COMMONWEALTH of VIRGINIA

HAROLD W. CLARKE
DIRECTOR

Department of Corrections

P.O. BOX 26963
RICHMOND, VIRGINIA 23261
(804) 674-3000

July 1, 2016

TO: The Honorable Brian J. Moran
Secretary of Public Safety and Homeland Security

The Honorable Thomas K. Norment, Jr.
The Honorable Emmett W. Hanger, Jr.
Co-Chairs, Senate Finance Committee

The Honorable S. Chris Jones
Chairman, House Appropriations Committee

The Honorable Sara Redding-Wilson
Director, Department of Human Resource Management

The Honorable Daniel Timberlake
Director, Department of Planning and Budget

FROM: Harold W. Clarke

SUBJECT: Health Care Cost Assessment Report

Pursuant to the 2015 Budget Bill HB 1400 Item 384, please find attached the analyses of the costs, benefits and assessment of the Department of Corrections' provision of in-patient and out-patient offender health care services through internal use of state employees or by contracted services. The report was completed in cooperation and with the assistance of Virginia Commonwealth University, Department of Health Administration.

REPORT TO THE VIRGINIA DEPARTMENT OF CORRECTIONS

In partial fulfillment of Memorandum of Agreement DOC-15-098

June 27, 2016

Submitted by Carolyn A. Watts, Ph.D.

Richard M. Bracken Chair and Chairman
Department of Health Administration
Virginia Commonwealth University
PO Box 980203
Richmond, VA 23298

With the assistance of
Hunter Byrnes
VCU MHA Class of 2017
Antoine Ransom
VCU MHA Class of 2018

Introduction

Virginia's 2015 Budget Bill HB 1400 Item 384 states:

> *"P.1. The Department of Corrections shall develop and issue a Request for Information for the comprehensive management and provision of health care services for (i) all inmates confined at facilities not covered by the August 4, 2014, solicitation for health care management services, and (ii) all inmates confined at Department facilities statewide. This request for information shall focus on identifying health care management models that use the best practices and cost containment methods employed by Medicaid managed care organizations in delivering provider-managed and outcome-based comprehensive health care services. These services shall include consolidated management and operational responsibility for delivering all primary and specialty care, nursing, x-ray, dialysis, dental, medical supplies, laboratory services, and pharmaceuticals, as well as all off-site care, case management, and related services. Specific information shall be sought on 1) how existing state-funded managed care networks can be leveraged; 2) federal health care funding opportunities; 3) identifying state-of-the-art practices in care coordination and utilization review; and 4) identifying innovative correctional health care management systems being used or developed in other states. A report summarizing the responses to the Request for Information and estimating the potential long-term savings from the approaches identified in the responses shall be provided to the Chairmen of the House Appropriations and Senate Finance Committees, the Secretary of Public Safety and Homeland Security, and the Department of Planning and Budget no later than October 1, 2015.*
>
> *2. The Department shall provide to the Secretary of Public Safety and Homeland Security, the Directors of the Departments of Planning and Budget and Human Resources Management, and the Chairmen of the House Appropriations and Senate Finance Committees by July 1, 2016, a report assessing:*
>
> *a. The costs, benefits, and administrative actions required to eliminate the Department's reliance on a private contractor for the delivery of inmate health care at multiple facilities, and to provide the same services internally using either state employees or individual contract medical personnel.*
>
> *b. The costs, benefits, and administrative actions required to transition to a statewide health care management model that uses best practices and cost containment methods employed by prison health care management and Medicaid managed care organizations to deliver provider-managed and outcome-based comprehensive health care services through a single statewide contract for all of the Department's adult correctional centers.*
>
> *c. A review of the Department's actual cost experience comparing the previous arrangement in which the contractor assumed full financial risk for the payment*

of off-site inpatient and outpatient services, and the current and proposed arrangement in which the Department assumes that risk and also receives any Medicaid reimbursement for such off-site expenses. For purposes of analyzing the first arrangement, it is assumed that the benefit of any Medicaid or other third-party reimbursement for hospital or other services would accrue to the contractor. This review shall also compare cost trends experienced by other states which have adopted these two arrangements.

d. A comparison of the costs and benefits of the Department's current management of inmate health care, including the model envisioned in its August 2014 Request for Proposals, to the alternative models the Department is directed to assess in subsections a, b, and c above.

e. The Department of Human Resources Management, the Department of Planning and Budget and other executive branch agencies shall provide technical assistance to the Department as needed."

This report is intended to assist the Department of Corrections (DOC) in fulfilling its obligations under P.2 of HB 1400, and complements our previous report dated August 15, 2015 that addressed P.1. After outlining the methods we used in our work, we begin by describing DOC's current facilities and management structure and the population of offenders served. We then discuss the conceptual arguments for each of the models represented in a) – d) above and the extent to which we were able to assess them empirically, and finish with our observations and conclusions.

Methods

Information for this report came from four sources: a comprehensive review of the academic literature relevant to our work; review of departmental and other documents provided to us by DOC; interviews with DOC staff, staff from the two current health care contractors, and VCU Health staff; and site visits to seven state prison facilities and the secured unit at VCU Health. Interviewees were promised anonymity consistent with the conditions of the exempt IRB status of our work, granted by VCU IRB HM20005660.

DOC Facilities and Offenders Served

Facilities. The DOC oversees health care services to more than 30,000 offenders housed in 46 state correctional facilities and detention/diversion centers. The facilities are located throughout the Commonwealth, and vary in size, security level, and demographics of their offender populations (36).

While all facilities provide access to routine, outpatient specialty, and inpatient acute health care services (including mental health and dental services) as required by law, each has a different set of services available onsite. All facilities have medical clinics that

provide routine care for offenders housed at that facility, including medication administration, sick call, chronic care services, medical screening and triage, specialty referral, and discharge planning (11). Onsite mental health and psychiatry services vary by facility, but all are able to dispense psychotropic medications. All facilities have the ability to host a variety of specialty clinics to help manage the specific needs of the offender population, although their capacity differs. To expand the range of services available onsite, DOC has converted 98% of facilities to be telemedicine compatible. Telemedicine clinics are provided through partnerships with VCU Health and University of Virginia Health System (17).

Four infirmaries provide onsite treatment that exceeds the capacity of "routine," but does not require inpatient admission. The infirmaries are located at the Fluvanna Correctional Center for Women, Deerfield Correctional Center, Powhatan Reception Center, and the Greensville Correctional Center. These facilities provide a total of 152 infirmary beds (110 for male offenders and 42 for female offenders). In addition, the Deerfield facility has 57 assisted living beds; Greensville and Powhatan have outpatient operating rooms; Fluvanna, Greensville, and Sussex II offer onsite dialysis; and all four infirmaries provide dental care, x-ray and laboratory services, optometry, and telemedicine services. Fluvanna, Greensville, and Powhatan also have trauma rooms (11).

Offenders. The average age of offenders incarcerated in Virginia state prison facilities is 38 years (36). According to a DOC publication, 92% of the 2014 prison population was male, less than 2% were below the age of 18, and 19% were over the age of 50 (3A).

Over the next six years, the offender population is projected to increase by 1,800 offenders, with the female population growing at a faster rate than the male population (13). The elderly constitute the fastest-growing portion of the offender population and often need the most acute and costly care. In 2014, 19.1% of the offender population was over 50 years old, compared with 9.6% in 2004 (3A). In 2014, the age group 65+, a small percentage of the population, accounted for 11% of all offsite medical costs (inpatient and outpatient) (1). The prevalence of chronic conditions in the offender population is also driving expenditures. An estimated 82% of the 65+ age group have chronic illnesses (3A).

Contracting for Offender Health Care

Nationally, state expenditures for corrections have grown from $32.2 billion in 1992 to $47 billion in 2011 (both figures in 2011 dollars) (16). This increase has resulted both from increases in state prison populations and steadily rising health care expenditures. In 2011, states spent a combined $7.7 billion on offender health care, roughly 16% of all corrections expenditures in that year (32). It is not surprising, then, that states around the

country have sought ways to mitigate these expenditures while still meeting their constitutional duty to provide adequate health care to the populations in their care. Contracting with private vendors to create public/private partnerships is one way many states have chosen to address these issues.

By 2014, 38 states were contracting out at least a portion of their prison health care services either to private parties or to university health systems (16). Of these, 24 states outsourced all provision of offender health care. In three states (Texas, Connecticut, and New Jersey) health care for offenders is provided through state universities health care systems. In three others (Ohio, Georgia, and Louisiana), the state contracts with public university health systems for some portion of the correctional health system. The remaining states outsource either specific services such as mental health care or dialysis, or other portions of the offender health care system.

The Commonwealth of Virginia follows the hybrid contracting model. DOC has contracts with individual providers to supplement employed staff in several facilities, contracts with public and private vendors to provide specific services across all facilities, and contracts with private vendors to provide a comprehensive set of services at specific facilities.

Individual Provider Contracts. As required by law, offenders in each facility must have access to adequate health care services, including dental care, and mental health and behavioral health services. However, some facilities are located in very rural areas where access to pools of medical personnel is limited (e.g., Sussex I and II). Others are located near more urban areas with access to a larger medical workforce, but in competition with other health care facilities serving the general public (e.g., Fluvanna). Because of rules around state hiring, firing, and compensating employees, and the complicated secure environment required to treat offenders, it is often challenging to adequately staff the medical units of state prisons. DOC has worked with DHRM to provide support for more flexible rules for health services personnel. Thus, DOC has always relied on a combination of employed and individually contracted clinical staff to provide health care services to offenders. In 2014, the state spent $5.8 million on medical contracts for physicians, psychiatrists, dentists, optometrist, nurses, and others (13).

Discrete Services Contracts. There are instances where the expertise required to offer a service is very specific. Where these services are discrete and their outcomes are measurable, they also become good candidates for contracting. DOC has a number of these contracts. Dialysis treatment has been delivered under contract at the Greensville facility for many years. These services are currently provided under a May 2013 contract with PTX Dialysis, LLC at Greensville and Sussex II. Dialysis is subcontracted by

Armor Correctional Health at Fluvanna under a comprehensive health services contract (discussed below). Pharmacy services are contracted to Diamond Pharmacy Services, a company that provides pharmaceuticals to incarcerated individuals in 44 states. DOC contracts with Anthem Blue Cross Blue Shield to provide third party administrator functions (claims payment for all claims, inpatient utilization review, and negotiated pricing with providers). The current Anthem contract began in 2011, and expires in December 2016 with the possibility of a 1-year renewal. These contracts were established to provide DOC with specific technical expertise that was unavailable within the agency (17).

Comprehensive Contracts. Since 1993, DOC has also contracted with private prison health vendors to provide the full range of medical services at designated correctional facilities (34). The rationale for these contracts is more complicated. While in some states, the impetus for comprehensive contracting is anticipated cost savings, in Virginia the focus is more on provider access. The locations in which comprehensive contracting has occurred largely reflect areas where DOC, has difficulty recruiting under the current DHRM rules and struggles to find a large enough qualified workforce willing to provide services in the correctional environment. Private vendors are often better able to attract providers because they can offer more flexibility in the level and composition of the benefit package, and in other terms of employment. This is particularly important for facilities that house offenders with more complex health care needs that require both more, and more highly trained, staff.

DOC's first two comprehensive contracts were for services at Greensville Correctional Center and Work Center. Over time, other facilities have been added (two were added and then later removed) to the list of prisons at which care is contracted to private companies.

Not only has the list of contracted facilities changed over time, but the vendors with whom DOC contracts have also changed. The initial contract was with Correctional Medical Services (CMS) based on a capitated rate that shifted all financial risk to the contractor (24). CMS terminated the contract after suffering financial losses. Between May 1, 2006 and October 31, 2011, DOC contracted with Corizon Correctional Health Care (then known as Prison Health Services, hereafter PHS) and Armor Correctional Health (hereafter Armor) using a shared risk model wherein DOC shared in the costs or savings of expenditures over or under an agreed upon amount. In 2011, these contracts covered:

- Greensville Correctional Center and Work Center (PHS)
- Powhatan Correctional Center (PHS)

- Powhatan Reception and Classification Center (PHS)
- Fluvanna Correctional Center for Women (PHS)
- Sussex I State Prison (PHS)
- Sussex II State Prison (PHS)
- Coffeewood Correctional Center (Armor)
- Indian Creek Correctional Center (Armor)
- Lunenburg Correctional Center (Armor)

Following a competitive negotiation process in 2011, DOC modified the existing contract with Armor and entered into a single contract with Armor for services at all nine facilities again using the full capitated reimbursement model (24). On May 1, 2013, DOC contracted with Corizon for 17 facilities with a full capitation rate (30). However, on June 2, 2014, Corizon exercised its option to terminate the contract in 120 days. DOC was forced to issue an emergency contract with Armor for those facilities beginning October 1, 2014 (30).

DOC re-solicited the request for proposal (RFP) in late 2014. In 2015, DOC entered into separate contracts with two vendors from among the eight respondents to the RFP. Armor, and Mediko, P.C. (hereafter Mediko) were selected to provide health care services to offenders on a facility-specific capitated rate. The Armor contract period is three years, with an additional five 1-year renewal options (4). Armor is responsible for providing all health care services and related support services necessary for an adequate health care program at 15 facilities, housing about 13,000 offenders (4). As noted above, Armor also provides dialysis services at the Fluvanna facility under this comprehensive contract. Mediko is operating under a three year contract, with five 1-year renewal options and is responsible for all health care services and related support services offered at two facilities, housing about 2,200 patients (6, 24). Prior to the awarding of this contract, Mediko had no comprehensive prison health care experience, but has a lengthy relationship with the Virginia jail system.

Contractors are paid a monthly capitated fee that is specific to each facility managed. The capitated fee is based on the needs of the facility's population and adjusted to account for any change in the average daily population. A separate monthly capitated fee is paid to cover mental health services. While historically the capitated contracts included onsite and offsite care, including inpatient care, the latter was carved out of the most recent contracts with Armor and Mediko (4, 6). According to DOC staff, these carve outs were in response to misunderstandings about Medicaid reimbursement for inpatient services rendered to offenders covered under the Corizon contract. When the Corizon contract was written, DOC did not seek any reimbursement from Medicaid for inpatient claims because offenders lose their Medicaid eligibility when they become

incarcerated. However, a few months after the Corizon contract began, DOC began to take advantage of a narrow exception that applies to offenders who qualify for Medicaid coverage (those who suffer from chronic conditions or are age 65+, disabled, blind, or pregnant) while they are receiving offsite services for a period exceeding 24 hours: that is, when they are admitted to the hospital. The misunderstanding revolved around whether the contractor, Corizon, or DOC received the financial benefit of this Medicaid coverage. While the number of admissions that met Medicaid requirements and thus qualified for Medicaid coverage was small (during FY2015, only 845 inpatient admissions met initial Medicaid requirements, of which 333 were ultimately approved as Medicaid admissions), the importance to DOC of capturing this benefit led to the exclusion of inpatient coverage from the contracts that followed Corizon's early termination (10, 31). The facilities covered by the Armor and Mediko contracts and those with health care managed directly by DOC are shown in Table 1.

Table 1

DOC - Managed Facilities
Appalachian Detention Center
Baskerville Correctional Center
Bland Correctional Center
Buckingham Correctional Center
Caroline Unit 2
Central Virginia Unit 13
Chesterfield Detention and Diversion Center
Cold Springs Unit 10
Deep Meadow Correctional Center
Dillwyn Correctional Center
Green Rock Correctional
Halifax Unit 23
Harrisonburg Detention Center
Haynesville Unit 17
Haynesville Correctional Center
James River Work Center
Keen Mountain Correctional Center
Marion Correctional and Treatment Center
Nottoway Correctional Center
Nottoway Work Center
Patrick Henry Unit 28
Pocahontas State Correctional Center
Red Onion State Prison
River North Correctional Center
Rustburg Correctional Center
Stafford Diversion Center
Virginia Correctional Center for Women
Wallens Ridge State Prison
Wise Unit 18

Contracted Facilities: Armor
Brunswick Women's Pre-Release Center
Deerfield Correctional Center
Deerfield Work Center (Men's and Women's)
Fluvanna Correctional Center for Women
Greensville (Correctional Center & Work Center)
Indian Creek Correctional Center
Lunenburg Correctional Center
Powhatan Reception Center
Powhatan Medical Unit
St. Brides Correctional Center
Southampton Men's Detention Center
Sussex I State Prison
Sussex II State Prison

Contracted Facilities: Mediko
Augusta Correctional Center
Coffeewood Correctional Center

The DOC-managed facilities house a total of approximately 15,000 offenders. In general, the population is a younger, healthier population with fewer comorbidities and complicated medical needs. Several of the DOC managed facilities are lower security units with average daily populations ranging from 100 to 300 offenders (12).

The 17 contracted facilities combine to house approximately 15,000 offenders. The missions of the medical units vary. The DOC's geriatric and women's populations, which tend to have higher prevalence of chronic conditions and comorbidities, are both housed at contracted facilities. The combined Greensville Correctional Center and Work Center is contracted to Armor and is the state's largest facility with an infirmary and approximately 3,200 offenders (12).

Offsite Care. Under the current contract, DOC is financially responsible for all inpatient care of offenders at contracted facilities. All outpatient care is the financial responsibility of the fiscal agent for the facility in which the offender is housed (i.e., DOC, Mediko, Armor).

At DOC facilities, medical conditions requiring offsite care at a hospital (e.g. heart and cancer treatment, inpatient surgery, acute care) must go through utilization management approval, unless the medical condition requires emergency care. Onsite staff initiate the process. A formal request for offsite care is sent to the DOC's chief medical officer, who must approve or deny the request. If care is approved, the patient is sent to VCU Health System (responsible for about 77% of offsite care), the University of Virginia, or occasionally other inpatient facilities. If offsite care is not approved, the chief medical officer submits an alternative course of treatment for the offender.

Both contractors have a utilization management process in place to ensure all offsite care is medically necessary. All offsite offender care must be requested by the prison facility's staff and approved by the contractor's chief medical officer. When offsite hospitalizations or specialty services are necessary, DOC provides all transportation and security services at no cost to the contractor (4, 6).

DOC has several Memoranda of Agreement with VCU Health System to provide offsite health services to offenders from all facilities in the state. Under these contract agreements, VCU Health agrees to provide inpatient and outpatient services, lab services, mail order prescription services, Hepatitis C treatment, telemedicine, and health services report writing (17). When inpatient care is required, offenders are treated in a secure unit in the VCU Health Critical Care hospital. Care can also be provided on hospital units outside of the secure unit if such specialized care cannot be provided within it. If the offender is treated off the secure unit, security must be provided by DOC.

From April 2014 through March 2015, offenders housed at DOC-managed facilities accounted for 1,198 emergency room visits, 504 inpatient visits, and 3,516 outpatient visits. In comparison, offenders housed at Armor facilities accounted for 1,281

emergency room visits, 1,157 inpatient visits, and 4,632 outpatient visits. The average amount paid per DOC and Armor inpatient visit was $13,463 and $7,766, respectively. Armor's inpatient costs are lower because Armor-managed facilities have advanced care infirmaries to which patients can be discharged sooner with higher levels of care needs. The care in these infirmaries is paid for through the comprehensive contract with Armor. The average amount paid per DOC and Armor outpatient visit was $2,570 and $3,326, respectively (1).

Reporting and Compliance. The contracting, monitoring, and enforcement activities of DOC are essential to maintain desired levels of quality of health care services at contracted facilities. Services to be provided and minimum levels of staffing are outlined in vendor contracts (4, 6). Compliance with these and other aspects of the contract (e.g., compliance with DOC policies and procedures) is monitored through regular reporting. Managers of contracted facilities report to DOC's contract monitors on a monthly basis. Contracted facilities must achieve a threshold of 80% compliance with predefined quality metrics. If a facility falls below 80% compliance with any of the metrics, there is a one-month grace period to enact a Corrective Action Plan and achieve the compliance threshold. If the facility is found to be non-compliant after implementation of the Corrective Action Plan, the contractor is assessed "liquidated damages." These "liquidated damages" take the form of monetary assessments, and increase over time if corrective action is insufficient.

Liquidated damages can also be assessed if a contractor fails to meet minimum staffing requirements for an extended period of time, usually consecutive months. Staffing levels for each facility, based on the mission of the medical unit, are specified in the contract. Liquidated damages are incrementally increased for every successive period the contractor fails to be compliant (4, 6).

Expenditures

Overall Expenditures. A 2014 report from the Pew Charitable Trusts found that Virginia ranked 21st lowest in health care cost per offender (32). In FY 2014, total health care expenditures incurred by offenders in Virginia state prisons were $150 million, $76 million of which was paid under the comprehensive vendor contracts (1). According to the Virginia formulary management report for DOC facilities, $7.8M was spent on prescription medications in FY 2015 for 307,688 prescription medications, with an average of 7,000 offenders receiving prescription medications at any given time (13). Contracted sites include medications in the comprehensive contract so exact pharmaceutical expenditures are not available to DOC for these sites. The exception is for drugs covered under the federal 340B program (see below), which are covered by DOC for all offenders at all sites. Offsite care, including inpatient and outpatient care

(but excluding transportation and security), accounted for about $59M of the FY 2015 budget (1). Fees to Anthem for administrative services related to these expenditures were an additional $4 million.

Anthem, under contract to pay all claims for offenders, reported that from 2014 to 2015, there were 165 high cost (> $75,000) claimants. These individuals accounted for .5% of the total offender population, but 36.8% of medical claims costs (1). Half of all medical claims cost was spent on 3.8% of the offender population. By contrast, the bulk of the offender population had much lower health care expenditures, with 84% of the offender population accounting for only 14.2% of the medical claims cost (1).

The federal 340B program provides substantial discounts for certain outpatient pharmaceuticals for patients whose care is managed by designated safety net providers. DOC partners with VCU Health, a federally-designated safety net provider, to receive 340B program pricing for HIV, Hepatitis C, and hemophilia medications, resulting in significant savings annually. DOC pays for all drugs bought through this program including for the contracted sites. (4, 6). Mediko and Armor have their own independent contracts with Diamond Pharmacy Services for pharmacy management, and therefore presumably have their own drug price schedules and expenditures.

Expenditures for Contracted vs. DOC-managed Facilities. In 2010, a regularly scheduled internal financial/compliance audit was conducted of DOC contractor performance (23). The audit examined the efficiency and effectiveness of contractor operations as well as contractor compliance with all applicable policies, procedures, laws and regulations. It also compared the cost performance of contractor-managed facilities with that of DOC-managed facilities for calendar year 2008. In that year, the contractors were PHS and Armor. PHS managed care at five medical units, Armor at three.

The audit concluded, "Overall, the medical services are operated in a cost effective manner. When including overhead and corporate administrative costs associated with private entities, costs were fairly comparable between contractor- and DOC-run facilities" (23, page 2). The report noted that expenditures per offender in DOC-managed facilities averaged $3,041.82, including all on-site care, all off-site outpatient and inpatient care, and all pharmaceutical expenses. That figure for offenders in PHS-managed facilities was $6,328.39, and for those in Armor-managed facilities it was $3,772.17. As the report notes, these figures represent averages across facilities with different missions, different medical resources on-site, and purposefully different offender demographics to match the facility differences. The figures also reflect the differing accounting/budgeting practices of the agency versus the private contractors. DOC's central administrative costs, including direct costs such as salaries and indirect

costs such as office space, are not included in these figures whereas the contractors' expenditures include all of these expenses as well as contracted levels of profit. Security and transportation costs, paid by DOC for all offenders regardless of facility, are not included in any of the calculations.

We used data from the FY 2015 medical expense report and the same method employed by the audit team to update the comparative expenditure figures. We found similar results: contracted facilities experienced higher average medical expenditures per offender than DOC-managed facilities. As with the 2010 analysis, however, the caveats include the differing characteristics of the facilities and the offenders they house, and the different means of accounting for overhead and other administrative costs.

Using total medical expenses per facility and average daily populations during fiscal year 2015, we calculated the average annual cost per capita across all 17 contracted facilities to be $6,836. The average annual cost per capita for DOC-managed facilities was $4,117 (30). As noted above, the costs for the contracted facilities include overhead and other administrative costs that are not borne by state agencies. Given these accounting differences and the fact that the caveats noted in the audit report still apply, it is likely that the true expenditures for offenders across DOC-managed and contracted facilities continue to be relatively comparable.

Facility-specific expenditures. An examination of facility-specific expenditures indicates an unsurprising variation consistent with the variation in services offered and population served. The four facilities with infirmaries (all contracted facilities) had the highest expenditures, with an average per capita medical expense of $10,104 in FY2015:

Greensville - $8,103
Fluvanna - $8,162
Deerfield - $13,916
Powhatan - $16,514

The two contracted facilities that house solely women, Fluvanna and Brunswick, also had above average per capita expenditures:

Fluvanna - $8,162
Brunswick - $5,280

Expenditures in DOC-managed facilities also vary based on services provided on-site and the characteristics of the offenders housed in them. Those with the highest per capita

expenditures were Marion Correctional Center, Deep Meadow Correctional Center, and Virginia Correctional Center for Women (VCCW):

Marion - $13,566 (mental health treatment center)
Deep Meadow - $8,341
VCCW - $8,238 (women's facility)

If expenditures for these three facilities are removed, the average annual per capita expense for the remaining DOC-managed facilities was $3,522 in FY 2015 reflecting the fact that the remaining facilities, in general, have low acuity offenders.

Summary. Precise comparisons of expenditures between contracted and DOC-managed facilities are inherently difficult given the rationale for purposeful contracting in the first place. Comparisons that adjust for variations in services offered, offender characteristics and medical needs, and differences in the types of costs that are attributed to offender health care across facilities would require much more detailed data than are available. The rough comparisons reported in the 2010 audit and our update of these figures suggest that adjusted per offender expenditures do not differ significantly between contracted and DOC-managed facilities.

Arguments For and Against Prison Health Care Contracting

According to Galik and Gilroy (16), the rationale for contracting among the states is several fold. Often states engage in outsourcing as a means of either reducing expenditures or at least rendering them more predictable. Some states believe that contracting can improve performance and enhance accountability through carefully designed contracts that play on economic incentives of private firms that do not exist in public sector agencies. Finally, some states believe that contracting can shift the risk of liability from the state to the vendor (16).

There is a substantial literature on the advantages and disadvantages of contracting – often referred to as outsourcing – generally (20), some specific to the public sector (3, 18), and a smaller amount specific to prison health (2, 16). There is less empirical evidence, and what exists is more likely to be anecdotal than systematic, especially with regard to prison health (16, 21, 27).

The Conceptual Arguments. There is mostly agreement about the characteristics of outsourcing, including the theoretical advantages and disadvantages. In principle, advantages include greater predictability of expenditures through fixed price contracting (if the contracted rate is per capita, total expenditures still fluctuate with volume), direct incentives to contain expenditures, and specific skills and experience. With public sector

outsourcing, additional advantages often include greater flexibility in hiring, firing, and compensation; and connection to and competition with private markets that are typically assumed to be more dynamic and innovative. The results of a study by Leiblein et al (21) suggest that outsourcing has the greatest potential to be successful where an organization or agency can identify and isolate specific technical problems to be solved.

A key conceptual disadvantage of outsourcing noted by Leiblein et al (21) is the possibility of "hollowing out" the contracting organization, resulting in a depreciation of its core capabilities. There is also the very real possibility of contractor "moral hazard" (underperforming on aspects of the product/service that are not specifically noted, measured, and enforced in the contract) and "hold up" (asking for favorable contract modifications in the middle of the contract term when the contracting organization has few alternatives but to agree) (18). Moral Hazard is more likely for complex services with a high degree of variability where measurement of outcomes is difficult. Hold up is more likely where service provision requires a significant amount of time or resource investment specific to the contracting organization. Successful outsourcing is particularly challenging for complex products/services or where coordination across the activities of the contracting agency and the contractor is essential (3, 18, 21).

Applications to Prison Health. These conceptual arguments have broad application to prison health generally and to prison health in the Commonwealth specifically. Certainly predictability and direct incentives to contain expenditures are valued by government entities everywhere, including Virginia's DOC. In Virginia, Department of Human Resource Management policies do indeed limit the flexibility of DOC with regard to hiring, firing, and compensating employees. We were told by many sources that state salaries, particularly for clinical professionals, were lower than those offered by the private contractors (by contrast, however, benefits were universally noted to be higher for state employees than for employees of contractors). Lack of flexibility around such things as hiring bonuses and incentives (e.g., loan repayment, moving expenses) and pay differentials for evening and weekend shifts also hamper DOC's ability to be competitive in some labor markets.

The argument that DOC benefits from competition in the marketplace has two related components. First, to the extent there is competition in the private market for prison health, the contracting process can be expected to result in a more favorable result (either a lower rate, higher quality, or some combination) than when one or two firms monopolize the market. In Virginia, there is a reasonable amount of competition among national and regional prison health companies. In the last round of contracting, eight firms submitted proposals and two firms (Armor Correctional Health Services and Mediko Correctional Health Services) were awarded contracts. The second component

of competition relates to the benefits of having a private contractor "competing" with DOC's own facility management. The notion is that having a contractor managing some DOC facilities creates a market benchmark by which DOC-managed facilities can be measured, and that the cross-fertilization of ideas between the two types of facilities benefits them both. The advantage of the former depends on the contractor benchmark being "better" by some standard and on regular comparisons across facilities. The advantage of the latter depends on regular interactions among managers of the various facilities to share best practices. If all of these conditions are not met, the advantages are reduced or eliminated.

DOC's longstanding and successful contracts for renal dialysis and pharmaceuticals nicely illustrate Leiblein et al's (21) point regarding contracting for discrete, isolated services characterized by a high degree of specialized expertise.

The disadvantages of outsourcing also have application to prison health in the Commonwealth. The "hollowing out" and subsequent depreciation of DOC's core capabilities to provide basic health care to its offenders that would result from a completely contracted system are both real and risky. DOC is constitutionally required to provide adequate health care to offenders for their entire period of incarceration. Should a contractor exercise its right to terminate the contract mid-term (as happened in 2015), DOC must have the capability of stepping in to fill the void until another suitable contract can be secured.

Further, the offender population requires a higher average level of intensity of health care than does the general population. The Pew/MacArthur Foundation report (32) estimates that in 2010, 65% of the prison population suffered from alcohol or drug disorders, 17.4% tested positive for Hepatitis C, 30% had some form of mental illness, and nearly 8% were over age 55. While these are national figures, there is no reason to believe that Virginia's statistics are more favorable (in fact, the report estimated Virginia's offender population over age 55 at 8.6%, above the national average). Thus, the health care needs of offenders are complex. Designing a contract to cover every contingency across a set of facilities that vary widely in the size and characteristics of offenders will necessarily be imperfect, opening the door for underperformance (moral hazard).

There are numerous reports in the media about inadequate care provided by private prison health companies (see, for example, Sandler (26)). Reports of lawsuits over these issues abound, and while the prison health companies note that many of these lawsuits are either dismissed or settled for minor amounts, a 405-page report by prison health experts appointed by an Illinois court provide fairly substantial evidence of poor performance (28). A lawsuit filed in 2012 on behalf of five female offenders at Virginia's

Fluvanna Correctional Center for Women (FCCW) was settled in 2014 in favor of the plaintiffs. In a blow to the notion that states can shift liability risk through contracting, Federal District Court Judge Norman Moon's ruling noted that although medical care is provided by a private contractor at FCCW, the agency is ultimately responsible for the well-being of the incarcerated population and cannot delegate this responsibility away (8). No monetary damages were assessed in the FCCW settlement, but DOC is required to make changes to its operations at FCCW. These changes are monitored by a court-appointed physician expert who must certify that the new agreed upon standards of operation are met. If conditions of inadequate care are identified by the monitor and not addressed within 30 days, DOC can be held in contempt of court. These legal actions are exceedingly expensive in terms of both time and resources. They also have a chilling effect on trust at all levels between offenders, prison administration, and medical providers; between DOC staff and contractor staff; and between DOC and the public. These direct and indirect costs must be included in calculations of the costs and benefits of contracting.

The ability of contractors to request changes in terms mid-contract is also costly. Virginia is not the only state to have experienced contractor "hold up" recently. According to a 2016 article in *Modern Healthcare* (26), Corizon exercised a 180-day cancellation provision in its contract with the state of Florida when the Florida legislature did not approve the company's request to increase its payments. Saying it was losing $1M per month, Corizon stepped away from its $1.2B 5-year contract in year three. In such instances, state departments of corrections must find an alternative contractor quickly, generally at unfavorable rates since it is difficult to negotiate from a position of public desperation. A 2014 presentation by then Director of Health Services for Virginia's DOC, Fred Schilling, notes that the emergency contract negotiated to replace a contract that was terminated at Corizon's request exceeded the latter by $6 million annually plus an additional $14.2 million in inpatient expenses that DOC carved out of the emergency contract and covered separately (30).

Finally, with the exception of a few services such as renal dialysis and prescription medications, outcomes for the services for which DOC must contract are often complex and hard to measure. This complexity is compounded by the fact that security is always a paramount concern. When offenders cannot get the care they require at their home facility, transportation and security must be provided to take them to an appropriate care setting. Because transportation and security are always provided by DOC employees, offsite care provided at contracted facilities involves communication and coordination between DOC and the contractor. Limited security staff coupled with either unexpected security needs or emergent/unexpected medical care needs mean that communication and coordination must be seamless. As Leiblein et al (21), Jensen and Stonecash (18), Burnes

and Anastasiadis (3) argue, this is exactly the kind of scenario that creates major challenges for outsourcing.

Some states such as Texas have chosen to create comprehensive partnerships with public university health systems rather than private vendors. This approach has another set of tradeoffs. On the one hand, public universities and public corrections agencies share the mission of serving state residents. Academic medical centers are stable entities that do not enter and exit the market based on short run economic conditions. While their leadership changes over time, their ownership and governance structure do not. Thus, they make good long term partners in which investments can be made with a promise of long term gains. However, stability reduces one of the key benefits of contracting: competition and the infusion of new ideas that comes with the possibility of losing a contract to a more innovative, less expensive, higher performing vendor. Academic medical centers also share the cumbersome human resources systems of state agencies, thus losing the important benefits of flexible employment policies often required to attract sufficient personnel.

On the positive side of the ledger, academic medical centers train the workforce that offender health systems require. The training process generally involves supervised field experience, which could involve offender health care (subject to laws that protect offenders), to the benefit of both student trainees and offenders.

A further advantage for offender health systems in partnering with academic medical centers is a reason that may make these partnerships more difficult at this point in time. Academic medical centers, as key providers of many community benefits including safety net services, generally enjoy a reasonable amount of public political support. An offender health system might garner some of the benefit of this support in a partnership with an academic medical center. However, safety net providers in states such as Virginia that have not expanded Medicaid are under enormous financial pressures as their federal support erodes and is not replaced by Medicaid dollars. Thus, academic medical centers may be reluctant at present to take on responsibility for additional under-resourced populations.

Summary and Conclusions

The purpose of this study, conducted pursuant to Virginia's 2015 Budget Bill HB 1400 Item 384, was to examine the costs and benefits of alternative approaches to providing constitutionally required health care to offenders in the Commonwealth's 46 state prison facilities. The alternatives we considered include:

- Contracting with private prison health companies to provide care in all 46 facilities (the "buy" model);
- Providing care in all 46 facilities with DOC employees and select individually contracted providers (the "make" model);
- Continuing the current approach of using private contractors to provide most onsite and outpatient off-site care for some facilities (currently 17) and DOC employees for the rest; inpatient care is managed by DOC for offenders in all facilities through contracts with specific inpatient facilities (the "hybrid without inpatient" model);
- Returning to a previous approach of using private contractors to provide most onsite and all off-site care (including inpatient care) for some facilities and DOC employees for the rest (the "hybrid with inpatient" model).

In addition, we considered a fifth approach that a few states have used successfully:

- Creating exclusive and comprehensive contracts with one or more state academic medical centers to provide all onsite and off-site care for offenders (the "academic partnership" model).

Our examination of these models included a literature review; analysis of agency data, reports, and contracts; site visits to eight prison health facilities and the secured unit at VCU Health; and interviews with DOC staff and representatives of both prison health contractors. This work leads us to the basic conclusion that there is no single best answer as to what kind of entity should manage prison health systems. Rather, there are tradeoffs: contractors have advantages in some areas and disadvantages in others. The disadvantages can be managed to some extent by careful contracting, reporting, monitoring, and enforcement. However, contract management – especially effective management – requires resources that reduce any cost advantages that might accrue from this approach. Further, some disadvantages are inherent in the contracting process and are more difficult to manage. In the end, a purposeful hybrid model where contracted sites are selected to maximize the advantages of contracting and where contracts are carefully written, negotiated, monitored, and enforced is likely to yield the best outcomes.

Our more specific conclusions are as follows:

- Based on the extensive financial audit in 2010 and our updating of this analysis with FY 2015 data, there appear to be no major cost differences

between the DOC sites and the contracted sites ("Overall, the medical services are operated in a cost effective manner. When including overhead and corporate administrative costs associated with private entities, costs were fairly comparable between contractor- and DOC-run facilities." (23)). Our updated analysis suggests there is no reason to believe this conclusion is any less true today. Insufficient data were available to assess this conclusion with more accuracy.

- There are conceptual arguments both for and against the "buy" model (contracting) relative to the "make" model, but very little useful empirical evidence to support either.
- Most authors and most of the evidence suggest that there is no single right approach, but that the best approach depends heavily on the services in question, and the context (including the target population) in which it is delivered.
- Discrete and homogenous services for which reasonable outcome measures can be defined and collected (like pharmacy and renal dialysis) are better candidates for the "buy" model.
- Complex services whose characteristics vary across patient types (e.g., illness severity, age, gender, co-morbidities) and for which reasonable outcome measures are harder to define and collect make less good candidates for the "buy" model because contracts will have difficulty prescribing and monitoring all the important aspects of the service (e.g., quality). Many health care services beyond the most routine fall into this category, particularly for the offender population where disease severity is often acute and co-morbidities (mental illness and substance abuse) are common.
- The previous point is compounded further in the prison setting by two factors. First, prisoners constitute a vulnerable population, less able than others either to judge quality or advocate for themselves effectively. Second, prison health services must be provided in a secure environment, often off the prison campus. This requires not only the added expense of providing security officers and transportation but also close and flexible communication and coordination between health care staff and security staff. Where the health care staff are employees of private companies with different management and different decision-making processes, this coordination is more difficult. Mistakes and delays because of incomplete communication and coordination can have significant – and sometimes life threatening – consequences.
- A key conceptual argument for the "buy" model is the assertion of cost savings. The empirical evidence to support this expectation is often promised (by contractors), anecdotal, or incomplete. To the latter point, the indirect and overhead costs of contracting are rarely included in cost calculations. These

costs include the resources expended in designing the contract and the contracting process, negotiating the initial contract, monitoring contractor performance, and engaging in enforcement activities as needed. There are often other unexpected costs that arise during the contract period such as re-negotiated rates following unforeseen cost increases resulting from such things as court settlements and the availability of costly new pharmaceuticals. Less frequent but costly are events such as a contractor exercising its escape clause and stepping away from the contract mid-term, or lawsuits resulting from contractor mistakes or underperformance. While contractors are accountable for and insured against some level of liability, the Fluvanna lawsuit makes clear that DOC is ultimately responsible for the well-being of offenders under its care.

- A conceptual argument against the "buy" model is that cost savings are achieved by reduced quality. Again, there is limited systematic evidence to support or refute this argument. Because meaningful health outcomes related to quality of care are difficult to define and measure, comparisons of service quality across models are necessarily incomplete. The lack of an electronic medical record in Virginia prisons makes gathering the requisite data to make even crude comparisons impractical if not impossible. However, our interactions with DOC staff and our site visits to several prison facilities led us to the same conclusion noted in the 2010 audit report: "...the large majority of those interviewed indicated that the level of medical service provided to the inmates was very good, whether contractor or DOC-run" (23, page 4).
- The "hybrid" model captures some of the advantages of contracting while mitigating some of the disadvantages. If there are real cost savings to be had through contracting, these may be realized for at least the contracted facilities. If contractors, because of their profit incentives and participation in markets in other states, bring competitive energy and national best practices to Virginia, there may be beneficial spillover effects on DOC-managed facilities. However, in a hybrid model DOC does not completely give up its core capability to provide offender care. If quality indeed trends lower in contracted facilities (an assertion for which there is no concrete evidence), DOC-managed facilities can provide a quality standard against which the contracted facilities can be measured. DOC also has the ability to step in at least to some extent if the contractor steps away unexpectedly. Maintaining the management of health care units in some facilities also supports an infrastructure that understands first-hand the challenges and trends affecting prison health. This leads to more informed contracts and therefore better oversight of contractors. Since recruiting is a general challenge for prison health facilities, combining the resources, expertise, and compensation models

of both DOC and contractors to attract and retain an adequate supply of providers is also an advantage.

- A key rationale for contracting in Virginia is the belief that contractors, with their greater flexibility in hiring, firing, and compensating employees (especially clinical employees) have a significant advantage in staffing facilities in particular markets. This possibility is noted frequently in the literature, generally focused on rural areas that are thought to offer the most difficult recruiting environments. In Virginia, however, DOC has focused its contracting on sites that are closer to urban areas because the DOC experience is that it is harder to recruit where there is competition for clinical personnel (especially nurses) from other health care providers in the area. Rural areas have fewer providers, and so offer fewer alternative employers for clinical staff. Purposefully selecting the most appropriate facilities for contracting – and reassessing these decisions at regular intervals – allows DOC to make the best use of the contracting approach. Increasing flexibility in the employment and compensation policies available to DOC would mitigate, to some extent, this advantage to contracting.
- Flexibility around personnel policies, including compensation, is indeed important. Many of the staff we spoke with mentioned that the lack of pay differentials for less desirable shifts (evenings and weekends) was an important recruitment factor. However, there was the general feeling that while the composition of the compensation package differed significantly between DOC managed sites and contracted sites, the total value of the package was less different. Because wages are higher for contract staff than for state employees but benefits are lower, contract employment is more likely to appeal to younger employees for whom the additional salary is more valuable than additional benefits. To the extent more successful recruitment depends on higher total compensation, more resources would be required for both "make" and "buy" models.
- A characteristic of contracting is instability for contract employees. We spoke to several staff at contract facilities who expressed frustration at the changing logo on their paychecks in recent years. Each time the contractor changes, staff must re-apply for their positions, with the attendant paperwork and often negative implications for other benefits such as new waiting periods for health insurance coverage. To the extent this forced turnover results in a more motivated workforce, this is an advantage. To the extent it reduces the attractiveness of an already challenging environment for which there are labor shortages, it is a disadvantage.

In the end, however, most of the significant challenges facing the DOC and its ability to carry out its constitutional requirement to provide adequate health care for offenders in state prisons are external. They neither affect nor are greatly affected by the "make/buy" decision. Increasing prison populations, aging offenders, aging facilities and equipment, costly new technologies, high incidence of substance abuse and mental/behavioral health issues among offenders, and a general shortage of health care professionals (especially in isolated areas where prisons are often located) will necessarily increase the cost of caring for incarcerated individuals.

For the future, there are opportunities for improvements in the prison health system in Virginia, again largely independent of the "make/buy" decision:

- increased use of telemedicine to increase access to specialty care (including behavioral health and mental health services) and reduce off-site care, thus reducing security and transportation costs, and security risks;
- increased coordination between the health care unit and the security unit to reduce delays in hospital discharges and missed appointments resulting from inadequate security, thus reducing health care costs as well as security and transportation costs;
- implementation of a statewide prison electronic health record system to improve care coordination across prison sites and between prison sites and health care facilities, reduce the risk of lost records, and regain space from eliminating paper record rooms;
- closer coordination with Virginia's Medicaid office to pre-determine Medicaid eligibility before an offender's inpatient stay (note: should Virginia expand its Medicaid program, this coordination would be significantly more important, and DOC could expect to shift a substantial amount of inpatient expenditures to the federal government and Virginia's DMAS);
- consolidation of outpatient specialty services in a single building on a central prison campus to increase access, increase care coordination and continuity, reduce transportation and security costs, and reduce security risks; and
- increased analysis of utilization and expenditure data, made much more feasible by the addition of an electronic health record, to compare inputs and outcomes across facilities – both DOC and contracted – to determine and implement best practices that improve care and reduce expenditures.

Dealing with these challenges will require strong leadership and collaboration across all stakeholders involved with prison health. With this leadership, however, DOC can achieve improvements in care for the offender population; improvements in the overall health of this population; new knowledge about effective care systems that can be applied within prison, jails, and outside the criminal justice system; and at least a mitigation in the inexorable rise in prison health expenditures.

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Appendix 1
States' Contracting Experience

There are currently 36 states that outsource all or part of their offender health care (3). States have opted to partner with a private company or their university health system for services, including inpatient and outpatient care, mental health, dental health, and other ancillary services. Twenty-four of these states are completely run by private companies, while three are run by public university health systems. Ohio has a model that is partially state run, with some services provided by its academic health system. Georgia and Louisiana contract with a private company for some services and the academic health system for others (3). This appendix provides a sample of what other states are doing to provide health care for their offenders.

Alabama: The state has contracted with private vendors for health care services since 2007. The current 34 month, $224 million contract is with Corizon to provide care to the state's 25,000 inmates.

California: California provides health care services to their 125,000 offenders directly. In 2002, the state was sued by a group of inmates who claimed that the system provided inadequate care, in a violation of the Eighth Amendment. In 2006, the Department of Corrections was placed under federal receivership, which provides oversight and helps prisons correct deficiencies in health care delivery. The federal monitor recommended that California outsource most, if not all of its offender care, but the state declined (2).

Florida: In February, 2016, Centurion of Florida (a subsidiary of the national prison health company, Centurion) replaced Corizon as the contractor for three quarters of offenders in Florida state prisons. Corizon exercised its right to terminate its 5-year, $1.2B contract with the state, citing unacceptable losses (5).

North Carolina: North Carolina partners with community-based entities to provide health care to the state's 37,000 inmates. Most outpatient services are provided by the Department of Corrections. DOC contracts with community hospitals for emergency care and inpatient treatment (6).

Ohio: The Ohio Department of Rehabilitation and Corrections (ODRC) contracts with the state university (OSUMC) for some services, while providing all other services directly through the ODRC Bureau of Medical Services. There are infirmaries at each prison staffed by state employees and contract workers. The state operates two skilled nursing facilities, which also serve as step down units to minimize patient stays in the ER. OSUMC provides all emergency and inpatient care, as well as advanced diagnostic care (4).

Oklahoma: Contracts with private vendors for some services while others are state-run. Contracts are primarily for lab work, dialysis, and other ancillary services.

Pennsylvania: Wexford Health Services has a five-year, $292 million contract to provide health care services to Pennsylvania's 49,000 inmates at 27 facilities. The state uses a blended model where the vendor provides all practitioners (physicians, NPs, PAs) and a small number of administrative staff. The DOC provides nursing staff, administrative staff, and dental staff. Diamond provides pharmacy services (1).

South Carolina: South Carolina contracts all offender health services to Corizon and Wexford. The contracts have come under some scrutiny recently because of accusations of inadequate medical care, cost escalation, and payment for services that were never provided (1).

Tennessee: Tennessee contracts out all prison health services, including mental health, for its 29,000 inmates to Centurion. Corizon held the contract for a number of years, but lost it after the Tennessee Department of Corrections had to penalize the company millions of dollars for not meeting the contractual performance standards (8).

Texas: Texas is the only state that partners with a state university health system to provide all aspects of offender health care to its 150,000 offenders. In 1993, the Texas Department of Criminal Justice instituted the Texas Correctional Managed Healthcare program, which established contracts with the University of Texas Medical Branch and Texas Tech University Health Sciences Center to deliver all aspects of inmate care. The program is administered by a cooperative committee called the Correctional Managed Healthcare Committee. Texas's academic model is considered one of the best in the nation as it were one of the first prison systems to embrace telemedicine (7).

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