; neuropsychology; music therapists Facility Needs: Specialized medical beds, medical equipment, few patients per room
Older adults with neurocognitive disorders and behavioral challenges	Long-term Nursing Facility Care	Adequate staff for supervision of intrusive behavior; management of verbal and physical aggression during activities of daily living; workforce with specific training in addressing behavior for adults with impaired cognitive functioning.	Certified Nursing Assistants; RNs; Neurologist; Geriatrician; Neuropsychology; Behavioral specialists to assist and train staff in managing difficult behaviors. Facility Needs: Specialized medical beds, medical equipment, few patients per room
Older adults with acute psychiatric disorders	Inpatient Psychiatric Unit	Adequate space for pacing, verbal response to hallucinations; adequate staffing such as psych-techs trained in treatment delivery of psychiatric milieu with focus on management of symptoms; targeted groups with content appropriate for psychiatric needs such as social skills, structured hygiene support, and medication adherence.	Psychiatric Technicians; Psych RNs; Psychiatry; Social Work; Psychology; Psych-Rehab Specialists Facility Needs: off unit therapy spaces; on-unit access to outdoors; line of sight units for safety and supervision; fewer patients per room.
Older adults with serious mental illness with long-term hospitalization (as a result of illness that fails to stabilize or forensic status)	Inpatient State Psychiatric Unit	Adequate diversity of group treatment options to address discharge readiness, community living skills, community passes, self-management of symptoms, and medication education with recovery based models of care; individualized treatment approaches with milieu staff reinforcement of targeted treatment goals; capacity for community outings and other	Psychiatric Technicians; Psych RNs; Psychiatry; Social Work; Psychology (forensic and neuropsychology); Psych-Rehab Specialists. Facility Needs: off unit therapy spaces; on-unit access to outdoors; line of sight units for safety and supervision; fewer patients per room.

Primary Condition/Disorder	Level of Care Needed	Existing Treatment/Management Challenges	Workforce/Resources Needed for Population
		activities to support recovery; and other needs.	

Strengths, Challenges, and Barriers to serving the Geriatric Population

Across the state hospitals serving older adults, there has been a focused effort to address model changes and to serve a complex population of older adults. There are pockets of creativity in different hospitals in the use of facility space, the approach to care, and in recruitment and retention of a qualified workforce. The most enduring strength of all of the state hospital care of the geriatric population is an ongoing commitment to serve the population coming in and to find the path to discharge, the resources and specialties needed (even if it requires outsourcing components of care) to take care of the individuals that arrive and stay. One hospital has been considering a model in which the state hospital becomes the "center of excellence" for geriatric care and starts to partner with medical institutions and Universities within the State to become a training center and to test and implement evidence-based models. They see an opportunity in having such a complex population of older adults in one place and the potential to centralize interdisciplinary providers (even through tele-health) to enhance the current care and to innovate new ones. This would also help to build a trained and specialty workforce which is a primary concern for the growing demographic. The graphic below provides a summary of the overarching challenges facing the state-operated hospitals in serving the geriatric population.

Figure 6 - Summary of Facility Challenges

Specific Considerations for Short and Long-Term Inpatient Psychiatric Services Capacity

Blending Populations

Older adult populations are often challenging in that they can have complex co-occurring and co-morbid conditions. Low-income older adults have increased rates of medical, mental health and functional challenges when compared with the general population. These co-occurring and co-morbid conditions include:

1. **Chronic Health and Medical Deterioration**- Aging can affect elderly adults in vastly different ways. While vigorous activity and well-being extend into late age for some, others are afflicted by multiple chronic illnesses and increasing disability. Three in four Americans over the age of 65 have multiple chronic illnesses that last more than a year and limit basic daily functional activity[3]. Functional status is the best predictor of longevity and well-being and is defined as how well a person can provide for his or her own needs. Geriatric physical illnesses, such as progressive cardiovascular, arthritic and neurocognitive diseases, strike at the heart of an older person's functional ability and independence and lead many elderly people to be reliant on others for basic needs that require close supervision and/or institutionalization. The costs of both medical and supportive care can be overwhelming for an individual or family.

[3] Gerteis J, Izrael D, Deitz D, LeRoy L, Ricciardi R, Miller T, Basu J. *Multiple Chronic Conditions Chartbook.* [PDF - 10.62 MB] AHRQ Publications No, Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality; 2014.

2. **Behavioral Health/Psychiatric Conditions**—As individuals age, they can experience mental health or substance use needs. For some older adults, the mental health or substance use condition has been a long-term psychiatric chronic health condition that is changing as they age or they are experiencing an acute episode within older adulthood. Other individuals have a first episode or first experience with psychiatric illness in older adulthood. For example, depression in older adults is common as a result of increased social isolation, loss of significant others, other losses such as shifting to retirement or loss of physical functioning, or other major life changes. Some individuals have episodes of serious mental illness with mania or psychosis as a first episode and thus require acute care stabilization and treatment and this is purely part of their aging process.
3. **Changes in Neurocognitive Functioning**—As adults age, they are at risk for neurocognitive changes ranging from moderate memory loss and changes in executive functioning to more significant disease such as various forms of dementia and Alzheimer's, which significantly impact functioning. % of general population that develops neurocognitive disorders. % of SMI population with neurocognitive disorders. Current estimates are that 1 in 10 of those older than age 65 has dementia. The percent increases with age -32% of those over age 85 have dementia. These numbers have greatly increased with the aging of the "baby boomer" population. In 2017, 190,000 Virginians are estimated to have dementia, a 36% increase from 2015. [5] (((% of general population that develops neurocognitive disorders. % of SMI population with neurocognitive disorders.)))
4. **Changes in Behavioral and Social Functioning**—As individuals age they can become more complex in behavior and social functioning as a result of any or a mix of the factors listed above (medical, psychiatric, or neurocognitive changes). Disruptive behaviors can present as significant confusion and loss of capacity for daily living skills (e.g., personal hygiene, self-care, independent living skills, etc.) or in other cases as verbal or physical aggression that is often impulsive and can cause physical risk to both the individual and caretakers. Individuals with neurocognitive challenges often wander, pace, and are intrusive with others impacting social relationships and one's ability to live in the community.

Because of these overlapping and often interacting conditions, robust assessment and evaluation are vital to ensure proper treatment decisions and quality care. Professionals caring for older adults should determine the etiology of a person's symptoms (e.g., behavior is secondary to psychosis versus dementia or a urinary tract infection) to ensure that the treatment approach is targeting the appropriate underlying cause. Of course, added to this is that individuals do not present in discrete boxes and instead have a mixture of etiology such as medical and neurocognitive or neurocognitive, psychiatric and behavioral and all conditions are interacting and intensifying each other in an additive manner.

Virginia's current system of care for older adults is challenged in large measure because of a confounding of these factors and populations. Although, sub-populations can never be fully separated and treated independently because of the overlap of conditions, best practice is to do the best evaluation possible to prioritize treatment need and target specific evidence-based treatment approaches for each condition type. For example, evidence-based care for individuals with dementia is distinct in significant ways from treatment for acute psychiatric conditions. When the wrong treatment is applied, individual symptoms can be exacerbated and intensified rather than effectively managed. At the base of the challenges in Virginia is that instead of discrete models of care for specific sub-populations (those with neurocognitive

[5] 2017 Alzheimer's Disease Facts and Figures. Alzheimer's Association. Pp 17-21.

conditions and those with psychiatric conditions), these sub-populations are blended and treated as one singular population. This reduces the efficiency, effectiveness and quality of care while raising the cost of care for the State.

1. Where is the geriatric population served? Recommend shifting care to community for most of the population with a clearer role for the State psychiatric facilities.
2. How is the population served? Recommend that regardless of setting, the State needs to work on un-mixing the sub-populations and targeting care based on diagnosis to be able to provide evidence-based treatment
3. Importance of multi-State department approach and blended funding (Departing of Aging)
    a. Role of LTSS providers in the state and greater accountability as part of MCO
4. Policy and regulatory changes: Recommend review and refinement of 2014 legislation to maintain safety measures and reduce unnecessary admissions—funnel effect
5. Culture change is needed broadly in the community to see care as community-based rather than institutional.
6. Importance of focus and concerted development of workforce to serve growing geriatric population within the state

Barriers to Discharge

Overview

Most of the Virginia geropsychiatric facilities indicated that they could discharge 50-75 percent of the current population if there was adequate support in the community. Most of the individuals that could be discharged have neurocognitive disorders and could be served in long-term care nursing facilities in the community. In fact, the level of care that they receive in the hospital is often like these community settings but at a much higher cost to the state. The existing barriers to discharge for many of these individuals can be lengthy and complex, representing a combination of factors. In addition, the availability and type of services provided to geriatric individuals differs across the CSBs. including availability of workforce (including specially trained staff), financial resources, and level of community-wide commitment or interest in addressing the needs of the geriatric population.

Findings

- There are a limited number of nursing facilities willing to accept individuals with public insurance (Medicaid/Medicare). Since the 2014 changes in statute, there has been an increase in admission of older adults from community nursing facilities. This is likely a result of nursing facilities sending individuals with behavioral concerns to the emergency departments where a ECO process is initiated and often ended with admission to a state facility (for reasons described elsewhere). Many of these admissions do not necessarily require a state hospital admission and despite significant efforts to work with nursing facilities, the vast majority are refusing to take these individuals back into community settings. Older adults then become "stuck" in the hospitals.
- Low tolerance among providers and community for behavioral challenges including any aggression secondary to either psychiatric or neurocognitive illness. The consistent report from both state hospital and CSB staff is that nursing facilities have a low tolerance for any behaviors; even those behaviors considered by most as normal or expected in community nursing facilities as individuals age with neurocognitive disorders (e.g., resistance to activities of daily living, verbal outburst, wandering, inappropriate singing, etc.).
- The stigma associated with a psychiatric admission; especially a state facility admission becomes a reason for denial with community settings refusing to even review discharge materials for an

individual. This stigma remains a challenge even for individuals admitted to the state facilities for non-psychiatric reasons (e.g., neurocognitive condition with behavioral concerns).

- Medically comprised individuals are more difficult to place as nursing facilities and other settings are challenged by addressing and meeting the medically complex needs of these individuals.
- Variance of availability of Geropsych services in skilled nursing facilities and the community. Of those CSBs interviewed, all were providing services to geriatric patients. Of the 14 CSBs interviewed, nine (9) stated they did not have specialty geriatric services but provided services for the population within their traditional adult programs and treatment settings. However, one CSB indicated having a nursing position in the past that had a dedicated geriatric caseload and another CSB reported having a geriatric focused treatment team but both had discontinued the practice for financial reasons.
- The state facilities are facing challenges with meeting emerging service needs of existing forensic patients who are transitioning in age to the geriatric population. The hospitals identified a unique discharge challenge for adults aging during their forensic status. Adult patients on forensic status (Not Guilty by Reason of Insanity (NGRI) or Incompetent to Proceed (ICPT)) age in the hospitals and begin to develop medical and neurocognitive challenges similarly to the general population. As their cognitive functioning declines, it is harder for them to complete the steps required for either the NGRI or ICPT processes. This places the individual somewhat in limbo—they are unable to discharge to the community due to failed completion of their forensic stay and yet they can no longer benefit from forensic programming and often do not need this level of care. These patients, although not significant in number, take valuable resources and time in a setting that could be used for others who could more directly benefit. These same challenges are also associated with newly arrested geriatric individuals.

Continuity of Care upon Discharge, Specifically Medications

A specific barrier raised by all state hospitals is the limitation of medication consistency and medication administration with community-based settings. Often medications are critical in maintaining an older adult's stability. Psychiatric medications, when used properly, can also be useful and appropriate for addressing some behaviors associated with neurocognitive challenges. However, community nursing facilities often quickly reduce or change medications upon admission and then the individual de-stabilizes. The nursing facilities have claimed that the F-TAG restriction is the cause for their concern and approach to admissions.

Competing Demands with Forensic Patients

Although the older adult population has lower rates of forensic patients, the state facilities are also having trouble related to movement of forensic patients. There are patients that either age during their forensic admission/process or who are admitted with new criminal justice involvement as older adults. The hospitals identified a unique discharge challenge for adults aging during their forensic status. Adult patients on forensic status (Not Guilty by Reason of Insanity (NGRI) or Incompetent to Proceed (ICPT)) age in the hospitals and begin to develop medical and neurocognitive challenges similarly to the general population. As their cognitive functioning declines, it is harder for them to complete the steps required for NGRI or ICPT. This places the individual somewhat in limbo—they are unable to discharge to the community due to failed completion of their forensic stay and yet they can no longer benefit from forensic programming and often do not need this level of care. These patients, although not significant in number, take valuable resources and time in a setting that could be used for others who could more directly benefit.

Eastern State Hospital has a challenge at the moment with forensic admissions. There is a growing wait list for NRGI, ICPT, and currently a long wait for admission from jails. This pressure that is similar to the funnel effect described above but specific to forensic populations is placing real pressure on Eastern State. Despite working to enhance restoration rates for ICPT, (reportedly 40 days which is the fastest in the state), the NGRI list has doubled in last couple of years with more coming in as older adults. Eastern State's region has 3.5 times as much NGRI than any other region and twice as much as the next highest region.

Variability among Community Partners and their Resources as Gatekeepers

The role of the Community Service Boards (CSB) are central to the process of discharge. According to the hospitals with geriatric units, engagement of the CSBs varies dramatically by region. However, all hospitals discussed the historic challenges of engagement of the CSBs for the older adult population. The hospitals recognize that the older adult population is not a high priority due to funding inadequacy of a community setting and the fact that CSBs are not necessarily the right community provider to "own" care for older adults with some conditions (e.g., neurocognitive conditions). The CSBs have acknowledged a lack of training or expertise in these areas with minimal resources available to enhance staff sophistication or model design. Despite this lack of expertise, CSBs serve as the "gate keeper" for all populations entering the hospitals and then become the main partner in discharge planning. All of the hospitals acknowledge improvement in discharge planning and collaboration with CSBs in the last year. Many hospitals and CSBs have started regular meeting, discharge planning reviews and developed liaisons focused on the older adult population. The DBHDS funding innovations for older adults and the extraordinary barrier list have also enhanced models of care and currently are a spark of hope among the dismal discharge planning status (these innovations are described later in this report). This evaluation of the model of care is a slow process of changing culture both in the hospital and in the community and a process of building trust between hospitals and CSBs.

Workforce Shortages

A separate but related challenge for all State hospitals is a significant workforce shortage that could become a crisis for the State. RNs and CNAs are the primary challenge with some facilities having a 35-50% vacancy rate and mandatory overtime, however all disciplines described this as a serious challenge (social work, psychology, medicine and psychiatry). In some hospitals, the workforce shortage for line staff (particularly certified nurse assistants and registered nurses) and nursing staff are reaching levels that may require hospitals to close units in order to comply with regulatory and accreditation standards as well as in ensuring safety of patients. In one hospital, the Chief Nursing Executive indicated that that unit closure has been considered at times and provided staggering statistics about current shortages including that in some cases the hospital had only 2-3 people available to fill a specific role such as Nurse Manager for all shifts. This means 2-3 people are covering 3 shifts a day 7 days a week. This only furthers the challenges of mistakes in care such as medication errors and reduces anyone's ability to care for a complex population with high demand needs. The burnout in this kind of workforce shortage is real and appears to be spiraling in the wrong direction for all hospitals.

Factors impacting workforce recruitment and retention included: State hospital location and difficulty recruiting young people to rural parts of the State; salary parity with private institutions; existing shortages in staffing; difficulty of the patient population served (especially working with individuals with aggression, high ADL support, etc.) stigma of a State facility that models of care are "old fashioned" and out of pace with the rest of the field; paper documentation rather than an electronic medical record (especially for new graduates who want to work in state of the art settings); and desire for flexible scheduling and other benefits. At the same time that hospitals are challenged in recruiting a younger and early career workforce, they are experiencing an aging of the experienced and qualified workforce who is retiring from State work. In that process of retirement, the hospitals are literally losing the expertise that

is needed to care for their population with no capacity to transfer decades of experience to a new workforce. This then adds to the cycle of shortages as new professionals are quickly overwhelmed and do not have adequate mentoring to learn how to do this important work.

The State hospitals are not alone in their workforce shortages. As Virginia losses people each year to other states, the workforce to care for older adults across the public and private systems of care will become increasingly difficult and felt by the State and residents.[21] This is a pain point that is quickly reaching a tipping point of crisis and will require some creativity and commitment from the State in solving. The State hospitals may be the largest evidence at this point, but they seem to simply on the leading edge of the risk that is coming.

Physical Plant Needs

Overview

A facility condition assessment conducted by HMA's architecture and engineering subcontractor, Olshesky Design Group, based in Alexandria, Virginia identified the findings below. It is important to note that the facility condition assessment conducted for the Geropsychiatric System of Care RFP centered on the superstructure and systems for each facility to address the "aging physical plant" component of the RFP. ODG's study only included a visual assessment of the hospital, which typically does not include work to be done behind walls, in confined spaces, equipment not attached to the building, site work or other buildings. In some cases, an exception was made. If a building element or system is or may be deficient and it is behind walls, or in a confined space, then testing or a Comprehensive Study is recommended. The Cost Estimates are based upon the site investigative field work by trained professionals, review of drawings and reports, interviews with key site personnel and then lastly referenced to national cost estimating guidance, RS Means. ODG's study did not include a "modernization" initiative, include an assessment of building code compliance, nor future expected costs. However, some suggestions for modernization are addressed by ODG or HMA later in the report, particularly related to modernization to meet population needs.

The ODG Team, under subcontract to Health Management Associates, assessed four Geriatric Hospitals run by the Department of Behavioral Health and Developmental Services, Commonwealth of Virginia. The team assessed the Hancock Geriatric Treatment Center, Building 1 and the Dining Room/ Kitchen Building 13 in Williamsburg from April 12th through 21st; the Piedmont Geriatric Hospital in Burkeville from May 9th through the 18th; Catawba Hospital in Catawba from June 19th through 30th and the Virginia Southwest Mental Health Institute, in Marion from July 24 to August 3rd.

The conditions at each hospital are rated by using the Facility Condition Index. Most of the hospitals received few citations from the Fire Marshall inspectors. Most hospitals addressed any JACHO citations while the Inspectors were there, or within the 60-day plan of correction period. Most hospitals had a good or very good preventative maintenance program resulting in few substantial work orders in the recent six, 6, month period.

Findings

Facility Condition Assessment

All of the Hospitals are in good to fair condition. Most of the hospitals received few citations from the Fire Marshall inspectors. Most hospitals addressed any JACHO citations while the Inspectors were there, or within the 60-day plan of correction period. Most hospitals had a good or very strong preventative

[21] http://statchatva.org/2017/01/30/virginias-population-is-growing-at-its-slowest-pace-since-the-1920s/

maintenance program where they are actively maintaining the equipment through scheduled preventative maintenance.

Because of this, many hospitals had very few work orders in a 6-month period. The maintenance program monitors equipment, through observation and electronic review, and identifies trends or minor faults before systems fail. They can use their operating funds until Capital requests are approved or repair it themselves.

The **Hancock Geriatric Treatment Center, HGTC**, value of deficiencies is estimated at $277, 242. If $100,000 is added for the minor Comprehensive studies needed then the value of deficiencies is **$377,242.** This facility is considered in Good Condition.

The **HGTC Kitchen and Dining Room Facility, Building 13,** value of deficiencies is estimated at **$1,617,270** with significant Comprehensive Studies needed. This facility is in Critical Condition. Some systems in the facility need immediate attention and are critical to maintaining the mission of HGTC. The deficiency report for this facility focused on critical needs and it is not a complete assessment of this facility.

The **Piedmont Geriatric Hospital** value of deficiencies is estimated at **$754,209** with significant Comprehensive Studies needed. If the 2017 FICAS costs are included, in lieu of the Comprehensive Studies, the value of deficiencies is estimated at **$3,145,296.** Based on this value of deficiencies the FCI is 4%, and the hospital is considered in Good Condition. In order to provide a more accurate FCI, significant Independent Comprehensive Studies need to be completed for this hospital.

The **Catawba Hospital** value of deficiencies is estimated at **$6,192,485**. Based on the value of deficiencies the FCI is 8% and considered in Fair Condition. While PGH and Catawba are of similar age, the **value of deficiencies is higher** on this hospital as it is the only hospital that provided us with an independent cost estimate.

The **Southwest Virginia Mental Health Institute** value of deficiencies is at **$686,281.** If $250,000 is added in for two Comprehensive studies that need to be completed then the total value of deficiencies is $986,281. Based on this value of deficiencies the FCI is less than 1% and the hospital is considered in Good Condition.

Please see *Appendix C: Summary of Facility Condition Assessment Findings* and *Appendix D: Complete Facility Condition Assessment Report*.

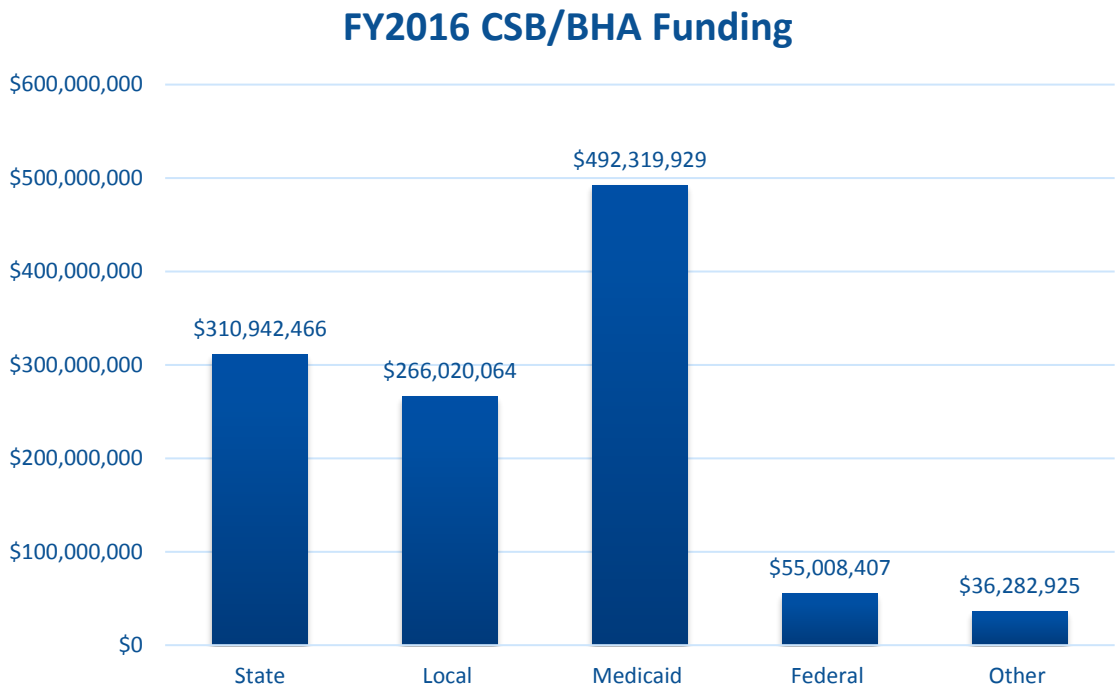
Community Capacity for Geropsychiatric Services

Overview

Community services boards (CSBs) are by statute the single points of entry into publicly funded mental health, developmental, and substance use disorder services as defined in § 37.2-100 of the Code of Virginia. This gatekeeper role includes providing access to state hospital services through preadmission screening, case management, services coordination, and discharge planning. Of the 39 CSBs in the state, 37 are operating or administrative policy CSBs, and two are local government departments with policy-advisory CSBs. Richmond operates as a behavioral health authority (BHA) with the same responsibilities and requirements as the CSBs. For the purposes of this report, these forty (40) entities are collectively referred to as CSBs. Divided into five health planning regions, CSBs vary in size of geographic coverage, funding levels, and serve rural and/or urban areas of Virginia. Not surprisingly, this results in variability across these agencies in numbers served and services provided, including the differing resources available for serving geriatric individuals. CSBs are funded by multiple sources including the Department of Behavioral Health and Developmental Services (DBHDS), the Department of Medical Assistance

Services (DMAS), local, and other federal and state funds. A breakout of the funding streams according to the Virginia Association of Community Service Boards' 2016 Annual report can be found in the figure below.

Figure 7 - Fiscal Year 2016 Community Service Board/Behavioral Health Authority Funding



Geriatric Populations Served

The Virginia Association of Community Services Boards (VACSB) reported that 216,270 unduplicated individuals were served by the CSBs in FY2016.

Table 6 – Ages of Individuals Receiving Services from CSBs in FY2016

Ages	Mental Health Services	Developmental Service Services	Substance Use Disorder Services	Emergency Services	Ancillary Services
0-12	16,539 (14.3%)	2,608 (12.5%)	34 (0.1%)	2,829 (4.5%)	16,580 (17.8%)
13-17	16,146 (14.0%)	1,349 (6.4%)	1,043 (3.5%)	6,886 (11.1%)	15,058 (16.2%)
18-64	76,959 (66.5%)	15,778 (75.4%)	28,700 (95.1%)	47,900 (76.9%)	59,236 (63.6%)
65+	6,008 (5.2%)	1,203 (5.7%)	398 (1.3%)	4,413 (7.1%)	2,236 (2.4%)
Unknown	17 (<0.1%)	0 (0.0%)	5 (<0.1%)	236 (<0.4%)	20 (<0.02%)
Total	115,669 (100%)	20,938 (100%)	30,180 (100%)	62,264 (100%)	93,130 (100%)

Source: Virginia Association of Community Services Board. 2016 Annual Report

Interviews conducted with the CSBs indicated the percentage of clients served aged 65 and older ranges from 1%-20% of the total number of clients served. However, it was noted by some CSBs that the percentage was higher for individuals seen through emergency services, e.g. temporary detention orders (TDOs). In one case, a CSB reported that while geriatric individuals made up one percent of active ongoing cases, for emergency services that number was as high as 13% in recent months. Another CSB reported that crisis referrals for the population had doubled in the last year. These numbers are also reflected in the higher percentage of geriatric individuals served in emergency services as compared to all other

service types as reported by the VACSB in the above table. In addition, many CSBs specified seeing an increase in individuals with neurocognitive disorders within emergency services. Many of these individuals were new to the CSB. CSBs reported referrals from both nursing facilities (NFs) and assisted living facilities (ALFs) as well as caretakers who had become overwhelmed with the demands of caring for a family member's significant needs.

According to the CSB 2017-2018 Community Services Board Performances Contract (DBHHS, 2017), CSBs must provide needed services to adults with serious mental illnesses (SMI), children with or at risk of serious emotional disturbance (SED), individuals with intellectual disability (ID), individuals with other developmental disabilities (DD) who are receiving services through the DD Waivers or are priority I or priority II on the DD Waiver waiting list, or individuals with substance use disorders to the greatest extent possible within the resources available to it for this purpose.

SMI is defined in the current Core Services Taxonomy as displayed in the figure below.

Mental Illness means a disorder of thought, mood, emotion, perception, or orientation that significantly impairs judgment, behavior, capacity to recognize reality, or ability to address basic life necessities and requires care and treatment for the health, safety, or recovery of the individual or for the safety of others (§ 37.2-100 of the Code of Virginia).

Serious Mental Illness **means a severe and persistent mental or emotional disorders that seriously impair the functioning of adults, 18 years of age or older, in such primary aspects of daily living as personal relations, self-care skills, living arrangements, or employment. Individuals with serious mental illness who have also been diagnosed as having a substance abuse disorder or developmental disability are included in this definition. Serious mental illness is defined along three dimensions: diagnosis, level of disability, and duration of illness. All three dimensions must be met to meet the criteria for serious mental illness.**

a. Diagnosis: The person must have a major mental disorder diagnosed using the Diagnostic and Statistical Manual of Mental Disorders (DSM). These disorders are: schizophrenia, major affective disorders, paranoia, organic or other psychotic disorders, personality disorders, or other disorders that may lead to chronic disability. **A diagnosis of adjustment disorder or a V Code diagnosis cannot be used to satisfy these criteria.**

b. Level of Disability: There must be evidence of severe and recurrent disability resulting from mental illness. The disability must result in functional limitations in major life activities. Individuals should meet at least two of the following criteria on a continuing or intermittent basis. The person:

1.) Is unemployed; is employed in a sheltered setting or supportive work situation; has markedly limited or reduced employment skills; or has a poor employment history;

2.) Requires public financial assistance to remain in the community and may be unable to procure such assistance without help;

3.) Has difficulty establishing or maintaining a personal social support system;

4.) Requires assistance in basic living skills such as personal hygiene, food preparation, or money management; or

5.) Exhibits inappropriate behavior that often results in intervention by the mental health or judicial system.

c. Duration of Illness: The individual is expected to require services of an extended duration, or the individual's treatment history meets at least one of the following criteria.

1.) The individual has undergone psychiatric treatment more intensive than outpatient care more than once in his or her lifetime (e.g., crisis response services, alternative home care, partial hospitalization, and inpatient hospitalization), or

2.) The individual has experienced an episode of continuous, supportive residential care, other than hospitalization, for a period long enough to have significantly disrupted the normal living situation.

Source: http://www.dbhds.virginia.gov/library/community%20contracting/occ-2010-coreservicestaxonomy7-2v2.pdf

The definition of SMI is interpreted differently across CSBs with some determining neurocognitive disorders (NCDs), which includes disorders previously referred to as Dementia, as not within this definition; while others serve individuals with NCDs, including NCD due to Alzheimer's disease. As individuals age they can become more complex in behavior and social functioning as a result of any or a mix of medical, psychiatric, or neurocognitive changes. Disruptive behaviors can present as significant confusion and loss of capacity for daily living skills (e.g., personal hygiene, self-care, independent living skills, etc.) or in other cases as verbal or physical aggression that is often impulsive and can cause physical risk to both the individual and caretakers. While it is common for individuals to be referred for psychiatric evaluation in these cases, it is not uncommon for NCD to be exclusionary criteria for engagement or admission to public behavioral health providers, including state-operated psychiatric hospitals due to the differing approaches in addressing needs associated with NCD and disorders such as schizophrenia or bipolar disorder.

Regardless of whether a CSB serves individuals with neurocognitive disorders, professionals caring for older adults should determine the etiology of a person's symptoms (e.g., behavior is secondary to psychosis versus dementia) to ensure that the treatment approach is targeting the appropriate underlying cause. Of the CSBs interviewed the rationale for excluding individuals with these disorders was the same as for those that served them. All acknowledged appropriate care required involvement of specialists outside the traditional public behavioral health providers' teams such as Neurologists and/or Neuropsychologists. Where these specialists were not readily accessible or even available is where some CSBs filled a gap, especially in cases where behavioral issues secondary to these illnesses were prevalent. Filling the gap in some cases has included leveraging available funding to develop necessary services specific to the needs of individuals with these diagnoses. In cases where specialty care was readily available (e.g. Neurology, Gerontology), CSBs were less likely to serve the NCD population unless there was a co-occurring SMI.

Outpatient Geropsychiatric Services

Virginia code § 37.2-500 mandates that CSBs provide emergency services and, as resources allow, case management services. Subject to the availability of funds, other core services may include inpatient, outpatient, day support, residential, prevention, early intervention, and other appropriate mental health, developmental, and substance abuse services necessary to provide individualized services and supports to the populations described above. CSBs may also establish crisis stabilization units that provide residential crisis stabilization services. The availability and type of services provided to geriatric individuals differs across the CSBs. CSBs reported common factors impacting the geriatric service array available including availability of workforce (including specially trained staff), financial resources, and level of community-wide commitment or interest in addressing the needs of the geriatric population. Of those CSBs interviewed, all were providing services to geriatric patients. Of the 14 CSBs interviewed, nine (9) stated they did not have specialty geriatric services but provided services for the population within their traditional adult programs and treatment settings. However, one CSB indicated having a nursing position in the past that had a dedicated geriatric caseload and another CSB reported having a geriatric focused treatment team but both had discontinued the practice for financial reasons. All CSBs reported providing assessment, counseling, case management, and medication management services to geriatric individuals.

Five of the 14 CSBs interviewed reported either CSB specific or regionally-based specialty geriatric services. One CSB reported being in the process of implementing a geriatric case management position. All approaches included specially trained staff dedicated to serving individuals 65 years and older. Most identified the availability of targeted funding (local, state, and/or federal) as key in developing these services. Most programs are flexible in that they serve individuals who are transitioning to senior care,

i.e. 60 years and older and also provide support components to NFs and ALFs. Descriptions of existing specialty services within Virginia are provide below. Information about these programs was gathered through either CSB interviews or review of publicly available information.

Older Adult Clinical Services Mental Health Program (City of Alexandria)

The Older Adult Mental Health Clinical Services Program in Alexandria serves individuals 60 years and older, including those with medically complex challenges, and provides case management and care coordination with medical providers, assessments, therapies, and medication. Referrals for the program come from Adult Protective Services (APS) and law enforcement (up from 10/month to 26/month). This program unit is 30 years old, and the model is based on White House Council on Aging. A crisis component of the program was developed more recently and reportedly has gotten increasingly busy in last 5 years.

Pathways (Colonial Behavioral Health)

Pathways is a specialty team-based approach providing services for the geriatric population in Health Planning Region 5. This 10-year-old program offers traditional outpatient services such as assessment, medication management, counseling crisis services, and case management. The team consists of a geriatric psychiatrist, a geriatric licensed therapist and case managers. Pathways serves all Colonial Behavioral Health CSB consumers 60 years and older but does not serve neurocognitive disorders unless there is a co-occurring primary mental health diagnosis.

Regional Older Adult Facilities Mental Health Support Team (Northern Virginia Regional Partnership)

The Regional Older Adult Facilities Mental Health Support Team (RAFT) began in 2007 and is funded by a grant from the state of Virginia and a Federal Block Grant. RAFT serves individuals aged 65 and older who have serious mental illness and/or behavioral and psychological symptoms of dementia (BPSD) and who live in nursing facilities or assisted living facilities. The program is managed by Arlington County and works in contracted facilities in Alexandria, Arlington, Fairfax, Loudoun, and Prince William. RAFT's mission is to provide mental health care to elders in their home communities in the least restrictive environment. This objective is implemented by partnering with state hospitals and long-term care facilities when individuals from the area are ready for discharge back to their communities. Staff includes three mental health therapists, a psychiatrist who specializes in geriatrics, a psychiatric nurse, and a program manager who deliver frequent, intensive services to help clients remain stable and out of psychiatric hospitals. RAFT provides assessment and ongoing evaluation, case management, psychotherapy, staff training, family support, and crises intervention. The program is successful; in 2014, 96 percent of clients were maintained in the community without having to be re-hospitalized in a state hospital.

Senior Adult Mental Health (SAMH)

The SAMH program provides multidisciplinary mental health treatment to individuals 60 and older with a serious mental illness and dementia, and individuals 18 and older with an intellectual or developmental disability and mental health needs. Intensive community-based support is provided by staff to prevent premature institutional placements, ensure safety in the home, and foster full participation for individuals in the community. Staffing includes a program supervisor, a clinical coordinator, three full time and two part-time mental health therapists, a part-time psychiatric nurse, and three contract psychiatrists. The following services are provided for individuals with dementia: screening and diagnostic intake assessments; person-centered treatment planning; medication management; individual, group and family therapy; case management services; psycho-educational services; and consultation and collaboration.

Southwest Virginia Regional Partnership

This partnership includes two PACE (Program of All-inclusive Care for the Elderly) programs in which an interdisciplinary team of health professionals provide comprehensive community-based medical and social services to elderly individuals, most of whom are dually eligible for Medicare and Medicaid benefits. Other elements of the partnership include specific geriatric service training and dedicated recruitment of providers with geriatric backgrounds at the CSBs and Southwestern Virginia Mental Health Institute (SWVMHI). SWVMHI has a geriatric unit that offers staff consultation to the community. There is discussion of creating a Center of Excellence for SW Virginia, having geriatric service programs at each CSB, mobile teams for intensive, short-term treatment intervention, local geriatric advisory councils, which consist of key facilities, agencies, consumers, families, and others, and ongoing consultations with facilities and other community providers. There are also plans for geriatric assistance funds to aid in providing the least restrictive care, participation in CSB day support programs, and employment of geriatric care managers at CSBs.

Most CSBs with specialty geriatric services felt their models were expandable and adaptable for statewide implementation should the necessary funding be available. Despite these established and emerging best practices in serving older adults with psychiatric or behavioral issues, all CSBs interviewed identified gaps in the geropsychiatric system of care. Most notable were the availability of housing supports for this population. This gap notably included LTSS providers (NF and ALF) who are willing to accept individuals with psychiatric illnesses, a history of behavioral problems, or those with co-occurring complex medical issues. The support level for these individuals was high, especially in activities of daily living such as bathing, eating, maintaining medication regimes, and maintaining community and social connectivity.

Hospital Gatekeeping Role

CSBs serve as the gatekeepers for placement within the state psychiatric hospitals, most notably providing the preadmission screening evaluations to determine whether a person meets the criteria for a temporary detention order (TDO). CSBs interviewed for this project reported notable increases in TDO requests since the 2014 changes in the TDO statute referenced in the Virginia Code and State Regulation section of this report. Most reported the eight-hour window to provide a TDO evaluation and determine the disposition was reasonable but noted that in some cases a decision to admit was made early knowing the time allotted would be necessary to contact inpatient providers and secure a bed. All CSBs reported challenges securing non-state-operated inpatient beds for publicly funded individuals as well as a reluctance among some providers to serve more complex patients. All providers are aware of the state hospitals role as provider of last resort and their inability to refuse a TDO referral. CSBs, like the state hospital staff interviewed, noted an increase in more complex and medically compromised referrals to the state hospitals since the statute change.

A significant part of the gatekeeping role is not only prescreening individuals for inpatient services but also supporting discharge planning and transitions. CSBs reported positive experiences partnering with state hospital teams for discharge planning. Some CSBs noted challenges facing the hospital staff with the demand for beds necessitating more frequent admissions and discharges and reduced lengths of stay on many of the acute units. Both groups highlighted that the most significant barriers to discharge were access to LTSS placement and issues associated with guardianship. For individuals on the Extraordinary Barriers List these challenges, as well as individuals with excess assets needing disposal for Medicaid eligibility, were also most frequently noted. Both inpatient and outpatient discharge planners were applauded by other inpatient and CSB staff for their creative problem solving in these situations and efforts to build relationships with community LTSS providers, including providing case specific technical assistance and ongoing support following discharge.

Several stakeholders interviewed cited DAP funding as an essential resource in addressing difficult to place individuals. The Discharge Assistance Program (DAP) leverages state mental health funds allocated to each planning partnership region (PPR) to implement individualized services and supports that enable adults receiving services in state hospitals to live in the community. The DAP offers a flexible approach for responding to barriers to discharge from state hospitals once an individual has been determined to be clinically ready for discharge. CSBs, through the PPRs, use the DAP to support individualized community services and supports that enable individuals to transition from state hospitals to communities where they can recover in the least restrictive and most integrated settings possible.

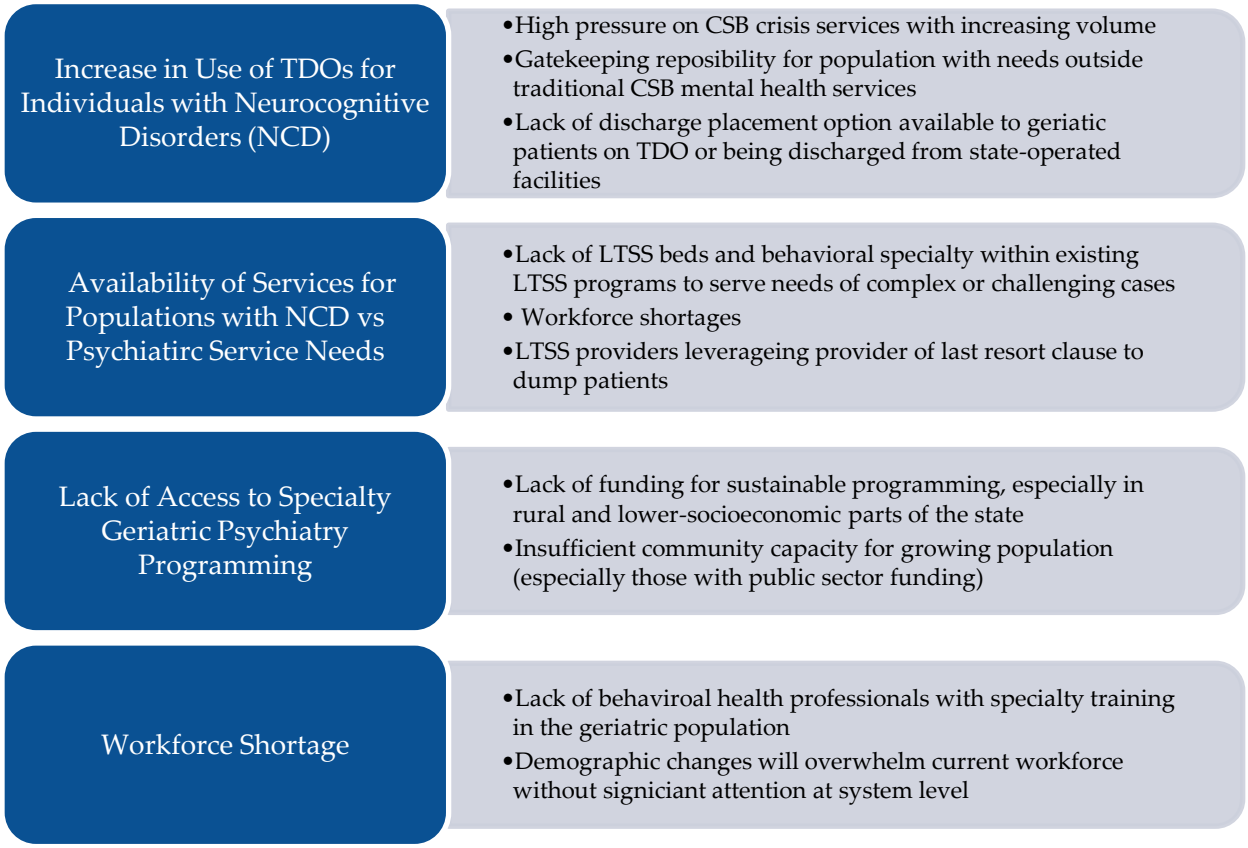
As previously noted, several CSBs reported increases in TDO requests for individuals with NCD. This has resulted in CSBs engaging in discharge planning for individuals who for some CSBs are not within their populations served or for whom they have appropriate services available. The majority of CSBs interviewed indicated geriatric TDOs were primarily new to the CSB, e.g. not active clients, and were not appropriate for CSB services upon discharge do to a primary diagnosis of NCD as opposed to an SMI.

CSB Strengths, Challenges, and Barriers to serving the Geriatric Population

There are notable strengths in the community-based CSB driven portion of Virginia's geriatric system of care, including several CSBs who have developed specialty teams to serve geriatric patients with notable success in maintaining these individuals within community-based settings. Some CSBs also reported robust partnerships with local LTSS providers. Communities where these partnerships exist reported decreased need for emergency and inpatient services when these community-based services and supports were in place, especially access to psychiatric support within NF and ALF settings.

Challenges facing the outpatient system include a lack of specialty providers to serve the geropsychiatric population as well as LTSS agency staff adequately trained and supported to address behavioral problems associated with neurocognitive disorders. Coupled with state TDO statute changes that have increased utilization of state hospital beds for the more complex and challenging individuals is both challenging the inpatient portion of the continuum and pulling resources from the community-based continuum.

Figure 8 – Summary of CSB Challenges in Serving Geriatric Populations



Findings

Community Service Boards

1. Variability among CSB geriatric services and whether this population is served: The definition of SMI is interpreted differently across CSBs with some determining neurocognitive disorders (NCDs), which includes disorders previously referred to as Dementia, as not within this definition; while others serve individuals with NCDs, including NCD due to Alzheimer's disease. Disruptive behaviors can present as significant confusion and loss of capacity for daily living skills (e.g., personal hygiene, self-care, independent living skills, etc.) or in other cases as verbal or physical aggression that is often impulsive and can cause physical risk to both the individual and caretakers. While it is common for individuals to be referred for psychiatric evaluation in these cases, it is not uncommon for NCD to be exclusionary criteria for engagement or admission to public behavioral health providers, including state-operated psychiatric hospitals due to the differing approaches in addressing needs associated with NCD and disorders such as schizophrenia or bipolar disorder.
2. Shortage of geriatric specialty providers: Of the CSBs interviewed, all acknowledged appropriate care required involvement of specialists outside the traditional public behavioral health providers' teams such as Neurologists and/or Neuropsychologists. Where these specialists were not readily accessible or even available is where some CSBs filled a gap, especially in cases where behavioral issues secondary to these illnesses were prevalent. Filling the gap in some cases has included leveraging available funding to develop necessary services specific to the needs of individuals with these diagnoses. In cases where specialty care was readily available (e.g.

Neurology, Gerontology), CSBs were less likely to serve the NCD population unless there was a co-occurring SMI.

3. Guardianship and asset challenges lead barriers to discharge for older adults: groups highlighted that the most significant barriers to discharge were access to LTSS placement and issues associated with guardianship. For individuals on the Extraordinary Barriers List these challenges, as well as individuals with excess assets needing disposal for Medicaid eligibility, were also most frequently noted. Both inpatient and outpatient discharge planners were applauded by other inpatient and CSB staff for their creative problem solving in these situations and efforts to build relationships with community LTSS providers, including providing case specific technical assistance and ongoing support following discharge.
4. Increases in Temporary Detention Orders (TDO) requests for individuals with NCD are contributing to funnel effect within the state hospitals. CSBs are engaging in discharge planning for individuals who for some CSBs are not within their populations served or for whom they have appropriate services available. The majority of CSBs interviewed indicated geriatric TDOs were primarily new to the CSB, e.g. not active clients, and were not appropriate for CSB services upon discharge due to a primary diagnosis of NCD as opposed to an SMI.
5. Nursing facility and assisted living facility agency staff lack adequate training and support to address behavioral problems associated with neurocognitive disorders.
6. There is a lack of home and community-based (HCB) long term services and supports (LTSS) statewide: Most of the Virginia geropsychiatric facilities indicated that they could discharge 50-75 percent of the current population if there was adequate support in the community. The clear majority of the individuals that could be discharged have neurocognitive disorders and could be served in long-term care nursing facilities in the community. In fact, the level of care that they receive in the hospital is often like these community settings but at a much higher cost to the state.
7. There is a lack of continuity of care following transitions from state hospitals, sometimes resulting in readmission: A specific barrier raised by all state hospitals is the limitation of medication consistency and medication administration with community-based settings. Often medications are critical in maintaining an older adult's stability through symptom reduction. Psychiatric medications, when used properly, can also be useful and appropriate for addressing some behaviors associated with neurocognitive challenges. However, community nursing facilities often quickly reduce or change medications upon admission and then the individual de-stabilizes. The nursing facilities have claimed that the F-TAG restriction is the cause for their concern and conservative approach to admissions. However, as indicated earlier, there is community wide misunderstanding of these regulations.

Long Term Service and Support System

Conversations with selected leadership from Area Agencies on Aging (AAAs) and skilled nursing facilities indicated there is a confusing structure, lack of appropriate care transitioning, and gaps in service capacity with regards to serving older adults with mental illness or behavior issues related to neurocognitive disorders. Both groups, individuals with SMI and/or NCD, can have medical, social, and psychiatric long-term service and support needs. There is confusion in terms of which state agency(s) is or are responsible for ensuring these services are available. In addition, conversations with stakeholders revealed that transition from a state hospital to a nursing facility can be challenging for both the individual as well as the staff of the receiving facility.

Some NF and ALF providers voiced hesitancy to admit someone whose complete care needs may not be addressed by existing programing in the facility. Agencies discussed that they have not had any assistance in the past and are not educated or trained in aggressive behaviors and are concerned about the

regulatory constraints (FTAG) and monetary impact (of increased staffing) to their operations. Stakeholders further indicated that there are not sufficient options for care because of the disparities within the state specific to behavioral health services. Several interviewees repeated a common concern that available services are dependent upon the location where one resides and the capability of the community service board.

Models in Other States

Geropsychiatric care models across the U.S. were identified based on the evaluation of peer-reviewed scientific journals, foundations, and organizations including: University of Washington Psychiatry, American Association for Geriatric Psychiatry, Kaiser Family Foundation, the Substance Abuse and Mental Health Services Administration (SAMHSA), Administration on Aging (AOA), the National Council on Aging (NCOA), and the National Registry of Evidenced-Based Programs and Practices (NREPP).

States confront similar challenges regardless of their differences in the delivery of geropsychiatric care including fragmented services, disjointed care, less-than-optimal quality, and system inefficiencies. Integrated or whole-system strategies are becoming increasingly important to address these shortcomings through the seamless provision of health and social care.[22] The effective treatment of cognitive impairment requires a broad array of services delivered by professionals, paraprofessionals, and informal caregivers, in the home, community and in health care and assisted living environments.

This care involves medical, mental health, housing and community systems support.[23] The effort to improve the effectiveness of this multi-faceted challenge has led to "investigation of whole system approaches to improve the manner in which sectors, institutions, providers and services work in tandem as a long-term care enterprise."[24] The following findings/challenges/ best practices below are based on state efforts to ensure integrated service delivery systems, and an appropriate level of inpatient services are effectively provided in psychiatric, community and skilled nursing facilitates for the state of Virginia.

Findings

State-Operated Psychiatric Hospital-Based Model

Texas[25]

The Texas Department of State Health Services (DSHS) manages nine state-owned mental health facilities and one state-owned inpatient residential treatment facility for adolescents. These ten facilities, collectively referred to as state hospitals, are a component of the statewide mental health delivery system and provide a variety of inpatient services for children, adolescents, adults, and forensic patients. Outlined below are some of the best practices identified in the Texas DSHS model:

- Transitioned the primary role of the state mental health hospitals into tertiary referral centers providing recovery care for the most complicated mental health patients and those individuals on forensic (criminal code) commitments.

[22] Kodner, D.L., Whole system approaches to health and social care partnerships for the frail elderly: an exploration of North American models and lesson, Health and Social Care in the Community, 14(5), 384-400, 2006.
[23] Feder, J., Komisar H. & Niefeld M. Long-Term Care in the United States: An Overview. Health Policy 19, 40-56. 2000.
[24] Kodner, D.L., The quest for integrated systems of care for frail older people, Aging Clinical and Experimental Research, 14(4), 307-313.
[25] State Hospitals: Mental Health Facilities in Texas. Legislative Primer. http://www.lbb.state.tx.us/Documents/Publications/Primer/3144_State_Hospitals-Mental_Health_Facilities_in_Texas_Diehl.pdf

- Transitioned local hospitals to providers of initial assessment, crisis management and short-term inpatient recovery care of voluntary and involuntary mental health patients.
- Ensured that any new inpatient resources are targeted to areas with unmet need and allocated through a statewide needs-based system that is informed by a collaborative local planning process.
- Ensured that existing technology systems/infrastructure is maintained and data exchange capability is pursued to ensure that care is integrated with other providers.
- Continue to work to address workforce issues including examination of compensation packages, educational packages, and loan forgiveness for direct care providers (social work, nursing and medical staff) to mitigate.

Community-Based Services Models

Colorado: Senior Reach – Jefferson Center for Mental Health[26]

- Many behavioral health organizations have been challenged to successfully integrate behavioral health services and providers into primary care settings.
- To overcome challenges, Senior Reach approached integration with a positive and flexible attitude, and positioned itself as a "resource" to the primary care team. Initial discussions required careful attention to building support and engagement from executive leaders and frontline care providers, identifying space and resource needs, and determining processes for sharing patient information.
- Senior Reach is a case-identification and outreach program that provides in-home services to older adults who may benefit from behavioral or physical support or linkage with community services. Within these clinics, older patients complete a wellness questionnaire that includes brief screening questions for depression, alcohol and prescription drug misuse/ abuse, and tobacco use.
- Older adults with a positive screen are contacted by a collaborative care coordinator (in person at the clinic or by telephone) to complete a more thorough assessment and determine the need for support. In home services include mental health counseling and wellness services; depression care management; suicide prevention services; and SBIRT for substance abuse/misuse.
- Collaboration was built upon trust and existing partnerships. The team found a direct correlation between the amount of time that behavioral health staff spent on-site at the primary care practice and ease of integration. To maintain a supportive relationship, the Senior Reach team participates in clinic events (e.g., wellness walks, strategic planning days) and provides regular positive reinforcement through recognition, personal communication, and celebrations. Program was highly effective in both engaging older adults into service (92% accept services offered through the Call Center) and in reducing behavioral health symptoms. The program in Colorado has been replicated in other locations. It is also considered a best practice under SAMHSA's national registry of evidenced-based programs and practices. [27]

Kansas: Mid-Kansas Senior Outreach –Mental Health Association of South Central Kansas[28]

- Mid-Kansas Senior Outreach (MKSO) is a case identification and outreach program for older adults that is closely modeled after the Senior Reach program developed in Colorado. MKSO uses

[26] Senior Reach. http://www.seniorreach.org/
[27] SAMHSA. National Registry of Evidence-based Programs and Practices. http://www.nrepp.samhsa.gov
[28] Mid-Kansas Senior Outreach. http://www.mhasck.org/what_we_do/seniors/mkso.html

the "Gatekeeper" case identification model, combined with in-home care coordination, and strong community partnerships to meet the behavioral health and social service needs of older adults.

- Older adults who accept services receive in-home behavioral health services from MKSO providers and benefit from linkages to partnering organizations.
- MKSO has worked closely with developers of the Senior Reach program to replicate the program, and adapt the gatekeeper and in-home care model to the needs of older adults in Wichita. Staff from the two programs were in regular communication throughout the development of the program.
- MKSO benefited from technical expertise of program developers, as well as the ability to share resources (e.g., reporting templates) and analytic expertise (e.g., a common program evaluator).
- MKSO has been highly successful in Wichita. Not only has the program had significant success in reducing behavioral health symptoms among older adults, it has developed partnerships with social service organizations (e.g., law enforcement, elder abuse) and the state of Kansas. (e.g., the MKSO program director was recently appointed to the Aging Subcommittee of the Governor's Mental Health Services Planning Council).
- From its inception, MKSO has maintained a focus on securing ongoing financing from diverse benefactors (e.g., grants, philanthropy, billing) to meet the diverse needs of its target population.

Michigan: Older Adult Specialty in Home Services (OASIS) – Oakland FAMILY Services[29]

- Older Adult Specialty In-Home Services (OASIS) is a home- and community-based behavioral health program that targets isolated, home-bound older adults.
- The goal of OASIS is to increase community awareness of the signs and symptoms of depression and the benefits of mental health treatment for older adults.
- OASIS counselors provide depression care using solution-focused brief therapy; alcohol and prescription misuse prevention, screening, and education; and suicide prevention education.
- To improve sustainability, OASIS partnered with a large senior center that services three communities and provides meals-on-wheels to twelve communities. OASIS asked to have a presence in their facility once a month for two hours. The counselor accepts walk-ins, but proposed that clients were scheduled through their Outreach Department. The two-hour block was always open, as any client that wanted to return was rescheduled at a different time. As counseling slots began to fill, the program increased the hours of counselor availability to once a week, eight hours a day. The counselor is available at the senior center, where seniors that are homebound have access to transportation to come to the facility.
- The benefits of this partnership are multiple: as depression improves through counseling, older adults can take advantage of senior center activities, increase socialization, participate in congregate meals, and volunteer; the counselor has less travel time, which is not reimbursed by third party payers, and is able to see more clients.

Ohio: Money Follows the Person – Centers for Medicare & Medicaid Services [30]

[29] Older Adult Specialty In Home Services (OASIS). https://www.communityreachcenter.org/services/adult-and-senior-services/older-adult-specialized-services-oasis-program/

[30] Ohio's Money Follows the Person Demonstration (HOME Choice). Kaiser Family Foundation. https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8143.pdf

- The Money Follows the Person (MFP) Rebalancing Demonstration Grant distributed by The Centers for Medicare & Medicaid Services (CMS) helps states rebalance their Medicaid long-term care systems.
- Ohio's MFP program (HOME Choice) was one of 17 states to receive federal funding for the MFP rebalancing demonstration in January 2007. The state was awarded up to $100 million in enhanced federal matching funds in order to transition roughly 2,200 seniors and people with disabilities from institutions to home and community-based settings and to help Ohio balance its long-term services and support system.
- The HOME Choice program is a "wrap around" to the existing state Medicaid program meaning that participants enroll in one of the state's home and community-based services (HCBS) waivers or receive services through Medicaid with HOME Choice demonstration services as a "wrap-around" for the first 365 days to assure continuity of care and integration back into community living.
- Demonstration services include: Independent Living Skills Training, Community Support Coaching, HOME Choice Nursing Services, Social Work/Counseling, Community Transition Services, Transition Coordination, Respite, Community Living Specialist, and Care Management.
- HOME Choice is a cross-disability program aimed at equalizing the service provision across settings. For example, if an HCBS waiver offers social work/counseling services, then the HOME Choice program does not allow access to the same demonstration service. However, if a HCBS waiver does not offer social work/counseling, then the MFP participant can access the service.
- Furthermore, the program deems providers of existing HCBS waivers to participate in HOME Choice to ease administrative burden resulting from the fragmentation of the current delivery system. Nearly all MFP programs promote self-direction (or consumer direction) of services. Self-direction refers to various initiatives that give individual beneficiaries control over where, when, and how certain long-term services are provided.

Texas: Seniors Preparing for Rainbow Years – The Montrose Center[31]

- There are various challenges with transitioning volunteer outreach for providers. These challenges include recruiting older adult volunteers for a time-intense and challenging position, managing and training volunteers, and relying on informal social networks to access the target population
- Seniors Preparing for Rainbow Years (SPRY) is a behavioral health program targeting LGBT elders, especially those at risk for mental health or substance misuse/ abuse problems. SPRY uses a volunteer-led peer outreach program to reach a hidden, difficult to reach, and often resistant population. SPRY provides suicide prevention using the Question, Persuade, Refer approach; has implemented Healthy IDEAS; provides peer support groups, counseling and case management services; and has developed targeted education campaigns, including Adult Medication sessions to prevent medication misuse.
- For sustainability purposes, SPRY has built a network of volunteers to identify and recruit at-risk LGBT elders into clinical services. Access to this population has been enhanced by deploying volunteers who are part of the same peer community.

[31] Seniors Preparing for Rainbow Years. http://www.montrosecenter.org/hub/services/spry/

- Over several years, SPRY has established rapport and trust, and reached at-risk LGBT elders through established affinity groups, organized LGBT activities, informal social networks, bars, and churches.
- The program has invested substantial resources in training volunteers, including conducting role-plays and creating videos around depression screening. Moreover, they have found that volunteers must overcome the reluctance of many LGBT elders to disclose information about behavioral health issues.
- Although many LGBT elders have been reticent to engage in screening or interventions, SPRY volunteers have made inroads into the community, including encouraging LGBT elders to participate in a congregate meals programs offered at The Montrose Center. The meals program is supported by the AAA and provides a comfortable peer environment for LGBT elders. Within this setting, SPRY is pursuing brief behavioral health screening and educational programming focused on wellness.

Skilled Nursing Facility-Based Model:

Connecticut: Building Integrated Nursing Facility Care that Meets Needs of Individuals Leaving Correctional and Institutional Settings

- In 2017, after considerable, lengthy federal scrutiny and debate, a Connecticut nursing facility that specializes in serving individuals who are recent parolees as well as geropsychiatric residents received CMS certification to participate in Medicare and Medicaid. Several points from the state's experience with this nursing facility are instructive as Virginia considers options enhancing community-based settings.
- Connecticut first pursued the development of this specialized nursing facility to address a system capacity challenge. A Connecticut newspaper story when the facility opened reported:

> Inmates eligible for release often languished in prison, as *nursing homes* refused referrals from Department of Corrections and the Department of Mental Health and Addiction Services (DMHAS), according to Lawlor. In 2011, the Malloy administration sought a facility operator for 60 West, and SecureCare Options LLC submitted the winning bid.

- The facility was developed and opened and residents were admitted. However, in 2015, CMS upheld a 2014 state survey and certification decision denying Medicare/Medicaid certification to the nursing facility. At that time, CMS found that the "Department of Correction" patients in the facility did not meet Medicare program guidelines. CMS considered the residents to be "inmates" living in a secure unit with no medical justification to support the (secure) placement. (Maintaining security over the residents, which included a significant number of sex offenders, was a condition that had been established by the mental health, social service and correction departments in developing the facility).
- In support of viewing residents as inmates (and therefore excluded under Medicaid statute from federal reimbursement for all Medicaid services), CMS found that individuals who no longer met the criteria for release to the nursing facility would return to the custody of the Corrections system. Further, CMS found that these and other practices did not comport with a long-term care facility's duty to "protect and promote resident rights to a dignified existence, assure resident transfer and discharge rights and assure rights to be free from restraints imposed for purposes of discipline or convenience and not required to treat medical symptoms." The state appealed the CMS decision; Connecticut provided a state-only reimbursement for residents during the appeal.

- Connecticut achieved certification for 60 West by modifying its program design to assure that the facility can operate in full compliance with the Medicare/Medicaid COPs. The state is extremely pleased with how well 60 West is operating, including that it appears to be a high-quality nursing facility that provides supportive care to residents. It is helping to fill a system capacity need for hard to place individuals who need nursing home services. The state's system goals, however, do not include building additional "60 West" facilities around the state. The preference is to continue to place as many individuals as possible within the larger LTSS system in the state, and both state systems are encouraged to seek other placement before turning to 60 West. The state hopes that the success of 60 West will help other nursing facility operators understand that parolees and geropsychiatric residents can be admitted and properly served within the regular nursing facility environment.

How the Connecticut Model Works

HMA interviewed Connecticut Medicaid officials in June 2017 regarding the certification received from CMS in 2017. Officials described critical elements that resulted in the CMS certification of 60 West. As operated today:

1. 60 West is open and available to serve anyone from the public, as well as individuals referred from the Corrections system or the state's mental health system for geropsychiatric populations. Many residents, however, come from individuals who are paroled or placed from within the mental health system.
2. The Corrections-involved individuals who are served in 60 West are parolees, not inmates. For example, residents are not required to live at 60 West as a condition of parole. Individuals who improve because of the rehabilitation or other services provided at 60 West can be - and have been - discharged into the community. Residents can move to other facilities as well. The state has also worked to assist individuals to relocate into the community under MFP.
3. The facility is not secured beyond what is normal for other nursing facilities. The state noted that, initially, there was enhanced security – largely a response to anticipated public concern, but that is no longer in place.
4. All residents' rights are assured as required under the federal Conditions of Participation for nursing facilities.
5. Regarding the "geropsychiatric" population at 60 West, the state indicated this was mostly a population needing assistance due to dementia. 60 West has a dementia unit that, again, operates pursuant to federal COPs. Presumably, this unit serves residents from both the Corrections and the mental health system and is open to the larger public as well. The state noted that they and the operator are aware that they need to avoid IMD status and they "pay attention" to avoid challenges related to IMD. The Medicaid leadership was not aware of any "special" rules that applied to geropsychiatric residents.

National Expert Key Informant Interviews

As part of the exploration into emerging and evidenced-based practices in serving older adults, HMA conducted a series of key informant interviews with individuals recognized within their local area as subject matter experts as service providers, and/or policy makers. Interviews were designed to supplement input from the subject matter experts on current network capacities, practices, strengths, and challenges. In conjunction with a variety of other quantitative and qualitative data sources, including data provided by the Virginia Department of Behavioral Health & Developmental Services (DBHDS), the key informant interviews provide context and rationale for the HMA's final recommendations. The research team conducted a total of 4 interviews. Each interview responded to a series of standardized questions.

Table 7 – Key Informant Interview Questions

Key Informant Interview Questions
1. What services delivery methods and best practice models related to geropsychiatric care are you aware of in your state? a. What types of services and support for aging populations with mental illness need to be expanded or improved?
2. During your tenure at your position describe the capacity of geropsychiatric programs addressing the needs of the geropsychiatric population and how those programs had to meet demands for services. a. What gaps in services existed or what barriers kept people from using services already available b. What were the strengths of the model?
3. In closing, is there any additional information you would like to share or comments that you would like to make?

The following summarization of the findings represent common themes that emerged during the discussions with key leadership can be categorized into four areas: evaluation, partnerships sustainability, and training.

Evaluation

- Develop treatment standards, process measures, clinical outcomes that are specific and individualized for adults with behavioral health problems.
- Evaluate a program and track process and outcome measures. Use this information to inform program improvements. Consider partnering with a local university or college for assistance with program evaluation.
- Plan, implement, and evaluate specific adaptations that allow a program to better serve the target population.

Partnerships

- Develop collaborative relationships – focus on improving communication and coordination across the different providers, both in the community and state that serve older adults with complex behavioral health problems.
- Establish relationships with community stakeholders – identify strategies and additional community resources (clinical and financial) to overcome barriers and challenges to access and equity of behavioral health care.
- Develop an active older adult advisory board – incorporate input from older adults into the organization's advisory board.

Training

- Utilize evidence-based prevention and intervention models to address behavioral health problems, such as problem-solving therapy for depression and SBIRT for substance misuse/abuse.
- Seek technical assistance from experts and program developers to ensure fidelity to an evidence-based prevention or intervention model.
- Increase provider awareness that behavioral health problems are not a normal part of aging and that effective interventions can prevent and treat substance misuse (including tobacco, prescription drugs, and alcohol) and mental health problems in older adults.

- Ensure that services provided are culturally and linguistically competent and that the cultural and linguistic needs of the people served are addressed.

Sustainability

- Consider and pursue multiple funding streams from the program's inception to create a plan for program sustainability.
- Establish the effectiveness and importance of the program to potential local, state, federal partners or funders using data.
- Develop linkages with community stakeholders to establish referral systems and mutually-beneficial partnerships.

Summary of Observations and Recommendations

Virginia's delivery system for older adults has evolved over time and has been influenced by unintentional, yet misaligned policies that have impacted service access, treatment capacity, care transitions, and treatment costs to the state. The result is a state design with mixed levels of care within and across settings, treatment environments that can be counter-therapeutic, and a reduction of community capacity to serve older adults on Medicaid and Medicare. The sheer volume of service demand; growth and complexity of patient populations; and constraints to develop discrete models of care due to space, resources, and specialty staffing are persistent limitations for the Commonwealth.

Specific federal policies restrict payment for inpatient services for some populations with mental illness in certain facilities. As a result, Virginia bears the overwhelming financial burden for services that, in some instances, are eligible for a federal share of reimbursement under Medicaid and Medicare. This is because a significant portion of care delivery and associated costs for the increasing older adult population is currently provided by the state-operated psychiatric hospitals. These hospitals are among the facilities federally categorized as Institutes of Mental Disease (IMDs) and ineligible for Medicaid funding as a nursing facility or to provide psychiatric services for adults aged 21-64.

In addition, due to the age of some of these facilities, the physical plants need repair and modernization to obtain or maintain certification and accreditation status for eligible reimbursements. The hospitals require modernization to meet patient care needs, including the redesign of facility layouts that can support the development of evidenced-based programs and staffing models. However, financial investments in building infrastructures, workforce capacity, and program redesign, would do little to remedy the underlying issue in the state: the lack of a comprehensive approach and long-term plan for addressing the care needs of publicly-funded older adults with complex conditions.

Key Drivers of Fragmented Long-Term Services and Supports for Older Adults with SMI or Neurocognitive Disorders Served in State-Operated Facilities

Key factors creating blended sub-populations within state-operated inpatient settings include state culture and statutory changes that have disproportionately impacted individuals with public insurance. In the last few years, Virginia's focus on institutional care for older adults, limited nursing facility capacity for low-income individuals, and statutory changes (last resort law and treatment detention order) have accelerated the merging of these populations in state-operated treatment facilities as a result:

1. **The service population in state-operated psychiatric facilities has expanded significantly due to increased number of overall admissions and decreased rates of discharges,**

resulting in a funneling effect (i.e., more patients coming in than can be discharged) within state-operated facilities, and triggered by:

a. **State policy changes** (Last Resort Law) related to individuals with mental health crisis;
b. **Increased numbers of older age patients with medical complexities** such as individuals on oxygen and individuals with multiple medical conditions;
c. **Increased acute psychiatric admissions with more difficult to treat mental health conditions** and who are difficult to discharge even when psychiatrically stable due to limited community-based placements;
d. **Increased admissions of individuals with neurocognitive disorders with significant co-occurring behavioral challenges** who are denied care by community nursing facilities due to insurance type or because of behavior secondary to neurocognitive conditions (separate from any objective determination of appropriate level of care); and
e. **Increased numbers of individuals with a combination of these conditions**.

In many ways, the use of state-operated facilities as the "catch all" for treatment of all older adults is a direct result of misalignment of incentives for community-based care. The community providers (Community Service Boards) responsible for admission, discharge and community placement do not have a primary responsibility for meeting the treatment needs of individuals with neurocognitive disorders, who represent a significant number of older adults served by the state hospitals. In fact, the lack of funding to CSBs for non-behavioral health related care to older adults and their current disconnect from other older adult systems of care (Area Aging Agencies, Medicaid long-term care funding, etc.) creates an over-reliance and use of state hospitals rather than community placement. The time pressure created by mental health crisis statutes also intensifies a reliance on inpatient capacity and use rather than providing DBHDS and CSBs the opportunity and resources to build and utilize community-based alternatives.

Key Decisions for Designing a System of Care for Older Adults

What programs and services should be available to ensure a full continuum of services for older adults where individuals receive the right service, in the right setting, when needed? Central decisions for the state in designing a system of care for older adults are:

1) What populations should be the focus of state-operated psychiatric facilities?
2) What populations should be the focus of community-based providers? How can capacity and the willingness to serve these populations (across older adult services, not merely behavioral health providers) be improved?
3) How should resources be aligned to incentivize care based on the decisions made and the ultimate design of the system?

Need for Development of a Full Continuum of Publicly Funded Services for Older Adults with Mental Illness or Neurocognitive Disorders

The older adult system of care has evolved without purposeful design in Virginia. State-operated facilities have had little time to develop a thoughtful and planned transition of the state hospital role amid recent statutory changes. Once the funnel effect began, resulting in increasing admissions and slower rates of discharge, state psychiatric hospitals have been largely in a reactive stance rather than being able to develop and implement a proactive response. Since passage of last resort statutes, the hospitals were forced to abandon any attempt at gradual transition of care models, roles/services, and function (i.e., changes to staffing and workforce expertise such as adding more medical expertise, including neurology).

Instead the facilities had to rapidly make space for individuals as the patient populations quickly transformed.

Similarly, at the broader system level, the model(s) for serving the geriatric population has not been designed to ensure the availability of a full continuum of services. Virginia is unbalanced in the system with more focus on inpatient and institutional care with minimal development of the community-based continuum of services. This has primarily been a result of resource allocation—with more funding going towards institutional care making community services development challenging. The result is that, for older adults with public insurance, there is a limited effort around interventions to prevent crisis and maintain community placement. Specifically, there is a lack of respite options for families, and limited nursing facility options, in part because nursing facility providers do not receive additional training and support in managing individuals with neurocognitive conditions who have behavioral challenges. Although the CSBs have been in collaboration with the state (even though individuals with neurocognitive conditions is outside of their defined population and funding focus) to pilot and experiment with new programming in multiple regions, these efforts currently remain limited.

Virginia is at a critical decision point with respect to the continuum of long term services and supports (LTSS) for publicly funded older adults. As the population is rapidly growing, the state needs to design the continuum of services needed and then purposely build that continuum. This will likely require additional funding and resources to maintain existing services (funding of state-operated facilities) while increasing funding in the community to build provider capacity, incentivize service development for those with public insurance, and train a competent population-focused workforce. Central to this next phase of development is inclusion of all State agencies responsible for policies and reimbursement for older adult services. Although DBHDS' participation is vital, it is important that leadership from DMAS and DARS drive the planning and design of a system of care for older adults. Even more critical is the need for DMAS to establish the requisite parameters for obtaining Medicaid policy and funding authorities, establishing roles for quality oversight and accountability, and defining outcome measures, particularly given Virginia's movement toward a managed care model for LTSS.

Stroul and Friedman defined a system of care for children with serious emotional disturbance as a "spectrum of effective, community-based services and supports for children and youth with or at risk for mental health or other challenges and their families, that is organized into a coordinated network, builds meaningful partnerships with families and youth, and addresses their cultural and linguistic needs, in order to help them to function better at home, in school, in the community, and throughout life. The original concept was offered to guide the field in reforming child serving systems, services, and supports to better meet the needs of children and youth with serious mental health challenges and their families.[32] HMA proposes that the Commonwealth establish an older adult system of care that takes the same comprehensive and collaborative approach that has been encouraged for children.

As a populations ages, it becomes more vulnerable to the impacts of a care delivery structure that is fragmented, complicated, and restricted by funding requirements. The older adult services system that was developed to address specific chronic conditions is no longer able to meet a person's unique and multifaceted care needs. Across health care there is evidence that integrated care and the systematic coordination of medical and behavioral healthcare produces the best outcomes of overall health. For healthy aging, integrating traditional medical care with a holistic focus on the individual's mental, social, and emotional status produces positive outcomes for seniors, their families and their communities.

[32]Stroul, B and Friedman, R. A System of care for Children and Youth with Severe Emotional Disturbances, National Technical Assistance Center for Children's Mental Health, Georgetown University Child Development Center, 1986 (rev. ed. p. 30).

Successful service delivery for vulnerable populations require more than providing medical care or even behavioral health care. Care strategies must focus on the whole person and address the social determinants of health including housing, transportation, social services, and wellness.

These services occur at the local level where people live, work and interact. State policies and administrative structures would be wise to wrap the appropriate services around the individual rather than invest to sustain systems that require the individual to seek separate discreet services in separate administrative structures. Integration of services for the elderly population will minimize service access issues and support positive outcomes for safe aging in place. If there is a clear pathway that makes the delivery of services administratively simple, collaborative, and in the best interest of the individual receiving the services, the senior is more likely to use and benefit and therefore be more cost efficient for the state. An older adult services framework that focuses on person-centered planning will encourage all types of service providers, professionals and paraprofessionals, to collaborate with one another to meet the unique needs of the person and his or her community. See *Appendix F: Proposed Older Adult System of Care Framework*.

All combined, these findings point to the need for a two-tiered approach for addressing the needs of an aging population with complex care needs: an intermediate strategy that is implemented over the next five years and a long-term strategy that is put into place in the next ten years. Recommendations for a long-term strategy are initially discussed so that the State can establish a clear vision about the future system that needs to be designed. Intermediate recommendations follow and serve as milestones toward achieving the broader vision.

Long Term Recommendations for an Older Adult System of Care

To achieve the older adult system of care described above, the State needs to devise a strategy that:

- Rebalances the use of institutional long-term care (i.e., state-operated psychiatric facilities and nursing facilities) in relation to community-based services to ensure that the level of care accessed by the individual served is in a setting and for a duration that is suitable for the person's needs;
- Expands the capacity of community-based care and enables CSBs and providers of LTSS to more effectively attend to the integrated behavioral health/aging-related care needs of mutually served populations;
- Ensures timely transitions between appropriate levels of care and settings, and that the receiving entity has established protocols and a prepared workforce to meet individuals' needs;
- Optimizes funding streams to enable payments from Medicaid and Medicare in a manner that does not compromise the level of services provided to an individual and that makes available flexible state funds available for non-covered services;
- Promotes and provides incentives for use of best practices and evidence-based care;
- Leverages available federal authority (e.g., waivers and state plan amendments) to develop an enhanced array of services payable under Medicaid;
- Makes effective use of the recently established, comprehensive Medicaid managed care structure to ensure that an adequate delivery system and funding is available to address population needs; and
- Advances the use of data and other information across systems to allow for improved tracking of service availability and utilization across care continuum and ensures the accountability of all providers for appropriate services to older adults.

Long-Term Role of State-Operated Psychiatric Facilities

As part of a long-term strategy, the State also needs to make clear the role of state-operated psychiatric facilities. Subject matters experts, discussions and interviews with key Virginia stakeholders, and research conducted about other state care models, leads HMA to recommend that the future role of state-operated psychiatric facilities, specific to older adults, should focus on:

- Acute stabilization for older adults with psychiatric symptoms;
- Assessment and evaluation of complex cases that allow an interdisciplinary team the time to tease out differential diagnosis, medications, and how to treat psychiatric and co-occurring neurocognitive/medical conditions;
- Treatment of individuals with chronic mental illness that are aging and despite intervention, have poorly controlled psychiatric symptoms and subsequent behavioral challenges (e.g., delusional disorders, uncontrolled psychosis, and aggression); and
- Development of "centers of excellence" at state facilities, in collaboration with university researcher partners, to develop innovative and flexible service delivery practices, and create and advance a model of care for older adults.

Implications of Facility Role Regarding Federal Reimbursement for Inpatient Services

If the role of the state hospitals is to be restricted as described above, the State will need to come to terms with the limitations of federal payments, balanced out with the needs of the patient populations seeking care in state-operated facilities. Currently, there are no federal certification options for the Commonwealth to pursue that would enable the State-operated facilities to increase federal revenue for treating older adults who need a nursing facility level of care. Because the State-operated facilities are considered “institutions for mental diseases” or “IMDs,” there is no pathway for these institutions to receive federal payments as a nursing facility. All services to address nursing facility level of care needs in an IMD must be paid for using state funds. However, the state can receive federal payments for psychiatric inpatient services for the geriatric population (individuals over 64 years of age) if the facilities meet applicable regulatory requirements.

Long-Term Role of Community Service Boards

Interviews with a selected number of CSBs revealed the need for additional funding, training, and staffing capacity for CSBs to more effectively meet psychiatric care needs for older adults, particularly in cases where behavioral issues were secondary to neurocognitive conditions, which pushes beyond traditional community behavioral health expertise and population focus. As the primary gatekeeper for inpatient placement and discharge to the community, the CSBs highlighted that the most significant barriers to discharge from state hospitals were access to placement for long-term services and supports and issues associated with guardianship. Although they play the role of the discharge planner, the CSBs have no influence or control over nursing facility or other community-based placement decisions, creating difficulty in supporting community placement.

At the other end of the gatekeeper role is evaluation and placement when there is a crisis. Several CSBs reported increases in TDO requests for individuals with neurocognitive disorders—particularly individuals with an added component of behavioral challenges (verbal or physical aggression, challenges with hygiene, etc.). This has resulted in CSBs engaging in discharge planning for individuals who, for some CSBs, are not within their populations served or for whom they have appropriate services available. The majority of CSBs interviewed indicated geriatric individuals on TDOs were primarily new to the CSB and not active clients, and were not appropriate for CSB services upon discharge due to a primary diagnosis of neurocognitive disorder, as opposed to psychiatric conditions.

HMA recommends that the expanded provider role of the CSB be financially acknowledged so that CSBs are positioned to continue to serve as a gatekeeper and primary evaluator for individuals with neurocognitive conditions. Given that CSBs are currently expected to play a central role in supporting older adults with a myriad of conditions, it is necessary for the State to develop appropriate training and education for CSBs, service providers, and nursing facility staff to promote the use of evidenced-based approaches in addressing behavioral problems associated with neurocognitive disorders. This education should include a clear understanding of federal regulations regarding use of psychotropic medications within nursing facilities. Many nursing facilities deny individuals with behavioral challenges because of concerns that psychiatric medications cannot be used in nursing facilities. Therefore additional training and availability for psychiatric consultation are two potential pathways to address referral barriers.

Long-Term Role of Area Agencies on Aging and other Primary Older Adult Providers

Conversations with selected leadership from Area Agencies on Aging (AAAs) and nursing facilities indicated there is a confusing structure, lack of appropriate care transitioning, and gaps in service capacity with regards to serving older adults with mental illness or behavior issues related to neurocognitive disorders. For community providers, there is also confusion about which state agency is responsible for ensuring services for older adults—particularly when the population has mixed needs (e.g., individuals with psychiatric conditions and/or neurocognitive conditions). Conversations revealed that transition from a state hospital to a nursing facility is both challenging for the individual as well as the staff of the receiving facility.

Some providers voiced hesitancy to admit someone whose entire care needs may not be addressed. Leaders discussed that they have not had any assistance in the past and are not educated or trained in management and treatment of aggressive behaviors. They are concerned about the regulatory constraints and monetary impact to their operations.

Stakeholders also reported that there are not sufficient behavioral health treatment options in some parts of the State. This was directly attributed to disparities across the regions with respect to availability of local funding. Areas with additional local funds available to supplement services provided under Medicaid, were more likely to have innovative programs and services. It was reported that these additional funds also supported piloting of new programs by enhancing the ability for CSBs to provide matching funds which is often required to participate in state pilots or pursue federal grant opportunities and/or for collaborative efforts across local provider systems. Not surprisingly, rural areas faced greater challenges in funding and innovative program development than their urban counterparts.

HMA recommends that to maximize the effectiveness of agencies and systems providing services to the older adult population with complex health needs, the State should:

- Develop and provide clear delineation of roles and responsibilities for each stakeholder entity in the aging system;
- Develop and implement baseline level training for all staff at every level of the entities providing services or access to services. This may include enhancing partnerships between organizations with expertise in one specific area of aging. For example, the state could leverage CSBs for expertise in caring for older adults with psychiatric conditions, while having nursing facilities and other providers trained on best practice for treatment of neurocognitive challenges;
- Develop appropriate transition plans with clear procedures for implementation for individuals to move or be admitted and discharged between service settings, including inpatient state psychiatric facilities, nursing facilities, and home and community-based settings, with ease of flow up and down the continuum of services based on need and appropriate level of care; and

- Conduct needs assessment to identify gaps in programs (type of program and geographic location) in service capacity and develop requisite remediation plans.

Options for a Long-Term Workforce Strategy

Factors impacting workforce recruitment and retention include: State hospital location and difficulty recruiting young people to rural parts of the State; lack of salary parity with private institutions; existing shortages in staffing; difficulty of the patient population served (especially working with individuals with aggression, high ADL support needs, etc.) stigma of a State facility (that models of care are "old fashioned" and out of pace with the rest of the field); paper documentation rather than an electronic medical record (especially for new graduates who want to work in state of the art settings); and desire for flexible scheduling and other benefits. While hospitals are challenged in recruiting a younger and early career workforce, they are experiencing an aging of the experienced and qualified workforce which is retiring from State work. With these retirements, the hospitals are losing the expertise that is needed to care for their population, with no capacity to transfer decades of experience to a new workforce. This adds to the cycle of shortages as new professionals are quickly overwhelmed and do not have adequate mentoring to learn how to do this important work.

The State's approach to assuring the necessary workforce to care for the older adult behavioral health population should include, but not be limited to[33]:

- Primary Care Physicians (and specifically geriatricians)
- Physician Assistants
- Nurses (RNs, LPNs, Advance Practice Nurses)
- Pharmacists
- Occupational and Physical Therapists
- Case Managers
- Board Certified Behavior Analysts
- Direct Care Workers including Certified Nurse Assistants (CNAs)
- Psychiatric Technicians or Attendants
- Home Health Aides
- Personal and Home Care Aides
- Peer Counselors and Peer Support Specialists
- Outreach workers
- SMHA Older Adult Specialists
- Neurologists, neuropsychiatrists, and neuropsychologists

Intermediate Term Recommendations for an Older Adult System of Care

While the state develops a long-term strategy, attention should also be paid to development of an interim solution, particularly in acknowledgment of existing state-regulations and strain on capacity for institutional services.

Intermediate Strategies for DARS, DBHDS, DMAS

- Increase funding dedicated to development of older adult system of care. The increase in funding is required in order to maintain the current system of care while building and advancing new and more cost-effective parts of the system for the long-term.

[33] The Impact of the Older Adult Mental Health Workforce Shortage on the Public Mental Health System, National Association of State Mental Health Program Directors (NASMHPD) Older Persons Division (OPD), 2014.

- Continue State funding of pilot program development aimed at increasing collaboration between State facilities and CSBs to enhance community-based options for older adults. As the DBHDS identifies the pilot projects that are more effective, spread these innovations across the State to improve the quality and efficiency of discharge planning, maintain older adults in community-based settings, and prevent additional admissions.
- Develop and provide education/outreach with nursing homes, home and community-based services (HCBS) providers, and associations to increase competency and confidence in providing services to the geriatric population.
- Consider financial incentives such as enhanced rates for community-based facilities willing to develop specialty units that address individuals with behavioral issues secondary to neurocognitive disorders.
- Conduct re-assessments of individuals that include interdisciplinary discharge planning with NFs and CSBs
- Develop an inventory of HCBS alternatives, including targeted interventions and services for certain sub populations
- Design a Diversion Plan for both diversion and transfer of geriatric state hospital patients to nursing facilities when appropriate. Diversion activities should include expanded use of The Regional Older Adult Facilities Mental Health Support Team (RAFT) approach to rapidly respond and diffuse crisis situations.
- Evaluate need for state or local policy changes that may contribute to discharge barriers, such as guardianship and asset determination for benefits.

Intermediate Strategy for State-Operated Psychiatric Facilities

- Revisit the role of the State hospitals, specifically whether or not to provide long term services and supports for neurocognitive disorders in addition to the traditional focus on acute stabilization of psychiatric illnesses.
- The rapid time frame created by the TDO process limits the capacity to conduct a full medical, psychiatric, cognitive, neurological, and overall functional analysis for each individual and to find the best service match for individual treatment need. To allow for a more thorough evaluation process, the State can invest in two approaches:
    - Extend the timeframe of evaluation within the TDO statute for cases in which there is question about the presence of neurocognitive conditions to assure that individuals with a neurocognitive disorder as a primary condition are not inappropriately referred to the State psychiatric facilities.
    - Create an assessment/evaluation status for individuals with complex and co-occurring disorders. This status would be specifically designed for rapid assessment units at the State-operated facilities that provide evaluation over 1-2 weeks of inpatient stay. The interdisciplinary assessment team would conduct individualized assessments of medical, psychiatric, and cognitive and neurological needs, as well as overall functioning. This assessment process could incorporate the idea explored elsewhere in this report of a "center for excellence", with partnerships with larger medical systems of care.
        - The goal of these assessment teams would be to identify the level of care needed for complex cases, with some individuals then referred for inpatient treatment within the State facilities and others referred to appropriate community-based long-term care. It is vitally important that the State agencies, Medicaid managed care organizations, and community providers collaborate to ensure rapid transition (within 3-7 days) for individuals referred to community settings, as these individuals are not appropriate for state facility level of care.

    - This process would entail greater resources and support to the State psychiatric facilities in terms of staffing. For example, the evaluation teams would need to include a neurologist, neuropsychology testing capacity, and potentially other specialists.
- Develop a plan for discontinuing the blending of populations with different levels of care since combining populations is counter-therapeutic.
- Develop policies and procedures that prohibit the combination of populations in State facilities for the future.
- Re-evaluate existing patients and require the use of interdisciplinary teams to ensure effective discharge planning and exploration of community options.
- Re-evaluate the physical layout and purpose of existing program for inpatient psychiatric care.
- Hire the appropriate staffing for psychiatric care and institute training programs for existing staff on evidence-based psychiatric rehabilitation and innovations in inpatient hospital treatment modalities.
- As individuals with long-term care needs are transferred into the community, develop more robust treatment programming geared at meeting the needs of older adults with psychiatric conditions. A central part of this transition is the development of a better assessment process to prevent referral to the state hospitals for individuals who need community-based services.
- Develop end of life and palliative care capacity within the State-operated facilities to assist in appropriate treatment and care for individuals with psychiatric conditions that may be in the facilities at the end of life.

Intermediate Role of CSBs, AAAs and other Primary Older Adult Providers

Community Service Boards

- Determine whether changes will be made to the TDO and crisis evaluation timeframes and what the role of the CSB is and whether other agencies need to be engaged for specific populations. For example, the CSB's could focus on older adults with psychiatric conditions while other agencies support maintaining community placement for older adults with neurocognitive conditions.
- Develop appropriate training and education for CSBs, service providers, and Nursing Facility staff to promote use of evidenced-based approaches in addressing behavioral problems associated with neurocognitive disorder, including a clear understanding of federal regulations regarding use of psychotropic medications within nursing facilities.
- Continue State funded pilot projects designed to improve community-based capacity and services for older adults and evaluate these programs to determine the best approaches for expanding them across regions.
- Consider blended funding across State departments that support collaboration and expansion of services and supports for older adults (Department of Aging, Medicaid, etc.).

Long Term Service and Support System

- Develop and provide clear delineation of roles and responsibilities for each public entity in the aging system
- Assure that reimbursement for services supports the necessary staffing and services for the target population;
- Develop a plan for various entities (e.g., CSBs, AAAs, etc.) to provide education and expertise to enhance base line training for all staff at every level of the entities providing services or access to services;

- Develop appropriate transition plans with clear procedures for implementation for individuals to move or be admitted and discharged between service settings, including inpatient state psychiatric facilities, nursing facilities, and HCBS settings, with ease of flow up and down the continuum of services based on need and appropriate level of care;
- Conduct needs assessment to identify gaps in service capacity and develop remediation plans.

Most of the recommendations will require an investment of financial resources. However, cost estimates were not developed for each recommendation since it is imperative that the state make critical decisions about the role of existing systems serving older adults with mental illness or neurocognitive disorders. As such, HMA recommends that the Commonwealth continue and expand on its interagency collaboration regarding the service population, delivery system, program design, financing and payment, and system infrastructure decisions the State will need to make regarding older adults with mental illness or neurocognitive conditions.

Appendices

Appendix A: State and Federal Licensure, Financing and Regulatory Requirements

Federal Financing and Regulation Related to State-Operated Psychiatric Hospital

Federal Funding Sources

Virginia's state operated facilities provide highly structured and intensive inpatient services, including psychiatric, psychological, psychosocial rehabilitation, nursing, support, and ancillary services, and specialized programs for older adults, children and adolescents, and individuals with a forensic status.[1] Historically, such institutional services have been primarily funded by Medicare and Medicaid the two major public funding sources for long-term care. The circumstances under which the geriatric population receives long-term care assistance under these programs generally falls into two categories: (1) Medicare enrollees who are recovering from an acute illness; and (2) poor elderly persons who are eligible for Medicaid and who qualify for Medicaid-covered long-term care benefits.

Medicare Coverage

The Medicare program provides limited long-term care coverage as an entitlement; however, the long-term care benefits provided under the Medicare Part A (hospital benefit) are limited. The primary purpose of the Medicare program has been to provide elderly persons with protection from the high costs of acute medical illness, particularly costs associated with inpatient hospital care. As such, in determining what Medicare Part A will and will not pay for, a boundary has historically been drawn between services that are oriented toward the treatment of acute illness and services that are primarily custodial in nature. Custodial care assists individuals with activities of daily living and may also include care that most people do themselves, like using eye drops, oxygen, and taking care of colostomy or bladder catheters. Custodial care differs from skilled nursing facility care which is provided by skilled nursing or therapy staff to manage, observe, and evaluate care, such as intravenous injections and physical therapy. Generally, skilled care is covered by Medicare only for a short time after a hospitalization. In summary, Medicare Part A covers the following facility-based care:

- Inpatient hospital services
    - Acute care hospitals
        - Psychiatric hospitals for up to 190 days of inpatient during beneficiary's lifetime
    - Long term care hospitals—acute care hospitals that provide treatment for patients who stay on average more than 25 days
    - Critical access hospitals

[1] Department of Behavioral Health and Developmental Services. *Fiscal Year 2016 Annual Report*. December 1, 2016. Available at http://www.dbhds.virginia.gov/library/community%20contracting/occ-dbhds-2016-annual-report.pdf.

    - Inpatient rehabilitation facilities
- Skilled nursing facility
    - Up to 100 days per benefit period if the enrollee's stay meets Medicare's requirements
- Nursing home care (if custodial care is not the only care needed)

Reimbursement for these Medicare facility-based benefits is contingent on the provider meeting the requirements for program participation as discussed below under Conditions of Participation.

Medicaid Coverage

Medicaid is a State program that provides medical services to clients of the State public assistance program, and at the State's option, other needy individuals. The Department of Medical Assistance Services (State Medicaid agency) administers the Virginia Medicaid program according to the CMS-approved State plan. The State Medicaid agency makes Medicaid payments to eligible providers, including eligible DBHDS state-operated facilities, and claims Federal reimbursement for a portion of the payments. The Virginia Department of Health is the State survey agency responsible for determining whether the hospitals meet the standards for Medicaid participation as either a hospital or a nursing facility.

Inpatient Hospital Services

Section 1905(a)(1) mandates that all states cover inpatient services for Medicaid enrollees. Inpatient Services (other than services in an institution for mental diseases) are services ordinarily furnished in a hospital for the care and treatment of inpatients. Such items and services must be provided under the direction of a physician in an institution maintained primarily for the treatment and care of patients with disorders other than mental disease.

Nursing Facility Services

Section 1905(a)(4)(a) of the Act requires states to cover nursing facility services (other than services in an institution for mental diseases) for individuals 21 years of age or older. Nursing facility services are provided by Medicaid certified nursing homes, which primarily provide three types of services:

- Skilled nursing or medical care and related services;
- Rehabilitation needed due to injury, disability, or illness;
- Long term care —health-related care and services (above the level of room and board) not available in the community, needed regularly due to a mental or physical condition.

States may not limit access to nursing facility services, or make it subject to waiting lists, as they may for home and community-based services. Therefore, in some cases NF services may be more immediately available than other long term care options.

Need for nursing facility services is defined by states, all of whom have established NF level of care criteria. State level of care requirements must provide access to individuals who meet the coverage criteria defined in Federal law and regulation. Individuals with serious mental illness or intellectual disability must also be evaluated by the state's Preadmission Screening and Resident Review (PASRR) program to determine if NF admission is needed and appropriate. PASRR is a federal requirement to help ensure that individuals are not inappropriately placed in nursing homes for long term care.

While the Medicare benefit for skilled nursing facility (SNF) care is limited, the Medicaid nursing facility benefit provides continued coverage for those who are dually eligible for Medicare and Medicaid services. In many cases, it is not necessary to transfer to another nursing home when payment source changes to Medicaid NF. Many nursing homes are also certified as a Medicare skilled nursing facility (SNF), and most accept long term care insurance and private payment. For example, commonly an individual will enter a Medicare Skilled Nursing Facility (SNF) following a hospitalization that qualifies him or her for a limited period of SNF services. If nursing home services are still required after the period of SNF coverage, the individual may pay privately, and use any long-term care insurance they may have. If the individual exhausts assets and is eligible for Medicaid, and the nursing home is also a Medicaid certified nursing facility, the individual may continue to reside in the nursing home under the Medicaid NF benefit. If the nursing home is not Medicaid certified, he or she would have to transfer to a NF in order to be covered by the Medicaid Nursing Facility benefit.

Institution for Mental Diseases (IMD) Coverage

Under Medicaid, services for a **non-aged adult** who is a patient of an IMD **are not eligible** for federal Medicaid reimbursement. This exclusion applies to the services delivered by the IMD, but also to services delivered by other providers while the person is a patient in an IMD. However, hospital and nursing facility services for someone **aged 65 or older are coverable** for a patient in an IMD. Despite this provision of law, the **Conditions of Participation for nursing facilities** to be able to participate in the Medicare or Medicaid programs **prohibit IMDs** from participating as nursing facilities. This apparent inconsistency in federal statute and regulation may be one source of confusion and policy challenge as Virginia attempts to understand its options for serving a geropsychiatric population.

Also note: the coverage of services for adults age 65 and older in an IMD **may or may not be limited** to hospital and nursing facility services. See below for statutory provisions; while

Section 1905(a)(14) clearly covers hospital and nursing facility services for this population, the exclusion in 1905(a)(29) does not appear to apply the exclusion to individuals age 65 and older at all.

Statutory Provisions

Section 1905(a) (14) of the Social Security Act provides that medical assistance (Medicaid) includes hospital services and nursing facility services for individuals 65 years of age or over in an institution for mental diseases.

Section 1905(a)(29) (B) excludes federal reimbursement under Medicaid for any such payments with respect to care or services for any individual who has not attained 65 years of age[2] and who is a patient in an institution for mental diseases.

Section 1905(i) defines IMDs: The term "institution for mental diseases" means a hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services.

Administrative Guidance

Regulations at 42 CFR 435.1010 define an institution for mental diseases as:

> a hospital, nursing facility, or other institution of more than 16 beds that is primarily engaged in providing diagnosis, treatment or care of persons with mental diseases, including medical attention, nursing care and related services. Whether an institution is an institution for mental diseases is determined by its overall character as that of a facility established and maintained primarily for the care and treatment of individuals with mental diseases, whether or not it is licensed as such. An institution for Individuals with Intellectual Disabilities is not an institution for mental diseases.

Chapter 4 of the CMS published State Medicaid Manual[3] provides long-standing guidance that further defines an IMD on the basis of its "overall character". The Manual states that a facility is an IMD if it is established and maintained primarily for the care and treatment of individuals with mental diseases, as evidenced by the following:

- It is licensed or accredited as a psychiatric facility;
- It is under the jurisdiction of the state's mental health authority;

[2] Section 1915(a)(16) provides for reimbursement for services delivered by certain IMDs to children (under age 21).
[3] Section 4390 of the State Medicaid Manual, found at https://www.cms.gov/Regulations-and-Guidance/guidance/Manuals/Paper-Based-Manuals-Items/CMS021927.html

- It specializes in providing psychiatric/psychological care and treatment (judged on patient records, staff qualifications, or if a facility was established and maintained primarily for the care and treatment of individuals with mental diseases); or
- It has more than 50 percent of all its patients admitted based on a current need for institutionalization as a result of mental diseases (regardless of what services are provided).

Appendix PP of the State Operations Manual (SOM)[4], which provides guidance to surveyors for Long Term Care Facilities, concludes the definition of facility (skilled nursing facility and nursing facility) with the following:

> For Medicare, an SNF (*see* section 1819(a)(1) of the Act), and for Medicaid, and (*sic*) NF (*see* section 1919(a)(1) of the Act) may not be an institution for mental diseases as defined in §435.1010 of this chapter.

In recent years, CMS has created new opportunities for states to take advantage of needed services that are provided in some, but not all, IMD settings. In the revised Managed Care regulations finalized in 2015,[5] CMS clarified that a state could make a monthly capitation payment to a managed care organization (MCO) for an individual, even if he/she is in an IMD on the date the capitation payment is made, as long as the individual is not a patient in an IMD for more than 15 days within the month covered by the capitation. This does not add IMD services to the Medicaid state plan. Rather, the MCO can exercise its separate authority, under regulation, to use a service or setting of care that is not covered under the state plan "in lieu of" a covered Medicaid service or setting of care. The use of an "in lieu of" service must be cost effective under the plan. However, this provision only applies to short-term acute care services provided by a hospital or a subacute facility providing psychiatric or substance use disorder crisis residential services.[6]

Federal Conditions of Participation

In order for a healthcare organization to participate in and receive federal payment from Medicare or Medicaid, the entity must meet the government requirements mandated by the Social Security Act (the Act) for program participation. These requirements include a certification of compliance with the health and safety requirements called Conditions of

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[4] Appendix PP of the State Operations Manual, found at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Downloads/Appendix-PP-03-08-2017.pdf

[5] Medicaid and CHIP Managed Care Final Rule. Available at https://www.medicaid.gov/medicaid/managed-care/guidance/final-rule/index.html

[6] Final rule regarding Medicaid and CHIP Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability, found at: https://www.federalregister.gov/documents/2016/05/06/2016-09581/medicaid-and-childrens-health-insurance-program-chip-programs-medicaid-managed-care-chip-delivered

Participation (CoPs) or Conditions for Coverage (CfCs), depending on the type of Medicare-participating entity, which are set forth in 42 Code of Federal Regulations. The Act designates those providers that are subject to Federal healthcare quality standards such as patient care institutions including hospitals (42 CFR Part 482), critical access hospitals, hospices, nursing homes (42 CFR Part 483 Subpart B) and home health agencies.

When Medicaid services are furnished through institutions that must be certified for Medicare, the institutional standards must be met for Medicaid as well. Therefore, for periods in which an entity does not demonstrate compliance with the basic and special Medicare CoP, all payments it receives from the State Medicaid agency for Medicaid covered services are ineligible for Federal reimbursement.

Certification Process and Authority

To demonstrate compliance with the basic and special Medicare CoP, healthcare organizations must undergo review by qualified healthcare professionals. That review provides CMS with reasonable assurance that participating facilities are improving the health and protecting the safety of beneficiaries.

Determination that a particular healthcare organization is in compliance with CoPs or CfCs is made in one of two ways. First, state survey agencies under contract with the Department of Health and Human Services (DHHS) Centers for Medicare & Medicaid Services (CMS) recommend whether an organization meets the applicable CoPs or CfCs. If the organization meets certification standards, the Secretary may approve the state agency's recommendation.[7] In the case of a state operated nursing facility, the state conducts the survey and the regional office certified compliance or noncompliance and determines whether the facility is eligible to participate in the Medicare or Medicaid programs. These decisions may be appealed if a provider is found not to meet the requisite requirements[8] and are subject to periodic review[9].

Second, some organizations (e.g., hospitals) may also receive certification by obtaining accreditation from an accrediting body approved by CMS as having standards and a survey process that meets or exceeds Medicare's requirements. Entities that achieve accreditation through an accrediting body's "deemed status" survey are determined to meet or exceed Medicare and Medicaid requirements. For example, a psychiatric hospital accredited and recommended for deemed status by a national accreditation organization with a CMS-

[7] 42 C.F.R. §§ 488.10 through 488.12
[8] 42 C.F.R. § 488.24
[9] 42 C.F.R. § 488.20

approved Medicare psychiatric hospital accreditation program may be deemed to meet all CoPs for psychiatric hospitals.

In both of the above situations—investigations made by the state survey agencies and investigations made by the designated accreditation organization—the reviewing institutions follow guidelines issued by CMS in the SOM to make recommendations as to whether a particular provider is compliant with relevant CoPs or CfCs.

CoPs and CfCs differ depending on the type of entity, but there are several common criteria that exist. Examples of common conditions include (i) a governing body responsible for effectively governing affairs of the institution; (ii) a quality assurance program to evaluate entity-wide patient care; (iii) medical record service responsible for medical records; (iv) a utilization review that reviews the services furnished by the entity and its staff; and (v) a facility constructed, arranged and maintained according to a life safety code that ensures patient safety and the deliverance of services appropriate to the needs of the community.[10]

The differences in the CoPs and requirements by entity type provide insight into the nature of the care being provided for the populations served in specific types of facilities. For example, the special CoP for psychiatric hospitals were developed with a focus on ensuring that the care delivered is guided by a person-centered treatment plan which was developed based on the individual patient's assessed needs and is being utilized to provide comprehensive active treatment aimed at stabilizing the acute care needs of the patient, with a focus on a return to the community. In contrast, the nursing home requirements have a heavy focus on resident rights, privacy, autonomy, and quality of life and care, given the long-term nature and unique needs of the patient population.

Nursing Facility Conditions of Participation

Skilled nursing facilities (SNFs) and nursing facilities (NF) must be compliant with Section 1919 (a), (b), (c), and (d) of the Act and the Requirements for Long-Term Care Facilities established at 42 CFR Part 483, Subpart B in order to receive payment under the Medicare (SNF) and Medicaid (NF) programs. Fundamental to the determination of compliance is whether the entity meets the federal statutory definition.

Statutory Provisions

Section 1919 of the Social Security Act defines a nursing facility as an institution that is:

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[10] American Health Lawyers Association. *Medicare Conditions of Participation (Conditions for Coverage)*. Available at: https://www.healthlawyers.org/hlresources/Health%20Law%20Wiki/Medicare%20Conditions%20of%20Participation%20(Conditions%20for%20Coverage).aspx

(1) primarily engaged in providing to residents—

(A) skilled nursing care and related services for residents who require medical or nursing care,

(B) rehabilitation services for the rehabilitation of injured, disabled, or sick persons, or

(C) on a regular basis, health-related care and services to individuals who because of their mental or physical condition require care and services (above the level of room and board) which can be made available to them only through institutional facilities,

and is not primarily for the care and treatment of mental diseases;

(2) has in effect a transfer agreement (meeting the requirements of section 1861(l)) with one or more hospitals having agreements in effect under section 1866; and

(3) meets the requirements for a nursing facility described in subsections (b), (c), and (d) of this section.

Subsections (b) Provision of Services, (c) Resident Rights, and (d) Administration and Other Matters of Section 1919 establish nursing facility requirements that generally require a nursing facility:

- care for its residents in such a manner and in such an environment as will promote maintenance or enhancement of the quality of life of each resident
- provide services and activities to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident, and
- protect and promote the rights of each resident and
- be administered in a manner that enables it to use its resources effectively and efficiently to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident

Administrative Guidance

Federal regulation under 42 CFR 483 Subpart B specifies that a NF may include a distinct part of an institution, but does not include an institution for individuals with developmental disabilities or persons with related conditions and for Medicare a SNF and for Medicaid a NF may not be an institution for mental diseases (as discussed above in the Institution for Mental Diseases (IMD) subsection of this report).

A "Distinct part" NF is physically distinguishable from the larger institution or institutional complex that houses it, meets the applicable statutory requirements for NFs and additional regulatory requirements as defined under 42 CFR 483.5 and specified under §§ 440.40 and 440.155.

Nursing facility requirements related to Section (b), (c), and (d) of the Act are further detailed under 42 CFR 483, Chapter 7 (Survey and Enforcement Process for Skilled Nursing Facilities

and Nursing Facilities) of the Medicare SOM[11] and Appendix PP - Guidance to Surveyors for Long Term Care Facilities of the SOM[12] and address the following areas of compliance:

- Resident rights
- Admission, transfer and discharge rights
- Resident behavior and facility practices
- Quality of life
- Resident assessment
- Quality of care
- Nursing services
- Dietary services
- Physician services
- Specialized rehabilitative services
- Dental services
- Pharmacy services
- Infection control
- Physical environment
- Emergency preparedness
- Administration

Federal regulation grants the authority for the following federal nursing facility requirements to be waived if required criteria established in the Medicare SOM are demonstrated by the requesting entity:

Nursing Services requirement to provide licensed nurses on a 24-hour basis— A waiver may be granted if the facility demonstrates to the satisfaction of the CMS regional office or State that the it has been unable, despite diligent efforts (including offering wages at the community prevailing rate for nursing facilities), to recruit appropriate personnel and the State determines that a waiver of the requirement will not endanger the health or safety of individuals staying in the facility.

Physical Environment/ Life Safety Code (LSC) Requirements—CMS may grant a waiver of LSC requirements in cases of unreasonable hardship. The CMS regional office must determine such a waiver would not adversely affect resident health and safety.

[11] Chapter 7 of the SOM. Available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107c07.pdf

[12] Appendix PP of the SOM. Available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf

Recent Federal Regulatory Changes and Policy Initiatives Related to Dementia Care and Nursing Homes

CMS has engaged in a two-pronged approach to improve dementia care and reduce inappropriate antipsychotic drug use in nursing homes: 1) amending quality of care regulations and associated interpretive guidelines and 2) incorporating quality metrics into Nursing Home Compare that are focused on assessing the percentage of residents taking antipsychotics.

Regulatory Actions

Several regulations address the use of antipsychotic drugs in patients with dementia, and CMS' Interpretive Guidelines for Long-Term Care Facilities (NF) were amended in November 2014 to reflect to CMS' national campaign to improve dementia care and reduce inappropriate antipsychotic drugging. F-Tags 309 and 329 are part of the guidance surveyors use for review of quality of care of a resident with dementia. Relevant federal regulations and interpretive guidelines are below.

F309 §483.25 Quality of Care.

Quality of care is a fundamental principle that applies to all treatment and care provided to facility residents. Based on the comprehensive assessment of a resident, the facility must ensure that residents receive treatment and care in accordance with professional standards of practice, the comprehensive person-centered care plan, and the residents' choices.

F329 §483.45(d) Unnecessary Drugs—General.

Each resident's drug regimen must be free from unnecessary drugs. An unnecessary drug is any drug when used-

§483.45(d)(1) In excessive dose (including duplicate drug therapy); or
§483.45(d)(2) For excessive duration; or
§483.45(d)(3) Without adequate monitoring; or
§483.45(d)(4) Without adequate indications for its use; or
§483.45(d)(5) In the presence of adverse consequences which indicate the dose should be reduced or discontinued; or
§483.45(d)(6) Any combinations of the reasons stated in paragraphs (d)(1) through (5) of this section.

§483.45(e) Psychotropic Drugs.

[§483.45(e)(3)-(5) will be implemented beginning November 28, 2017 (Phase 2)]

Based on a comprehensive assessment of a resident, the facility must ensure that-

-

§483.45(e)(1) Residents who have not used psychotropic drugs are not given these drugs *unless the medication is necessary to treat a specific condition as diagnosed and documented in the clinical record*;
§483.45(e)(2) Residents who use psychotropic drugs receive gradual dose reductions, and behavioral interventions, *unless clinically contraindicated*, in an effort to discontinue these drugs;
§483.45(e)(3) Residents do not receive psychotropic drugs pursuant to a PRN order *unless that medication is necessary* to treat a diagnosed specific condition that is documented in the clinical record; and
§483.45(e)(4) PRN orders for psychotropic drugs are limited to 14 days. Except as provided in §483.45(e)(5), *if the attending physician or prescribing practitioner believes that it is appropriate* for the PRN order to be extended beyond 14 days, he or she should document their rationale in the resident's medical record and indicate the duration for the PRN order.
§483.45(e)(5) PRN orders for anti-psychotic drugs are limited to 14 days and cannot be renewed *unless the attending physician or prescribing practitioner evaluates the resident for the appropriateness of that medication*.

For each provision of 483.45(e), CMS has provided exceptions (*emphasized*) that enable nursing homes to continue to administer antipsychotic medications, if appropriate clinical support is obtained and documented. There is NO blanket disallowance of psychotropic drugs in nursing homes, even for dementia patients. In addition, CMS does not measure the percentage of residents using an antipsychotic drug as part of the Nursing Home Certification Survey process. Non-compliance with these requirements will be documented during the course of a certification survey and as with other F-TAGs there are opportunities for the nursing homes to take corrective actions.

Quality Strategies

There were two new quality measures (QMs) related to antipsychotic medications posted on the Nursing Home Compare (NHC) website beginning July 2012. The new measures include an incidence measure that assesses the percentage of short-stay residents that are given an antipsychotic medication after admission to the nursing home, and a prevalence measure that assesses the percentage of long-stay residents that are receiving an antipsychotic medication.[13]

Nursing home quality measures have four intended purposes:

[13] CMS Guidance. Description of Antipsychotic Medication Quality Measures on Nursing Home Compare. Available at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/Downloads/AntipsychoticMedicationQM.pdf

- To give the public information about the quality of care at nursing homes in order to help Medicare beneficiaries choose a nursing home;
- To give the public information about the care at nursing homes where Medicare beneficiaries already live;
- To give the public information to facilitate discussions with the nursing home staff regarding the quality of care; and
- To give data to the nursing home to help them in their quality improvement efforts.

Currently CMS administers a demonstration program with 3 states (New York, Wisconsin and Arizona) to test tying value-based payments to quality metrics. It is important to note that CMS does not utilize these scores to drive payment for providers not participating in the demonstration program.

Psychiatric Hospital Conditions of Participation

Section 1861(f) of the Act provides that an institution participating in Medicare as a psychiatric hospital must meet certain specified requirements imposed on hospitals under section 1861(e). Federal regulations at 42 CFR Part 482 establish the Conditions of Participation for Hospitals which include Requirements for Specialty Hospitals at Subpart E (482.60 – 42 CFR 482.62).

Statutory Provisions

Section 1861(f) defines the term "psychiatric hospital" as an institution which—

> (1) is primarily engaged in providing, by or under the supervision of a physician, psychiatric services for the diagnosis and treatment of mentally ill persons;
>
> (2) satisfies the requirements of paragraphs (3) through (9) of subsection (e);
>
> (3) maintains clinical records on all patients and maintains such records as the Secretary finds to be necessary to determine the degree and intensity of the treatment provided to individuals entitled to hospital insurance benefits under part A; and
>
> (4) meets such staffing requirements as the Secretary finds necessary for the institution to carry out an active program of treatment for individuals who are furnished services in the institution.

In the case of an institution which satisfies the first two criteria and which contains a distinct part which also satisfies the last two criteria, the distinct part shall be considered to be a "psychiatric hospital".

The provisions for certification of distinct parts of psychiatric hospitals apply only where the entire institution is primarily for the treatment of mental illness. Thus, a psychiatric wing or building of a general hospital or of a large medical center or complex **may not be certified** as a

"distinct part psychiatric hospital." Such facilities are included in the certification of the institution of which they are an integral part.[14]

Administrative Guidance

§ 482.61 Condition of participation: Special medical record requirements for psychiatric hospitals.

The medical records maintained by a psychiatric hospital must permit determination of the degree and intensity of the treatment provided to individuals who are furnished services in the institution.

(a) Standard: Development of assessment/diagnostic data

(b) Standard: Psychiatric evaluation

(c) Standard: Treatment plan

(d) Standard: Recording progress

§ 482.62 Condition of participation: Special staff requirements for psychiatric hospitals.

The hospital must have adequate numbers of qualified professional and supportive staff to evaluate patients, formulate written, individualized comprehensive treatment plans, provide active treatment measures, and engage in discharge planning.

(a) Standard: Personnel

(b) Standard: Director inpatient psychiatric services; medical staff

(c) Standard: Availability of medical personnel

(d) Standard: Nursing services

(e) Standard: Psychological services

(g) Standard: Therapeutic activities

Chapter 7 § 2042 of the SOM[15] provides the following guidance on forensic hospitals:

There are some psychiatric hospitals that are designated as "forensic hospitals." These hospitals focus on serving individuals who are in the custody of penal authorities. As a general rule, institutions that house only prisoners are excluded from Medicare payment. However, in accordance with 42 CFR 411.4(b) payment may be made for services furnished to individuals who are in the custody of penal authorities if (1) State or local law requires such individuals to repay the cost of the medical services they receive while in custody and (2) the State or local government entity enforces the

[14] Medicare State Operations Manual, Chapter 7: 2048 - Distinct Part Psychiatric Hospital

[15] Chapter 7, State Operations Manual. Available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107c02.pdf

requirement by billing all individuals who are prisoners whether or not they are insured by Medicare on any other insurance program.

Regardless of whether a state meets the payment requirements for prisoners housed in these hospitals, the hospital must apply the CoP, including the restraint and seclusion rules, to all patients including the prisoners. If a hospital wants to apply different health and safety rules to prisoners, it may want to consider establishing a distinct part.

History of DHBDS State-Operated Facility Certification Challenges

DBHDS state operated facilities have a long history of meeting the ever-changing needs of Virginia's residents. Whether serving individuals with tuberculosis in 1972 or patients with geropsychiatric needs today, the physical infrastructure, staffing, and services have been adapted to provide quality care to those in need. As these changes are made the certification status of each facility has also changed over time to reflect the care being served and to ensure receipt of applicable federal funding.

As regulatory changes are made at the federal levels, facilities across the country are challenged to remain compliant with requirements that are extensive and complex. And despite the detailed guidance CMS maintains for surveyors, the survey process requires individuals to make interpretations of the CoPs which introduces subjectivity into the process sometimes resulting in different outcomes for different facilities. Facilities therefore must be constantly adapting to maintain compliance with CoPs while simultaneously addressing state and local regulations and meeting population needs if they want to continue to receive federal funding.

The following provides a brief history of the recent challenges that select DBHDS facilities have faced in their efforts to remain compliant with Medicare CoPs and participate as Medicare and Medicaid providers. A detailed history the four state operated facilities that primarily serve the geriatric population (Catawba Hospital, Eastern State Hospital Hancock Geriatric Treatment Center, Piedmont Geriatric Hospital, and Southwestern Virginia Mental Health) are included in Appendix XX.

Catawba (CAT) & Piedmont (PGH) Hospitals

Prior to July 1, 2004, CAT and PGH were considered long-term care hospitals (LTCH) that cared for chronically ill residents. On June 3, 2003, the Commonwealth received notice from Medicare for both PGH and CAT indicating they no longer qualified as LTCH because they did not meet the average length of stay criteria of greater than 25 days. As a result, both PGH and CAT lost their LTCH status for Medicare, but not for Medicaid.

Interviewees indicated that the average length of stay was calculated by Medicare based on cost reports. While residents of the facility had lengths of stay that exceeded 25 days on average,

DBHDs was splitting billings of those stays between Medicare and Medicaid due to the reimbursement policies of the program. Patients admitted to treat acute psychiatric needs were being billed to Medicare initially and once they were identified as requiring long-term care they were billed to Medicaid.[16]

As a result of losing their LTCH status, the facilities were now identified by Medicare as acute care hospitals and were not surveyed for special CoP for psychiatric hospitals. In 2013, Catawba and Piedmont Hospitals were surveyed for compliance with the Medicare Conditions of Participation for Psychiatric Hospitals for the period of January 1, 2006- December 31, 2010. The HHS Office of Inspector General indicated in its July 2014 reports[17] to the Commonwealth that Catawba and Piedmont did not demonstrate compliance with the special Medicare CoP during the audit period because while the Joint Commission accredited both facilities as a hospital the facilities were never specially surveyed to demonstrate compliance with the special Medicare CoP.[18] Therefore the inpatient hospital services to patients aged 65 and older did not meet the Medicaid definition of such services and all payments it received from the State Medicaid agency were ineligible for Federal reimbursement. DMAS has provided comments back to OIG strongly disagreeing with OIG's findings and recommendations on the grounds that the draft audit did not establish that the two hospitals did not comply with the federal regulations. While OIG has responded that it maintains its findings and recommendations, there has been no formal action taken by CMS related to this audit to date.

Eastern State Hospital Hancock Geriatric Treatment Center

An unannounced Federal complaint survey was conducted at Hancock Geriatric Treatment Center from February 24-26, 2015 to determine if the facility was in compliance with federal requirements for participation for nursing homes in the Medicaid program. The survey found that the facility was not in substantial compliance with the definition of a nursing facility and documented other widespread deficiencies that constituted no actual harm but had the potential for more than minimal harm. After completing an internal assessment of the deficiencies cited in the survey report and identifying the actions and resources that would be required of the facility to correct these deficiencies DBHDS leadership determined it was not viable to pursue a corrective action plan, thus leading to the termination of the facility's

[16] Beds at both PGH and CAT were dually certified as LTC beds for Medicare and Medicaid.

[17] OIG, Virginia Improperly Claimed Federal Reimbursement for Most Reviewed Medicaid Payments to Catawba Hospital (July 2014).

OIG, Virginia Improperly Claimed Federal Reimbursement for Most Reviewed Medicaid Payments to Catawba Hospital (July 2014).

[18] While The Joint Commission (TJC) today has the authority to deem compliance for the special Medicare CoP, during the audit period such accreditation did not exist through TJC. Therefore, facilities had to be specially surveyed for the special CoP.

participation in the Medicaid program effective August 26, 2015. The following provides a summary of some of the deficiencies that were documented in the survey.

Nursing Facility Definition—It was determined that the facility failed to meet the definition of a nursing facility as identified in the Federal Regulations. As discussed above, nursing homes may not be primarily for the care and treatment of mental disease (i.e., an IMD). The report referenced the following as evidence of noncompliance:

- The building layout, as confirmed by an Interviewee, identified the facility as having 4 units called PODs. PODs 2 and 4 were identified as nursing and PODs 3 and 5 were deemed as Psychiatric Hospital by The Joint Commission.
- According to a list of admissions and discharges at the time of the survey, all residents had been involuntarily committed to the hospital.
- An Interviewee stated that the main criteria for admission to the facility was the existence of a psychiatric diagnosis and the individual to be sixty-give years of age or greater.

Right to Exercise Residential Rights—It was determined that the facility failed to promote and protect the rights of all residents to be free from interference, coercion or reprisal from the facility in exercising their rights. The report referenced the following as evidence of noncompliance:

- The residents had no freedom of movement once admitted to the facility.
- An interviewee indicated at the time of the survey that no residents were allowed to leave the facility at will and failure to follow facility mandates would result in loss of privileges for residents.

Right to Personal Property—It was determined that the facility failed to ensure each resident had the right to retain and use their personal possessions and failed to treat their belongings with respect unless to do so would infringe upon the rights, health and safety of others residents. The report referenced the following as evidence of noncompliance:

- The facility handbook revealed the facility's policy was to search resident's possessions and destroy any items the staff believed to be contraband.
- Policy stated resident rooms were to be checked daily on each shift for environmental safety and checked regularly for potentially dangerous items, including any time a safety concern was present.

Quality of Life—The facility failed to promote and enhance the resident's quality of life by subjecting residents to potential restrictions and limitations necessary for the care of some of the facility's residents. The report referenced the following as evidence of noncompliance:

- The Hancock Geriatric Treatment Center is located inside a secured building. All exits were locked and required staff intervention to permit entrance and egress from the facility.
- Residents admitted to the facility were forced to reside in a locked building with no freedom of access to the community unless the resident had privileges.

The survey findings are reflective of the challenges and tension that facility administrators identified when trying to protect the safety and wellbeing of residents with psychiatric and behavioral issues while promoting resident rights and quality of life. The restrictions the facility believed need to be placed on patients to protect them ultimately led to the loss of the facility's nursing home certification.

Eastern State Hospital Adult Psychiatric Unit

The adult psychiatric unit was terminated from Medicare participation as a psychiatric hospital because it failed to substantially meet special Medicare CoP. Participation from Medicare was terminated on April 21, 2016 as a result of the following deficiencies identified in a federal follow-up survey conducted February 22-24, 2016.

Special Medical Record Requirements for Psychiatric Hospitals—The survey found a continued systematic failure to provide medical records that document the treatment given to patients and the facility staff who are providing the services. The report referenced the following as evidence of noncompliance:

- Treatment interventions were stated in vague terms, consisted of a long list of groups that did not relate to the short-term goal or were non-individualized generic discipline functions rather than directed at specific interventions.
- The facility failed to develop Master Treatment Plans (MTP) that identified patient-centered short term goals in observable, measurable, behavioral terms.
- The facility failed to provide active treatment or alternative treatments for two of the nine active patients who were not motivated or cognitively able to remain engaged in active treatment.
- Failure to provide patients with needed nursing care and failed to guide nursing staff in addressing individual patient care needs.

The challenges these facilities have experienced and the associated deficiencies noted by the surveys are critical information to consider when considering the feasibility of successfully implementing strategies for transforming the geropsychiatric system of care.

The table below provides a summary of the current certification and accreditation status of each of the eight (8) DBHDS facilities that were the subject of this report.

Current Status of DBHDS State-Operated Psychiatric Hospitals

DBHDS Facility	Unit(s)	Certified	Current Certification(s) Held	Current Accreditation(s) Held	Current Funding Source(s)		
					Medicare	Medicaid	State Only*
Catawba Hospital		Y	Long-Term Psychiatric Hospital	Yes		x	x
Central State Hospital	Adult Psychiatric Units	N		Yes			x
	Forensic Units	N		Yes			x
Eastern State Hospital	Adult Psychiatric Units	N		Yes			x
	Forensic Units	N		Yes			x
	Geriatric Units (Hancock)	N		Yes			x
Northern VA Mental Health Institute	Adult Psychiatric Unit	Y	Psychiatric Hospital	Yes	x		x
	Forensic Unit	N		Yes			x
Piedmont Geriatric Hospital		Y	Long-Term Psychiatric Hospital	Yes		x	x
Southern VA Mental Health Institute	Adult Psychiatric Hospital	Y	Psychiatric Hospital	Yes	x		x
Southwestern VA Mental Health Institute	Acute Psychiatric Hospital	Y	Psychiatric Hospital	Yes	x		x
	Intermediate Care Facility	Y	Intermediate Care Facility (Nursing Facility)	Yes		x	x
	Adult Psychiatric Unit	N		Yes			x
Western State Hospital	Adult Psychiatric Units	Y	Psychiatric Hospital	Yes	x		x
	Adult Psychiatric Units	N		Yes			x
	Forensic Units	N		Yes			x

***State Only: No state facility is totally supporting with Medicare/Medicaid. All require some type of state appropriation. All facilities are accredited by Joint Commission as a hospital. If Medicare funded, facility has deemed status from TJC and is considered a psychiatric hospital.**

Appendix B: Admission and Discharge and EBL Data Worksheets

(*see* embedded Excel Workbook file below)

Microsoft Excel
97-2003 Worksheet

Appendix C: Summary of Facility Condition Assessment Findings

Table 1. Piedmont Facility Condition Assessment Summary Findings

Piedmont Facility Condition Assessment Findings	
Physical Plant Element	**Estimated Cost of Remediation**
A. Substructure: Foundations and Basement Construction	$0
Foundation: Generally in very good condition. The East Wing was built in 1939. The West Wing and North Wings were built in 1951. The foundation has a life expectancy of 100 years.	
Basement Slab: Appears in very good condition. It has a life expectancy of 75 years.	
B. Exterior Enclosure	$514,421
Superstructure: Floor and Roof Construction: Very good condition. The East Wing was built in 1939. The West and North Wings were built in 1951. The superstructure has a life expectancy of 100 years.	
Roof Structural System: The roof structural slab is in very good condition.	
Roof Parapet Handrail: A handrail is needed at the Roof Parapet where the East Wing is set in to meet the North Wing. The handrail would be located at the western side of the East Wing.	
Superstructure: Structure: Structure is sound appears in very good condition. .	
Exterior Wall: The poured concrete exterior wall system is in very good condition. The East Wing was built in 1939. The West and North Wings were built in 1951. The exterior wall system has a life expectancy of 250 years.	
Exterior Wall Sun Shades or Eyebrows: Generally in fair shape.	
Expansion Joint: Old caulk needs to be removed and new caulk added to the Expansion Joint on the South Side where the East Wing meets the North Wing.	
Exterior Windows: Most Windows in the East Wing and half of the Windows in the North Wing need to be replaced with double glazing. There is a total of 219 windows of various sizes that need to be replaced.	
Exterior Doors: Generally in good condition.	
Roof Coverings and Openings: The roof membrane is in good condition. It was replaced in 1998.	
C. Interiors	$2,734
Ceiling Finishes: Generally in good condition. It is recommended that three corridors in the East Wing acoustical ceiling tile be replaced. However, this is not necessary, it is only due to age.	
D. Services	$217,216
Elevator: ODG recommends that the East Wing, Elevator #3, the traction geared elevator system be refurbished due to its age. It was installed in 1939.	
Domestic Plumbing: The Domestic Plumbing in the East Wing needs to have a pipe wall thickness study done to determine if the piping needs to be replaced. The domestic piping for the East Wing was replaced prior to 1998. The domestic plumbing main arteries were replaced in the North Wing in 1998 for the Kitchen project. Some risers in the North Wing are original and a wall thickness test should be done on them. Copper piping has a life expectancy of 35 years conservatively and more likely 75 years.	
Sanitary Waste Piping: The sanitary waste piping, drain, waste and vent in the East Wing needs to be replaced. A comprehensive study needs to be done to determine the extent of the piping. Cast Iron piping has a useful life of 30 years.	
Steam Pipe: There is 50 LF, of 6" steam Pipe in Room G-71, that enters from the crawl space, that is no longer in use. It needs to be cut and capped off.	
Floor Drain and Waste Pipe: Install 4" Floor drain in Room G-80 for AHU-5 for the condensate. Install 30 feet pipe, to the 4" drain, in crawl space below to AHU-5.	

Heat Exchanger: Still working but aged. Install a Heat Exchanger for the North Wing and an Heat Exchanger for the East Wing to replace the Patterson Kelly's.	
HVAC: Chiller Room Piping to Cooling Tower: Needs to be replaced.	
HVAC: Change over Distribution System, 2 Pipe System, Fan Coil Unit: The Dual Temp pipes wall thickness test needs to be done through all Hospital Wings, to determine what pipes need to be replaced.	
HVAC: Steam and Condensate Lines: Appear in good shape.	
HVAC: Exhaust System – General and Restrooms: The Exhaust System for the East and North Wings needs to have a studied to determine the cfm needed to exhaust the air from these Wings. Currently, there are fans in windows that operate 24/7 to exhaust air out.	
HVAC: Package Units: A new mini-split needs to be installed for the Computer Room and the Reheat Thermal Room	
Evaporation Unit: An Evaporation Unit is needed for Room G-71 for the condensate.	
Electrical: Transfer Switch: A new transfer switch for Switch #2, in the Chiller Room, is needed to replace the existing switch.	
Electrical: Motor Control Center: Needs to be replaced	
E. Equipment	$19,299
Combi-Oven: Provide a combi-oven for the kitchen. All food is currently reheated through the Thermal Units.	
Freezer: Provide a freezer for the combi-oven food.	
F. Special Construction	$540
Interior Construction and Finishes: In the North Wing, Rooms G-75 and G-74 and Stair 5, remove the 9 x9 asbestos tile floor and replace with Vinyl Composition Tile.	
Security: Provide security for Hospital Entry. Provide bullet proof glass where the attendant sits as one enters the building. Provide a double set of doors at the entrance to the Administration Wing. Provide these with a locking mechanism such as a magnetic lock if a terrorist entered the building. Provide a locking mechanism to the doors to the North Wing. Add bathrooms to the Administration Wing, so that guests could go there if they needed them, and not in the Administration Wing.	
Work Not Included in Piedmont Facility Condition Assessment Findings but Related	
Physical Plant Element	**Estimated Cost of Remediation**
A. Outside Piedmont Hospital Building	$330,750
HVAC Power Plant: Replace aged boiler #3, 200 HP with a new 400 HP boiler. Boiler #3 refractory has reached the end of its useful life. The new 400 HP boiler fuel type: switch grass.	
Hot Well: Too small. Replace with Hot Well twice the size.	
Water Softener: Not large enough. Needs to be twice the size.	
Silo: The current Silo only holds enough Switch Grass for 2.5 days during the summer and one day during the Winter. An additional Silo needs to be provided.	
B. Electrical Distribution	
Electrical Distribution: Feeder Renewal: The Feeder Renewal needs to be done for the Eastern side. This work is outside the Scope of this effort, as it is site work.	
***Total Value of all Piedmont Deficiencies**	**$754,209**
**** Total Value of all Outside Hospital Building #15 Deficiencies**	**$330,750**

*This does not include Comprehensive Studies which are underway for Piedmont facility. See Notes from ODG report. Nor does it include the Security or Front Entry Handicap recommendation,

**This does not include Comprehensive Studies that need to be done for Work Not Included in Piedmont Facility Condition Assessment Findings but Related. See ODG Report (V-6).

Table 2. Catawba Facility Condition Assessment Summary Findings

Catawba Facility Condition Assessment Findings	
Physical Plant Element	**Estimated Cost of Remediation**
A. Substructure: Foundations and Basement Construction	$0
Foundation: Generally in very good condition. The Hospital was built in 1953. The foundation has a life expectancy of 100 years.	
Basement Slab: Appears in very good condition. It has a life expectancy of 75 years.	
B. Exterior Enclosure	$38,835
Superstructure: Floor and Roof Construction: Generally in very good condition. The Hospital was built in 1953. The superstructure has a life expectancy of 100 years.	
Superstructure: Structure: Structure is sound and in very good condition	
Roof Structural System: The roof structural slab is in very good condition.	
Superstructure: Structure: Structure is sound appears in very good condition. .	
Exterior Wall: The poured concrete exterior wall system is in very good condition. The exterior wall system has a life expectancy of 250 years. The Hospital was designed as Fall Out Shelters in case of a disaster.	
Exterior Wall Sun Shades or Eyebrows: Generally in fair shape.	
Stair Construction: Exterior Stairs, East Elevation stairs that exit the basement to grade, handrails and guards need to be modified to be code compliant. There are missing handrails and non-compliant guards.	
C. Interiors	$181,153
Interior Doors: Replace four (4) roll-up doors to be replaced with new double bi-directional doors.	
Toilet Partitions: Replace Men's Restroom partitions in Restrooms on 2,4,5 & 6.	
Stair Construction: Exterior Stairs, North Elevation stairs that exit from a Fresh Air deck at rear of the building have been cited as non-compliant handrails and guards by an Inspector.	
Interior Finishes: Floor Finishes – Carpet: Interior rooms on the Eighth (8th) Floor have stained carpet due to previous water infiltration from the roof. The roof membrane has been recently replaced and it is no longer leaking. The carpet needs to be replaced in specific rooms.	
Interior Finishes: Floor Finishes – Ceramic Tile Base: Monolithic ceramic tile base to be repaired with epoxy in Men's Restrooms, Floors 7 & 8.	
Interior Finishes: Floor Finishes – Rubber Flooring: Sheet rubber flooring replace with epoxy, in patient rooms and corridors, Floors 2 through 7.	
D. Services	$6,411,325
Plumbing Fixtures: First Floor: Wall-hung Water Closet Replacement. The toilets were installed in 1984 with an estimated life expectancy of 35 years. Their renewal would come up next year. This is a modernization initiative to change to push-button toilets.	
Plumbing Fixtures: Floors 2-7: Wall-hung Water Closet Replacement with push-buttons. The toilets were installed in 1984 with an estimated life expectancy of 35 years. Their renewal would come up next year. This is a modernization initiative to change to push-button toilets.	

Plumbing Fixtures: Laundry Sinks: Laundry sinks were installed in 1953 and while their life expectancy is 40 years, which they have exceeded, they are in fair condition and just need to be refinished.	
HVAC: Heat Exchanger: There are two steam to hot water Heat Exchangers. The tubes were replaced by B&G Maintenance in 2015 while they waited for funding to come through to replace the Heat Exchangers. The shells still need to be replaced and it is recommended that the Heat Exchangers be replaced.	
HVAC: Hot Water Heat Pumps: Two hot water heat pumps need to be replaced.	
Distribution Systems: Air Handling Unit: The current AHU's are one directional and do not pull air back. The AHU's only provide for supply air. Three new air handling units are needed to provide return air back to the AHU's. Previously, there were exhaust vents into the chases, which vented to the roof. But through upgrades, the vents have been sealed off and moved to another location with more limited exhaust air. As this study did not include a building code analysis, the current exhaust air system may or may not meet current building code regulations. It is recommended to add return air ventilation.	
Distribution Systems: Ductwork for New AHU's: Ductwork for Exhaust system for 3 new Air Handlers.	
Fan Coil Units: The fan coil units have exceeded their useful life by approximately 8 years but are still fully functional, due to the physical upgrades by the B&G Maintenance personnel. They have been refurbished in the hospitals machine shops, and it is time for their replacement.	
Fan Coil Units Pipes: In good condition and do not need to be replaced.	
Controls and Instrumentation: Control – Pneumatics: Replace pneumatic controls with DDC controls from the thermostat to the fan coil unit.	
Work Not Included in Piedmont Facility Condition Assessment Findings but Related	
Physical Plant Element	**Estimated Cost of Remediation**
A. Outside Catawba Hospital Building	$28,470
Diesel Generator: Replace Power Plant Emergency Generator. It was purchased in 1999 and has exceeded its life expectancy of 15 years.	
Transfer Switch: Add Emergency Power to Bldgs 17 & 23. Power to generator, complete on. Add transfer switch and cable.	
Water Filtration Tanks: Purchased and installed in 1999. They have exceeded their useful life.	
Elevated Water Storage Tanks: Renovation of Mountain Water Tanks. Replace rubber seals. Needs maintenance.	
Electrical Distribution: Feeder Renewal: The Feeder Renewal needs to be done for the Eastern side. This work is outside the Scope of this effort, as it is site work.	
Total Value of all Catawba Deficiencies	**$6,631,313**
Total Value of all Outside Hospital Building #15 Deficiencies	**$28,470**

Table 3. Southwest Virginia Mental Health Institute (Southwest) Facility Condition Assessment Summary Findings

Piedmont Facility Condition Assessment Findings	
Physical Plant Element	**Estimated Cost of Remediation**
A. Substructure: Foundations and Basement Construction	$0
Foundation: Generally in excellent condition. It was built in 2008. The foundation is concrete block with a life expectancy of 50 years and on a concrete footing, life expectancy of 75 years.	
Basement Slab: Slab on grade appears in excellent. It was built in 1998. It has a life expectancy of 50 years.	
B. Exterior Enclosure	$88,965
Superstructure: Roof Construction: Excellent Condition. It was built in 1998. The roof construction, metal joists supporting a metal deck with rigid insulation on top has a lifespan of 30 years.	
Superstructure: Structure: Structure appears in to be excellent condition. It is metal joists. The structural system has a lifespan of 75 years.	
Exterior wall: The mortar joints and brick are in excellent condition. The brick life expectancy is 75 years.	
Exterior Windows: Generally the Exterior windows are in very good condition. In the Day Rooms, the large insulated rectangular windows need to be replaced for patient safety. They need to be replaced with laminated, tempered glazing for patient safety to prevent elopement.	
Exterior Doors: Generally in very good condition	
Roof Coverings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in excellent condition. It was recently replaced. It has a 20 year lifecycle.	
C. Interiors	$114,664
Interior Finishes: Floor Finishes Vinyl Tile: Vinyl tile to replaced in the "L" corridor. It is beyond its useful life by 10 years. Vinyl tile to be replaced in one third, 1/3, of the Patient Rooms and Ward corridors. It is beyond its useful life by 10 years. Vinyl tile to replace Carpet in the Health Information Management Room, formerly Patient Records. The carpet is 20 years beyond its useful life.	
D. Services	$288,143
HVAC: Distribution Systems – Chilled Water: The Chiller lines need to be split between the two chillers which were installed in 2008. Currently, only one chiller can operate at a time. With two lines, the chillers can operate simultaneously. 200 lineal feet of line. The new 200 lf of Chiller line needs to be insulated.	
HVAC: Distribution System – Ducts: Ducts need to be cleaned. They are original to the building in 1998 and have a useful life of 100 years.	
Controls and Instrumentation: Controls – Pneumatics: Replace pneumatic controls with DDC controls. Pneumatic Controls are 3 years beyond the end of their useful life.	
Work Not Included in Southwest Facility Condition Assessment Findings but Related	
Physical Plant Element	**Estimated Cost of Remediation**
A. Outside Southwest Hospital Building – Power Plant	$124,851
Domestic Water Distribution Valve Heads: Replace various valve heads, flanges and safety valves.	

Stream Distribution Lines: Replace and add insulate condensate lines from broiler hospital to hospital.	
Heat Generating Equipment: Remove and Replace Roof to be able to replace Dearator Tank.	
B. Outside Southwest Hospital Building – Blalock Auditorium	$5,000
Exhaust Systems: Exhaust in Kitchen at dishwasher needs two larger fans. Remove and replace existing fans for window openings. Need thermostat control for exhaust fans at the window.	
C. Outside Southwest Hospital Building – Campus	
Campus 2" condensate lines need to be replaced. It is underground and not part of this study.	
Total Value of all Southwest Deficiencies	**$491,772**
Total Value of all Outside Southwest Hospital Building Deficiencies	**$129,851**

Table 4. HGTC Facility Condition Assessment Summary Findings

HGTC Facility Condition Assessment Findings	
Physical Plant Element	**Estimated Cost of Remediation**
A. Substructure: Foundations and Basement Construction	$0
Foundation: appears in excellent condition. It was built in 2008. The foundation is concrete block with a life expectancy of 50 years, and on a concreate footing with a life expectancy of 75 years.	
Basement Slab: Slab on grade appears in excellent condition. It was built in 2008 and has a life expectancy of 50 years.	
B. Exterior Enclosure	$0
Superstructure: Roof Construction: Excellent condition. It was built in 2008. The roof construction, metal joists supporting a metal deck with rigid insulation on top has a lifespan of 30 years.	
Superstructure: Structure: Structure appears in excellent condition. It is metal joists supported by steel I beams. The structural system has a lifespan of 75 years.	
Exterior Wall: The mortar joints and brick are in excellent condition. The brick life expectancy if 75 years. The fiber cement siding is in excellent condition.	
Exterior Windows: Exterior windows are in very good condition.	
Exterior Doors: Generally in very good condition.	
Roof Coverings and Openings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in excellent condition. It was installed in 2008 and has a 20-year lifecycle.	
C. Interiors	$7,679
Interior Construction and Stairs: Stair to Roof: Current roof access stair is a Ship's Ladder without a Safety Cage. The Ship's Ladder should have a Safety Cage. There should be standard run and riser stairs to the roof, like the stairs to the roof in most other buildings on the ESH campus, including Building 13. These types of stairs are necessary to provide mechanic access to the roof. There is mechanical equipment that needs periodic servicing on the roof. Tools, hoses, and equipment need to be carried to the roof which is difficult if not impossible with a Ship's Ladder. The round rungs on the Ship's Ladder are slippery when wet. There is room to install an inclined ladder with the base at least 5'-0" in front of the current location of the Ship's Ladder. The inclined ladder would need to include treads and a handrail for safety.	
D. Services	$119,563
Plumbing Fixtures: Patient Tubs: The Patient Tubs leak at the door seal. The Tub Seal for the Liberti tubs has failed. The company is no longer in business. Alternative seals have been tried, but have not worked. ODG's recommendation is to replace all eight tubs with tubs manufactured by Rane and which are being used in the Adult Mental Health Hospital and are working fine.	
Plumbing Fixtures: Hose Bib: Hose bins need to be installed on the roof in order to periodically clean the Air Handling Unit coils. The humidifiers are no longer being used and a study determined they are no longer needed. The humidifiers could be removed and the water that is piped to the humidifiers could be used for a hose bib.	
HVAC Distribution Systems, CVPC Piping: The CVPC piping is sagging and it has warped in some cases which is visible from the Mechanical Room. ODG recommends adding more hangers in the Mechanical Room. Hangers should be no greater that 4'-0" apart.	
HVAC System: ODG Heard complaints of rooms being either too hot or too cold, and the users of the space have no way of moving the thermostat temperature. This is controlled by Building and Grounds. Building and Grounds makes adjustments to the temperatures in various offices.	

Nutrition Room Ventilation: There is insufficient ventilation in the Nutrition Room, RM 223 in Pod 2, and the similar room in the other three Pods. The Nutrition Room is small and has a Kitchenette in it and heat is generated by the refrigerator. ODG recommends completion of a Comprehensive Study to determine if another duct, or a larger duct, needs to be added to these rooms.	
E. Equipment	$150,000
Jib Crane: A jib crane needs to be installed to move heavy equipment from the Loading Dock on and off of the roof. Currently the Ship's Ladder provides limited access for equipment to the roof. The roof hatch limits the size of equipment that can be conveyed to the roof. There is a base on the roof near the Loading Dock that would accommodate a jib crane. ODG recommends completion of a Comprehensive Study to determine the size of jib crane needed.	
Nurses Call System: The Nurse Call System has not been working. It was explained that there have been shorts in it. There is also a risk that the Nurse Call System could be used as a ligature device. ODG recommends removing the current Nurse Call System and either: 1) install a hard wire system that would cost, based on FICAS report, between $300,000 and $400,000; or 2) purchase a wireless system which would cost approximately $110,000. The second option is included in the Value of Deficiencies with an added $40,000 contingency, and ESH staff have already talked with four vendors to explore this option.	
Total Value of all HGTC Deficiencies	**$277,242**
Estimated Budget to Complete Comprehensive Studies	$100,000
Estimated Value of HGTC Deficiencies Plus Completion of Recommended Comprehensive Studies	**$377,242**

Table 5. Kitchen and Dining: Building 13 Facility Condition Assessment Summary Findings

Kitchen and Dining Facility Condition Assessment Findings	
Physical Plant Element	**Estimated Cost of Remediation**
A. Substructure: Foundations and Basement Construction	$0
Foundation and Basement Construction: Is generally in very good condition. It was built in 1954. The substructure was built to last well beyond 100 years.	
Basement Slab: In very good condition.	
B. Exterior Enclosure	$461,740
Superstructure: Floor and Roof Construction: Is generally in very good condition. It was built in 1954. The superstructure was built to last well beyond 100 years. The structure is sound and in very good condition. The roof structural slab is in very good condition.	
Exterior Wall: The mortar joints and brick are in very good condition. The brick vents need to have the plastic covers removed. The brick vents are there to ventilate the structure and are essential to serve that purpose. If they are not removed, significant decay could occur.	
Exterior Windows: Generally exterior windows are in good shape, with the exception of the monitor windows which need immediate replacement. The monitor windows were installed in 1954 and have a lifespan of 45 years. They have exceeded their useful life by 18 years. The window frames are bent in some cases and not all the windows close completely. The monitor motor does not operate. The shaft and extension arms need to be replaced.	
Roof Coverings and Openings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in critical condition and need immediate replacement. The roof membrane was installed in 1991 and has a 20-year lifecycle. It has exceeded its useful life by 6 years. The current condition has slightly sloped insulation in some places, no slope in some places, and a reverse slope or sloping to a pond in other cases. In some cases, bubble have formed on the roof.	
C. Interiors	$568,960
Interior Finishes: Floor Finishes: Floor finishes are generally in good condition with the exception of the replacement tile in the Kitchen. It was not grouted properly and is hollow below the tile. This is a high priority item. If it fails, kitchen service would be difficult if not impossible to provide with carts. ODG recommends completion of a Comprehensive Study to determine which tile is hollow and how much of it needs to be replaced.	
Ceiling Finishes: Several ceiling tiles have been replaced with plastic in several rooms, primarily: Room 103, Diet Manager's Room; Room 103A, Conference Room; Room 102, Patient Dining Hall/Cafeteria; and Room 101A, Office. The tiles have been replaced with plastic due to roof leakage associated with the failure of the roof membrane. Once the roof membrane is replaced, the ceiling tiles should be replaced.	
D. Services	$586,568
Plumbing: Sanitary/Storm water Waste Piping: The sanitary waste piping needs to be replaced. It was installed in 1954 and its useful life is 30 years. It has exceeded the manufacturer's useful life by 33 years. It is in need of critical replacement and is a high priority item for immediate replacement. The basement has been flooding when there is large rainfall.	
Plumbing: Sanitary Waste: Drain for Three New Boilers: When three new boilers were installed in 2016, their drains were tied into an existing floor drain. The existing floor drain and its pipe size were not modified. The existing floor drain was designed to handle only its load, not the increased	

boiler flushing load. Due to the increased load on the existing floor drain, flooding now occurs in the basement North-South corridor, and in the far East-West corridor and in nearby rooms. The three boilers flush water two times a day. If the water is flushed at a typical speed, the water overwhelms the drains and water will come up out of the floor drain closest to the three boilers. If there is heavy rain, water will come up from the floor drains, as explained by Building and Grounds Staff. Water at the closest drain has come up about 1.5 feet. Water will come up at the two intermediate drains along the hall, and come up a maximum of 6" at the end of the hall drain to the South. There is a sump pump but it is insufficient for even average rainstorms. ODG removed the sump pump cover and found that the pipe connecting the pipe water on the interior of the building was not connected to the exterior pipe. It has since been connected. The water will be pumped out more quickly from the basement hallway, however, the flooding will still occur and needs immediate attention. ODG recommends installing a new drain pipe to daylight.	
Domestic Plumbing: The domestic plumbing, copper piping in the Basement crawl space to the first-floor fixture, needs to be replaced. It was installed in 1954 and its useful life is 20 to 25 years, so it has exceeded its useful life by approximately 40 years. This is a high priority item and should be replaced within the next 12 months. The insulation for the piping also needs to be replaced.	
HVAC System: The four Air Handling Units, or Heating and Ventilation Units, in the basement that serve the building (H-1, H-2, H-3 and H-4) need to be replaced immediately. This is a critical item and needs immediate attention. Water sits in many of these units and the air being blown from them may not be healthy. The steam and condensation lines in the crawl space and on the first floor need to be replaced immediately. They are in critical condition and are badly corroded. While ODG was on site, one line broke. The pipes have a useful life of 75 years, but have corroded so badly that they need immediate replacement. The window AC units on the east side of the building need to be replaced with a rooftop Air Handling Unit. The rooftop unit will cool the offices more efficiently and provide more comfort throughout the suite. Two of the air conditioners are located on an interior wall and are putting additional heat into the kitchen storage which is open to the kitchen. This is exacerbating the hot air in the kitchen. Heating and Ventilating Units in the Kitchen, and their associated piping, need to be removed. The four units no longer operate and water drips from the piping. A new rooftop unit, a Heat Pump, needs to replace these inoperable units. The rooftop unit would provide the needed cool air for the kitchen. The kitchen currently gets very hot in the summer time, including temperatures above 90 degrees. This is an immediate need.	
Total Value of Kitchen/Dining, Building 13 Deficiencies	**$1,617,270**

Appendix D: ODG Report of Facility Condition Assessment Findings

GEROPSYCHIATRIC SYSTEM OF CARE IN VIRGINIA #720C-04525-17M

AWARDED BY
VIRGINIA DEPARTMENT OF BEHAVIORAL HEALTH & DEVELOPMENTAL SERVICES
ON 2/3/2017

THIS REPORT ADDRESSES:

PHYSICAL PLANT NEEDS

PREPARED BY
OLSHESKY DESIGN GROUP, LLC
ALEXANDRIA, VA

ODG

UNDER SUBCONTRACT TO
HEALTH MANAGEMENT ASSOCIATES

SUBMITTED ON 11/14/17

I. EXECUTIVE SUMMARY

The ODG Team, under subcontract to Health Management Associates, has assessed four Geriatric Hospitals run by the Department of Behavioral Health and Developmental Services, Commonwealth of Virginia. The team assessed the Hancock Geriatric Treatment Center, Building 1 and the Dining Room/ Kitchen Building 13 in Williamsburg from April 12th through 21st; the Piedmont Geriatric Hospital in Burkeville from May 9th through the 18th; Catawba Hospital in Catawba from June 19th through 30th and the Virginia Southwest Mental Health Institute, in Marion from July 24 to August 3rd.

This study only includes a visual assessment of the Hospital. This study typically does not include work to be done behind walls, in confined spaces, equipment not attached to the building, site work or other buildings. In some cases an exception was made. If a building element or system is or may be deficient and it is behind walls, or in a confined space, then testing or a Comprehensive Study is recommended. The Cost Estimates are based upon the site investigative field work by trained professionals, review of drawings and reports, interviews with key site personnel and then lastly referenced to national cost estimating guidance, RS Means. Our study did not include a "modernization" initiative as it had not been clearly defined at the beginning of the study and additional costs did not want to be incurred at that time. Some of our recommendations overlap a "Modernization" initiative. This study did not include an assessment of building code compliance, nor future expected costs. Only one hospital provided us with an Independent Cost Study, Catawba Hospital. Central office provided us with FICAS reports and Capital Agency Requests. Where these are incorporated, it is noted. Other costs are identified at the end of each hospital section.

The conditions at each hospital are rated by using the Facility Condition Index. Most of the hospitals received few citations from the Fire Marshall inspectors. Most hospitals addressed any JCAHO citations while the Inspectors were there, or within the 60 day plan of correction period. Most hospitals had a good or very good preventative maintenance program resulting in few substantial work orders in the recent six, 6, month period.

It would be useful to have more "predictive failure" records. These predictive costs, through testing, could be built into the capital budget and scheduled. We were advised that this is an initiative Central Office is pursuing.

The **Hancock Geriatric Treatment Center, HGTC**, value of deficiencies is estimated at $277, 242. If $100,000 is added for the minor Comprehensive studies needed then the value of deficiencies is **$377,242.** Based on the value of deficiencies the FCI is less than 1% and this facility is considered in Good Condition.
The **HGTC Kitchen and Dining Room Facility, Building 13,** value of deficiencies is estimated at **$1,617,270** with significant Comprehensive Studies needed. This facility is in Critical Condition. Some systems in the facility need immediate attention and are critical to maintaining the mission of HGTC. The deficiency report for this facility focused on critical needs and it is not a complete assessment of this facility.

The **Piedmont Geriatric Hospital** value of deficiencies is estimated at **$754,209** with significant Comprehensive Studies needed. If the 2017 FICAS costs are included, in lieu of the Comprehensive Studies, the value of deficiencies is estimated at **$3,145,296.** Based on this value of deficiencies the FCI is 4%, and the hospital is considered in Good Condition. In order to provide a more accurate FCI, significant Independent Comprehensive Studies need to be completed for this hospital.

The **Catawba Hospital** value of deficiencies is estimated at **$6,631,313.00**. Based on the value of deficiencies the FCI is 8% and considered in Fair Condition. While PGH and Catawba are of similar age, the **value of deficiencies is higher** on this hospital as it is the only hospital that provided us with an independent cost estimate.

The **Southwest Virginia Mental Health Institute** value of deficiencies is at **$491,772.00.** If **$**250,000 is added in for two Comprehensive studies that need to be completed then the total value of deficiencies is **$741,772.00**. Based on this value of deficiencies the FCI is less than 2% and the hospital is considered in Good Condition.

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III. PROJECT SUMMARY

The ODG Team, under subcontract to Health Management Associates, has assessed four Geriatric Hospitals run by the Department of Behavioral Health and Developmental Services, Commonwealth of Virginia. The team assessed the Hancock Geriatric Treatment Center, Building 1 and the Dining Room/ Kitchen Building 13 in Williamsburg from April 12th through 21st; the Piedmont Geriatric Hospital in Burkeville from May 9th through the 18th; Catawba Hospital in Catawba from June 19th through 30th and the Virginia Southwest Mental Health Institute, in Marion from July 24 to August 3rd.

The facility condition assessments in this report were prepared in response to the original RFP Scope of Work issued on August 15, 2016 statement:

> *"At a minimum the plan shall include and address the following elements:....*
> *-physical plant needs and requirements of state operated facilities, including a review of the costs of modernizing existing structures;*"

This study only includes a visual assessment of the Hospital. No destructive testing was done. This study typically does not include work to be done in confined spaces, equipment not attached to the building, site work or other buildings. In some cases an exception was made. If a building element or system is or may be deficient and it is behind walls or in a confined space, then testing or a Comprehensive Study is recommended. The Cost Estimates are based upon the site investigative field work by trained professionals, review of drawings and reports, interviews with key site personnel and then lastly referenced to national cost estimating guidance, RS Means. The cost estimates provided are rough order of magnitude. Our study did not include "modernization" initiative as it had not been clearly defined at the beginning of the study and additional costs did not want to be incurred at that time. Some of our recommendations overlap a "Modernization" initiative. This study did not include an assessment of building code compliance nor future expected costs. Only one hospital provided us with an Independent Cost Study, Catawba Hospital. We did receive FICAS reports and Capital Agency Requests from Central Office. Where these are incorporated, it is noted. Other costs are identified at the end of each hospital section.

Conditions rated in this study use the Facility Condition Index. The FCI is an indicator of condition derived by dividing the costs of current deficiencies, or repairs, required for the facility by the current replacement value of the facility.[1] The suggested condition ratings are assigned facility condition index ranges as follows:

FCI Range:	Condition rating:
Under 5%	Good
5 to 10%	Fair
over 10%	Poor

All of the Hospitals are in good to fair condition. Most of the hospitals received few citations from the Fire Marshall inspectors. Most hospitals addressed any JCAHO citations while the Inspectors were there, or within the 60 day plan of correction period. Most hospitals have a good or very strong preventative maintenance program where they are actively maintaining the equipment through scheduled preventative maintenance. Because of this, many hospitals had very few work orders in the most recent 6 month period. The maintenance program monitors equipment, through observation and electronic review, and identifies trends or minor faults before systems fail. They are able to use their operating funds to repair it themselves or until Capital requests are approved.

While the exterior envelope and structural system have longer life spans, the systems in buildings have shorter life spans. The highest costs identified for the hospitals in this report are for a system (s) in the building.

[1] "*Managing the Facilities Portfolio"*, by National Association of Colleges and University Business Officers, NACUBO and Applied Management Engineering, Robert Brooks, partner. Published 1991. The Facility Condition Index, FCI, is the ratio of the cost of the Deficiencies to the Current Replacement Value, a measure of the Condition of the Facility.

It would be useful to have more "predictive failure" records. For example, pipe wall tests could be completed regularly to monitor the thickness of pipes and thereby know when they need to be replaced. ASHRAE identifies pipes can last from 40 to 50 years as a guideline. Actual installed pipes can last from 10 to 100 years depending on the environment and water chemistry. These predictive costs through testing could be built into the capital budget and scheduled. We were advised that this is an initiative Central Office is pursuing, to be able to predict failures in advance and build that into the capital budget requests.

Most of the hospital's staff were found to be very resourceful. Where they could the hospitals found resourceful ways to maintain aging equipment and extend its useful life by 8 to 10 years or greater. Hospitals were resourceful in purchasing surplus equipment when needed. Many hospitals had redundancies or multiple redundancies, such as multiple parts, for aging equipment. Some hospitals have won awards for their resourcefulness. Most of the hospitals we found to be good stewards of the Commonwealth's resources.

An asset we found at two of the hospitals, is that they were built to enhanced standards for disaster resilience as a Fall Out Shelter. They are currently being used as shelters for natural or man-made disasters. This is a modern national initiative. All of the hospitals are self-sustaining for a certain period of days. One of the hospitals is almost completely self-sustaining for longer periods, which is a modern initiative. For example, the Army is going to require their bases to have self-sustaining power and water for 14 days. Some of the hospitals have won awards for sustainability, which is related to disaster resilience, for their maintenance of facilities.

There are vacant patient floors at one hospital, repurposed patient floors at another and repurposed patient wings at two of the hospitals. All of the hospitals explained the high demand for geriatric patients with mental health issues and that geriatric patients had to be turned away due to a shortage of beds. If the hospitals were to reuse the empty or repurposed spaces for geriatric patients as they were originally designed for, it would be a more efficient use of space.

The **Hancock Geriatric Treatment Center, HGTC**, was built in 2008 for the Geriatric Population. More recently it has become a hospital of last resort for the psychiatric patients. Modifications have been made and are being made for this population as they are of varying ages. The Value of Deficiencies for the Hancock Geriatric Treatment Center is **$277,242**. In addition it is recommended a Comprehensive Study be done to provide greater ventilation to the four small Nutrition Rooms, and a study to determine the size and cost of a Jib Crane for large equipment to reach the roof. If an estimate of $100,000 is added for these costs, then the total cost of deficiencies is **$377,242**. The Replacement Value of HGCT is $45,433,301 and if site work is included it is **$49,976,631**. The Facility Condition Index is less than 0.01 or **1%,** and the HGTC is considered in **Good Condition.**

The **HGTC Kitchen and Dining Room Facility, Building 13,** built in 1954, was included in our Assessment because it is in such critical need. While the Superstructure and Exterior Wall were built to last well beyond 100 years and are in good condition, the Systems in the building were designed for a shorter life span. Some systems in the facility need immediate attention and are critical to maintaining the mission of Hancock Geriatric Treatment Center and are long overdue for replacement. If the Kitchen Dining Room facility shuts down, it would have a great financial impact on the Geriatric patients. The Deficiency Report prepared for this facility is focused on critical needs and it is not a complete assessment of this facility. The critical needs at the Kitchen Dining Room Facility need to be addressed immediately. The total value of deficiencies identified is **$1,617,270**. A comprehensive study needs to be done to determine the size and cost of replacing the four AHU's in the basement.

The **Piedmont Geriatric Hospital** East Wing was built in 1939 and the West Wing and North Wing were built in 1951. All wings were built to enhanced standards, enabling this facility to be used as a Fall Out shelter. It currently is used as a shelter for natural and man-made disasters. This is a modern initiative. The Superstructure was built to last well beyond 100 years. The Exterior Wall was built to last the lifetime of the mission of the Hospital. The Systems in the building are built to shorter lifespans. We were advised that there are several In-Progress studies being done or overseen by Central Office. These In-Progress studies include an Envelope study, which includes replacing windows and providing exhaust/return air, for the East and North Wings and an

electrical distribution study to determine the extent of wiring needing replacement from the panels to the fixtures.fi
xtures. The original designed exhaust air may have been modified during an upgrade.
As part of the ODG Assessment we are recommending Comprehensive Studies to be done to: Refurbish Elevator #3 in the East Wing and replace the Drain Waste and Vent piping in the East Wing. ODG also recommends a pipe wall thickness study be done to determine if the Domestic Piping in the East Wing, Dual Temperature Pipes and Steam lines need to be replaced and if so, where. The total value of all deficiencies is **$754,209** with significant Comprehensive Studies recommended. If we include the costs from the FICAS report, that address the Comprehensive Studies, the repair costs would be **$3,145,298**. Roof top fans are identified for the exhaust system in the FICAS studies. The Replacement Value of the Hospital is $64,304,907 and if site work is included, it is **$70,735,398**. Based on this deficiency cost the Facility Condition Index, FCI, would be 0.04, or 4% repair cost of the Replacement Value. This building is considered in **Good Condition**. In order to provide a more accurate FCI, significant Independent Comprehensive Studies need to be completed for this hospital.

The **Catawba Hospital** was built in 1953. It was built to enhanced standards, enabling this facility to be used as a Fall Out Shelter. It currently is used as a shelter for natural and man-made disasters. This is a modern initiative. The Superstructure was built to last well beyond 100 years. The Exterior Wall was built to last a lifetime of the mission of the Hospital. The exterior wall is in good shape with minor superficial repairs needed to its outer layer. The Systems in the building were built to shorter lifespans. Interior work includes primarily replacing the patient corridor and room floor finish, as it has exceeded its useful life. The Plumbing Services are primarily replacing the water closets, as the current ones have met their useful life. The Services that need the most work are the HVAC return/exhaust air. The original exhaust air was closed off during an upgrade and there is now limited return/exhaust air. The fan coil unit cabinets need to be replaced. This is the only hospital we received an Independent cost study from. While PGH and Catawba were built at the same time, the **value of deficiencies is higher for this hospital as the independent cost study** was incorporated into the cost estimate. The independent study recommends three Air Handling Units for the exhaust/return air. The value of deficiencies are estimated at **$6,631,313**. The Replacement Value of the Hospital building is valued at $68,625,054 and at **$75,487,560** if site work is included. The overall condition of Catawba Hospital has been assessed and given a Facility Condition Index (FCI) of 0.08 (8%). This building is considered in **Fair Condition**.

SWVMHI was built in 1989 and is a newer one-story hospital. It is located in rural SW Virginia. It is an insulated brick and concrete block building. It is generally in very good condition with limited repairs needed. Existing thermal pane exterior windows need to be replaced in the Day Rooms for patient safety. Vinyl tile in the main corridor and one third of the patient rooms and Ward corridors needs replacement as it has exceeded its useful life. The Chiller lines need to be split to enable both chillers to operate simultaneously. The pneumatic controls need to be replaced with DDC Controls as they have exceeded their useful life. This will enable staff to monitor the equipment better. The Repair costs are estimated **at $491,772.00**. If an estimated $250,000 is added in for two Comprehensive Studies that need to be completed, then the total Repair Cost is $741,772.00. The Replacement Value of SWVMHI is $39,819,155 and **$43,801,071** if site work is included. The overall condition of SWVMHI has been assessed and given a Facility Condition Index, FCI, of 0.017 or less than 1%. This hospital is considered in **Good Condition**.

Other Costs are identified at the end of each Hospital Deficiency Report Cost Estimate section.

<u>Other Observations</u>
While the following was not part of our study, several assets should be noted:
- Many of the hospitals have won multiple awards. (See Appendix A). Many of the awards apply to the physical attributes of the buildings or personnel operating the buildings.
- All of the hospitals have significant cultural historic buildings on their campuses.
- There is an initiative for biophilic design at healthcare facilities within the US. Studies have shown that biophilic design reduces stress and anxiety levels, among other advantages. All of the hospitals have a setting for this type of "modern" engagement, and we saw it actively pursued at some hospitals.
- As we were typically at each hospital for two weeks, we noted most hospital's staff had a strong community pride and connection. We met personnel whose family members had worked at the hospitals for generations.

We also heard many complements about the hospitals from local citizens unaffiliated with the hospitals, but whose relatives have stayed at them.
- All hospitals cooperated fully with the ODG team, and we very much appreciated their support.

Uniformat Classification System

The deficiencies identified have been organized by using the Uniformat Classification System. This numbering system is identified under "Code" on the spreadsheets.

ODG Team

The ODG Team that conducted the field surveys and assessed the buildings included Charles F. Arnold, Construction Manager, Robert Brooks, PE, and Janice Olshesky, AIA, LEED AP.

IV. Deficiencies Report on the Hancock Geriatric Treatment Center, Building 1, Hospital

Eastern State Hospital
Williamsburg, VA

The Hancock Geriatric Treatment Center, HGTC, was built for Geriatrics in 2008, and it is the newest Geriatric facility out of the four hospitals that were assessed. It is 116,000 sf. The hospital was designed for 150 geriatric patients. Changes have been made to accommodate space for Temporary Detention Order patients, TDO's. Currently, as of 7/17/17, there were 80 geriatric patients in Pods 2 and 4 only. Temporary Detention Order patients are now in Pods 3 and 5. As TDO patients need a different physical environment than the Geriatric patients this has posed some issues for Hancock Geriatric Treatment Center. In some cases TDO patients reside in the Geriatric wings temporarily, which can cause a disturbance to the Geriatric patients.

This hospital is one -story. Geriatric patients can easily access the outdoor courtyards, which are surrounded by hospital wings. HGTC won an Architectural Design Award when completed.

Based on RS Means and an HHS Study[1], done in 2014 the cost to rebuild this facility is $339.10 per square foot which includes an escalation to 2017 dollars. This cost does not include equipment, furnishings or land. The Replacement Cost to rebuild this facility would be $49,976,631. This includes 5% demolition added to the cost, 10% for Architecture and Engineering fees, and 10% for site work. The total deficiencies are $277,242. If an additional $100,000 is added to the deficiency cost for two items needing a Comprehensive study the total Deficiencies Cost is $377,241. The Facility Condition Index is 0.005 or less than 1% and the Hospital is considered in good condition.

A. SUBSTRUCTURE: Foundations and Basement Construction
Foundation: Appears in Excellent Condition. It was built in 2008. The foundation is concrete block with a life expectancy of 50 years and on a concrete footing, life expectancy of 75 years. If well maintained it could last longer.
On Grade Slab: Slab on grade appears in excellent condition. It was built in 2008. It has a life expectancy of 50 years. If well maintained it could last longer.

[1] HJR 16: State Operated Institutions, Building *and Operating a 16 Bed Inpatient Facility*, Prepared by Sue O'Connell, Research Analyst for the Children, Families, Health and Human Services Interim Committee, May 2014

A value of Deficiencies: $0.00

B. EXTERIOR ENCLOSURE:
B10: SUPERSTRUCTURE:
Roof Construction:
Excellent Condition. It was built in 2008. The roof construction, metal joists supporting a metal deck with rigid insulation on top has a lifespan of 30 years. If well maintained it could last longer.
Structure: Structure appears to be in excellent condition. It is metal joists supported by steel I Beams. The structural system has a lifespan of 75 years. If well maintained it could last longer.

B20: EXTERIOR ENCLOSURE: Exterior Walls, Windows and Doors:
Generally in very good or excellent condition.
Exterior Wall: The mortar joints and brick are in excellent condition. The brick life expectancy is 75 years and can last much longer if well maintained. The fiber cement siding is in excellent condition.
Exterior Windows:
Exterior windows are in very good condition.

Exterior Doors:
Generally in very good condition.

B30: ROOFING: Roof Coverings and Openings
Roof Coverings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in excellent condition. It was installed in 2008 and has a 20 year lifecycle.

B Value of deficiencies: $0.00

C: INTERIORS
C10 &C20 : INTERIOR CONSTRUCTION & STAIRS:
Stair to Roof:
Current Roof access stair is a Ship's Ladder without a Safety Cage. It is recommended that access to the roof be provided with standard run and riser stairs, like the stairs to the roof in most other buildings on campus, including Building 13, to allow for mechanic access to the roof. There is mechanical equipment that needs periodic servicing on the roof. Tools, hoses and equipment need to be carried to the roof, which is very difficult to do, if not impossible, with a Ship's Ladder. The round rungs on the ladder are slippery when wet.
There is room to install an inclined ladder with the base at least 5'-0" in front of the ships ladder current location. The inclined ladder would need to include treads and a handrail for safety. This would make access to the roof with tools easier.
If the Ship's Ladder remains, it should have a safety Cage.

C Value of Interiors Deficiencies: $7,678.80

D: SERVICES
D20: PLUMBING
D2013 Plumbing Fixtures: Patient Tubs
The patient tubs leak at the door seal. The Tub seal for the Liberti tubs has failed. The company is no longer in business. Alternative seals have been tried, but have not worked.

RECOMMENDATION: Replace all eight, 8, tubs with RANE, which is in the Adult Mental Health Hospital and are working fine.

D2013: Plumbing Fixtures, Hose Bib:
Hose bibs need to be installed on the roof to periodically clean the Air Handling Unit coils during the year.
RECOMMENDATION: The Humidifiers are no longer being used. A study was completed and it was determined they are no longer needed. The Humidifiers could be removed and the water that is piped to the humidifiers could be used for a hose bib.

D30: HVAC
D30 HVAC Distribution Systems, CVPC Piping
The CVPC piping is sagging and it has warped in some cases, as this is visible in the Mechanical Room.

RECOMMENDATION: Add additional hangers wherever needed, including in the Mechanical Room. Hangers should be no greater than 4'-0" apart.

D30 HVAC System
In general we did hear complaints of rooms being either too hot or too cold, and the users of the space have no way of moving the thermostat temperature. We understand that this is controlled by B&G and they can make adjustments to the various offices. To be done in-house.

D30- Nutrition Room Ventilation: There is not enough ventilation in the Nutrition Room, RM 223 in Pod 2, and the similar room in the other three pods. The Nutrition Room is small and has a Kitchenette in it, and heat is generated by the Refrigerator.

RECOMMENDATION: Comprehensive Study to determine if another duct, or a larger duct needs to be added to this room.

D Value of Services System Deficiencies: $119,563.00
NOTE: A Comprehensive Study needs to be done to determine the size of the duct needed for the Nutrition Rooms.

E10: EQUIPMENT
E10 Equipment, Jib Crane: A jib crane needs to be installed to move heavy equipment from the Loading Dock on and off the roof. Currently, the ships ladder provides very limited access to bring equipment to the roof. The roof hatch also limits the size of bringing equipment to the roof.

RECOMMENDATION:
There is a stanchion and plate for the future Jib Crane on the roof, near the Loading Dock. The jib crane needs to be installed.
Value of Deficiency: Comprehensive Study to be done to determine size of the jib crane.

E10 Equipment, Nurses Call System:
The Nurses Call System has not been working. It was explained that there have been shorts in it. Also, the Nurses Call System cord could be used as a ligature device.

RECOMMENDATION: Remove the current Nurses Call System.
Option 1: Install a hard wire system that would be more expensive than a wireless system (based on FICAS report, $300,000 to $400,000)
Option 2: The ESH staff have talked to four vendors and they are in favor of purchasing a wireless system, which would cost approximately $110,000.
Option 2 has been included in the Cost Estimate at the request of the Hospital. A $40,000 contingency has been added.

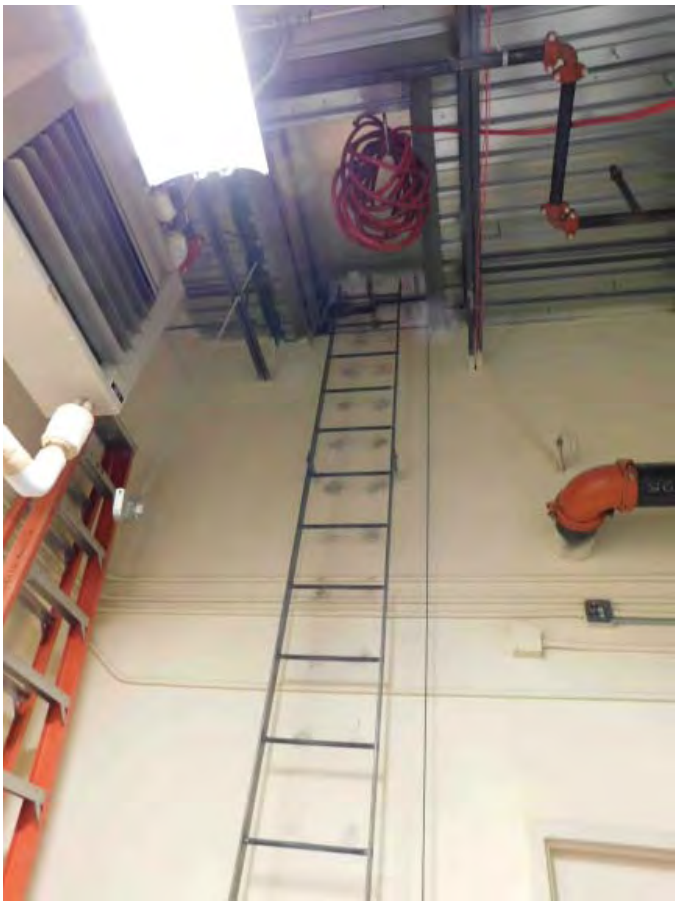
E. Value of Equipment Deficiencies: $150,000
NOTE: A comprehensive Study needs to be done to determine the size of Jib Crane needed.

Total Value of all Deficiencies: $277,241.80
Note: The two Comprehensive studies need to be completed to determine the cost of ventilation to the Nutrition Rooms and the Jib Crane to be installed.

Code	Item Number	Section Name	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/ Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
C20	R1	Mech Rm	2008	1	sf	C2013 Stair Construction	Replace, New Work	**1**	2017		n/a	Replace Ships ladder w/0 a Safety Cage, with an inclined ladder w/ treads & a handrail	**$4,488.00**	**$1,200.00**	**$7,678.80**	1401, 1404, 1578 d
D20	R2	PT Bath Rms	2008	8	ea	D2013 Plumbing Fixtures - Bathtubs	Replace	**1**	2017			replace Liberti tub with a RANE tub. Liberti tubs leak at door seal.	**$80,000.00**	**$3,200.00**	**$112,320.00**	1489, 1494. 2414
D30	R3	Roof	2008	4	ea	D20 - Plumbing Fixtures- Hose Bib	Remove and Install New Item	1	2017		n/a	Remove Humidifier & Add hose bib on roof, for each POD.	**$400.00**	**$1,600.00**	**$2,700.00**	1560, 1563
D20	R4	Mech Rm	2008		ea	D30- HVAC Distribution Systems, CVPC Piping	Additional Install	1	2017		n/a	CVPC piping needs more frequent hangers every 4'-0" in Mech Rm. It is sagging	**$2,365.00**	**$1,000.00**	**$4,543.00**	1410, 1433
D30	R5	Ktchn-ettes	2008	4	ea	D30- HVAC Distribution System, Nutrition Room, Kitchenette	Comprehensive Study	2	2018		n/a	Add ventilation to Kitchenette, Closet Rm 223 & for 3 other Pods. Lacks ventilation				2011, 2012
E10	R6	Roof	2008	1	ea	E10- Equipment, Jib Crane	Comprehensive Study	1	2017		n/a	Install LOADING DOCK JIB CRANE to load equip to roof. Size TBD				1556
E10	R7	Patient Rms	2008	25	ea	E10- Nurses Call Station	Replace	1	2017			Nurse Call Systems needs to be replaced. * Speifications TBD by hospital. Wireless			**$150,000.00**	1466, 1468, 1467
R1 - R7 TOTAL COST:													**$110,589.96**	**$89,319.36**	**$277,241.80**	

***** E-10, cost of wireless provided by Hopsital at $110,000, $40,000 added for contingency

IV. Eastern State Hospital, Williamsburg, Virginia
Deficiency Report, Hancock Geriatric Treatment Center
Attachment: Deficiency photographs



R1: SHIP'S LADDER, NO FLAT TREADS, HANDRAILS OR SAFETY CAGE, DIFFICULT TO CLIMB W/ EQUIPEMENT, Photo 1401

R1: BASE OF SHIP'S LADDER. SUFFICIENT AREA TO PROVIDE A SLOPED LADDER,

Photo 1404

R1: TOP OF SHIP'S LADDER. LACK OF HANDRAIL AT TOP, Photo 1578d

R2: LIBERTI TUB. ALL BATHTUBS LEAK THROUGH THE DOOR CLOSURE SEAL.

Photo 1489

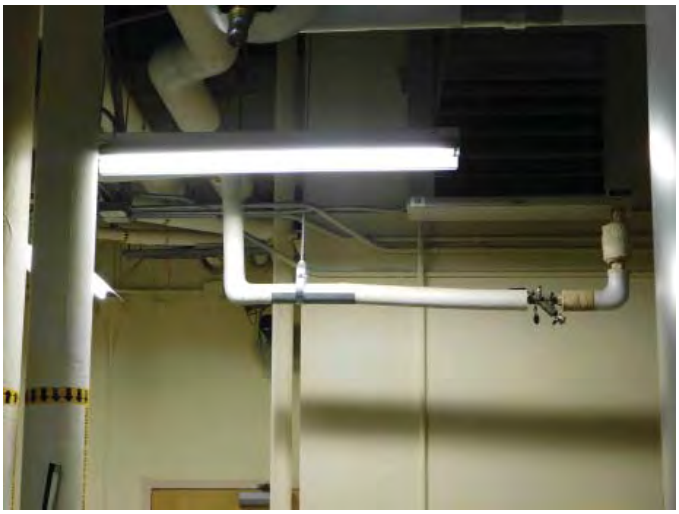
R2: LIBERTI TUB. TUBS LEAK THROUGH THE DOOR CLOSURE SEAL. Photo 2414

R2: LIBERTI TUB. ALL BATHTUBS LEAK THROUGH THE DOOR CLOSURE SEAL.

Photo 1494

R3: REMOVE HUMIDIFIER NO LONGER IN USE. INSTALL HOSE BIB USING EXISITNG PIPING, Photo 1560

R3: HOSE BIB WOULD BE ADJACENT TO AHU'S. HOSE BIB NEEDED TO CLEAN ADJACENT COILS PERIODICALLY, Photo 1563



R4: SAGGING CVPC PIPING
Photo 1410

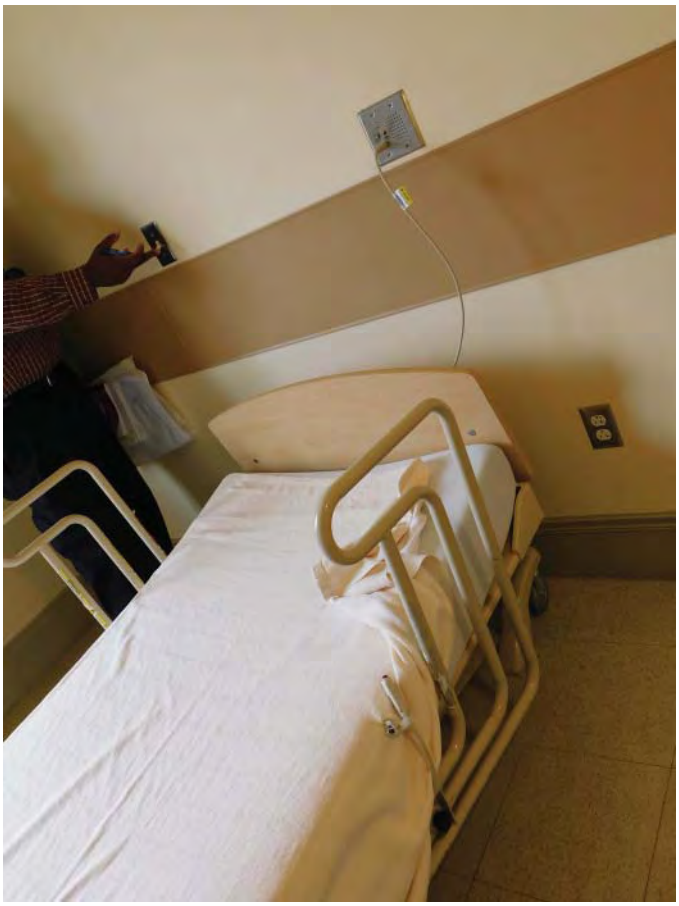
R4 SAGGING CVPC PIPING
Photo 1433

R5 NUTRITION ROOM NEEDING ADDITION COOL AIR, Photo 2012

R5 NUTRITION ROOM NEEDING ADDITION COOL AIR, Photo 2011

R6: JIB CRANE BASE ABOVE LOADING DOCK, Photo 1556

R7: NURSE CALL STATION, INOPERABLE & NEEDS TO BE REPLACED WITH ANTI-LIGATURE, Photo 1466



R7: NURSE CALL STATION, INOPERABLE & NEEDS TO BE REPLACED WITH ANTI-LIGATURE, Photo 1467

R7: NURSE CALL STATION, INOPERABLE & NEEDS TO BE REPLACED WITH ANTI-LIGATURE, Photo 1468

IVa. Deficiencies Report on the Kitchen/ Dining Room, Building 13

Eastern State Hospital
Williamsburg, VA


This Kitchen and Dining Room Facility is used for the Geriatric Patients. The Substructure, Superstructure and Exterior Enclosure are in very good condition and expected to last into the foreseeable future. While the Substructure, Superstructure and Exterior Enclosure were built to last well beyond 100 years the Systems in the building have a shorter lifespan. Some systems in this Facility need immediate attention and are critical to maintaining the mission of Hancock Geriatric Treatment Center. If this Kitchen/ Dining Room facility shuts down, it would have an impact on the Geriatric Patients. Meals would become much more expensive.
This Deficiency Report does not include all of the Deficiencies in this building. It has focused on those that need immediate attention. The deficiency costs are estimated at $1,617,270 with significant comprehensive studies to be done.

A. SUBSTRUCTURE: Foundations and Basement Construction
Is generally in Very Good Condition. It was built in 1954. The substructure was built to last well beyond 100 years. If well maintained it could last for the foreseeable future.
Basement Slab: In very good condition

Value of deficiencies : $0.00.

B. EXTERIOR ENCLOSURE:
B10: SUPERSTRUCTURE: Floor and Roof Construction:
Is generally in Very Good Condition. It was built in 1954. The superstructure was built to last well beyond 100 years. If well maintained it could last for the foreseeable future.
Structure: Structure is sound and in very good condition.
Roof Structural System: The roof structural slab is in very good condition.

B20: EXTERIOR ENCLOSURE: Exterior Walls, Windows and Doors:
Generally in good condition.
Exterior Wall: The mortar joints and brick are in very good condition. The brick vents need to have the plastic covers removed. The brick vents are there to ventilate the structure and are essential to serve that purpose. If they are not removed, significant deterioration could occur.

Exterior Windows:
Generally exterior windows are in good shape, with the exception of the monitor windows, which need IMMEDIATE replacement. The monitor windows were installed in 1954 and have a lifespan of 45 years. They have exceeded their useful life by 18 years.
The window frames are bent in some cases and not all the windows shut completely.
The Monitor motor does not operate. The shaft and extension arms need to be replaced. This needs immediate attention, to assist in keeping the Kitchen cooler in the summertime.

B30: ROOFING: Roof Coverings and Openings

Roof Coverings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in **CRITICAL CONDITION** and need immediate replacement.
The roof membrane was installed in 1991 and has a 20 year lifecycle. It has exceeded its useful life by 6 years. The current condition has slightly sloped insulation, in some places, no slope in some places and a reverse slope (or slope to pond) in other cases. In some cases bubbles have formed on the roof.

B Total Value of deficiencies : $461,740.27

C: INTERIORS
C10 &C20 : INTERIOR CONSTRUCTION & STAIRS:
Are generally in good condition.
C30: INTERIOR FINISHES:
Floor finishes are generally in good condition, with the exception of the replacement tile in the Kitchen. It was not grouted properly and there are hollow cavities below it. This is a high priority item, as if it fails, the kitchen service would be difficult to provide with carts. A comprehensive study needs to be completed to determine which tile's have hollow cavities below them to quantify the tile needing replacement.

Ceiling Finishes: Several Ceiling Tiles have been replaced with plastic in several rooms, primarily Room 103, Diet Manager's Office; 103A, Conference Room; Room 102, Patient Dining Hall/ Cafeteria and 101A Office. The tiles have been replaced with plastic due to the roof leaking because the roof membrane has exceeded its useful life.
Once the roof membrane is replaced, the ceiling tiles can be replaced. This is a dependent replacement item and as such is a lower priority.

C Value of deficiencies : $568,960.65

D: SERVICES
While the exterior envelope and structural system have longer life spans, the systems in buildings have shorter life spans.

D20: PLUMBING
D2030 Sanitary/ Storm water Waste piping.
The sanitary waste piping, cast iron, in the Basement crawl space, that runs from the first floor fixtures and rain water leaders, needs to be replaced. It was installed in 1954 and its useful life is 30 years. It has exceeded manufacturer's useful life by 33 years. It is in need of CRITICAL replacement and is a high priority item and needs IMMEDIATE replacement. The basement has been flooding when there is a large rainfall. This occurred prior to the three new boilers being installed.

D2030 Sanitary Waste:
Drain for three new Boilers
When the three (3) new boilers were installed in 2016, their drains were tied into an existing floor drain. The existing floor drain and its pipe size were not modified. The existing floor drain was designed to handle only its load, not the increased boiler flushing load. Due to the increased load on the existing floor drain, flooding now occurs in the basement North-South corridor, and in the far East-West Corridor and in nearby rooms.

The three boilers flush water two times a day. If the water is flushed at a typical speed, they will overwhelm the drains and water will come up out of the floor drain, closest to the three boilers.
If there is a heavy rain, (not a slow rain) water will come up from the floor drains, as explained by B&G staff. Water at the closest drain has come up about 1.5 feet. Water will come up at the two intermediate drains along the Hall, as well and come up a maximum of 6" at the end of the Hall drain, to the south.

There is a Sump Pump but it is insufficient for even average rainstorms.
THE ODG team removed the Sump Pump cover and found a disconnected pipe to the sump pump. It has since been connected. The water will be pumped out at a quicker rate from the basement Hall, however, the flooding will still occur and needs immediate attention.

Recommendation is to run the boiler drain pipe to daylight.

D2023 Domestic Plumbing
The domestic plumbing, copper piping, in the Basement crawl space that runs to the first floor fixtures, needs to be replaced. It was installed in 1954 and its useful life of 35 years has been exceeded. It should have been replaced approximately 40 years ago. It is a high priority item and needs to be replaced in the next 12 months; at the latest. The insulation for the piping needs to be replaced also.

D30 HVAC
D304008, R12 The four Air Handling Units, or Heating and Ventilating Units, H-1, H-2, H-3 and H-4, located in the basement that serve the building need to be replaced IMMEDIATELY. This is a CRITICAL item and needs IMMEDIATE attention. Water sits in many of these units and the air being blown from them may not be healthy.

D3043, R13 & R14, The steam and condensate lines in the crawl space and on the first floor need to be replaced IMMEDIATELY. They are in critical condition and have corroded very badly. While we were

there one line broke. The pipes have a useful life of 75 years, but have corroded so badly they need immediate replacement.

D3040, R15, The AC units for the Reimbursement Department need to be replaced with a rooftop Air Handling Unit. The Roof top unit will cool the Offices more efficiently and provide more comfort throughout the suite.
Two of the air conditioners are located on an interior wall and putting additional heat into the Kitchen Storage which is open to the Kitchen. This is exasperating the hot air in the Kitchen already.

R201006, R16 Heating and Ventilating Units in the Kitchen, and their associated piping need to be removed. The four units no longer operate and water drips from the piping. This is an IMMEDIATE NEED.
A new Root Top Unit, such as a Heat Pump, would replace these inoperable units. The Roof top unit would provide the needed cool air for the Kitchen that gets very hot in the summer time, including temperatures in the Kitchen into the 90's degrees if not above.
The other option for cooling the Kitchen would be provide circulating air with fans and operable monitor windows.

D+F Value of Services (includes demolition) deficiencies : $574,268.65
NOTE: A comprehensive study needs to be done to determine the size and cost of the four AHU's in the basement that need to be replaced.

Total Value of all deficiencies : $1,617,269.57 (sum of A-F)
A comprehensive study needs to be done to determine the size and cost of the four AHU's in the basement that need to be replaced. A Comprehensive Study needs to be done to replace the motors for the monitor windows in the Kitchen.

Code	Item No.	Install Date	Quantity	UoM	Category (unifor	Work type	Priority	Priority Year	EDL	RDL	Deficiency /Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
B20	**R1**	1954	0	Ea	B2013 Remove Brick Vent Cover	Remove	1	2017	45	-18	brick vent 5" x 8" (no sz shwn)	$0.00	$1,911.68	$3,099.27	897, 910
B20	**R2**	1954	64	Ea	B2023 Replace Operating 3-9" x 5-6" stl frm wndw (5'-5" x 71%= 3'-6")	Comp Renew	1	2018	45	-18	Repl Stl Wndws & screens	*$78,940.16*	*$14,016.00*	*$122,112.00*	804
B20	**R2a**	1954	64	Ea	B2023 172 1030 Replace Steel Screens	Comp Renew	1	2018	45	-18	Replace Steel Screens for Windows	*$3,379.20*	*$9,320.96*	*$20,096.00*	810
B20	**R2b**	1954		Ea	B2023, Replace Wndw Operator: Motor, shaft & bearings, arms	Comp Renew	1				Replace Motor shaft & bearings & arms				1152
B30	**R3**	1991	389.15	Sq	B301002 Low Slope Membr Systems	Comp Renew	1	2018	20	-6	Replace EPDM Roof. It exceeds its Estimated Design Life	$85,383.00	$114,737.00	$316,433.00	780, 784, 785, 776, 784, 803
C30	**R4**	1954	37439	SF	C3023 Tile Floor Finishes	Compreh ensive Study	1	2018	15	-11	Repair Quarry tile floor, (2% of flr)	$2,246.34	$256,457.15	$409,957.05	2476
C30	**R5**	1991	193.2	C.S.F	C3033 Ceiling Finishes	Replace	2	2019	20	-6	Replace plastic ceiling tiles with acoustical tiles that match existing. Plastic tiles installed due to roof leaks.	$66,654.00	$46,561.20	$159,003.60	822, 823, 826, 739, 744, 835, 836, 837, 724, 731, 1158
D20	**R6**	2016	150 x 2'	LF	D203001 Pipe & Fittings	Intsall, new work	1	2018		n/a	Saw cut, remove concrete, & pour concrete for 3 new boiler drains & pipes	$4,400.00	$6,900.00	$12,300.00	1211, 1212, 1212, 1201
D20	**R6a**		150 x 2'	LF	D2033 Sanitary Waste	Install new	1	2018		n/a	Install 4" sanitary pipe in slab, 300 SF	$4,725.00	$3,600.00	$11,910.00	1203
D20	**R6b**		2	Ea	D2033 Sanitary Waste	Install new	1	2018		n/a	Install new floor drain	$361.00	$1,580.00	$2,550.00	
R1 - R6 Total Cost:												**$246,088.70**	**$455,083.99**	**$1,057,460.92**	

Code	Item No.	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/ Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D20	**R10**	1954	800	LF	D2023110 Domestic Plumbin	Replace	1	2018	35	**-27**	Remove old & Install new domestic piping below kitchen: 1/2" copper. Add 15% for confined space	$ 6,000.00	$ 10,472.00	$ 23,880.00	851
		1954	800	LF	D2023110 Domestic Plumbin	Repl	1	2018	35	**-27**	3/4" copper	$ 6,000.00	$ 10,472.00	$ 23,880.00	852
		1954	300	LF	D2023110 Domestic Plumbin	Repl	1	2018	35	**-27**	1" copper	$ 3,780.00	$ 4,269.00	$ 11,400.00	
		1954	300	LF	D2023110 Domestic Plumbin	Repl	1	2018	35	**-27**	1.5" copper	$ 5,325.00	$ 5,790.00	$ 15,600.00	
D20	**R10a**		800	LF	D2023160 Insulation, Pipe	Replace	1	2018	15		1/2" copper insulation, add 15% confined space	$ 680.00	$ 4,656.00	$ 8,272.00	
			800	LF	D2023160 Insulation, Pipe	Replace	1	2018	15		3/4" copper insulation	$ 736.00	$ 4,808.00	$ 8,592.00	
			300 LF		D2023160 Insulation, Pipe	Replace	1	2018	15		1" copper Insulation	$ 276.00	$ 1,803.00	$ 3,222.00	
			300	LF	D2023160 Insulation, Pipe	Replace	1	2018	15		1.5" copper insulation	$ 345.00	$ 1,932.00	$ 3,507.00	
D20	**R11**		680	LF	D2030 Sanitary / Stormwater Waste	Replace	0	2017	30	**-33**	Remove old & install new 4" cast iron piping below kitchen, add 15% for	$20,400.00	$38,250.00	$85,204.00	850
			190	LF	D2030 Sanitary / Stormwater Waste	Replace	0	2017	30	**-33**	3" cast iron	$4,275.00	$10,070.00	$21,280.00	
			100	LF	D2030 Sanitary / Stormwater Waste	Replace	0	2017	30	**-33**	2" cast iron	$1,655.00	$4,960.00	$9,780.00	
D30	**R12**	1954	4320	cfm	D304008 Distribution Systems - AHU	Compre hensive Study	0	2017	15	**-48**	Remove old & Install new H&V, Unit H-1 ,(AHU) Basement				164, 165
		1954	4320	cfm	D304008 Distribution Systems - AHU	Compre hensive Study	0	2017	15	**-48**	Replace H&V Unit, H-2, (AHU) Basement				166, 167
		1954	1390	cfm	D304008 Distribution Systems - AHU	Compre hensive Study	0	2017	15	**-48**	Replace H&V Unit, H-3, (AHU) Basement				169, 171

Code	Item No.	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/ Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
		1954	2350	cfm	D304008 Distribution Systems - AHU	Comprehensive Study	0	2017	15	**-48**	Replace H&V Unit, H-4, (AHU) Basement				171-172
D30	**R13**	1954	80	LF	D3043 Steam Distribution Systems, Steam	Replace	**0**	2017	75	12	Replace steam piping (steel) from basement boiler/CR/basement and 1st floor 8", Steam lines, steel pipe flanged, add 15% for confined space	$8,240.00	$11,360.00	$28,400.00	853
		1954	55	LF	D3043 Steam Distribution Systems	Replace	**0**	2017	75	12	6", Steam lines, steel pipe flanged	$3,410.00	$5,857.50	$13,585.00	872
		1954	243	LF	D3043 Steam Distribution Systems	Replace	**0**	2017	75	12	5", Steam lines, steel pipe flanged	$15,066.00	$25,879.50	$60,021.00	
		1954	450	LF	D3043 Steam Distribution Systems	Replace	**0**	2017	75	12	4", Steam lines, steel pipe flanged	$14,400.00	$30,150.00	$66,375.00	
		1954	55	LF	D3043 Steam Distribution Systems	Replace	**0**	2017	75	12	3", Steam lines, steel pipe flanged	$1,361.25	$2,777.50	$5,885.00	
		1954	65	LF	D3043 Steam Distribution Systems	Replace	**0**	2017	75	12	2", Steam lines, steel pipe flanged	$1,020.50	$2,122.25	$4,680.00	

Code	Item No.	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/ Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D30	**R13a**		80	LF	D3043 Pipe Insulation	Replace	0	2017	5		Remove old & install new 8", Steam lines insulation in crawl space mostly, add 15% for confined space	$480.00	$1,280.00	$3,136.00	
			55	LF	D3043 Pipe Insulation	Replace	0	2017	5		6", Steam lines, insulation, add 15% for confined space	$162.25	$544.50	$1,078.00	
			243	LF	D3043 Pipe Insulation	Replace	0	2017	5		5", Steam lines insulation	$716.85	$2,405.70	$4,762.80	
			450	LF	D3043 Pipe Insulation	Repl	0	2017	5		4", Steam line insulation	$1,116.00	$3,573.00	$7,132.50	
			55	LF	D3043 Pipe Insulation	Repl	0	2017	5		3", Steam line insulation	$102.30	$363.00	$709.50	
			65	LF	D3043 Pipe Insulation	Repl	0	2017	5		2", Steam line insulation	$99.45	$386.10	$744.25	
D30	**R14**	1954		LF	D3040 Steam Water Distribution, Steel Pipe, Condensate	Replace	0	2017	75	12	8", 6", 5"4", 3" Condensate lines, 5", 3" & 2" black steel, add 15% confinsed space				
		1954	420	LF	D3040 Steam Water Distribution, Steel Pipe	Replace	0	2017	75	12	Remove old and install new 5" steel iron threaded pipe	$14,721.00	$31,605.00	$46,326.00	
		1954	34	LF	D3040 Steam Water Distribution, Steel Pipe	Replace	0	2017	75	12	3" steel iron threaded pipe	$765.00	$1,635.40	$3,502.00	
		1954	740	LF	D3040 Steam Water Distribution, Steel Pipe	Replace	0	2017	75	12	2" Steel Iron threaded	$9,287.00	$20,091.00	$42,661.00	
D30	**R14a**		740	LF	D3043 550 Distribution Systems, Pipe Insulation	Replace	0	2017	5		Remove old and install new 2" pipe insulation for condensate lines, add 15%	$1,132.20	$4,395.60	$8,473.00	
			34	LF	D3043 550 Distribution Systems, Pipe Insulation	Replace	0	2017	5		3" pipe insulation	$63.24	$224.40	$438.60	
			420	LF	D3043 550 Distribution Systems, Pipe Insulation	Replace	0	2017	5		5" pipe insulation	$1,239.00	$4,158.00	$8,232.00	
F20	**R15**	1991	9	EA	F201006 Mechanical Systems- AC window units	Remove	1	2018			Remove existing AC units from Windows in Reimb.		$100.00	$900.00	928

Code	Item No.	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/ Corrective Action/ Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D30	**R15a**	2018	5	TONS	D304001 Air Distribution, Heating, And Cooling	New Work	1	2018		n/a	Add RTU to replace window AC unit cooling capacity and supplemental heating/R/Reimbursement Area at south side	$7,500.00	$4,000.00	$15,525.00	
F20	**R16**	1954	4	EA	F201006 Mechanical Systems- H & V Units	Remove	0	2017	20	**-43**	Remove four , 4, Heating & Ventilating Units from Kitchen			$8,100.00	637, 751, 633
D30	**R16a**	1954	10	tons	D3053 Heat Pump - New RTU	Replace	0	2017	20	**-43**	Add New RTU Unit for Kitchen, to replace existing 4 Heating & Ventilation units	$6,275.00	$4,275.00	$14,525.00	
R10 - R16 TOTAL COST:												**$145,179.94**	**$271,770.48**	**$559,808.65**	

R1 - R6 COST:	$246,088.70	$455,083.99	$1,057,460.92	
R1-R18 GRAND TOTAL:	**$391,268.64**	**$726,854.47**	**$1,617,269.57**	

KEY:
CODE : UNI FORMAT SYSTEM
UoM : UNIT OF MEASUREMENT
EDL : ESTIMATED DESIGN LIFE
RDL : REMAINING DESIGN LIFE

IVa. Eastern State Hospital, Williamsburg, Virginia

Deficiency Report, Building 13

Attachment: Deficiency photographs

R1: BRICK VENT, WITH PLASTIC COVER, NOT ALLOWING VENTILATION Photo 897

R1: BRICK VENT COVERS, ALL AROUND STRUCTURE, Photo 910

R2: REPLACE STEEL WINDOWS, SOME NO LONGER CLOSE, Photo 804

R2 & 2A: REPLACE STEEL WINDOWS & SCREENS, WINDOW FRAME BENT, OPERATOR ARM DETACHED, SCREEN RIPED
Photo 810

R2B: REPLACE MONITOR MOTOR, SHAFT & ARMS, INOPERABLE, Photo 1152

R3: LOW SLOPE MEMBRANE SYSTEMS, VIEW TO NORTH, EVIDENCE OF PONDING WATER, Photo 780

R3: LOW SLOPE MEMBRANE SYSTEMS, VIEW TO EAST, EVIDENCE OF PONDING WATER, Photo 784

R3: LOW SLOPE MEMBRANE SYSTEMS, VIEW TO NORTH, EVIDENCE OF PONDING, Photo 785

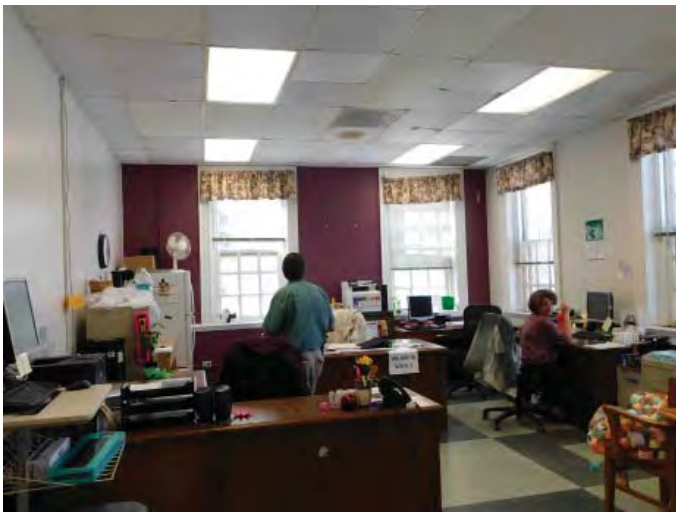
R3: LOW SLOPE MEMBRANE SYSTEMS, VIEW TO NORTH, EVIDENCE OF PONDING, (ABV RM 103 CEILING LEAKS) Photo 776

R3: LOW SLOPE MEMBRANE SYSTEMS, VIEW TO EAST, EVIDENCE OF PONDING, ABOVE ROOF LEAKS Photo 784

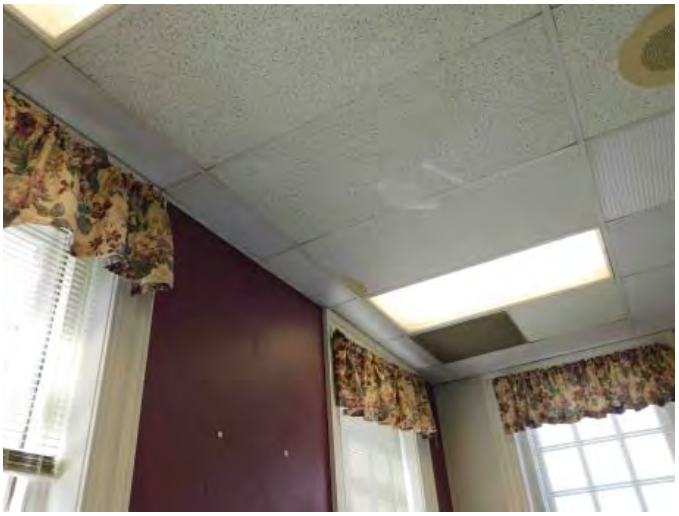
R3: LOW SLOPE MEMBRANE SYSTEMS, ROOF MEMBRANE DETACHING, ABOVE RM 101A CEILING LEAK Photo 803

R4: TILE FLOOR FINISHES, KITCHEN,REPLACEMENT TILE NOT GROUTED PROPERLY, HOLLOW BELOW, Photo 2476

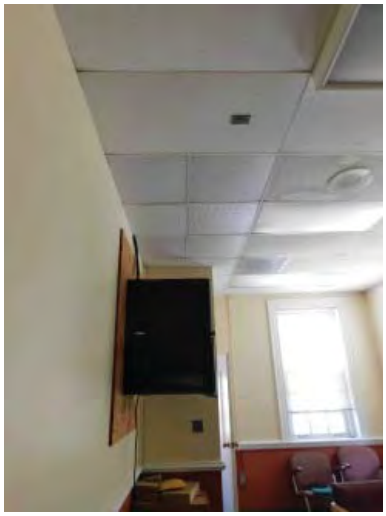
R5: CEILING FINISHES, RM 101A, REPLACEMENT CEILING TILES DUE TO WATER INFILTRATION, Photo 822



R5: CEILING FINISHES, RM 101A, REPLACEMENT CEILING TILES DUE TO WATER INFILTRATION, Photo 823



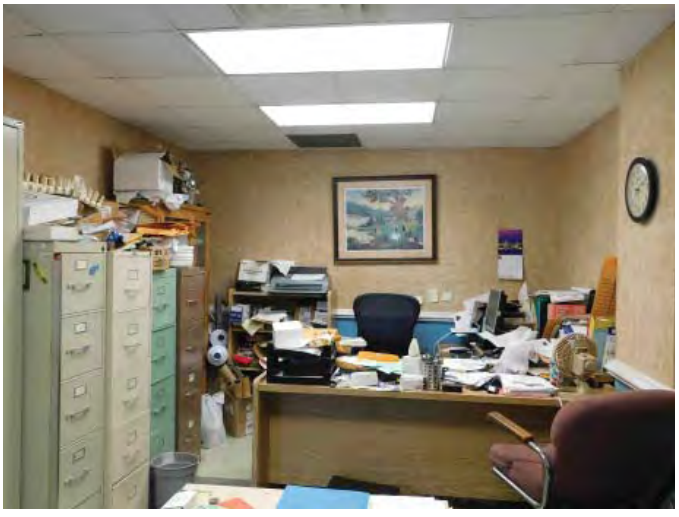
R5: CEILING FINISHES, REPLACEMENT CEILING TILES ALONG WALL AND IN FIELD, DUE TO WATER INFILTRATION, Photo 826



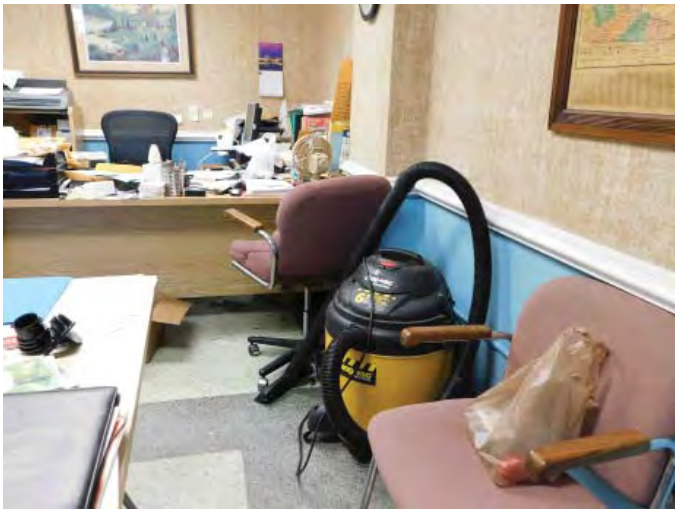
R5: CEILING FINISHES, CEILING TILE REPLACEMENT, DUE TO WATER INFILTRATION ABOVE AUDIO VISUAL EQUIPMENT, RM 103A, Photo 739

R5: CEILING FINISHES, CEILING TILE REPLACEMENT & WATER STAIN, DUE TO WATER INFILTRATION ABOVE WINDOW, RM 103A, Photo 744

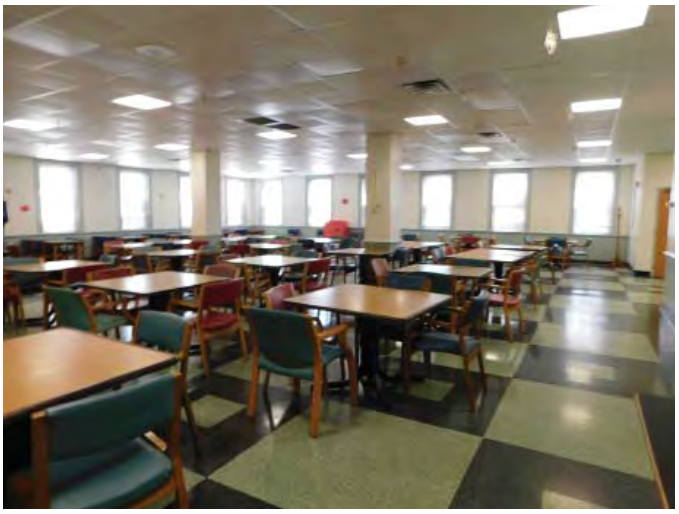
R5: CEILING FINISHES, CEILING TILE REPLACEMENT & ITEMS ABOVE FLOOR, DUE TO WATER INFILTRATION, RM 103, LEAK OCCURED RIGHT BEFORE OUR ARRIVAL, Photo 835



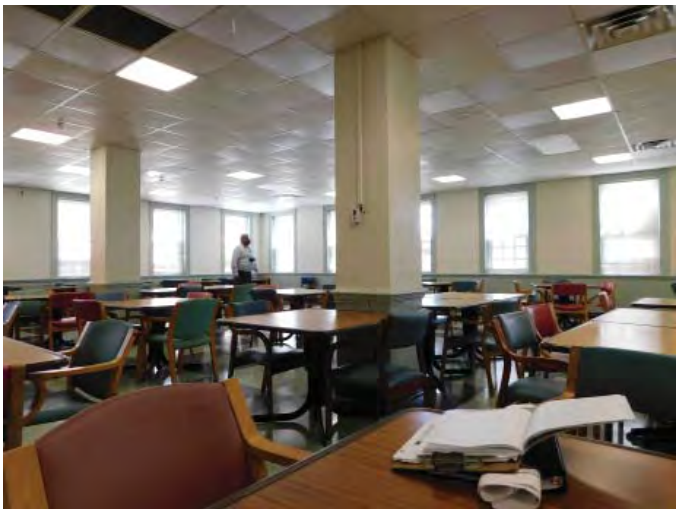
R5: CEILING FINISHES, CEILING TILE REPLACEMENT & ITEMS ABOVE FLOOR, DUE TO WATER INFILTRATION, RM 103, BUCKET ON FLOOR TO CATCH WATER, Photo 836



R5: CEILING FINISHES, CEILING TILE REPLACEMENT & SHOP VAC DUE TO WATER INFILTRATION, RM 103, LEAK OCCURRED RIGHT BEFORE OUR ARRIVAL, Photo 837



R5: CEILING FINISHES, CEILING TILE REPLACEMENT DUE TO WATER INFILTRATION, RM 102, Photo 724

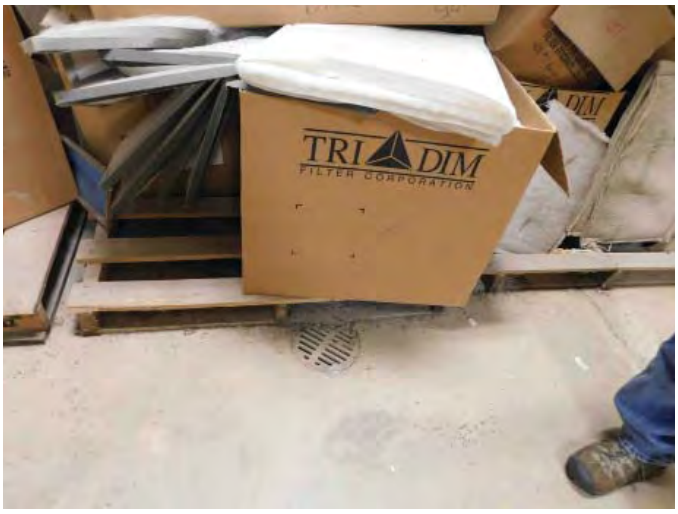


R5: CEILING FINISHES, CEILING TILE REPLACEMENT DUE TO WATER INFILTRATION, RM 102, Photo 731

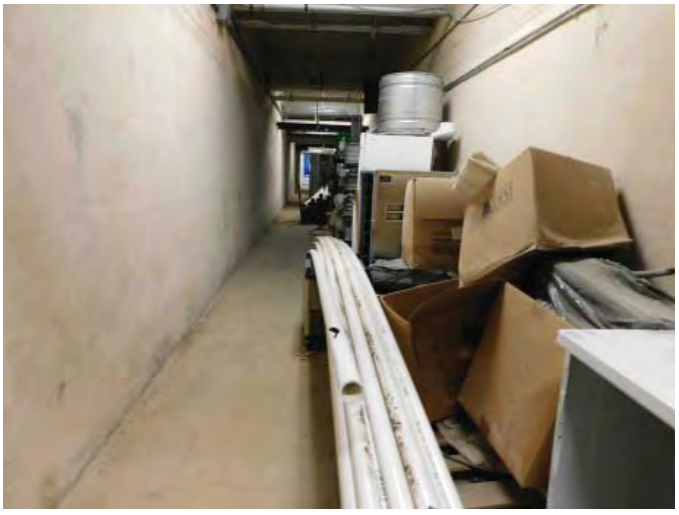
R5: CEILING FINISHES, CEILING TILE REPLACEMENT DUE TO WATER INFILTRATION, RM 103A, LEAK ABV AUDIO VISUAL EQUIPMENT, Photo 1158

R6: BOILER NEW DRAIN NEEDED FOR FLUSHING. SEDIMENT ON FLOOR DUE TO FLOODING, Photo 1211

R6: BOILER NEW DRAIN NEEDED FOR FLUSHING. RM B15, SEDIMENT ON FLOOR DUE TO FLOODING, Photo 1212



R6: BOILER NEW DRAIN NEEDED FOR FLUSHING. N-S CORRIDOR DRAIN, ELEVATED BOXES & SEDIMENT ON FLOOR DUE TO FLOODING, Photo 1212



R6: BOILER NEW DRAIN NEEDED FOR FLUSHING. N-S CORRIDOR DRAIN, ELEVATED STORAGE & SEDIMENT ON FLOOR DUE TO FLOODING, Photo 1201

R6a: BOILER NEW DRAIN NEEDED FOR FLUSHING. N-S CORRIDOR DRAIN, LOWER SHELFS REMOVED, SEDIMENT ON FLOOR DUE TO FLOODING, Photo 1203

IVa. Eastern State Hospital, Williamsburg, Virginia
Deficiency Report, Building 13, Items R10-16
Attachment: Deficiency photographs

R10 & R10A: DOMESTIC PLUMBING IN CRAWL SPACE, Photo 851

R11: SANITARY WASTE PIPING IN CRAWL SPACE, Photo 850

R12: BASEMENT H&V UNIT COILS, H-4
Photo 164

R12: BASEMENT H&V UNIT, H-4, COILS DAMAGED, BEYOND USEFUL LIFE, Photo 165

R12: BASEMENT H&V UNIT, H-4, COILS DAMAGED, BEYOND USEFUL LIFE,

Photo 166

R12: BASEMENT H&V UNIT, H-4, COILS DAMAGED, BEYOND USEFUL LIFE,

Photo 167

R12: BASEMENT H&V UNIT, H-3, COILS DAMAGED, BEYOND USEFUL LIFE,

Photo 169

R12: BASEMENT H&V UNIT, H-3, COILS DAMAGED, BEYOND USEFUL LIFE, Photo 171

R12: BASEMENT H&V UNIT, H-4, COILS DAMAGED, BEYOND USEFUL LIFE, Photo 172

R13 & 14: STEAM & CONDENSATE PIPING, BADLY CORRODED, BEYOND USEFUL LIFE

Photo 853

R13 & R14: STEAM & CONDENSATE PIPING, CORRODED PIPE & MISSING INSULATION, Photo 872

R15: WINDOW AC UNITS ON EAST SIDE, NEED CENTRAL AIR Photo 928

R16: HEATING & VENTILATING UNIT, NO LONGER OPERABLE, LEAKS WATER, Photo 637

R16: KITCHEN HEATING & VENTILATING UNIT, NO LONGER OPERABLE, LEAKS WATER, Photo 751

R16: HEATING & VENTILATING UNITS, N LONGER OPERABLE, LEAK WATER, Photo 633

V. Deficiencies Report on the Piedmont Geriatric Hospital, Building 15

Burkeville, VA

Currently the Geriatric Patients are located in the newer, West Wing built in 1951. If the East Wing, built in 1939, were refurbished, the Hospital would have the capacity for approximately double the number of patients. Formerly the hospital held 210 patient beds. Currently it holds 123 patient beds, all of which are Geriatric. There is a total of 130,600 sf. This assessment includes the refurbishment needs. This is the only State Hospital that serves only a Geriatric population.

Several modernization efforts have taken place at this hospital. The building superstructure, substructure and exterior wall were built to enhanced standards to enable this building to be used as a Fall-Out Shelter. It is currently being used as a shelter for natural or man-made disasters. This is a modernization initiative. In 2017 Piedmont Geriatric Hospital, PGH, won the Virginia Environmental Excellence Award.

Most of the environmental abatement has occurred with three, 3, small areas that still have some asbestos tile and we recommend removing these. There is only some limited asbestos insulation in inaccessible areas. If this insulation is not disturbed it will not pose a health concern

Recommendations include adding a handicap ramp to the front facade to enable Geriatrics to access the front entry. This could be done when the storefront doors are changed to double pane doors. A security upgrade is recommended to include bullet proof glazing at the entry switchboard window, and lockable entry doors to the Administration and North Wing. Public bathrooms could be provided as a renovation project to the Auditorium area. The security recommendations are for this hospital in particular as there is a sexual predator facility on the same campus and a jail nearby.

There is a good ongoing preventative maintenance program at PGH. Maintenance personnel look for trends and minor leaks and act before a major repair is needed. Major repairs are identified in advance. While we assessed the building, anything that was noticed needing any type of repair was immediately reported and acted on. There was a low number of substantive service work orders during the year. Personnel have been resourceful and kept equipment running beyond its useful life.

The Hospital building is valued at $45,262,106 for insurance purposes. To replace this hospital using $339.1051 per square foot, according to RS Means and the HHS 2014 Study, the cost would be $44,287,126. This cost does not include equipment, furnishings or land. Add to this 20% for the disaster resilience of the structure and exterior envelope, 10% for demolition costs, 10% for Architecture and Engineering fees, and the total Replace Cost would be $64,304,907. Add 10% for site

work and the Replacement cost would be $70,735,397.74. The Repair costs are identified as $754,209 with significant Comprehensive Studies and testing needed. If the 2017 FICAS costs are included, in lieu of the Comprehensive Studies, the value of deficiencies is estimated at $3,145,296. This number may be high in some cases as pipe testing is recommended, not knowing if replacement is necessary. In other cases, this number may be low depending on the exhaust/ return air system selected. In the FICAS report roof top fans are included for the exhaust air. The rooftop fans are less expensive and less energy efficient as compared to a return air system. Based on this repair cost the Facility Condition Index, FCI, would be 0.04, or 4%. This building is considered in Good Condition. In order to provide a more accurate FCI, significant comprehensive studies need to be completed for this hospital.

At the end of this building section, Work Not Included in Building 15 but related, is included.

A. SUBSTRUCTURE: Foundations and Basement Construction
Is generally in Very Good Condition. The East Wing was built in 1939. The West Wing and North Wings were built in 1951. The foundations were built to last well beyond 100 years. If well maintained it could last for the foreseeable future.
Basement Wall and Slab: In very good condition. It was built to last well beyond 75 years. If well maintained, which it is, it could last into the foreseeable future.

A Value of deficiencies : $0.00.

B. EXTERIOR ENCLOSURE:
B10: SUPERSTRUCTURE: Floor and Roof Construction:
Is generally in Very Good Condition. The East Wing was built in 1939. The West and North Wings were built in 1951. The superstructure was built to last well beyond 100 years, and if well maintained it could last into the foreseeable future. The East Wing's concrete slabs are approximately 5" thick with 2" topping of terrazzo.
Structure: Structure is sound and in very good condition
Roof Structural System: The roof structural slab is in very good condition.

Roof Parapet Handrail
A handrail is needed at the Roof Parapet where the East Wing is set in to meet the North Wing. The handrail would be located at the western side of the East Wing.

B20: EXTERIOR ENCLOSURE: Exterior Walls, Windows and Doors:
Generally in good condition.
Exterior Wall: The poured concrete exterior wall system is in very good condition. The East Wing was built in 1939. The West and North Wings were built in 1951. The East Wing Exterior Wall is 8" to 12" thick. The poured in place concrete exterior wall system was built to last a lifetime. In other words, it was built to last the life of the mission. The exterior wall system could easily last 250 years or longer if well maintained. The West Wing and North Wings were designed as Fall Out Shelters in case of a disaster. It is currently being used as a Shelter from Natural Disasters. This is a Modernization initiative.

There is minor superficial spalling in the exterior wall outer most layer of the concrete. Four, 4, small locations were identified. Previous exterior wall cracks have been filled, but this was done over 10 years ago. Typically cast in place concrete is pressure washed every 12 years. It is recommended that the exterior wall be pressure washed and patched.

Exterior Wall Sun Shades or Eyebrows

Generally the exterior Wall Shades, or eyebrows, are in fair shape, with the exception of the minor cracks and spalling. When the shades were built, some of the reinforcing was placed too close to the outer layer of concrete which is causing the spalling. The solar shades are superficial to the exterior wall, but tied into it. It is recommended these be patched.

Expansion Joint
Old caulk needs to be removed and new caulk added to the Expansion Joint on the South Side where the East Wing meets the North Wing.

Window Replacement
Most Windows in the East Wing and half of the Windows in the North Wing need to be replaced with double glazing. The West Wing has replaced all of its windows with double glazed windows, and some of these were installed in the North Wing and East Wing. There is a total of 219 windows of various sizes that need to be replaced. Some of the existing single pane metal window frames do not close completely. This is an energy loss. Currently, AC units are mounted in several single pane windows.

We understand there is an Envelope study currently underway. This would address the issue.

Exterior Doors:
Generally in good condition with the exception of three 3'-0" x 7'-0" hollow metal doors. Two are located in the Penthouse and one at the Chiller. There are also two pair of 6'-0" x 7'-0" hollow metal doors at the Penthouse, East and West Wings that need to be replaced.

Exterior Doors, Storefront:
The handsome single pane front entry doors could be replaced. They work fine but are aged and single pane. This work could be done when a Handicap ramp is added to the front entry. There is room for the handicap ramp and it would tie in attractively to the front entry porch slab. This is a modernization initiative.
A comprehensive study would need to be determine the extent and cost for this work effort.

B30: ROOFING: Roof Coverings and Openings
Roof Coverings: The roof membrane is in good condition. It was replaced in 1998. There are no roof leaks. When the AHU-1 was moved the roof leaks were fixed.
There is currently a roof study being done or one was recently completed.

B Value of deficiencies : $514,420.75
NOTE: This includes a rough estimate for new windows. A comprehensive study is needed for the Storefront entry glass and doors that could be replaced when a handicap ramp is added to the front facade entry.

C: INTERIORS
C10 &C20 : INTERIOR CONSTRUCTION & STAIRS:
Are generally in good condition.
C30: INTERIOR FINISHES:
Finishes are generally in good condition.
Ceiling finishes are generally in good condition, with the exception of some areas. It is recommended that acoustical ceiling tile in three corridors in the East Wing be replaced. However this is not necessary, it is only due to age and appearance.
Ceiling Finishes: The ceiling tile in Room 317 is recommended to be replaced.

C Value of deficiencies : $2,733.90

D: SERVICES
While the exterior envelope and structural system have longer life spans, the systems in buildings typically have shorter life spans.

D10: ELEVATOR:
It is recommended that the East Wing, Elevator #3, the traction geared elevator system be refurbished due to its age. It was installed in 1939 and is aged. It has exceeded its useful life and been well maintained. It works fine, but it is not as smooth a ride as a refurbished elevator would be.

D20: PLUMBING
D2020 Domestic Plumbing:
The Domestic Plumbing in the East Wing needs to have a pipe wall thickness study done to determine if the piping needs to be replaced. The domestic piping for the East Wing was replaced prior to 1998. The domestic plumbing main arteries were replaced in the North Wing in 1998 for the Kitchen project. Some risers in the North Wing are original and a wall thickness test should be done on them. Copper piping is designed to last 35 years conservatively and more likely 75 years.

D2030 Sanitary Waste piping.
The sanitary waste piping, drain, waste and vent in the East Wing needs to be replaced. A comprehensive study needs to be done to determine the extent of the piping. Cast Iron piping has a useful life of 30 years, but can last longer depending upon many conditions.

D2033- Steam Pipe
There is 50 LF, of 6" steam Pipe in Room G-71, that enters from the crawl space, that is no longer in use. It needs to be cut and capped off.

D2033- Floor Drain and Waste Pipe
Install 4" Floor drain in Room G-80 for AHU-5 for the condensate. Install 30 feet pipe, to the 4" drain, in crawl space below to AHU-5.

D2023- Heat Exchanger
Install a Heat Exchanger for the North Wing and an Heat Exchanger for the East Wing to replace the Patterson Kelly's. They have exceeded their useful life and have been well maintained. They are still working, but aged.

D30: HVAC
D3043- Chiller Room piping to the Cooling Tower.
The chiller room piping to the Cooling Tower needs to be replaced.

D3040 Change Over Distribution Systems, 2 pipe system, Fan coil units. The Dual Temp pipes wall thickness test needs to be done through all Hospital Wings, to determine what pipes need to be replaced. This study has been partially done, randomly in house.

D3040-002 Steam and Condensate Lines
A pipe wall thickness test needs to be done on the Steam lines only, in all Hospital Wings. This is to determine which pipes need to be replaced. These pipes appear in good shape.

D3040-007 Exhaust System- General
The Exhaust System for the East and North Wings needs to be studied to determine the cfm needed to exhaust the air from these Wings. Currently, there are fans in windows that operate 24/7 to exhaust air out. This is expensive to run. The original exhaust air may have been modified during an upgrade.

This study is currently underway as part of the Envelope Study. This work would be done simultaneously as the window work.

D3040-007 Exhaust System -Restrooms
The Exhaust System for the Restrooms for the East and North Wings needs to be studied to determine the cfm needed to exhaust the air from the Restrooms. Currently, there are fans in windows that operate 24/7 to exhaust out air. This is expensive to run.

This study is currently underway as part of the Envelope Study. This work would be done simultaneously as the window work.

D3053-245 Package Units
A new mini-split unit needs to be installed for the Computer Room. It is estimated that a 30,000 BTU system is needed.

D3053-245 Package Units
A new mini-split unit needs to be installed for the Reheat Thermal Room. It is estimated that a 24,000 BTU system is needed.

D3030-210, Evaporation Unit
An Evaporation Unit is needed for Room G-71 for the condensate.

D50: ELECTRICAL

D5093- Transfer Switch
A new transfer switch for Switch #2, in the Chiller Room, is needed to replace the existing switch. Only this transfer switch needs to be replaced.

D5013- Motor Control Center
The Motor Control Center needs to be replaced. It is in the Chiller Room.

D5010-05 Electrical Wiring
Wiring from the panels to the fixtures needs to be studied to determine how much needs to be replaced. Some of it has been replaced.

A study is IN-PROGRESS to determine how much wiring needs to be replaced.

D Services Value of deficiencies : $217,216.00
Note: A comprehensive study needs to be done for the following areas:
R9- Refurbish Elevator #3
R11- Replace Drain Waste & Vent piping, East Wing only.

A pipe wall thickness study needs to be done to determine if piping needs to be replaced for the following areas:
R10- Domestic Piping, East Wing only and some risers in North Wing
R16- Dual Temperature Pipes
R17- steam Lines only
An Envelope Study is IN-PROGRESS to determine:
R18- Exhaust System-General needed for East and North Wings
R19- Exhaust System- Restroom needed for East and North Wings
An electrical distribution study is IN-PROGRESS to determine:
R24- Panels- wiring from the panels to the fixtures and how much needs to be replace.

E10: EQUIPMENT
E1090-02 Food Service Equipment
Combi-Oven
Provide a Combi-Oven for the Kitchen. All food is currently reheated through the Thermal Units. A Combi oven is needed to provide the ability to steam vegetables for regular and specialty diets. Note: A kitchen hood is not needed for a Combi-Oven.

Freezer
Provide a freezer for the combi-oven food.

E Equipment Value of deficiencies : $19,299.00

F: SPECIAL CONSTRUCTION
F2020-04 Interior Construction and Finishes
In the North Wing, Rooms G-75 and G-74 and Stair 5, remove the 9 x9 asbestos tile floor and replace with Vinyl Composition Tile.

F2020- SECURITY-
Provide security for Hospital Entry. Provide bullet proof glazing at the entry switchboard window, where the attendant sits.
Provide a double set of doors at the entrance to the Administration Wing. Provide these with a locking mechanism such as a magnetic lock to be used if a terrorist entered the building.
Provide a locking mechanism to the doors to the North Wing.
Add bathrooms to the Administration Wing, so that guests could go there if they needed them, and not in the Administration Wing.
Note: This hospital has a sexual predator facility on the same campus and a jail nearby.

F Special Construction Value of deficiencies : $540.00
NOTE: Comprehensive Study to be done for Item 27A, Security, identified above.

Total Value of all deficiencies : **$754,209.00** (sum of A-F)
This does not include significant Comprehensive Studies which are underway and other Comprehensive Studies recommended. See notes under total cost for each category above.

WORK NOT INCLUDED IN BUILDING 15, BUT RELATED:

D30- HVAC POWER PLANT
D3020- Replace aged boiler #3, 200 HP with a new 400 HP boiler. Boiler #3 refractory has reached the end of its useful life. It is only used for emergencies now. The new 400 HP boiler fuel type needs to be switch grass.
Note: Boiler #2 only uses fossil fuels.
D3020- Hot Well- The current Hot Well is too small. It needs to be replaced with a Hot Well twice the size.
D3020- Water Softener- The current Water Softener is not large enough. It needs to be twice its size.
D3020- Silo- The current Silo only holds enough Switch Grass for 2.5 days during the summer and one day during the Winter. The current Silo cannot store enough switchgrass for multiple days in the winter. A heavy snowfall could make the roads impassable for several days. An additional Silo needs to be provided.

D Services Value of deficiencies Outside Building 15 **: $330,750.00**
NOTE: Comprehensive studies need to be done to determine the cost of the following items:
R21A- Hot Well
R21B- Water Softener
R21C- Silo

NOTE: The Power Plant provides power to the Geriatric Facility on the Eastern State Hospital and the Hospital Campus. It also provides power to the newly built Behavioral Health, Sexual Predators Building, which uses a higher percentage of power. The cost of the additional Power Plant items could be shared according to usage.

G- ELECTRICAL DISTRIBUTION
G4010- Feeder Renewal
The Feeder Renewal needs to be done from the Chiller Room to the East Wing.
This work is outside the Scope of this effort, as it is site work.

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
B20	**R1**	New Work	25	LF	B201004 PARAPET	B2010	1	2018	n/a	n/a	PROVIDE HAND RAIL AT EAST TO NORTH ROOF SOUTH SIDE	$887.50	$250.00	$1,512.50	65, 544c
B20	**R2a**	1950 & 1938		sf	B20 EXTERIOR ENCLOSURE	cyclacle, periodic maintenance, every 12 yrs	2	2019	Life	Life	Pressure wash exterior wall prior to repairs. Careful to not damage exterior wall.	$6,300.00	$10,000.00	$22,005.00	711, 653,
B20	**R2b**	1950 & 1938		sf	B20 EXTERIOR ENCLOSURE	repair, cylacle maintenance	1	2018	Life	Life	Exterior wall has a four (4) areas where spalling has occurred.	$50.00	$275.00	$506.25	646, 653 716
B20	**R2c**	1950			B201005 EXTERIOR LOUVERS & SHADES	repair, cyclacle maint	1	2018	Life	Life	Concrete Shade needs repair	$7,700.00	$11,630.00	$26,095.00	520, 530, 535
B20	**R3**				B2013 EXTERIOR ENCLOSURE	Cyclacle	1	2018	20		Caulking at Est Wing where meets North Wing, on south side	$150.00	$280.00	$580.00	545c
B20	**R4**	1938 EST W, 1950 NTH W	219		B2020 WINDOWS	*1. IN-PROGRESS Envelope study*	2	2019	40	(39) EST W, (27) NTH W	Replace 1938 East Wing windows & some 1950 North Wing windows w/ double pane. Total 219 windows. Some		$2,051.00	$449,169.00	637, 706,73 5,756,7 59
B20	**R5**	1950	3	EA	B2033-EXTERIOR DOORS	Replace	2	2019	45	-23	REPLACE (3) 3'x7' HM exterior DOORS. (2) at PENTHOUSE (1) at chiller.	$3,000.00	$1,500.00	$6,075.00	101C

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
B20	**R6**	*1977*	2	EA	B2033 EXTERIOR DOORS	Replace	2	2019	45	5	Replace (2) pair of 6-0x7-0 HM doors at Penthouse, Est & West Wings	$5,280.00	$1,000.00	$8,478.00	102c
B20	**R6a**	1950	2		B2033 EXTERIOR DOORS & STOREFRONT GLAZING	1. Comprehen sive study	4	2022	50	-17	Front entry storefront. Recommend replacing when add Handicap ramp to front façade.				003, 219c
C30	**R7**	1977	2900	SF	C3030 ACOUSTICAL CLNG TILES	Replace	5	2023	20	0	Replace acoustical tile ceilings 3 floors in EAST WING corridors	$1,914.00	$754.00	$2,583.90	48, 49,
C30	**R8**	1977		SF	C303004 ACOUSTICAL CLNG TILES	Replace	4	2022	20	0	Rm 192, Replace ceiling tile			$150.00	202
D10	**R9**	1938	1	EA	D101002 PASSENGER ELEVATORS	2 Comprehen sive study	4	2022	30	-49	Refurbish elevator #3, traction geared : new motor, controls & call buttons.				62, 65
D20	**R10**	1938			D202001 PIPES & FITTINGS-DOMESTIC PIPING	3 Comprehen sive Study	1	2018	35		Domestic plumbing in East Wing only and some risers in North Wing, Pipe wall thickness study to be done to determine if piping needs to be replaced.				371

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D20	**R11**	1938		LF	D203001 WASTE PIPES & D203002 VENT PIPES	4. Comprehen sive Study	1	2018	30	-49	Replace Drain, Waste & Vent pipes in East Wing only.				171
D30	**R12**	1950	50	LF	D2033-STEAM PIPE	Remove	2	2019			REMOVE, CUT & CAP 50 LF OF 6 INCH STEAM PIPE NOT IN USE IN RM G-71. Labor only		$1,150.00	$1,150.00	126
D20	**R13**	1950	1	EA	D2033 FLOOR DRAINS	Install	2	2019	40	-27	Install 4" drain in Room G-80, thru crawl space, for AHU-	$720.00	$630.00	$1,890.00	399, 396
	R13A	1950	30	FT	D2030 WASTE PIPE & FITTINGS	Install	2	2019	30	-37	30 feet pipe install for 4" drain through crawl space to AHU-5, RM G-	$790.00	$116.00	$1,175.00	221
D20	**R14**	1950	2	EA	D2023- HEAT EXCHANGERS	Replace	1	2018	20	-47	Replace Heat Exchanger, for North and East Wings (Patterson Kelly) For two	$44,222.00	$12,000.00	$56,222.00	44
D30	**R15**	1978	200	LF	D3043, Chilled Water Distrib	Replace	1	2018	75	36	Replace piping from Chiller Room to Cooling Tower	20600	$34,000.00	$ 73,710.00	4
D30	**R16**	1977			D3040 CHANGE OVER DIST SYSTMS, 2 PIPE SYSTEM, FAN COIL UNITS	5. Comprehen sive study	1	2018	35 cppr, 30 blck pipe	(5) cppr, (12) blck pp	Dual Temperature Pipes, wall thickness test needs to be done to determine what pipes need to be replaced. Copper pipe				49c, 167

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D30	**R17**	1992		LF	D304002 STEAM DISTRIBUTION SYSTEM	6. Comprehensive study	1	2018	75	50	Steam and condensate lines, recommend wall thickness study to be done on Steam side only, to determine which pipes need to				164
D30	**R18**	New Work		cfm	D304007 EXHAUST STYSTEMS-GENERAL	*2. In - Progress, Envelope study*	1	2018	n/a		Exhaust System East & North only, In-Progress.				
D30	**R18a**	New Work		cfm	D3040 EXHAUST SYSTEM-RESTROOMS	*3. In - Progress, Envelope study*	1	2018	n/a		Exhaust System East & North only, In-Progress.				
D30	**R19**	2010	1	EA	D3053-245 PACKAGE UNITS	Replace	1	2018	20	7	Install Mini split unit for computer room - 30000BTU	$2,675.00	$2,325.00	$6,975.00	438
		New Work	1	EA	D3053-245 PACKAGE UNITS	New Work	1	2018		n/a	Install Mini-split in reheat Thermal room 24000BTU	$2,200.00	$1,800.00	$5,940.00	939
D30	**R20**	New Work	1	ea	D3030-210, 1030, Evaporation Unit	New Install	1	2018		n/a	Evaporation unit for Room G-71 (for condensate)	$5,025.00	$871.00	$7,655.00	122
D30	**R21**				*See Other Work Below*										
D50	**R22**	1998	1	EA	D5093, Transfer Switch	Replace	1	2018	18	-1	Transfer switch #2, in Chiller Rm, needs to be replaced. Only one transfer switch needs to be replaced	$21,200.00	$1,350.00	$28,573.50	13

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D50	**R23**	1998			D5013- Motor ControL Center	Replace due to age	1	2018			Replace Motor Control Cener (in chiller rm)	$14,675.00	$10,025.62	$33,925.50	16
D50	**R24**	1938 to 1950		MLF	D501005 ELECTRICAL BRANCH WIRING	*4. IN-PROGRESS Comprehensive Study*	1	2018	50	(29) EST Wng, (17) N&W Wng	wiring from panels to fixtures				
E10	**R25**	2017	1	EA	E1090 Food Service Equipment	New	1	2018		n/a	Provide combi oven			$18,499.00	
E10	**R26**	2017	1	EA	E1090 Food Service Equipment	New	1	2018		n/a	Provide freezer for combi oven	$800.00		$800.00	
F20	**R27**	1977		SF	F2020 INT CONSTRUCT & FINISHES	Replace	2	2019			Nrth Wing, Rms, g-75/g-74 stair 5 still has 9x9 Asbestos floor tiles	$100.00	$300.00	$540.00	114, 115, 116, 117
F20	**R28**				F2020 SPECIAL CONSTRUCTION _SECURITY	7. Comprehensive Study		new work		n/a	Secuirty- provide bullet proof enclosure at the entry window. Provide lockable entry doors at the Admin Wing and the North wing. Provide public bathroom renovation				
R1 - R27 (expect R21) Total Cost:														**$754,209.65**	

OUTSIDE HOSPITAL BUILDING #15

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D30	**R21**	1985	1	EA	D302001 STEAM BOILERS-POWER PLANT	Replace aged boiler.					Provide new 400 hp boiler to replace Boiler #3. Kewanee Boiler #3, 200 HP, refrectory has reached the end of its useful life. Is used for emergencies only. Fuel type: switch grass	$170,000.00	$75,000.00	$330,750.00	425
	R21A		1	EA	D302001 STEAM BOILERS-POWER PLANT	Comprehen sive Study					Provide an expanded Hot Well. The existing well needs to be 2x the size.				419
	R21B				D302001 STEAM BOILERS-POWER PLANT	Comprehen sive Study					Provide two times the size of the current Water Softener.				
	R21C				D302001 STEAM BOILERS-POWER PLANT	Comprehen sive Study					Provide an Additional Silo. Current silo only handles loads for 2.5 days in summer and 1 day in winter.				
G40	**R29**	1938			G4010 ELECRTICAL DISTRIBUTION	Comprehen sive Study					feeder renewal east-Outside Scope of this Study				
R21 + R29 Total Cost:												**$276,867.00**	**$135,842.62**	**$330,750.00**	

UoM : UNIT OF MEASUREMENT, EDL : ESTIMATED DESIGN LIFE , RDL : REMANING DESIGN LIFE

V. PIEDMONT GERIATRIC HOSPITAL, BURKEVILLE, VIRGINIA
DEFICIENCY REPORT, BUILDING 15
ATTACHMENT: DEFICIENCY PHOTOGRAPHS

R1: PARAPET, RAILING NEEDED AT BLDG OFFSET, Photo 544 c

R1: PARAPET, RAILING NEEDED AT BLDG OFFSET, Photo 65

R2A: PRESSURE WASH EXTERIOR, Photo 711

R2A: PRESSURE WASH EXTERIOR, Photo 653

R2B: EXTERIOR WALL, SPALLING SELECTED AREAS, WEST WING, NORTH SIDE Photo 653

R2B: EXTERIOR WALL, SPALLING SELECTED AREAS, WEST WING, NORTH SIDE Photo 646

R2B: EXTERIOR WALL, SPALLING SELECT AREAS, EAST WING, SOUTH SIDE, Photo 716

R2C: CONCRETE SHADE, WEST WING, SOUTH SIDE, SPALLING, Photo 530

R2C: CONCRETE SHADE, WEST WING, SOUTH SIDE, SPALLING, Photo 520

R2C: CONCRETE SHADE, WEST WING, SOUTH SIDE, Photo 535

R3: CAULKING, EAST WING MEETS NORTH, ON SOUTH SIDE, Photo 545

R4: WINDOWS, EAST WING SOUTH ELEV

Photo 735

R4: WINDOWS, ADMIN SOUTH EL, & NORTH WING WEST ELEV, Photo 637

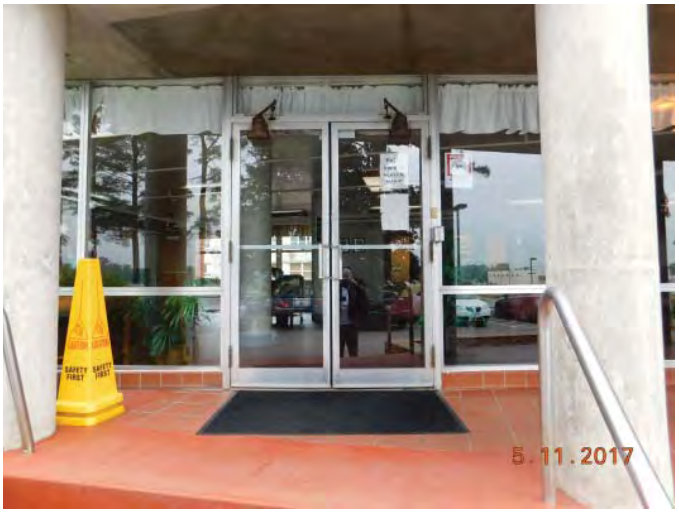
R4: WINDOWS, EAST WING SOUTH ELEV, Photo 706

R4: WINDOWS, EAST WING NORTH ELEV
Photo 756

R4: WINDOWS, NORTH WING EAST EL
Photo 759

R5: EXTERIOR DOORS & HARDWARE, PENTHOUSE DOORS, Photo 101c

R6: EXTERIOR DOORS AND HARDWARE, PENTHOUSE, Photo 102c



R6A: EXTERIOR DOORS STOREFRONT, MAIN ENTRY, Photo 219c

R6A: EXTERIOR DOORS STOREFRONT, MAIN ENTRY, Photo 003

R7: ACOUSTICAL CEILING TILES, EAST WING CORRIDORS, Photo 49, FL 3

R7: ACOUSTICAL CEILING TILES, EAST WING CORRIDORS, Photo 48, FL 2

R8: ACOUSTICAL CEILING TILES, RM 317

Photo 202

R9: PASSENGER ELEVATOR #3

Photo 62

R9: PASSENGER ELEVATOR #3, Photo 65

R10: EAST WING DOMESTIC PLUMBING PIPES, Photo 562, Rm 371

R11: EAST WING DRAIN, WASTE & VENT, EAST WING ONLY, FL 3, Photo 171

R12: STEAM PIPE REMOVAL, 20 FEET

Photo 126c

R13: RM G68 ADD DRAIN FOR AHU-5

Photo 399

R13: RM G68 ADD DRAIN FOR AHU-5

Photo 396

R13A: PIPE IN CRAWL SPACE , STR 4

Photo 221

R14: REPLACE HEAT EXCHANGERS, NORTH AND EAST, Photo 44

R15: CHILLER ROOM PIPING AND COOLING TOWER, Photo 4

R16: DUAL TEMPERATURE PIPES

Photo 49c, RM B7

R16: DUAL TEMP PIPES

Photo 167, RM B7

R17: STEAM AND CONDENSATE

Photo 164, RM B7 (or B7B)

R18: EXHAUST SYSTEM, NORTH AND EAST, NEW WORK, N/A

R19: MINI=SPLIT FOR COMPUTER RM

Photo 438

R19A: MINI SPLIT FOR RETHERM RM,

Photo 939

R20: RM G-71 NEEDS EVAPORATION UNIT

Photo 122

R21: STEAM BOILER, REPLACE BOILER #3, Photo 425

R21: HOT WELLS NEED TO BE TWICE THE SIZE, Photo 419

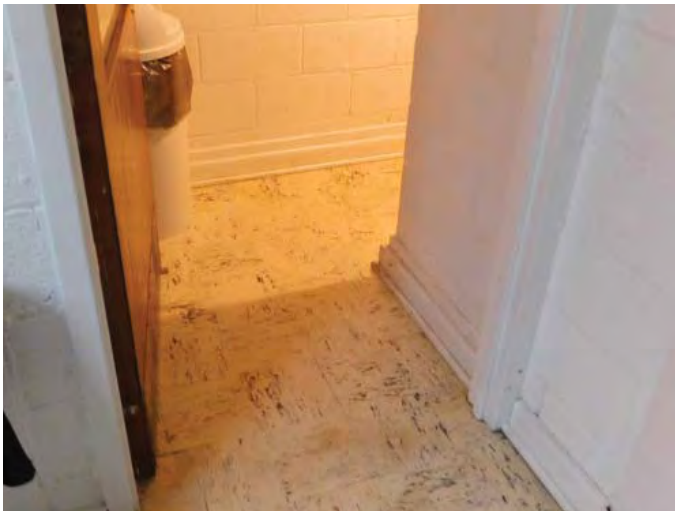
R22: TRANSFER SWITCH

Photo 13

R23: MOTOR CONTROL CENTER

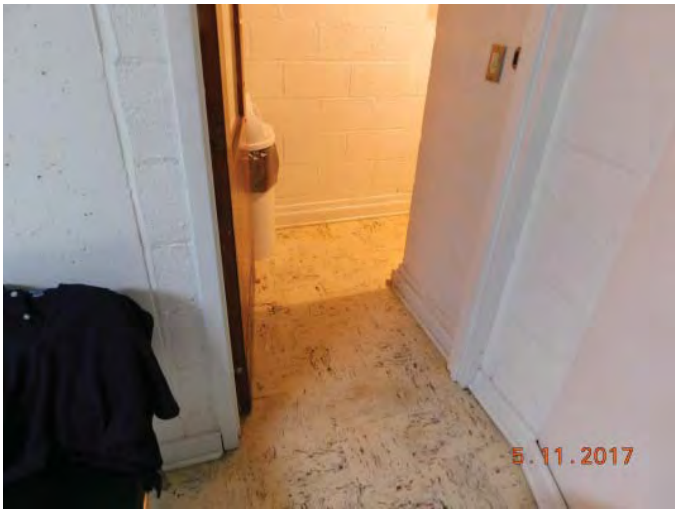
Photo 16

R27: REPLACE 9X9 ASBESTOS FLOOR TILES IN NORTH WING ROOMS G-75, G-74, AND STAIR 5, Photo 114



R27: REPLACE 9X9 ASBESTOS FLOOR TILES IN NORTH WING ROOMS G-75, G-74, AND STAIR 5, Photo 116

R27: REPLACE 9X9 ASBESTOS FLOOR TILES IN NORTH WING ROOMS G-75, G-74, AND STAIR 5, Photo 115



R27: REPLACE 9X9 ASBESTOS FLOOR TILES IN NORTH WING ROOMS G-75, G-74, AND STAIR 5, Photo 117

VI. Deficiencies Report on the Catawba Hospital, Building 15

Catawba, VA

Currently the Geriatric Patients, 60, are located on upper floors of the Main Hospital building #15 which was built in 1953 and is 139,374 sf. Floors 5 & 6 are designated 30 beds each and fill Catawba's appropriated 60 bed plan for Geriatrics. The hospital currently serves 110 patients but is licensed for 270 patients. Currently, the upper two floors, 7 and 8, are ready for occupancy, but unoccupied. Floor 7 being a patient floor and floor 8 for Administration. The Hospital capacity could be expanded from its current occupancy of 100 to 270 patients. At 270 patients there would be 46 patients per floor, as some of the private rooms would revert back to double occupancy for which they were intended. Nursing and Psychology would be moved off of the 3rd floor. While we were there, there was a continuous high demand for additional geriatric beds. The hospital could easily expand to 270 beds, and increase the geriatric population. This would be a more efficient use of space, as the fixed costs would be spread across more patients.

This assessment includes the refurbishment needs and it is supplemented by a study done in 2011[1] provided to us by the Hospital. Several modernization efforts have taken place at this hospital. The building superstructure, substructure and exterior wall were built to enhanced standards to enable this building to be used as a Fall-Out Shelter. It is currently being used as a shelter for a natural or man-made disasters. This is a modern initiative within the US to provide disaster resilient construction.

Catawba has its own water treatment plant and sewage treatment plant with redundancies, including back-up generators and multiple spare parts. From a disaster resilience perspective this is very impressive, as this facility is almost self-sustaining for extended periods of time. If Catawba were to lose power, it could continue to function with fuel. The Water Treatment Plant, was awarded this year, 2017 and annually since 2005 the VA DEQ Bronze Award. The Hospital achieved an Environmental Certificate in 2017.

While the shell or exterior enclosure of the Hospital was designed to last a lifetime, the systems in the building were designed to last for shorter life spans. For example many mechanical systems have a life-cycle of 20 years. All systems in the Hospital function the way they are suppose to. There is limited return/exhaust air, due to upgrades. The original vents to the chases to exhaust to the roof were sealed off. New vents were installed in other locations but provide for more limited exhaust/return air. Our study did not include a code analysis, so we do not know if the current return/exhaust air meets code or not. We recommend providing a return air system.

[1] Clark Nexsen, Catawba Hospital, Building 15, Life Cycle Cost Analysis, Conceptual Design Submittal, February 11, 2011

Most of the environmental abatement has occurred. An asbestos remediation occurred in 1995 with any exposed asbestos removed. This included pipe insulation and asbestos tiles. There is only some limited asbestos insulation in inaccessible pipe chases. If this insulation is not disturbed it will not pose a health concern.

Catawba personnel are very resourceful and maintenance has found ways to keep equipment running beyond its useful life by building their own replacement parts. The fan coil units are a good example of this. They are 8 years beyond their useful life but still functioning. Catawba maintenance personnel have refurbished hydronic converters, hot water pumps and chilled water pumps in their machine shop. Catawba's mechanical floor is so well organized that one would think they are on a ship. It is very impressive.

The Replacement Value of the Hospital building is valued at $68,625,055 and at $75,487,560 if site work is included. This number is based on RS MEANS and an HHS article, HJR 16: State Operated Institutions dated May 2014[2]. Based on 2017 figures, it would cost $339.1051 per sf to construct a new hospital. This cost does not include equipment, furnishings or land. To rebuild this hospital add a minimum of 20% for the disaster resilience of the structure and exterior envelope. Demolition costs are estimated at 10% and A&E fees are estimated at 10%. A 10% Contingency is included for Site work. Repair costs are estimated at $6,631,313. The cost of repairs may be high here, as we modified the 2011 study, and the costs need to be verified. Additional Other Building deficiencies were identified in this report, at the end of this section.

The overall condition of Catawba Hospital has been assessed and given a Facility Condition Index (FCI) of 0.082 (8%). This building is considered in Fair Condition. While PGH and Catawba were built about the same time, the value of deficiencies is higher on this hospital, as it was the only facility that provided us with an independent cost estimate, which was incorporated into our cost estimate.

A. SUBSTRUCTURE: Foundations and Basement Construction
Is generally in Very Good Condition. The Hospital was built in 1953. The foundations were built to last well beyond 100 years. If well maintained it could last for the foreseeable future.
Basement Wall and Slab: In very good condition. It was built to last well beyond 75 years. If well maintained, which it is, it could last into the foreseeable future.

A Value of deficiencies : $0.00.

B. EXTERIOR ENCLOSURE:
B10: SUPERSTRUCTURE: Floor and Roof Construction:
Is generally in Very Good Condition. The Hospital was built in 1953. The superstructure was built to last well beyond 100 years, and if well maintained it could last for the foreseeable future. The Hospitals concrete slabs are approximately 8" thick at the perimeter and 12" thick over the central corridor.
Structure: Structure is sound and in very good condition
Roof Structural System: The roof structural slab is in very good condition.

B20: EXTERIOR ENCLOSURE: Exterior Walls, Windows and Doors:
The exterior enclosure is in good condition.

Exterior Wall: The poured concrete exterior wall system is in very good condition. The Hospital Exterior Wall is 10" to 12" thick. The poured in place concrete exterior wall system was built to last a lifetime. In other words, it was built to last the life of the mission. The exterior wall system could easily last 250

[2] HJR 16: State-Operated Institutions, Building and Operating a 16-Bed Inpatient Facility, May 2014

years or longer if well maintained. The Hospital was designed as a Fall Out Shelter in case of a disaster. It is currently being used as a Shelter from natural and man-made disasters. This is a Modernization initiative.

There is minor superficial spalling in the exterior wall outer most layer of the concrete on the West Elevation on the upper floor primarily. This is superficial exterior layer spalling. There are no leaks on the interior through the exterior wall. Typically cast in place concrete is pressure washed every 12 years. It is recommended that the exterior wall be pressure washed and the exterior layer spalling areas be patched.

Exterior Wall Sun Shades or Eyebrows
Generally exterior Wall Shades are in fair shape, with the exception of the minor cracks and spalling. When the shades were built, some of the reinforcing was placed too close to the outer layer of concrete which is causing the spalling. The solar shades are superficial to the exterior wall, but tied into it. It is recommended these be patched.

B1013: STAIR CONSTRUCTION:
East elevation exterior stairs that exit from the basement to grade need to have the handrails and guards modified to be code compliant. There are missing handrails and non-compliant guards. (They were cited by an Inspector.)

B Value of Deficiencies: $38,835.00

C: INTERIORS
C10 : INTERIOR CONSTRUCTION:
C1020: INTERIOR DOORS:
Replace four (4) roll-up doors to be replaced with new double bi-directional doors. *(Note: while these doors have not been a problem in their current configuration in the past, an Inspector recently wrote them up to be replaced)*

C1030: TOILET PARTITIONS:
Replace Men's Restroom partitions in Restrooms on Floors 2,4,5 & 6. The partitions have rusted at the lower portion of their panels.

C2013: STAIR CONSTRUCTION:
Exterior Stairs, North Elevation stairs that exit from a Fresh Air deck at rear of the building have been cited as non-compliant handrails and guards by an Inspector. These stairs are not a Means of Egress stair but only for convenience. Handrails and guards need to be modified to be code compliant. There are missing handrails and non-compliant guards.
Value of deficiencies: $500.00

C30: INTERIOR FINISHES:
C3020:FLOOR FINISHES- CARPET
Rooms on the Eighth (8th) Floor have stained carpet due to previous water infiltration from the roof. The roof membrane has been recently replaced and it is no longer leaking. The carpet needs to be replaced in specific rooms.

C3020 FLOOR FINISHES - CERAMIC TILE BASE
Monolithic ceramic tile base to be repaired with epoxy in Men's Restrooms, Floors 7 & 8.
The monolithic ceramic base is a clay block with a ceramic finish.

C3020 FLOOR FINISHES - RUBBER FLOORING REPLACE WITH EPOXY

Sheet rubber flooring replace with epoxy, in patient rooms and corridors, Floors 2 through 7. Epoxy is preferred as it there are no seams.

C Value of deficiencies: $181,153.00

D: SERVICES
While the exterior envelope and structural system have longer life spans, the systems in buildings typically have shorter life spans.

D20: PLUMBING
D2013 PLUMBING FIXTURES- FIRST FLOOR
Wall -hung Water Closet Replacement. The toilets were installed in 1984 with an estimated design life of 35 years. Their renewal would come up next year. This is a modernization initiative to change to push-button toilets.

D2013 PLUMBING FIXTURES- FLOORS 2-7
Wall -hung Water Closet Replacement with push-buttons. The toilets were installed in 1984 with an estimated design life of 35 years. Their renewal would come up next year. This is a modernization initiative to change to push-button toilets.

D2013 PLUMBING FIXTURES- LAUNDRY SINKS
Laundry sinks were installed in 1953 and while their useful life is 40 years, which they have exceeded, they are in fair condition and just need to be refinished.

D30: HVAC
The items and systems in this section have been included in a 2011 Independent Cost study (see Footnote 1). Option 1 cost is $8,435,025. After removing the Fan Coil pipes as they are in good condition, and a few minor adjustments, and escalating for 2017 dollars, the estimated cost of Option I is $6,300,945. This estimated value should be verified.

D3045- HEAT EXCHANGER
There are two steam to hot water Heat Exchangers. The tubes were replaced by B&G Maintenance in 2015 while they waited for funding to come through to replace the Heat Exchangers. The shells still need to be replaced. It is recommended that the Heat Exchangers be replaced

D3040- HOT WATER HEAT PUMPS
Two hot water heat pumps need to be replaced. They were replaced recently. But the chemicals in the water destroy them quickly.

D3040 DISTRIBUTION SYSTEMS- AIR HANDLING UNIT
The current AHU's are one directional and do not pull air back. The AHU's only provide for supply air. Three new air handling units are needed to provide return air back to the AHU's. Originally, there were exhaust vents into the chases, which vented to the roof. But through upgrades, the vents have been sealed off. New vents have been installed at another location with more limited exhaust/return air. As this study did not include a building code analysis, the current exhaust air system may or may not meet current building code regulations. It is recommended to add return air ventilation.
A comprehensive Independent study was prepared in 2011. The study includes enhancing one AHU and providing two additional AHU's.

D3040 DISTRIBUTION SYSTEMS- DUCTWORK FOR NEW AHU'S. Ductwork for Exhaust system for three new Air Handlers.
A comprehensive Independent study was prepared in 2011. The study includes providing ductwork for the three new air handlers.

D3043-FAN COIL UNITS
The fan coil units have exceeded their useful life by approximately 8 years but are still fully functional, due to the physical upgrades by the B&G Maintenance personnel. They have been refurbished in the hospitals machine shops, and it is time for their replacement. The fan coil cabinets are included in the 2011 study.

D3043-FAN COIL UNITS PIPES
A 4-pipe system. A pipe wall thickness test was done on the pipes that supply and return to the Fan Coil Units. The pipes are in good condition and do not need to be replaced.
The pipe removal and reinstallation was removed from the 2011 Independent Cost study.
Copper piping for pipe sizes less than 2.5 " can last well beyond 35 years estimated design life, with good quality water.
Black steel pipe for sizes greater than 2.5" estimated design life is 30 years and with good quality water can last much longer.

D3060 CONTROLS AND INSTRUMENTATION
D3060- CONTROLS- PNEUMATICS
Replace pneumatic controls with DDC controls from the thermostat to the fan coil unit.

D Value of deficiencies: $6,411,325.00 (see 2011 Independent Cost study in footnote 1)

Total Value of Deficiencies: **$6,631,313.00**

WORK NOT INCLUDED IN BUILDING 15, BUT RELATED:

D5090- OTHER ELECTRICAL SYSTEMS
D5093- DIESEL GENERATOR
Replace Power Plant Emergency Generator, 50KW. It was purchased as USED Surplus in 1999 and has exceeded its useful life of 15 years.

D5093 TRANSFER SWITCH
Add Emergency Power to Bldgs 17 & 23. Power to generator complete. Add transfer switch and cable.

G3013, WATER FILTRATION TANKS
These were purchased as USED Surplus items and installed in 1999. They have exceeded their useful life. They are still operational. They have multiple redundancies in that extra parts are available on hand in case of failure.

G3013, ELEVATED WATER STORAGE TANKS
Renovation of Mountain Water Tanks. Replace rubber seals. Needs maintenance. Only able to fill tanks to two, 2, feet from top.

D & G Other Work, Value of Deficiencies: $28,470.00. Comprehensive studies need to be done for the new Transfer Switch, Water Filtration Tank replacement and maintenance for the Elevated Water Storage Tanks.

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
B10	R1	1953	2	Ea	B1013 STAIR CONSTRUCTION - METAL	non-code compliant per Inspector	1	2018			Exterior Stairs East Elev need to be compliant. Missing handrails & non-compliant guards.From basement to grade	$ 700.00	$ 1,100.00	$ 1,800.00	929
B20	R2	1953		SF	B2013 EXTERIOR WALLS	cyclacle, periodic mainten-ance	1	2018	Life	Life	Pressure wash exterior wall & eyebrows.	$ 5,000.00	$ 7,600.00	$ 12,600.00	4072, 4082, 4091
B20	R3	1953		SF	B2013 EXTERIOR WALLS	cyclacle, periodic mainten-ance	1	2018	Life	Life	Repair eyebrows. Paint eyebrows/ solar shield. Minor spalling in limited areas on West Elevation	$ 1,435.00	$ 23,000.00	$ 24,435.00	1370, 656, 1369, 1372, 1444
C10	R4	1953	4	ea	C1020 STANDARD INTERIOR DOORS	Replace	1	2018	30		Replace (4) Roll up doors to be replaced with new double bi-directional doors. (2) additional doors are blocking a wall and not need to replace. Added to Fire Alarm	$ 21,000.00	$ 57,000.00	$ 78,000.00	1259
C10	R5	1984		ea	C1033 TOILET PARTITIONS	Replace	1	2018	25-35	1	Restroom Partions, Men's Restroom Floor 2, 4, 5 & 6	$ 6,540.00	$ 3,132.00	$ 14,004.00	103, 3679
C30	R6	1992	317	SQ YD	C3020 FLOOR FINISHES-CARPET	REPLACE	1	2018	12	-4	Individual rooms 8th flr, stained carpet due to previous water infiltration	$ 3,167.00	$ 12,521.00	$ 15,688.00	49
C30	R7	1953			C3023 FLOOR FINISHES - CERAMIC TILE BASE	Repair	5		60	-4	Monolithic Ceramic Tile Base Repair with epoxy, Men's WC's Floors 2,4,5	$ 500.00	$ 500.00	$ 1,000.00	385, 2396, 3253
C30	R8	1985 ap	444	SQ YD	EPOXY FLOORING	Replace	3	2019	18	-14	Liquid flooring Replace w/ epoxy, in patient rooms and corridors, floors 2 thru 7. No seams, epoxy floors.		$ 1,632.00	$ 72,461.00	3442
D20	R9	1984	12	Ea	D2013 PLUMBING FIXTURES-WATER CLOSETS FLR 1	Renewal	2	2019	35	1	Wall Hung Water Closet Renewal, First floor. This includes WC, & urinal.	$ 7,320.00	$ 2,777.28	$ 13,485.00	3974, 819

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
D20	R10	1984	84	Ea	D2013 PLUMBING FIXTURES-WATER CLOSETS FLRS 2-7	Renewal	2	2019	in-Progress, In-house compliance w anti-ligatur	1	Wall Hung, Water Closet Renewal, Patient floors, (charles wants) Replace with push button flushometers. In -Progress temp fiberglass fix for compliance w anti-ligature reqts (14 WC per floor)	$ 51,240.00	$ 19,440.96	$ 94,395.00	327
D20	R11	1953		Ea	D2013 PLUMBING FIXTURES-LAUNDRY ROOM SINKS	Repair	4	2019	40	-24	REFINISH LAUNDRY ROOM SINKS.			$ 2,500.00	704, 2284
D30	R12	1990		EA	D3045 DISTRIBUTION SYSTEMS, HEAT EXCHANGERS	Replace/Renewal	2		20	-7	(2) Heat Exchamgers. Two steam to hot water Heat exchangers. Need to replace shell. Tubes were replaced in 2015			$ 6,300,945.00	221
D20	R13	1990			D2023 DISTRIBUTION SYSTEMS, HOT WATER PUMP	Replace/ Renwal	2		20	-7	(2) Hot Water Heat Pumps for Fan Coil Units			see above indep study	238
D30	R14	NEW WORK	3	EA	D3040 DISTRIBUTION SYSTEMS - AIR HANDLING UNIT	Comprehensive study to be done	1		n/a		AHU's for exhaust. Three (3) air handlers needed, see $8m study.			see above indep study	
D30	R15	NEW WORK			D3040 DISTRIBUTION SYSTEMS- DUCTWORK FOR NEW AHU'S	Comprehensive study to be done	1		n/a		DuctWork for Exhaust Sytem for 3 new Air Handlers			see above indep study	
D30	R16	1990	253 + 74 cabinet heate	EA	D3043 DISTRIBUTION SYSTEMS, FAN COIL cabinets (complete terminal unit, wall sleeve and controls)	Renewal/ Comprehensive Study	1	2018	20	-8	Replace Fan Coil cabinet units only. A 4 pipe system. Pipe wall test has completed and pipes are in good condition. Copper piping for sizes less than 2.5 " can last well beyond			see above indep study	788, 800, 822, 2246, 3170
D30	R17	1990 (1985 ap or)			D3060 DISTRIBUTION SYSTEMS- PNEUMATIC CONTROLS	Replace/ Comprehensive study to be done	1	2018	25	-2	Replace Pneumatic System from thermostat to fan coil unit.			see above indep study	227

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	Priority Year	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
R1-R19 TOTAL COST:														**$ 6,631,313.00**	
	OTHER AND SITE WORK														
D50	R18	1999 - USED	1	EA	D5093 OTHER ELECTRICAL SYSTEM, DIESEL GENERATOR	Replace/ Comprehensive study to be done	1	2018	15-USED		Replace Power Plant Emergency Generator, 50KW. Purchased "USED Surplus". (If NEW, EDL 25 yrs)	$ 16,900.00	$ 5,000.00	$ 28,470.00	255a
D50	R19	NEW WORK		EA	D5093 OTHER ELECTRICAL SYSTEMS , TRANSFER SWITCH	Install					Add Emergency Power to [Pt Tx] Bldgs 17 & 23. Power to generator, complete on . Add transfer switch & cable			TBV	257
G30	R20	1999 - USED	2	EA	G3013, WATER FILTRATION TANKS	Replace/ Comprehensive study to be done					Water Treatment Plant filtration upgrade. Replace Indoor Water Filtration "Waterboys". Existing purchased "USED Surplus"			TBV	266, 270, 2017
G30	R21	1999	2	EA	G3013, ELEVATED WATER STORAGE TANKS	cyclacle, periodic mainten-ance/ Comprehensive study			10		Renovation of Mtn Water Tanks. Replace rubber seals. Needs maintenace. Only able to fill tanks 2' from top.			TBV	2118
R20-R23 TOTAL COST:														**$ 28,470.00**	

UoM : UNIT OF MEASUREMENT , EDL : ESTIMATED DESIGN LIFE , RDL : REMANING DESIGN LIFE

VI. CATAWBA HOSPITAL, CATAWBA, VIRGINIA
DEFICIENCY REPORT, BUILDING 15
ATTACHMENT: DEFICIENCY PHOTOGRAPHS

R1: STAIR RAILS, METAL, Photo 929

R2: EXTERIOR WALLS PRESSURE WASH REAR ELEVATION, Photo 4072

R2: EXTERIOR WALLS PRESSURE WASH WEST ELEVATION, Photo 4082

R2: EXTERIOR WALLS PRESSURE WASH FRONT ELEVATION, Photo 4091

R3: EYEBROW (SOLAR SHADE) SPALLING, Photo 656

R3: EXTERIOR WALL SPALLING AT WEST WINDOW, Photo 1370

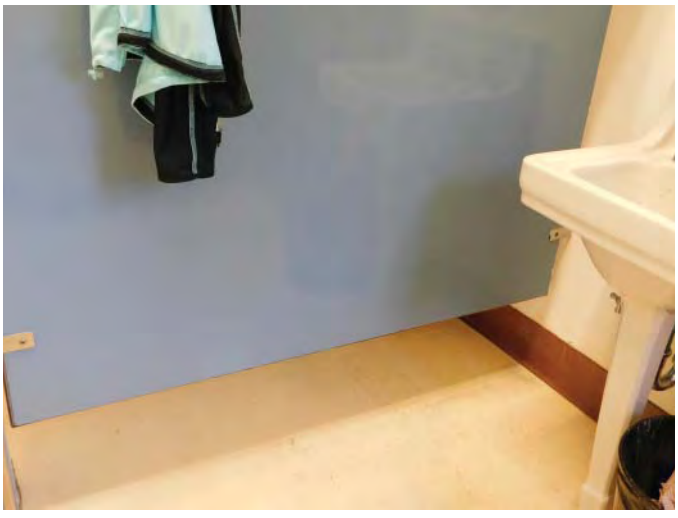
R3: EXTERIOR WALL, SPALLS AT 8TH FLOOR, WALL & WINDOW, Photo 1369

R3:EXTERIOR WALL SPALLS AT 8TH, WEST ELEVATION, Photo 1372

R3: EYEBROW (SOLAR SHADE) SPALLING AND LOOSE PAINT, SOUTH ELEV, Photo 1444

R4: ROLL-UP DOORS REPLACE W/ DOUBLE DOORS, Photo 1259

R5: REPLACE PARTITION AS RUSTED, Photo 103



R5: REPLACE PARTITION AS RUSTED 3RD FLR, Photo 3679

R6: CARPET STAINS, 8TH FLR, RM 805

Photo 1416

R6: CARPET STAINS, 8TH FLOOR, ROOMS,

Photo 49

R7:CERAMIC TILE BASE CRACKED, RM 405

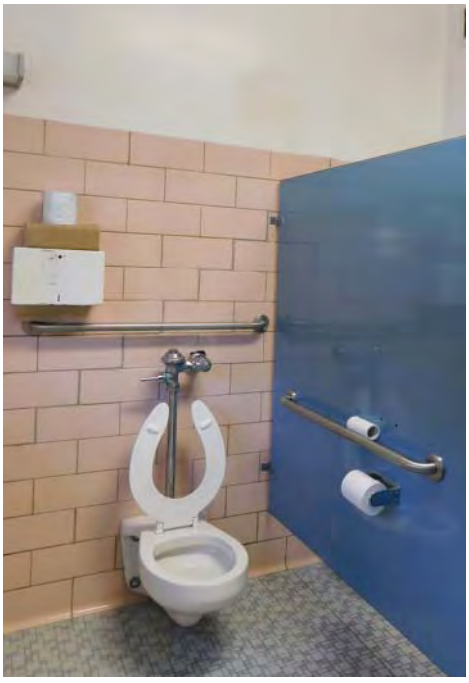
Photo 385

R7: CERAMIC TILE BASE CRACKED, RM 405,

Photo 2396

R7: CRACKED BASE TILE, RM 703 MEN'S Photo 3253

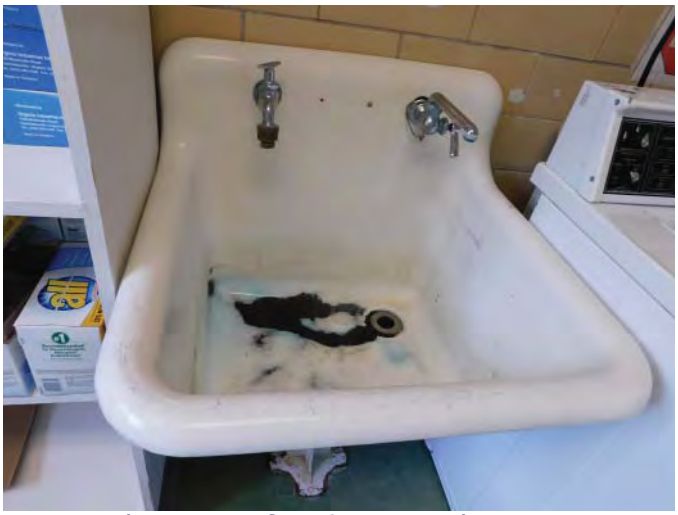
R8: RUBBER FLOOR REPLACE WITH EPOXY FLR, Photo 3442



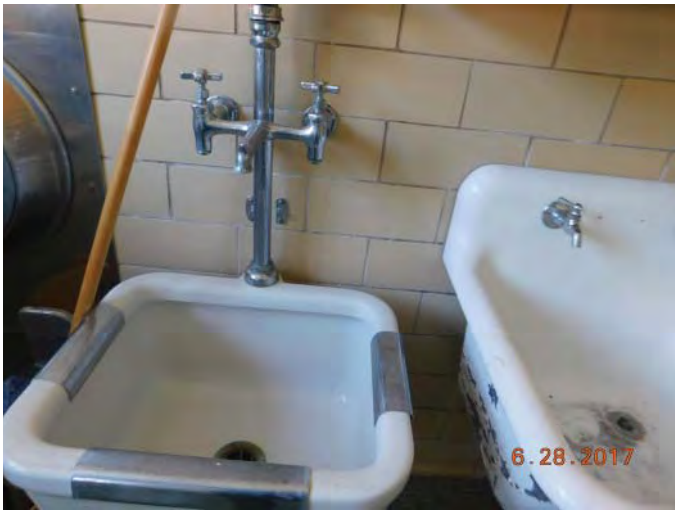
R9: WATER CLOSET RENEWAL- FIRST FLOOR, Photo 3974

R9: WATER CLOSET RENEWAL- ROOM 109, Photo 819

R10: WATER CLOSET RENEWAL- PATIENT FLOORS, Photo 327



R11: LAUNDRY SINK RENEWAL, RM 247
Photo 2284



R11: LAUNDRY SINK RENEWAL, RM 345
Photo 704

R12: REPLACE HEAT EXCHANGERS (TWO) BEYOND. SHELL NEEDS TO BE REPLACED. TUBES HAVE BEEN REPLACED. Photo 221

R13: REPLACE HOT WATER HEAT PUMPS (TWO), Photo 238

R14: DISTRIBUTION SYSTEM-DUCT WORK NEW WORK

R15: DISTRIBUTION SYSTEM- (3) NEW AIR HANDLERS NEW WORK

R16: FAN COIL UNIT CABINET REPLACE, RM 740, Photo 3170

R16: FAN COIL UNITS NEED REPLACEMENT, RM 101, Photo 822

R16: FAN COIL UNIT REPLACE, RM 229 JANITOR'S CLOSET, Photo 2246,

R16: FAN COIL UNIT REPLACE, RM 320, Photo 800

R16: FAN COIL UNIT CABINET REPLACE, Photo 788

R17: DDC / PNEUMATIC SYSTEM HYBRID RENEWAL, Photo 227

R18: REPLACE POWER PLANT DIESEL GENERATOR, Photo 255a

R19: ADD EMERGENCY POWER SWITCH TO BLDGS 17 & 23. Photo 257

R20: REPLACE WATER TREATMENT PLANT FILTRATION TANKS, Photo 270

R20: REPLACE WATER TREATMENT PLANT FILTRATION TANKS, Photo 266

R20: REPLACE WATER TREATMENT PLANT FILTRATION TANKS, Photo 2017

R21: RENOVATE ELEVATED WATER STORAGE TANKS, Photo 2118

VII. Deficiencies Report on the SWVMHI, Building 15

Marion, VA

The Southwest Virginia Mental Health Institute, SWVMI Building 15, was built in 1989 replacing the older wing of the Historic Henderson building. (The original hospital was built in 1887.) The new hospital is 101,666 sf and currently the hospital has a total of 133 beds. There are 41 Geriatric beds. Geriatric patients are located in two wings, E & F. Wings. Originally the hospital had 220 Geriatric patients and is now licensed for 179 patients. It is a newer hospital. The entire hospital is located on one floor, allowing Geriatric patients to easily access the outdoor courtyards, which are fenced in on the campus side, allowing views and some interaction with the larger campus.

SWVMHI is located in rural Virginia where the poverty rate is about 17% as compared to the most of the rest of the state at 10%. Textile mills and furniture manufacturing plants have shut down in more recent years and this has significantly affected the population in this area.

SWMHI personnel are very resourceful and maintenance staff have found ways to keep equipment running well beyond its useful life. Equipment is very well maintained and clearly identified. For example, HVAC boxes in the ceiling are labeled to identify their location in case of failure. SWVMHI has had five, 5, work orders in the past six, 6, months, which is due to their preventative maintenance program, which is very good. Preventative maintenance includes monitoring equipment levels and trends to identify any leaks before the equipment has a failure. Some equipment is monitored electronically. If the pneumatic controls were changed to direct digital controls, DDC, more equipment could be monitored electronically for immediate status knowledge and action, if needed. This is a high priority item.

SWMHI personnel have found innovative ways to respond to maintenance and ongoing physical plant needs. Personnel have researched and used local shops to fabricate anti-ligature mixing valves for showers, saving the Commonwealth thousands of dollars winning the Employees of the Year Award in 2017. SWVMHI has a legacy of exceptional and innovative efforts in the maintenance staff. Herbert Firestone was awarded the Governor's Award in 2017 for his innovative design to heat the Laundry and Carpentry Shop with low pressure heat formerly exhausted to the atmosphere. Mr. Firestone also won the Governors' Award in 2004 for cost saving methods utilized in running an efficient and dependable Power Plant. He has done an exceptional job of maintaining older boilers and protecting the safety of employees while doing so (he won the Safety Award in 2004). The staff he has trained have now taken over this effort, following his processes.

The Replacement Value of the Hospital building is valued at $39,819,155 and at $43,801,071 if site work is included. This number is based on RS MEANS and an HHS article, HJR 16: State Operated Institutions dated May 2014. Based on 2017 figures, it would cost $339.1051 per sf to construct a new hospital. This cost does not include equipment, furnishings or land. To rebuild this hospital demolition

costs are estimated at 5% and A&E fees are estimated at 10%. A 10% Contingency is included which could include Site Work.

The value of deficiencies is estimated at $491,772.00 for the Hospital building. This does not include a Comprehensive studies to determine the cost to replace vinyl tile in one third, 1/3, of the patient rooms and corresponding Ward corridors and a study to clean the ducts. If $250,000 is added for these Comprehensive studies, the total repair cost would come to $741,772.00. The Facility Condition Index, FCI, would be 0.017, or less than 2%. This building is considered in Good Condition.

A. SUBSTRUCTURE: Foundations and Basement Construction
Foundation: Appears in Excellent Condition. It was built in 2008. The foundation is concrete block with a life expectancy of 50 years and on a concrete footing, life expectancy of 75 years. If well maintained it could last longer.
On Grade Slab: Slab on grade appears in excellent condition. It was built in 1998. It has a life expectancy of 50 years. If well maintained it could last much longer.

A Value of deficiencies : $0.00.

B. EXTERIOR ENCLOSURE:
B10: SUPERSTRUCTURE: Floor and Roof Construction:
Roof Construction:
Excellent Condition. It was built in 1998. The roof construction, metal joists supporting a metal deck with rigid insulation on top has a lifespan of 30 years. If well maintained it could last longer.
Structure: Structure appears in to be excellent condition. It is metal joists. The structural system has a lifespan of 75 years. If well maintained it could last longer.

B20: EXTERIOR ENCLOSURE: Exterior Walls, Windows and Doors:
Generally in very good or excellent condition.
Exterior Wall: The mortar joints and brick are in excellent condition. The brick life expectancy is 75 years and can last much longer if well maintained. The interior is 6" concrete block with 2" rigid insulation and could easily last 75 years and much longer if well maintained.

Exterior Windows:
Generally the Exterior windows are in very good condition. In the Day Rooms, the large insulated rectangular windows need to be replaced for patient safety. They need to be replaced with laminated, tempered glazing for patient safety to prevent elopement.

Exterior Doors:
Generally in very good condition.

B30: ROOFING: Roof Coverings and Openings
Roof Coverings: The roof membrane, rubberized EPDM, membrane flashings and sloped insulation are in excellent condition. It was recently replaced. It has a 20 year lifecycle.

B Value of deficiencies: $88,965.00

C: INTERIORS
C10 : INTERIOR CONSTRUCTION:
C30: INTERIOR FINISHES:
C3020:FLOOR FINISHES- VINYL TILE
Vinyl tile to be replaced in the "L" corridor. It is beyond its useful life by 10 years.

C3020:FLOOR FINISHES- VINYL TILE
Vinyl tile to be replaced in one third, 1/3, of the Patient Rooms and Ward corridors. It is beyond its useful life by 10 years. A Comprehensive Study needs to be done for this cost.

C3020:FLOOR FINISHES- VINYL TILE
Vinyl tile to replace Carpet in the Health Information Management Room, formerly Patient Records. The carpet is 20 years beyond its useful life.

C Value of deficiencies: $114,664.00
In addition, a Comprehensive Study needs to be done for the cost of replacing vinyl tile for one third, 1/3, of the Patient Rooms and corridors in the Patient Wards.

D: SERVICES
D30: HVAC
D3040 DISTRIBUTION SYSTEMS- CHILLED WATER
The Chiller lines need to be split between the two chillers which were installed in 2008. Currently, only one chiller can operate at a time. With two lines, the chillers can operate simultaneously. 200 lineal feet of chiller line is needed.

D3040 DISTRIBUTION SYSTEMS- CHILLED WATER
The new 200 lf of Chiller line needs to be insulated.

D3040 DISTRIBUTION SYSTEMS- DUCTS
Ducts need to be cleaned. They are original to the building in 1998 and have a useful life of 100 years. They were cleaned 14 years ago. A comprehensive study needs to be prepared to estimate this cost.

D3060 CONTROLS AND INSTRUMENTATION
D3060- CONTROLS- PNEUMATICS
Replace pneumatic controls with DDC controls. Pneumatic Controls are 3 years beyond the end of their useful life. The DDC Controls would enable maintenance staff to monitor the associated equipment electronically. This is a high priority item. The FICAS cost was included for this item.

D Value of deficiencies: $288,143.00
A comprehensive study needs to be done for the duct cleaning and to verify the cost replacing the pneumatic controls with DDC Controls.

TOTAL HOSPITAL DEFICIENCIES: $491,772.00

OTHER RELATED WORK - POWER PLANT:

D2023 DOMESTIC WATER DISTRIBUTION VALVE HEADS
Replace Valve heads, flanges 6", 3 each.

D2023 DOMESTIC WATER DISTRIBUTION VALVE HEADS
Replace Valve heads, flanges 8", 43 each.

D2023 DOMESTIC WATER DISTRIBUTION VALVE HEADS
Replace Valve heads, safety valves, 8" , 2 each

D3040 STEAM DISTRIBUTION LINES, CONDENSATE
Replace 2" condensate lines, 200 feet, in the steam tunnel from Boiler to Hospital.

D3040 STEAM DISTRIBUTION LINES, CONDENSATE
Add insulation to 2" condensate lines, 200 feet, in steam tunnel from Boiler to Hospital.

D3040 HEAT GENERATING EQUIPMENT
Replace Dearator Tank.

D3040 HEAT GENERATING EQUIPMENT
Remove and Replace Roof to be able to replace Dearator Tank.
Comprehensive Study needs to be done.

TOTAL OTHER RELATED WORK- POWER PLANT DEFICIENCIES: $124,851.00
In addition, a Comprehensive Study needs to be done for removing the roof and replacing it for the Dearator Tank removal and replacement.

OTHER RELATED WORK - BLALOCK AUDITORIUM:
D3040 EXHAUST SYSTEMS
Exhaust in Kitchen at dishwasher needs two larger fans. Remove and replace existing fans for window openings, size 3800 cfm, 22" x 22". Need thermostat control for exhaust fans at the window.

TOTAL OTHER RELATED WORK- BLALOCK DEFICIENCIES: $5,000.00

OTHER RELATED WORK - CAMPUS
D3040 STEAM DISTRIBUTION LINES, CONDENSATE
Campus 2" condensate lines need to be replaced. The 2" condensate lines are underground and not part of this study. A Comprehensive Study needs to be done for this.

TOTAL OTHER RELATED WORK- CAMPUS DEFICIENCIES:
A Comprehensive Study needs to be done for the campus 2" condensate line replacement.

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	RDL	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
B20	R1	1989	40	ea	B2020 EXTERIOR WINDOWS	Replace	2	2019	45	12	Day Room, Big windows need to be replaced. They are thermal pane. Need to be replaced for patient safety prevent elopement. laminated/ tempered 10' x 3'.	$ 50,000.00	$ 15,900.00	$ 88,965.00	6463, 5568
C30	R2	1989	662	SY	C3032 FLOOR FINISHES- VINYL TILE- CORRIDORS	Renewal	2	2019	18	-10	Vinyl tile to be replaced in "L" corridor	$ 7,268.76	$ 29,313.36	$ 55,910.00	4945
C30	R2a	1989	662	SY	C3032 FLOOR FINISHES- VINYL TILE- CORRIDORS	Comprehen	2	2019	18	-10	Vinyl tile replaced in 1/3 all Patient Rooms and corridors in Patient Wards. (2/3 of Patient Rooms have been completed)				6310
C30	R3	1989		sf	C3032 FLOOR FINISHES- VINYL TILE- Health Information Management	Renewal	2	2019	8	-20	Vinyl tile sheet goods in HIM which has carpet, 30' x 100'= 3500 sf, welded seams. Includes labor to move furniture & reinstall, $15,600	$ 14,461.00	$ 21,200.00	$ 58,754.00	5015
D30	R4	2008	200	lf	D3040 DISTRIBUTION SYSTEMS- CHILLED WATER, ADDITIONAL LINE	New Work	1	2018	75	n/a	Chiller lines need to be split, so can use both at same time	$ 15,000.00	$ 6,100.00	$ 33,200.00	262
D30	R5	2008	200	LF	D3040 DISTRIBUTION SYSTEMS- CHILLED WATER- INSULATION	New Work	1	2018	15	n/a	Insulate 200 lf pipe	$ 980.00	$ 2,600.00	$ 5,600.00	262
D30	R6	1998		LF	D3040 DISTRIBUTION SYSTEMS- DUCTS	maint	2	2019	100	72	Need to clean ducts. Cleaned 14 yrs ago. Ducts have a remaining useful life of 72 years				273
D30	R7	1989			D3060 CONTROLS & INSTRUMENTATION- PNEUMATIC CONTROLS	comp study	1	2017			Pneumatic Controls need to be replaced with DDS*			$ 249,343.00	550
* Cost is from FICAS report															
R1 TO R8 TOTAL COST:														**$ 491,772.00**	

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	RDL	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
OTHER RELATED WORK- POWER PLANT															
D20	R9	1923	3	ea	D2023- DOMESTIC WATER DISTRIBUTION- VALVE HEADS	replace	1	2018	10	-20	Valve heads, flanges 6"- 3 each, Boiler Plant	$ 1,925.00	$ 866.00	$ 11,295.00	5977
D20	R10	1923	4	ea	D2023- DOMESTIC WATER DISTRIBUTION- VALVE HEADS	replace	1	2018	10	-20	Valve heads, flanges 8"- 4 each, Boiler Plant	$ 3,325.00	$ 715.00	$ 22,500.00	5979
D20	R11	1923	2	ea	D2023- DOMESTIC WATER DISTRIBUTION- VALVE HEADS	replace	1	2018	10	-20	2 each safety valves 8 ", Boiler Plant	$ 12,200.00	$ 930.00	$ 16,684.00	5983
D30	R12	1989	200	lf	D304002 STEAM DISTRIBUTION LINES, CONDENSATE	Comp study	1	2018	75	47	2" condenstate pipe, 200 ft from Boiler plant to Hospital, in tunnel.	$ 3,140.00	$ 6,530.00	$ 14,400.00	6052
D30	R12a	1989	200	lf	D304002 STEAM DISTRIBUTION LINES, CONDENSATE INSULATION	Comp study	1	2018	75	47	2" condenstate pipe insulation, 200 ft from Boiler plant to Hospital	$ 306.00	$ 792.00	$ 2,292.00	6052
D20	R13	1972	1	ea	D3023 HEAT GENERATING SYSTEMS, DA TANK	replace	2	2019	20	-25	Dearator, DA, Tank needs to be replaced. Been replaced 1x before. Must take roof it to replace	$ 31,600.00	$ 11,635.00	$ 57,680.00	6012, 6010
D20	R13a	1972	1	ea	D3023 HEAT GENERATING SYSTEMS, DA TANK- REMOVE	Comp study	2	2019	20	n/a	Remove and replace roof to replace Dearator Tank.				6013, 6369
R9 TO R13A OTHER RELATED WORK- POWER PLANT														**$ 124,851.00**	

OTHER RELATED WORK- BLALOCK AND AUDITORIUM															
D30	R14	1989	2	ea	D304007 EXHAUST SYSTEMS-GENERAL	New Work	1	2018	15	-13	Exhaust in Kitchen, at dishwasher Room, needs larger 2 fans for window openings, up to 3800 cfm 22x22 size. Need thermostat control for exhaust fans at the window.	$ 1,500.00	$ 2,200.00	$ 5,000.00	6944, 6950, 6936
R14 OTHER RELATED WORK- BLALOCK AND AUDITORIUM														**$ 5,000.00**	

Code	Item Number	Install Date	Quantity	UoM	Category (uniformat)	Work type	Priority	RDL	EDL	RDL	Deficiency/Corrective Action/Detailed Location	Material Cost	Labor Cost	Total Cost *Incl. O&P*	Photo #
OTHER WORK- CAMPUS															
D30	R15	2007	3500	lf	D304002 STEAM DISTRIBUTION LINES, CONDENSATE	Comp study	1	2018			2" condenstate pipe, 3500 ft on Hospital campus. In ground.				n/a

VII. SOUTHWEST VIRGINIA MENTAL HEALTH INSTITUTE, MARION, VIRGINIA

DEFICIENCY REPORT, BUILDING 15

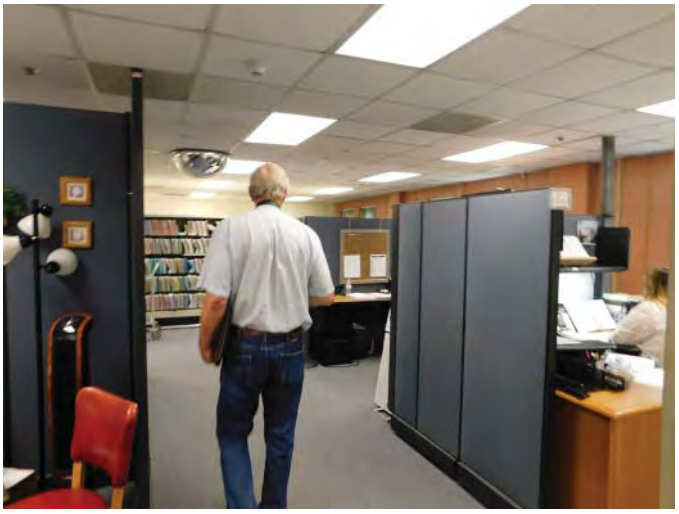
ATTACHMENT: DEFICIENCY PHOTOGRAPHS

R1: EXTERIOR RECTANGULAR WINDOWS REPLACE, Photo SW 6463

R1: EXTERIOR WINDOWS , Photo SW 5568

R2: FLOOR FINISHES, CORRIDORS REPLACE, Photo 4945

R2A: FLOOR FINISHES, PATIENT CORRIDORS & ROOMS REPLACE, RM D-104, Photo 6310



R3:FLOOR FINISHES VINYL TILE,HEALTH INFORMATION MANAGEMENT (PATIENT RECORDS), HIM, Photo SW 5015

R4-5: DISTRIBUTION SYSTEMS-CHILLED WATER, LINES TO BE SPLIT, INSULATE LINE, Photo SW 262

R6:DUCTS TO BE CLEANED, Photo SW 273

R7:PNEUMATIC CONTROLS, Photo SW 550

R8: PUBLIC ADDRESS SYSTEM-REPLACE, Photo SW 4933

R9: DOMESTIC WATER DISTRIBUTION-VALVE HEADS 6" FLANGES REPLACE, Photo SW 5977

R10: DOMESTIC WATER DISTRIBUTION-VALVE HEADS 8" FLANGES REPLACE, Photo SW 5979

R11:DOMESTIC WATER DISTRIBUTION-VALVE HEADS 8" SAFETY VALVES REPLACE, Photo SW 5983

R12+ R12A: STEAM DISTRIBUTION LINES-CONDENSATE REPLACE, Photo SW 6052

R13: DEAREATOR TANK, REPLACE, Photo SW 6012

R13: DEAREATOR (DA) TANK REPLACE, Photo SW 6010

R13A: REMOVE & REPLACE ROOF ABOVE DA TANK, Photo SW 6013

R13A: DA TANK, REMOVE & REPLACE ROOF ABOVE TANK ONLY

Photo SW 6369

R14: EXHAUST SYSTEM FAN REPLACE,

Photo SW 6944

R14: EXHAUST SYSTEM FAN REPLACE,

Photo SW 6950

R14: EXHAUST SYSTEM FAN REPLACE,

Photo SW 6936

VIII. APPENDIX A

AWARDS

Hancock Geriatric Treatment Center:
N/A

Piedmont Geriatric Hospital:
-Virginia Environmental Excellence Program Award, 2017, issued by the Governor's Office
Gold Medal Award for a Renewable Energy Program Environmental Project

-Governor's Award, 2014
VCU Department of Psychiatry and Piedmont Geriatric Hospital for the Fellowship Program in Geriatric Psychiatry, an Exemplary Post-Graduate Training Program and Model Public-Academic Partnership

Note: PGH is considered a "Center of Excellence" in treating Geriatric patients.

Catawba Hospital:
-Virginia Department of Health, Bronze Award, 2017 (annually since 2005)
Catawba Hospital Water Treatment Plant for Excellence in Granular Media Filtration

-Virginia Department of Environmental Quality, Certificate of Achievement, May 2017
Catawba Hospital,

Note: In 2015, Catawba received comments from Joint Commissioner, Charisee Spitzer, after her visit, in 2015, that they are in the top 1% of Hospitals in the nation.

SWVMHI:
- Governor's Award for Innovation, Herbert Firestone, May 2017 (seven employees or entities were awarded). Mr. Firestone saved the Commonwealth money by heating Laundry and Carpentry Shop with low pressure heat formerly exhausted into the atmosphere.

- Employees of the Year 2017, for Making a Difference. Shaun May, Mike Debord and Willie Rich won for fabricating anti-ligature Mixing Valves for the showers. The Commonwealth saved thousands of dollars, 2017

- District Three Governmental Cooperative, 2008.
Certificate of Excellence for Service to the Elderly

- Governor's Award, Herbert Firestone, 2004, for cost saving methods utilized in running an efficient and dependable Power Plant

- VA Department of Human Resource Management, Safety Star Award, 2004,
SWVMHI Physical Plant / Safety Department for Exceptional and Innovative Efforts towards Safety of the Employees of the Commonwealth of VA, Herbert Firestone (maintained boiler plant)

IX. APPENDIX B

Site Personnel Assistance

We gratefully acknowledge assistance from the personnel identified below. Their support made a great difference in the on-site effort by the ODG team.

Hancock Geriatric Treatment Center, Bldg 1 & Kitchen/Dining Room, Bldg 13
Frank Gallagher, Director
Chris Bowman, ADA
Tony Harris, B&G Director
Brenda, Office personnel
Diana Bailey, Administrative Office Specialist III, B&G
Albert Joynes, Food Service Manager III
Brenda Martin, Registered Nurse
Tijuana Jones, Registered Nurse
Debbie Norris, Registered Nurse
Jerome Hoover, B&G, HVAC
Alfred Jackson, B&G, HVAC
Anthony Czvetecz, B&G plumbing
Tim Smith, B&G electrician
Lee Martin, B&G Compliance Officer

Piedmont Geriatric Hospital
Hilton L. McDaniel, Director
Brenda Duffy, Administrative Coordinator
Steve Bowen, Facilities Manager
L.W. Wilson, B&G Superintendent
Kathy Schrepf, B&G
William Myers, Safety Manager
Frederica Kraines, Registered Nurse
Doris Martin, Office Assistant
Fred Crowley, Kitchen
Leon Dodson, Boiler Plant Manager

Catawba Hospital:
Walton F. Mitchell, III, Director and Chief Executive Officer
Charles C. Law, Ph. D., Administrator and Chief Operating Officer, Emergency Coordination Officer
Joanna Ryan, Office personnel
Blake Law, IT
Mark Nick, Pharmacist
Cecil Hardin, CPA
Jodaphur, MD
Stephanie Page, MD Psychiatrist and Director of Medical Education
Roger Richards, B&G Director, first week
Kevin Smith, B&G Director, second week
Amy Burger, B&G Administrative Assistant

Jeremiah Ruley, Supervisor
Daryl L. Schuler, Electrical
Ivan Sexton, Trades/Utilities Lead Worker
Barry Thomas, Plumbing
Gary Martin, Boiler, Plumbing
Everett T. B&G
Robert McNeil, Water Filtration Plant and Sewage Treatment Plant Supervisor
Stephen Wood, certified operator, Water and Sewer Treatment Plant

SWVMHI:
Cynthia McClaskey, PhD, Director
Mike Jones, Unit Director, Geriatrics
Jonathan Crisp, Medical Director
David Mask, clinical
Lee Ann Smith, clinical
Dickie Harrison, Police Officer
James Caudell, clinical
Don Chisler, CHSP, Physical Plant Services/ Safety Director
Shaun May, B&G Plumbing Steam, Fitting Supervisor
Willie Rich, Plumber
Mike Debord, Plumber
Steve Tillson, Boiler Plant
Christina Lishen, Administrative Specialist, B&G

X. APPENDIX C

Reports and Drawings provided by Central Office and Hospitals

CENTRAL OFFICE PROVIDED:

All Hospitals, From Central Office
2010 DPB Submission, DMHMRSAS Capital Budget Plan Submitted 6-1-2009
2013 Request - Abate Environmental Hazards
2013 Request- Bldg Roofs & Envelope Replacement
2013 Request -Boilers -Heat Dist - HVAC
2013 Request- PGH Renovate Main Hospital Bld
2013 Request- R-R Infrastructure, Ph 2
2014 DPB Submission
2015 DPB Submission
2016 DPB Submission
2017 DPB Submission
Renovate main hospital bldg at PGH, 2016
Replace Catawba Hospital - Final 8816 (2) 2015
System Food Service Transformation_2015-06-10
Umbrella Project Boilers and HVAC 2015
Umbrella Project Boilers and HVAC 2015-06-09_NM
Umbrella Project Demolish Vacant Buildings 2015
Umbrella Project Infrastructure 2015
Umbrella Project Infrastructure2015-06-08_NM (2)

IV. Hancock Geriatric Treatment Center, B 1 & Kitchen/Dining Room, B 13- From Central Office
Asset Detail Report Hancock, FICAS Report, March 2017
Requirement Detail Report, Hancock, FICAS Report, March 2017
System Detail Report, Hancock, March 2017
Asset Detail Report, ESH Bldg 13, FICAS Report, May 2017
Requirement Detail Report, Hancock, FICAS Report, May 2017
Summary Report , Bldg 1, March 2017

V. Piedmont Geriatric Hospital- From Central Office
Asset Detail Report PGH Bldg 15, FICAS Report, March 2017
Requirement Detail Report, Bldg 15 & other bldgs, FICAS Report, March 2017
System Detail Report, Bldg 15 & other bldgs, March 2017
Summary Report , Bldg 15, March 2017

VI. Catawba Hospital:
Asset Detail Report CH Bldg 15 &16, FICAS Report, March 2017
Requirement Detail Report, CH Bldg 15& 16 & other bldgs, FICAS Report, March 2017
Summary Report, CH Bldg 15, March 2017

VII. SWVMHI:
Asset Detail Report Bagley Bldg 15, FICAS Report, March 2017
Requirement Detail Report, Bagley Bldg 15 & other bldgs, FICAS Report, March 2017
Summary Report, Bagley Bldg 15 & other bldgs, March 2017

HOSPITALS PROVIDED:

IV. Hancock Geriatric Treatment Center, Bldg 1 & Kitchen/Dining Room, Bldg 13- From Hospital
HGTC Final Building Package, 2008, 86 drawings
HGTC As-builts, 2007, 30 drawings
ESH Bldg 13, 1954, 16 drawings
Mechanical Site Plan, Trane, 8.5" x 11"

Service Work Orders
Facility Maintenance Requests, 1 year
Facility Maintenance Checklist, May 2016
Maintenance Purchase Request Order July 2016
Monthly Report, April 2016 to April 2017
Organization Chart
quarterly Report, Inspections and Tests, 7/1/16 to 9/30/16
Open Work Requests as of April 2017
Work Orders, Open and Closed (completed), April 2016 to 2017, 59 pgs

Bldg 13 Preventative Maintenance Work Orders & Planned Events, April 2016 to Jan 2017
Bldg 13, Work Requests, April 2016 to April 2017

V. Piedmont Geriatric Hospital- From Hospital
Building 15 and Site Joint Commission Survey, Virginia A&E, 2015, 20 drawings
Fan Coil drawing, R-2, Torrence, Dreelin, Fathing & Buford, Inc. dated 1998

Active Non-PM Work Order Completion Status 3/15/17 to 5/7/17
Active Preventive Maintenance, 12/5/16 to 6/1/17
Corrective Maintenance 11/28/16 to 2/22/17
Corrective Maintenance 5/12/17
Corrective Maintenance 6/17/17
PGH Census reports for last 5 Fiscal Years as of October 2016
PGH Leader in Geriatric Psychiatry
Sketch of History by Dodson January 1920
Service Area Map
Organization Chart

Drawings reviewed onsite:
Renovation Phase I, Einhorn Yaffee Prescott, Architecture & Engineering, dated 1998
VSC Fire & Security, Inc 2012, 5 drawings
Emergency Generator Replacement, Bldg 15 Wiley Wilson, 2009, 22 drawings
Renovation of Elevator System, 2005, 8 drawings
Fire Alarm, Versar, 2004, 39 drawings
Water System Improvements, 2000, 16 drawings
Hospital Addition, 1949 Joseph Saunders
Infirmary Piedmont Sanitorium, 1938
miscellaneous A&E drawings reviewed on site

VI. Catawba Hospital:

Generator Replacement drawings, 2016
NurseCall System, 2015
Reroof, 2013
Life Safety Upgrades, Bldg 15-16, 2010
Life Safety Improvements, Catawba Hospital, B15 & B16, 2008, 23 drawings
ESCO Energy Projects:
- Trane Campus Phase I, 2007
- Replacement underground steam and condensate lines bldg to bldg, 2007
- Generator and chiller replacement, B15 & B16, 2006
- 300 ton chiller upgrade (with 6 modules in basement), 2006
- Air handler DDC Controls, 2006

New electrical panels and breakers replace old panels A,B and C for each floor, 1992
Cooling tower, 2 pipe heating radiant in floor - steam water, 1990
Air Conditioned bldg 15, Smith Boynton, 4 pipe fan coil installed, 1990
Window Replacement, 1984, 5 drawings
Toilet Upgrade, 1984
Reroof, 1983, 2 drawings
Bldg 15 Infirmary Addition Set, 1950, 46 drawings
additional drawings provided

Clark Nexsen, Catawba Hospital Life Cycle Cost Analysis, Conceptual Design Submittal, 2/11/11
Catawba History
Hospital Map
Fire Marshall Comments
Risk Rating Summary by AIG
Capital M&R Renovations 5/30/17

Documents reviewed onsite:
Preventative Maintenance Work Orders
Preventative Work Requests
Corrective Maintenance

VII. SWVMHI:
Life Safety Plan, Cameron Wolfe, 2017
Bagley Layout Orientation Plan, G-3, Henningson, Durham and Richardson, HDR, 1987
Blalock Building, G-5, HDR, 1987
Administration and Auditorium Building, G-6, HDR, 1987
A1-1, Floor Plan, Area A, HDR, 1987
A1-2, Floor Plan, Area B, HDR, 1987
A1-3, Floor Plan, Area C, HDR, 1987
A1-4, Floor Plan, Area D, HDR, 1987
A1-5, Floor Plan, Area E, HDR, 1987
A1-6, Roof Plan, HDR, 1987
A2-1 Blalock Bldg, Basement, HDR, 1987
A2-2, Blalock Bldg, 1st floor, HDR, 1987
A2-3, Blalock Bldg, Roof Plan & Details, HDR, 1987
A2-6, Auditorium Building, HDR, 1987

List of Building Changes and Major Repairs from 7/21/17 to 1998
SWVMHI Walking Tour Guide & A Brief History of SWVMHI
A history of Madness, Four Venerable Virginia Lunatic Asylums
Presentation based on Director's Orientation for New Employees
Geriatric Admissions and Discharges 1/1/17 to 7/11/17

Documents reviewed onsite:
Preventative Maintenance Work Orders
Preventative Work Requests
Corrective Maintenance

Appendix E: Subject Matter Experts and Contact Information

Appendix E : Subject Matter Experts and Contact Information

State Mental Health Commissioners

Cory Nelson, M.P.A.
Deputy Director
Division of Behavioral Health Services
Department of Health Services
150 N. 18th Avenue, Suite 500
Phoenix, Arizona 85007
Phone: 602-364-4566
Email: cory.nelson@azdhs.gov

Michael D. Maples, L.P.C., L.M.F.T.
Deputy Commissioner
Texas Department of State Health Services
Austin, Texas 78714
Phone: 512-776-7186
Email: mike.maples@dshs.state.tx.us

Regional Directors of State Hospital Associations

Western Psychiatric State Hospital Association (WPSHA)

Western Region: Alaska, American Samoa, Arizona, California, Colorado, Guam, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming.

Regional Chair: Dallas Earnshaw, A.P.R.N., C.N.S., B.C.
Superintendent
Utah State Hospital
Division of Substance Abuse and Mental Health
1300 East Center Street
Provo, Utah 84603
Phone: 801-344-4200
Email: dearnshaw@utah.gov

Midwestern Association for State Mental Health Organizations (MASMHO)

Midwestern Region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio,
Oklahoma, Wisconsin.

Regional Chair: William "Bill" Gibson
Chief Executive Officer
Lincoln Regional Center
PO Box 94949
Lincoln, Nebraska 68509
Phone: 402-479-5388

E-mail: Bill.gibson@nebraska.gov

Southern State Psychiatric Hospital Association (SSPHA)

Southern Region: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Texas, Virgin Islands, Virginia, West Virginia.

Regional Chair: James E. Smith, L.C.S.W., D.C.S.W.
Superintendent
North Texas State Hospital
Department of Mental Health & Mental Retardation
P.O. Box 2231
4730 College Drive
Vernon, Texas 76385
Phone: 940-552
Email: james.smith@dshs.state.tx.us

Northeast Regional State Psychiatric Hospital Association

Northeastern Region: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts,
New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Regional Chair: Dr. Patrick Canavan
Chief Executive Officer
Saint Elizabeths Hospital
Department of Mental Health
2700 Martin Luther King Jr. Avenue, SE
Washington, District of Columbia 20032
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NASMHPD Medical Directors Council

Minnesota

Alan Radke, M.D., M.P.H.
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Missouri

Joseph Parks, M.D.
(Former Chair of the NASMHPD Medical Directors Council)
State Medicaid Director
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E-mail: joe.parks@dss.mo.gov
Cc: Debbie.meller@dss.mo.gov

Western Psychiatric State Hospital Association (WPSHA) Members

Tracey Sessions
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700 East Alice Street
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Oregon State Hospital
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Ron Adler
CEO
Western State Hospital
9601 Steilacoom Blvd.
Lakewood, Washington 99508
Phone: 253-756-2870
Email: ADLERRM@dshs.wa.gov

Community-Based Services Models

Colorado: Senior Reach – Jefferson Center for Mental Health
Amy Miller, LCSW
Senior Reach National Consultant
Phone: 720-595-0880

Kansas: Mid-Kansas Senior Outreach –Mental Health Association of South Central Kansas
Fritz Robinson
Chairmen, Board of Directors
555 North Woodlawn, Suite 3105
Wichita, KS 67208
Phone: 316-685-1821

Michigan: Older Adult Specialty in Home Services (OASIS) – Oakland FAMILY Services
Mike McIntosh President, Community Reach Center Systems, Inc

Ohio: Money Follows the Person – Centers for Medicare & Medicaid Services
Jane Black
Project Director
Money Follows the Person

HOME Choice Operations
Phone: 614-752-3567
Email: Jane.Black@medicaid.ohio.gov

Texas: Seniors Preparing for Rainbow Years – The Montrose Center
Ann J. Robison, PhD
Executive Director
401 Branard Street
Houston, Texas 77006
Phone: 713-529-0037

State-Operated Psychiatric Hospitals

Arkansas

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305 South Palm Street
Little Rock, AR 72205
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Steve Domon, MD
Medical Director, Arkansas State Hospital
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Texas

Alan Isaacson
Austin State Hospital, Superintendent
4110 Guadalupe
Austin, TX 78751
Phone: 512-452-0381

Lorie Dunnam
Big Spring State Hospital, Superintendent
1901 North Hwy 87
Big Spring, TX 79720
Phone: 432-267-8216

Appendix F: Proposed Older Adult System of Care Framework

Appendix F: Proposed Older Adult System of Care Framework