Vermont Department of Corrections:
Assessment of Health Care System Costs

January 16, 2019

Prepared by:

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EXECUTIVE SUMMARY

This report presents a review of health care costs and management in the Vermont correctional system. The scope of the review required an investigation of key cost drivers, opportunities to control costs, and an assessment of system performance. The project also include a comparison of key cost and management metrics of eight peer state correctional systems with Vermont. Finally, the report reviews current and past approaches to the procurement and management of health care services in the state correctional system.

The cost of correctional health care in Vermont is expensive. The Vermont DOC (VDOC)) spent $21 million on inmate health care in FY 2018, an average of $1,186 per inmate per month. This cost per inmate is 63 percent higher than the average cost per inmate for the other state systems reviewed in this report. The primary reasons for these higher costs are:

System Size – The very small size of VDOC facilities make cost-effective delivery of health care difficult. Economies of scale in service delivery cannot be achieved in a system where the correctional facilities have average daily populations of slightly more than 200 inmates. The VDOC has considered the benefits of system consolidation in the past and continues to review this concept.

Staffing – The VDOC requires very high levels of health care staffing relative to the size of these facilities. The number of health care staff per 100 inmates served is 70 percent higher in Vermont than in the eight comparison systems. Staffing costs make up over half of health care costs. A staff-intensive approach to service necessarily results in higher costs.

Administration – Vermont spends over $2 million or 11 percent of its correctional health care resources on administrative staff, including both state and contract employees. This is an extraordinarily high level compared to the other state systems reviewed, which spend on average 3.2 percent of their health care budgets on administration.

System Design – Despite the number and very small size of its correctional facilities, the VDOC provides a full program of health care services in all of its facilities, including infirmaries in three facilities.

System Structure – Unlike most states, Vermont maintains a unified correctional system that houses pretrial offenders in addition to sentenced inmates. This model places additional burdens on the delivery of health care, both in terms of volume of assessments at intake and the need to respond to emergent health issues of persons recently taken into custody.

Like most state correctional systems, the VDOC uses a vendor contract model to manage health care delivery. The current contract for health care services is a complex hybrid of capitated, pay-

for-performance, and risk-based models. The contract features extensive, detailed directives on policies, procedures, and service delivery requirements. The structure of the contract minimizes risk for the vendor by establishing fixed funding allocations for program areas with variable costs, as well as fixed profit and overhead compensation. Alternative contracting approaches that afford more discretion and profit potential for vendors may not work for Vermont because the small size of the system presents limited profit potential relative to potential financial risks of adverse case experience. The contract model developed by the VDOC, by reducing vendor risk to attractive levels has at least the potential to attract multiple bidders and generate meaningful competition.

Our first four recommendations are near term and are areas where the past practice and provisions of the current contract have locked in coverage requirements that may be excessive and drive the higher Vermont cost in comparison to other states. We recognize it will be challenging to undertake these recommendations concurrent with the new contract RFP and negotiation. However, if the analyses and reviews recommended here cannot be completed in time to be fully incorporated into the new contract, it is essential that the provisions of the new contract allow flexibility for adjustment once the reviews are complete so the financial benefit of any changes can be fully realized by the state

Recommendations:

1. Review facility staffing requirements and reduce current levels, consistent with best practices in other state correctional systems. The review should focus on nurse staffing and assess shift coverage requirements, particularly the number of staff required on night shift in smaller facilities.

2. Reduce the number of regional office staff required by the contract by shifting responsibilities to VDOC Office of Health Services staff and consolidating related assignments into fewer positions.

3. Evaluate the current use of the system infirmary beds, and if warranted, centralize infirmary services in one or two facilities.

4. Consolidate health care services in a limited number of larger facilities with fully functioning health care programs.

5. Assess the long-term potential for reducing cost and improving system performance by replacing the current system of small, distributed facilities with a centralized correctional complex.

1. HEALTH CARE SPENDING

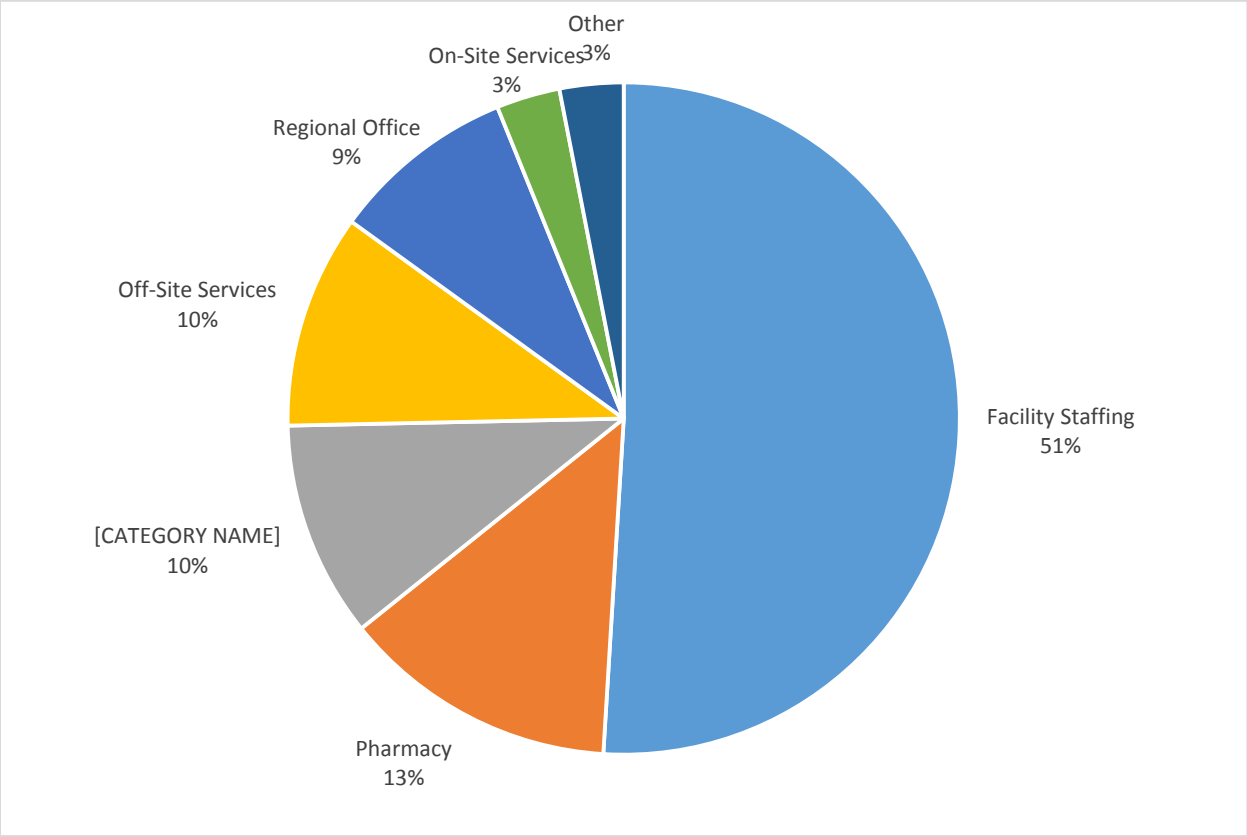
Findings:

- *The Vermont DOC spent $21 million on inmate health care in FY 2018, an average of $1,186 per inmate per month.*
- *Expenditures for facility health care staffing make up over 50 percent of spending under the state's contract for correctional health management and service delivery. Other significant cost areas include pharmaceuticals, off-site health care services, administration, and vendor overhead/profit.*
- *Contract staffing levels have grown from 127.4 FTEs in 2015, to 140 as of August 2018, primarily for additional nurses.*
- *Nurse staffing levels appear disproportionately high relative to the size of VDOC facilities. Night shift coverage stands out as in excess of typical staffing patterns found in small correctional facilities.*
- *A review of nurse staffing in Massachusetts DOC facilities shows one nurse for every 48.6 inmates, as compared to a VDOC staffing pattern of one nurse for every 19 inmates. The very small size of the Vermont DOC facilities may make efficient utilization of staff problematic. Closing and/or consolidating health care units in the smallest facilities would reduce cost and increase overall system efficiency.*
- *Including both VDOC and vendor staff, he correctional system has 20 FTEs assigned to administration of healthcare at a cost of $2.4 million. This level of spending on administration is excessive, particularly for a system of this size.*
- *Vermont's unified jail/prison system model places additional burdens on the delivery of health care, both in terms of volume of assessments at intake and the need to respond to emergent health issues of persons recently taken into custody.*
- *The VDOC maintains 18 infirmary beds in three separate institutions. This is a relatively high number given the size of the correctional system and increases health care staffing requirements and associated costs.*

The Vermont Department of Corrections (VDOC) is responsible for delivering health care services to offenders housed in the state's seven correctional facilities. In FY 2018, the average daily population (ADP) of the Department totaled 1,796. Of this total, the Department housed 1,515 inmates in Vermont, with the balance of the population, 281 inmates on average, housed out of state due to lack of available prison capacity in the state correctional system. Offenders in detainee

status make up approximately 20 percent of the average daily inmate population and 48 percent of annual admissions to the Department. Males make up 82 percent of offender admissions. The average age of the incarcerated population is 37.5. In FY 2018, the Department's total budget was $157 million. VDOC expenditures for health care services totaled approximately $21 million. The cost of the contract with the VDOC's health care vendor, Centurion, makes up $20.2 million of this total, with the remainder supporting VDOC Office of Health Services staff. Over half of contract expenditures go directly for facility health care staffing. Pharmacy, off-site services for hospitalization and specialty care, overhead, profit, and a regional office make up other significant cost components. Figure 1 summarizes the primary elements of VDOC health care contract spending.

Figure 1: Allocation of VDOC Health Care Contract Spending by Function



Based on the FY 2018 VDOC average daily facility population, this level of spending represents a monthly total cost per inmate of $1,186. A review of the factors driving this spending level follows.

Staffing. The current staffing matrix for contracted service hours provided in VDOC facilities totals 126.8 Full Time Equivalents (FTEs). This matrix does not include any additional staff that may be required for the VDOC's new Medication Assisted Treatment program or its updated Hepatitis-C

protocol. As these programs develop, their impact on overall staffing requirements should be assessed.

Current staffing patterns at each facility include administrators, clinicians, and nursing staff. Appendix A contains a summary of the contracted staffing level at each facility. The contract with Centurion designates the specific staffing pattern required at each facility. The staffing matrix has been developed by VDOC over time, with adjustments as dictated by changes in the system, such as facility closures or emerging needs. Since the beginning of the contract with the current vendor, the number of FTEs paid for in the contract has grown from 127.4 specified in the original 2015 RFP, to 140 in the latest contract amendment as of August 2018. The increase is primarily attributable to additional nurse positions allocated among the facilities.

Nurses provide 54 percent of the staff hours required by the contract and are by far the largest category of service provider. The level of nurse staffing at VDOC facilities required under the contract is higher than levels the project team has encountered in other systems with facilities of comparable size. Night shift staffing appears particularly high. Throughout the United States, it is unusual to find 24 hours/7 days a week health care staffing in facilities with population levels below 250 inmates. More often, smaller facilities use responsive on-call systems on the night shift that enable officers to put a patient on the telephone with a clinician who can perform a phone triage as needed.

An examination of nurse staffing levels in the Massachusetts correctional system also suggests that VDOC nurse staffing is high. The Massachusetts Department of Correction (MADOC) has a reputation for robust staffing of health care and program units, and it's spending on correctional health care ranks very high in most nationwide studies[1]. The MADOC recently entered into a new contract for health care services at all of their facilities. The project team compared MADOC nurse staffing for the six smallest facilities in the system which maintained a health care program (Massachusetts facilities with average population levels below 200 inmates do not provide health care services) with Vermont facility staffing.

The review showed that in aggregate, MADOC facilities that house 4,753 inmates require approximately 98 nurse FTEs. This results in a staffing ratio of 48.55 inmates per nurse. The VDOC requires approximately 76 nurse FTEs for a population of 1,451 inmates, which results in a staffing ratio of 19.22 inmates per nurse. The ratio of nurses to inmates is over 2.5 times higher in the MADOC correctional system than in Vermont.

[1] Lamb-Mechanick, D. and Nelson, J., *PRISON HEALTH CARE SURVEY: An Analysis of Factors Influencing Per Capita Costs,* 2008; Pew Charitable Trusts, *State Prison Health Care Spending*, 2014.

These lower nurse-staffing levels extend to facilities with complex missions and high demand for services. For example, MADOC's Cedar Junction facility serves as the Department's central reception center, manages a 125-bed disciplinary segregation unit, and supports an average daily population of 747 inmates with 19.2 nurse FTEs. Southern, the VDOC facility with the most complex health care program requires 21.5 nurse FTEs for a population of 377 inmates. The only MADOC facility with nurse staffing comparable to levels found in the VDOC is the Massachusetts Alcohol and Substance Abuse Center (MASAC). This facility houses civilly committed persons suffering from addiction that require detoxification services and treatment programs. A staff of 22 nurses supports the 203 patients receiving treatment at the facility. Table 1 compares inmate population levels and nurse staffing patterns in facilities for both systems.

Table 1: Nurse Staffing in the Vermont and Massachusetts Correctional Systems

VDOC Nurse Staffing				MADOC Nurse Staffing			
	FY 2018 ADP	Nursing FTE	Inmates per Nurse		FY 2018 ADP	Nursing FTE	Inmates per Nurse
Chittenden	139	13.70	10.15	Cedar Junction	747	19.20	32.24
Marble Valley	132	9.00	14.67	Concord	696	11.20	62.14
Northeast	214	9.85	21.73	Shirley	1,449	20.40	71.03
Northern State	411	11.05	37.19	North Central	955	11.60	82.33
Northwest	218	10.40	20.96	Old Colony	702	13.70	51.24
Southern	337	21.50	15.67	MASAC	203	21.80	9.31
Average	1,451	75.50	19.22	Average	4,753	97.90	48.55

The apparent high ratio of nurse staffing relative to the inmate population in VDOC facilities may in part be attributable to the very small size of the facilities and the baseline staffing required for establishing a health care unit at each facility. A fully functioning health care program requires a minimum base level of staff across multiple shifts regardless of the size of the facility, as well as non-nursing staff including administrators and clinicians. A small facility will simply make less

efficient use of this base level of staff resources than the much larger correctional facilities found in most other systems. In this case, the issue is not excessive staffing, but may be instead too few inmates to make cost-effective use of the program.

This is readily apparent in Chittenden (ADP 139 inmates) for example, where in addition to an ample complement of nurses on all three shifts, this facility also requires per the contract: a Director of Nursing, a Health Services Administrator, an Administrative Assistant, and a Medical Records Technician. While these staff positions are all legitimate components of a well-functioning correctional facility health care program, the overall staffing complement at the facility would support delivery of services to a much larger inmate population. The project team is not aware of another correctional facility of this size in the United States with this level of health care staffing.

To the extent that facility size makes cost-effective operations difficult in Vermont, one option to reduce costs and make better use of available staff resources would be to reduce health care staffing in the smallest, least efficient facilities to minimal levels, and move inmates with health care needs to the larger facilities with fully functioning health care programs. This would allow a reduction in both nurse and non-nurse staffing with corresponding cost savings, allowing a smaller number of health care professionals to provide service for a larger population, thereby increasing aggregate system efficiency.

Pharmaceuticals. In 2017, the VDOC dispensed medications to 50 percent of inmates. Inmates receiving treatment received five prescriptions for medication on average. About 37 percent of the inmate population received psychotropic medications. These utilization rates compare favorably with other correctional systems and indicate good control over prescribing practices. Moreover, the VDOC indicates that vendor-negotiated prices and effective formulary management have lowered drug prices to 340(b) levels, which represents a high level of cost-effectiveness. The only aspect of pharmaceutical use in the system that could drive pharmaceutical spending higher to a significant degree are changes in policy on Hepatitis C treatment protocols and guidelines for the Medication-Assisted Treatment program.

Administration. The VDOC provides management oversight of the correctional health care through its Office of Health Services as well through a regional office required under the its vendor contract. The contract supports 13.6 FTEs under the regional office, as shown in Table 2.

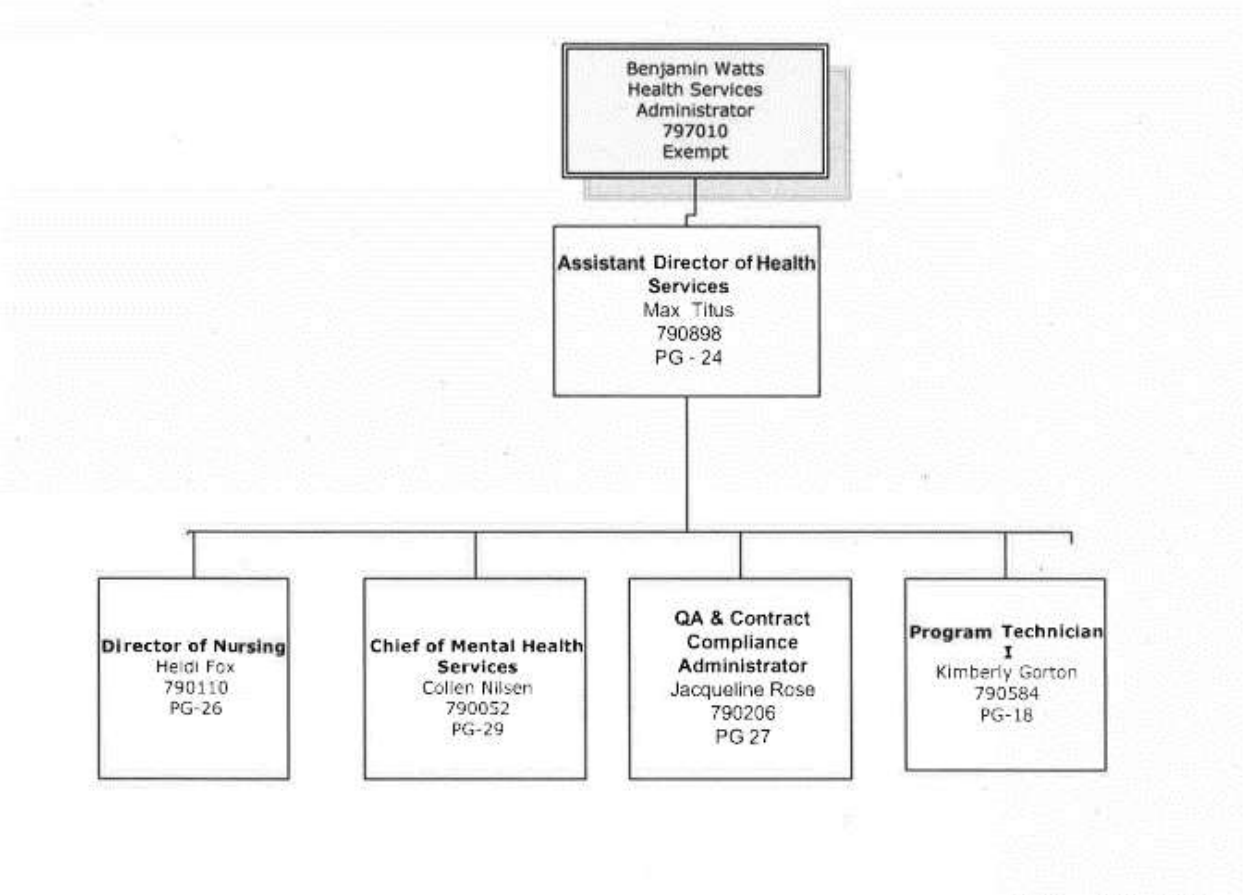
Table 2: Vendor Regional Office Staffing

Regional Office		
Position	Hrs/Wk	FTE
Statewide VP of Operations	40.00	1.00
Clinical In-Service Nursing Coordinator	40.00	1.00
Statewide Medical Director	40.00	1.00

Regional Office		
Position	Hrs/Wk	FTE
Statewide Director of Psychiatry & Behavioral Health	32.00	0.80
Psychiatric Coordinator	8.00	0.20
Statewide Assistant Director of Behavioral Health	24.00	0.60
Mental Health, Clinical Supervisor	8.00	0.20
Statewide Director of Quality Improvement	40.00	1.00
Statewide Director of Care Coordination	40.00	1.00
Care Coordinator (RN/LPN)	40.00	1.00
Utilization Management Nurse (RN)	40.00	1.00
Statewide Director of Staff Development	40.00	1.00
Statewide Physical Therapist (Float - PRN)	20.00	0.50
Statewide IT Manager	40.00	1.00
Office Manager	40.00	1.00
Clerical Support	24.00	0.60
Administrative Assistant, Clinical	24.00	0.60
Pharmacist, PRN	3.85	0.10
Total Regional Office Matrix Hours	543.85	13.60

The VDOC Office of Health Services also has six full-time staff, organized as follows:

Figure 2: VDOC Health Services Administration



Taken together, the VDOC Office of Health Services and the Regional Office established under the vendor contract, employ approximately 20 staff at a cost of $2,439,794. This represents 11.6 percent of total health care program spending and 14 percent of the total number of health care staff assigned to the program. This level of investment in program administration is excessive. Normal levels of administrative expenditures for correctional health care systems average 2-3 percent of program costs.

The VDOC Office of Health Services administrative staffing assignments appear reasonable. Instead, the issue is the organization and duties of the contract administrative staff required for the regional office. For example, in the area of behavioral health, the regional office has a Statewide Director of Psychiatry & Behavioral Health, a Psychiatric Coordinator, a Statewide Assistant Director of Behavioral Health, and a Mental Health, Clinical Supervisor. These positions are in addition to the Chief of Mental Health Services assigned to the VDOC Office of Health Care Services. These positions provide 3.8 FTEs to manage approximately 15 mental health professionals providing direct services in facilities. Similarly, the vendor contract requires the regional office provide a Statewide Director of Quality Improvement, a Statewide Director of Care Coordination, and a Care Coordinator. The closely related job responsibilities assigned to these positions would be performed by one FTE in most small to medium size correctional systems.

Intake. The VDOC sees many more inmates that its average daily population would suggest. Because the state maintains a unified jail/prison system, admissions to the system include those offenders that in most systems would be sent to county jail .This dramatically increases the number of offenders entering the system that must be assessed. Despite a relatively stable daily population that averages approximately 1,500 offenders, the total flow of non-unique individuals moving through the system in FY 2017 approached 29,000, excluding inmates placed in out-of-state facilities. The detainee, pre-sentenced population averages 400 inmates, or about 27 percent of the total offender population. By serving as a jail system, the VDOC experiences a high volume of admissions into the system, directly increasing workload on the front-end assessment and processing of these offenders. In addition, because detainees may go directly into VDOC custody following their apprehension, any medical condition they have may not be stabilized, which can substantially complicate health care delivery. This is particularly an issue for those detainees that require detox services or who may be experiencing mental health issues.

Facilities. Table 3 summarizes the key characteristics of the seven VDOC correctional facilities relating to delivery of medical services.

Table 3: VDOC Health Care Facilities

Facility	Health Care Facilities
Southern	Multi-room health center w offices X-Ray Room 2 Chair Dental Rooms Optometry Room 2 Exam Rooms Infirmary w/ 4-bed sick bay, 4 individual cells, and 2 negative pressure cells 28 bed medical housing unit
Northwest)	Waiting room, large nursing station, and exam room Reverse airflow room for TB isolation Dental treatment room

Facility	Health Care Facilities
Northern State	Nursing areas, lab and exam room, dental clinic and storage 3 bed infirmary
Northeast	Two buildings - one with a multi-purpose unit, exam room and office; and the other with only a multi-purpose unit
Chittenden	5 bed infirmary Permanent dental equipment, exam rooms, and medical offices
Marble Valley	Multi-purpose unit with exam room and office space

The primary health care cost driver relating to the organization of services at these facilities is the number and location of infirmary beds. Infirmary units offer protected housing to disabled and infirm inmates and allow medical staff to provide certain types of care (intravenous antibiotic therapy, specialized dressing changes, etc.) which typically reduce hospitalization use and otherwise manage infirm inmates. However maintaining an infirmary typically requires additional staff resources due to the need for more intensive nursing care and coverage. While there are no standardized benchmarks for the number of infirmary beds required for effective correctional health care, a study conducted by ABT Associates suggested that on a system wide basis, 4.6 beds per thousand inmates should be sufficient to manage those offenders that genuinely require infirmary care.[2] In the project team's experience, most states do not maintain this level of infirmary care.

Applying this ratio to the 2018 VDOC average daily population indicates a need for eight infirmary beds (4.6:1,000=7.36:1,600), suggesting a need for one 8-bed infirmary unit or two 4-bed units. The VDOC currently maintains 18 infirmary beds in three facilities, 13 for males and 5 beds for females. This necessarily increases system cost. The ratio developed in the ABT study is not a definitive metric of infirmary bed need. However, it does point to a potential for efficiencies that could be achieved by reducing and/or consolidating the number of infirmary beds in the VDOC. A close evaluation of current infirmary bed use and patient acuity should be conducted to address this question. Such an evaluation should address whether patients currently using infirmary beds could be managed in a less medically controlled environment within a correctional facility, such as a medical or assisted living housing unit.

Overhead/Profit. The contract allocates 10 percent of the total dollar value of services provided to vendor overhead and profit. This amount of overhead and profit is consistent with levels found in similar contracts in the correctional health care industry.

Management. The VDOC has pursued a number of initiatives and "best practices" to improve efficiency and constrain costs. These include:

[2] Chronic and Long-term Care in California Prisons: Needs Assessments. Final Report, August 31, 2007, ABT Associates

- Development and implementation of an Electronic Health Record (EHR) system to improve access to and retrieval of patient information.
- Establishing a requirement that vendors attain National Commission on Corrections Health Care (NCCHC) accreditation.
- Collection and use of a wide range of performance data to guide operational planning
- Consolidation of medical, mental health, and pharmaceutical services under one contract to reduce overhead and improve coordination.
- Preparation of a new RFP that moves toward a performance-based management model.

2. PEER STATE COMPARISON

Findings:

- *Vermont allocates 13 percent of its corrections system budget to health care delivery, which matches the average health care budget allocation for the eight state correctional systems included in the analysis.*
- *Vermont has the highest per inmate cost for health care services of the systems compared. The average monthly cost to provide health care to an inmate in the Vermont correctional system is $1,186, which is 63 percent higher than the $726 average monthly cost per inmate for the eight comparison systems.*
- *The Vermont system has substantially higher staffing levels than the comparison systems. The number of health care staff per 100 inmates served is 70 percent higher in Vermont than in the eight comparison systems.*
- *Vermont spends more to administer their correctional health care system than the other systems reviewed. Administrative costs make up 11.6 percent of total health care system costs in Vermont, compared to an average of 3.2 percent in the other correctional systems reviewed.*
- *Vermont correctional facilities are very small relative to the other systems. The average daily population in the seven Vermont correctional facilities in FY 2018 was 211. The corresponding ADP per facility in the other correctional systems reviewed was 575, approximately 273 percent larger than the Vermont average.*
- *The cost of pharmaceuticals in the Vermont correctional system is somewhat higher than the average cost for the comparison group. Vermont's average cost of pharmaceuticals per inmate per month was $142.27 in FY 2018. The average monthly cost per inmate for the comparison group was $122.01. However, Massachusetts had a substantially higher cost, at $228.43, which appears related to the much larger role played by that system in providing mental health treatment in the state's public health system.*
- *Of the eight comparison systems, Alaska and Hawaii are the only systems that largely rely on state employees to manage and deliver correctional health care services.*

CGL conducted a survey of benchmark cost data from several other comparable state correctional systems. The analysis targeted states with small correctional systems, unified jail/prison systems, and neighboring New England states. The analysis included Alaska, Connecticut, Delaware, Hawaii, Maine, Massachusetts, New Hampshire, and Rhode Island. While sharing many characteristics, these systems also have unique features that in some cases have a substantial impact on health care spending, making "apples to apples" comparisons difficult. Moreover, different approaches to accounting or categorizing fiscal costs by each state must also be kept in mind in evaluating this data. Given these considerations, the comparative cost data presented here should not be

considered a definitive audit of inmate health care costs in each correctional systems. The data instead provides approximate points of comparison that provide an imperfect, but still meaningful comparison of state spending on correctional health care. Appendix B contains detail on the sources for the data presented in this chapter.

A summary of descriptive information on each system follows:

Alaska

- Services provided by state employees
- FY 2018 Average Daily Population (ADP) – 4,992 inmates
- 11 institutions, 1 with over 1,000 inmates
- Unified system (jails and prisons)

Connecticut

- Recently switched from a University Provider Model for all health services, to services provided by state employees
- FY 2018 ADP – 13,388 inmates
- 18 institutions, 5 with 1,500 or more inmates
- There are 8 infirmaries with a total capacity of 140 beds for both medical and mental health patients
- Unified system (jails and prisons)
- NCCHC accredited

Delaware

- Vendor Contract Model
- FY 2018 ADP – 4,925 inmates
- 4 institutions, all over 1,000 inmates
- Unified system (jails and prisons)
- Formerly subject to US Department of Justice oversight of healthcare delivery pursuant to major litigation
- NCCHC accredited

Hawaii

- Services provided by state employees
- FY 2018 ADP – 3,707 inmates
- 9 institutions
- Unified system (jails and prisons)

Maine

- Vendor Contract Model
- FY 2018 ADP – 2,422 inmates
- 6 institutions

Massachusetts

- Vendor Contract Model
- FY 2018 ADP – 9,207 inmates
- 17 institutions (9 hold fewer than 500 inmates)
- 12% of the MADOC population is composed of civil commitments, pre-trial, and county sentenced offenders
- The Massachusetts correctional system manages several " special" populations unique to most correctional systems which significantly drives up the cost of health care:
    - Sec. 35 civil commitments for alcoholic detoxification and substance abuse treatment
    - Bridgewater State Hospital patients who undergo pre-trial forensic evaluations as well as pre-trial and post-conviction offenders who are seriously mentally ill)
    - Sex offender civil commitments who receive evaluation and/or treatment on an indeterminate basis

New Hampshire

- Vendor Contract Model
- FY 2018 ADP – 2,521
- 6 institutions
- Includes services to civilly committed persons due to mental condition and potential public safety threat, forensic evaluations of mentally ill persons to determine competency, developmentally disabled persons requiring intervention for potential dangerousness, and civilly committed sexually dangerous persons.

Rhode Island

- Vendor Contract Model
- FY 2018 ADP – 2,838
- 7 institutions
- NCCHC accredited

Vermont

- Vendor contract Model
- FY 2018 ADP – 1,474 (does not include inmates housed out-of-state)
- 7 institutions
- NCCHC accredited

Spending. Health care spending comprises a substantial proportion of total state corrections systems costs. A survey in April of 2011 by the Association of State Correctional Administrators found the average percentage of each DOC's current fiscal year operating budget allotted for overall healthcare expenses was 16%. On average, the systems reviewed allocated 13.1 percent of their total budgets to the delivery of inmate health care. Delaware spends the largest amount of its budget on health care, at 22.4 percent, and Connecticut and Rhode Island both allocate the lowest level of resources, spending 8.1 percent of their budget on health care services. Vermont's experience is very close to the average, with health care spending levels at 13.4 percent of the correctional system budget.

The Vermont health care budget is less than half of the average budget for the group. The New Hampshire, Rhode Island, and Maine correctional systems spend less than Vermont on health care despite managing somewhat larger systems. Table 4 shows FY 2018 health care spending and total correctional system budget levels for the states included in this review.

Table 4: FY 2018 Health Care Spending as a Percent of Total System Resources

	DOC Budget	Health Services Spending	% of Budget
Alaska	$ 309,319,000	$ 44,903,200	14.5%
Connecticut	$ 1,010,000,000	$ 81,835,526	8.1%
Delaware	$ 308,147,600	$ 69,100,000	22.4%
Hawaii	$ 225,636,985	$ 25,948,164	11.5%
Maine	$ 186,074,000	$ 17,915,534	9.6%
Massachusetts	$ 645,035,000	$ 113,091,152	17.5%
New Hampshire	$ 124,511,221	$ 15,818,359	12.7%
Rhode Island	$ 234,218,260	$ 18,965,327	8.1%
Vermont	$ 156,001,129	$ 20,970,195	13.4%
Average	$ 355,438,133	$ 45,394,162	13.1%

Comparing health care spending on a per inmate basis provides a better metric for assessment of relative spending levels. Fiscal Year 2018 spending data reported by these systems show that monthly health care costs per inmate average $777. This average covers all aspects of health care spending, including direct services to inmates, pharmaceuticals, off-site care, and administration. Vermont has the highest monthly cost at $1,186 per inmate, followed closely by Delaware at $1,169, and Massachusetts at $1,024.

Massachusetts spending levels appear to result from additional significant responsibilities and programs that most correctional systems do not fund. The state correctional system in Massachusetts, unlike most other states, is responsible for the provision of services to certain civil populations. These groups include:

- Civil commitments of Sexually Dangerous Persons (SDPs) for evaluation and/or treatment at the Massachusetts Treatment Center;
- Civil commitments for forensic mental health competency and criminal responsibility evaluations at Bridgewater State Hospital;
- Civil commitments for forensic mental health competency and criminal responsibility evaluations at Bridgewater State Hospital;
- Civil commitments for treatment of seriously mentally ill and violent detainees at Bridgewater State Hospital;

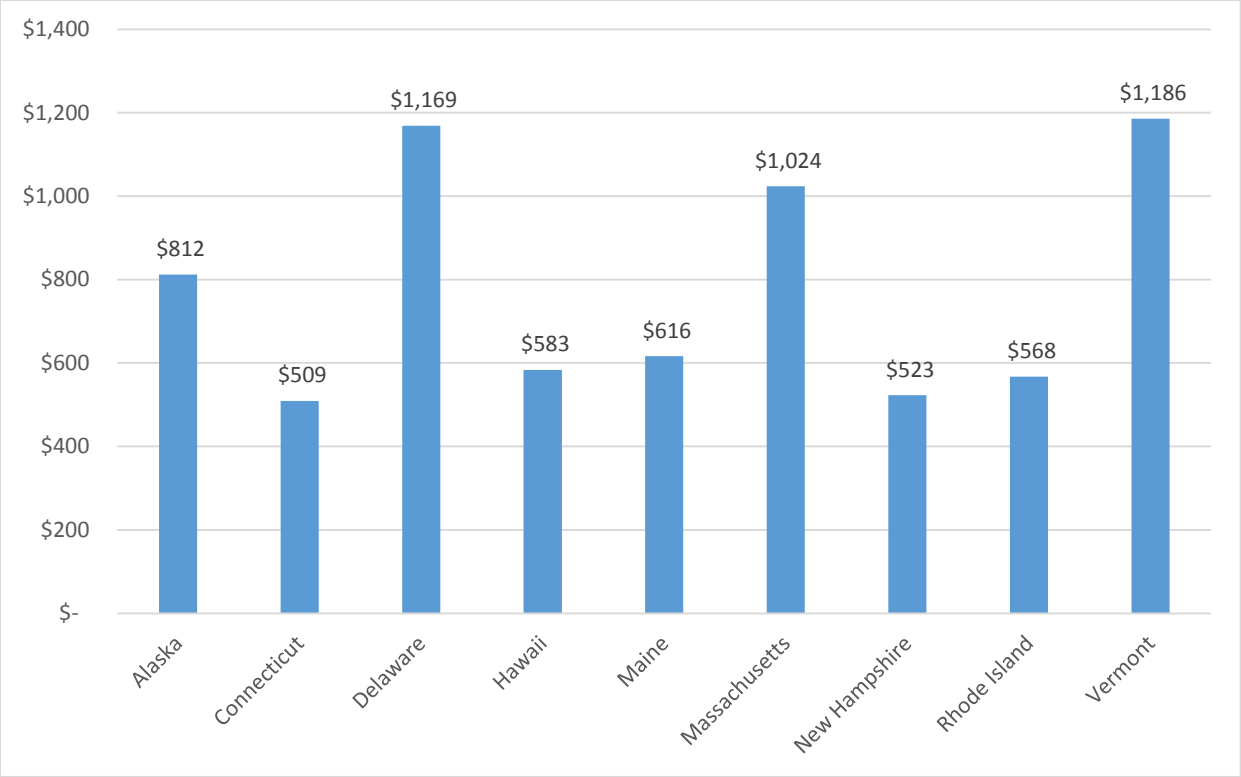
The cost of healthcare for these populations is roughly 39 percent of all Massachusetts correctional healthcare spending.[3]

In the case of Delaware, the primary cost driver may be service levels driven by six years of oversight of the state's correctional health care services by the US Department of Justice. This oversight resulted from litigation and investigations that substantiated serious deficiencies in the delivery of correctional health care. Maintaining compliance with the negotiated settlement that addressed these deficiencies may result in a higher level of care and corresponding higher costs.

The remaining six correctional systems have markedly lower spending levels, with average monthly spending per inmate of $602, ranging from 57 percent lower in Connecticut, to 32 percent lower in Alaska.

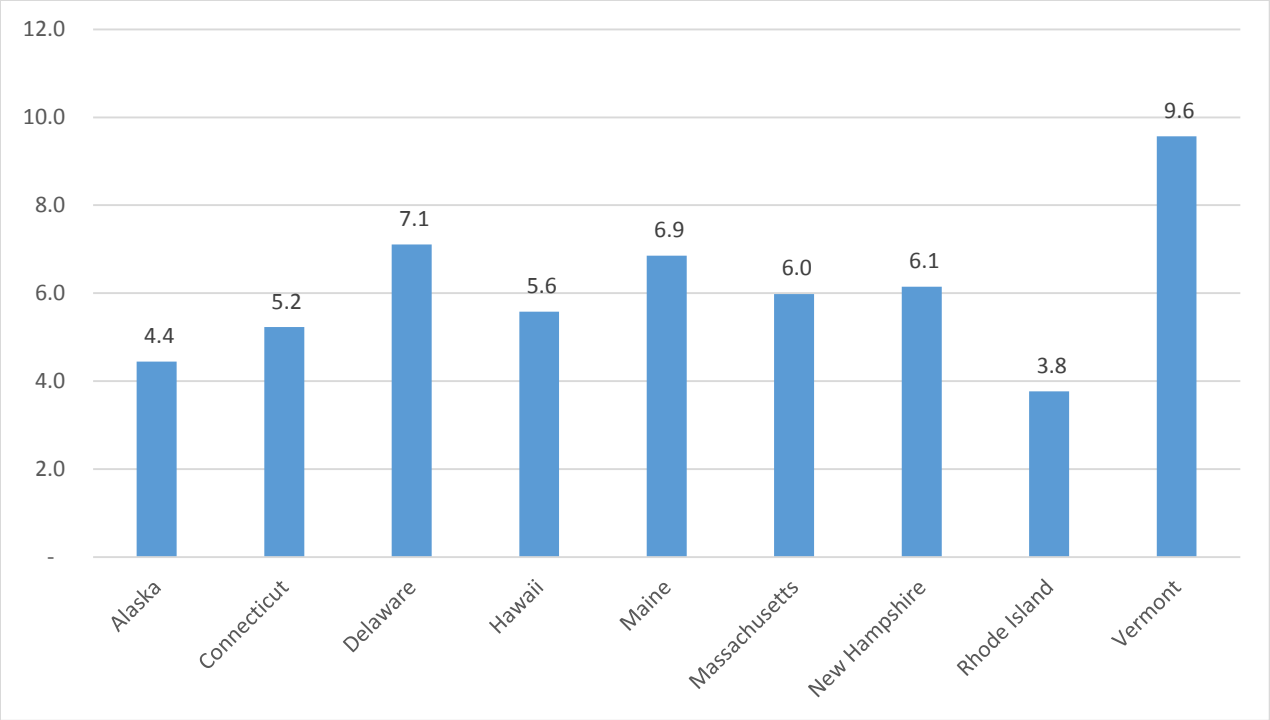
Figure 2: 2018 Monthly Cost per Inmate

[3] MGT of America, Analysis of Healthcare Costs in the Massachusetts Department of Corrections, 2011.



Staffing. One of the primary factors driving health care spending is the number of staff required to provide service. We compared Full Time Equivalent (FTE) staffing, whether vendor–provided or state employees, including administrative staffing. In order to provide common basis for comparison, the analysis calculated the number of health care staff provided per 100 inmates. The results show Vermont's staffing level is 70 percent higher than the average staffing ratio for the other state systems, and 35 percent higher than Delaware, the state with the next highest level of health care staffing.

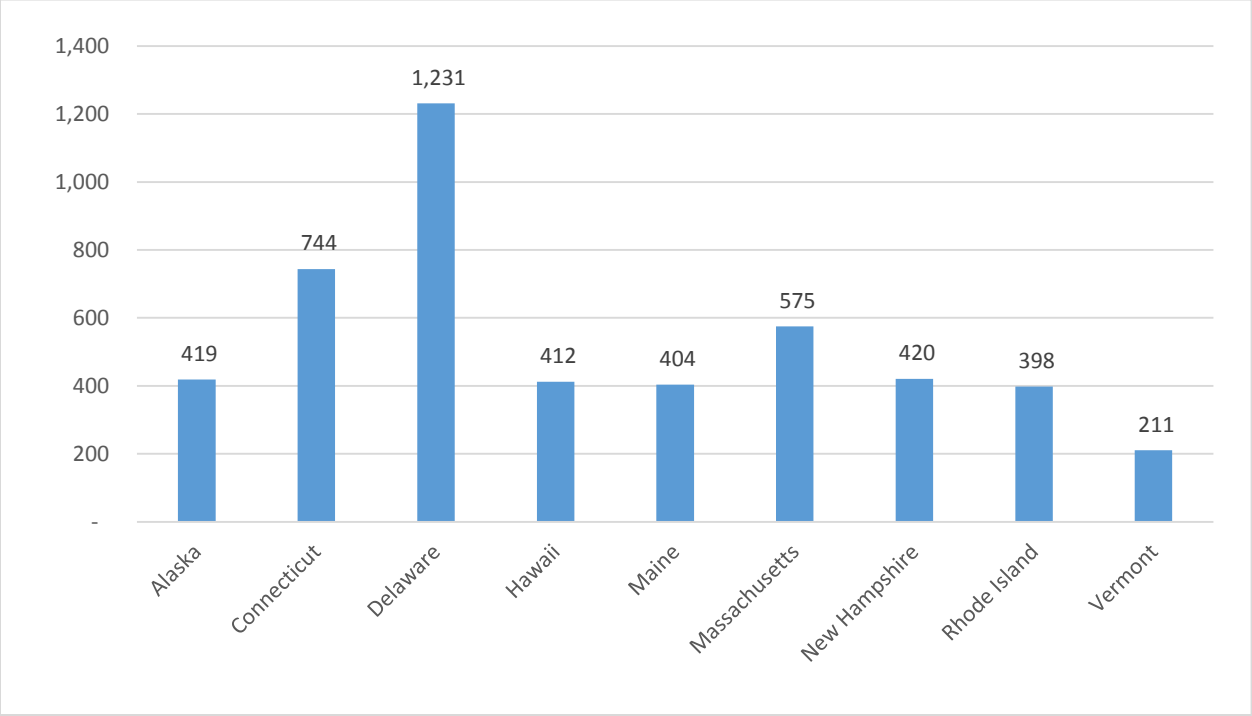
Figure 3: 2018 Health Care Staff per 100 Inmates



Facilities. The number and size of correctional facilities can have an impact on cost due to the need to provide staff at more numerous or smaller facilities. Fewer and larger facilities allow for concentration of medical staff and thereby are more efficient with medical staff and costs.

The number and small size of Vermont correctional facilities may contribute to the higher level of staffing and cost experienced. The seven Vermont correctional facilities have an ADP of 211 in FY 2018. The average population of the comparison systems are all more than twice this large. Delaware is by far the largest with an ADP of 1,231 inmates for its four facilities.

Figure 4: 2018 Average Facility Population



Smaller facilities have few opportunities for economies of scale and diminished ability to make efficient use of staff. The data here suggests that the larger facilities found in other states allow health care staff costs to spread over greater numbers of inmates, increasing their cost-effectiveness relative to Vermont.

Pharmacy. Pharmacy costs are a substantial factor driving overall health care spending. All of the states in this analysis, with the exception of Maine and Hawaii, provide Hepatitis-C and Medication-Assisted Treatment programs. Spending on pharmaceuticals makes up 22 percent of the health care budget in Massachusetts, New Hampshire, and Rhode Island. Massachusetts has the highest pharmaceutical cost by far of the states reviewed, with an average pharmaceutical cost per inmate per month of $228. The high cost and utilization levels of psychotropic medications for patients at the state's forensic mental health facility, Bridgewater State Hospital, managed by the Massachusetts Department of Correction largely drives this level of spending. Massachusetts is the only system that procures pharmaceuticals through a state agency, the State Operated Pharmacy System (SOPS). Vermont spending on pharmaceuticals is similar to per capita spending levels in Delaware, Rhode Island, and New Hampshire, as shown in Table 5.

Table 5: Pharmaceutical Spending

	Pharmaceutical Spending	Pharmaceutical Spending per Inmate per Month	Pharmaceutical Spending as a % of Total Program Cost
Alaska	$ 3,666,600	$ 66.31	8.2%
Connecticut	$ 14,593,783	$ 90.84	17.8%
Delaware	$ 8,390,700	$ 141.97	12.1%
Hawaii	$ 3,840,000	$ 86.32	14.8%
Massachusetts	$ 25,237,768	$ 228.43	22.3%
New Hampshire	$ 3,544,423	$ 117.16	22.4%
Rhode Island	$ 4,109,514	$ 123.01	21.7%
Vermont	$ 2,516,472	$ 142.27	12.0%
Average	$ 8,237,407	$ 124.54	16.4%

Administration. The Vermont system is a clear outlier in the number of staff and resources allocated to system administration. Despite managing the smallest correctional system, Vermont's administrative costs and staffing exceed all other reporting states. As previously noted, Vermont has 20.6 staff assigned to the State central office and vendor regional office. The other systems included in this analysis report using 15 administrative staff on average. Massachusetts has by far the largest administrative staff cadre, at 38.9 FTE, responsible for a system with 17 facilities and an ADP exceeding 9,000 inmates. Administration costs, as a percentage of total system expenditures, make up 11.6 percent of costs for Vermont. The other six correctional systems with administrative cost data show an average allocation of 3.2 percent for administration. The monthly cost per inmate of administration in Vermont is $138. This compares with a per capita cost of $22.94 per month for the other states.

Table 6: Administrative Costs

	Administrative Staff	Administrative Cost	Per Capita Administrative Cost	Administration Spending as a % of Total Program Cost
Alaska	8.0	$ 882,600	$ 15.96	2.0%
Connecticut	19.0	$ 1,330,000	$ 8.28	1.6%
Delaware	12.0	$ 1,144,500	$ 19.37	1.7%

Massachusetts	38.9	$	4.091,666	$ 37.03	3.6%
New Hampshire	5.0	$	551,653	$ 18.24	3.5%
Rhode Island	9.0	$	1,295,584	$ 38.78	6.8%
Vermont	20.6	$	2,439,794	$ 137.93	11.6%

Service Delivery Model. All but two of the systems reviewed here contract with private or non-profit vendors for the management and delivery of medical and mental health services. Alaska and Hawaii both manage and provide health care services with state employees. Administrators from both systems indicate that the logistical difficulties associated with their facility locations and the presence of strong public employee unions make their jurisdictions less amenable to privatization of services. The small size of the systems also makes the opportunity for profit relatively small, further discouraging vendor interest. The clear preference for the vendor model among the majority of these systems typically relates to superior ability to recruit professional staff, health care management expertise, and the potential efficiencies of vendor management resulting in cost savings.

3. MANAGEMENT APPROACH

Findings:

- *The current VDOC contract for health care services is a complex hybrid of capitated, pay-for-performance, and risk-based models. The contract features extensive, detailed directives on policies, procedures, and service delivery requirements.*
- *The new RFP simplifies the performance incentive elements of the contract and clarifies reporting and continuous quality improvement (CQI) provisions. It retains the same basic compensation structure and creates additional reporting and data collection requirements.*
- *The VDOC contract model provides very low-risk terms for a vendor. Unpredictable cost categories such as hospitalization and pharmaceuticals are set at fixed sum pools with relatively low shared-risk thresholds. Highly prescriptive, detailed definitions of service delivery requirements leave the vendor with relatively little discretion in managing service delivery.*
- *The low-risk model provides VDOC with a system that very clearly defines the services it requires as well as service delivery methods. The model benefits the vendor in providing a guaranteed profit with very little risk.*
- *Alternative models that afford more vendor management discretion and profit potential may not work for Vermont because the small size of the system presents limited profit potential relative to potential adverse case risks.*
- *By reducing vendor risk, the current contract model has the potential to attract multiple bidders and generate meaningful competition. A strategy of increasing vendor competition within the framework of the current model may offer the best opportunity to balance the VDOC's goals for performance while remaining cost-effective.*

Like many states, Vermont has determined that contracting out the management and delivery of correctional healthcare offers the best opportunity to achieve system goals. These goals typically include:

- Improving overall system performance
- Filling vacant staff positions in a timely manner
- Enhancing staff accountability and responsiveness
- Reducing system costs

- Professionalizing healthcare management
- Reducing state liability

Vermont adopted the vendor/contract model for correctional health care in 2010, largely in response to issues in recruiting and retaining staff. The current contract was awarded to Centurion in 2015. Although the three-year term of the contract was scheduled to expire in 2018, delays in the development of a new RFP for services resulted in a short-term extension of the contract.

Current Contract. The contract approach used by VDOC has evolved somewhat over time, but in essence is a hybrid of capitated, pay-for-performance, and risk-based models. The contract establishes a fixed staffing matrix, with a payment rate generated by the projected cost of each category of staff service provided, divided by an inmate population assumption provided by VDOC, and then divided by 12 to arrive at a monthly rate. The same formula is then used for other projected service costs including insurance, contracted on-site services, travel, supplies, etc. The costs and rates associated with these categories are then totaled to derive a Total Comprehensive Health Services Price per Inmate per Month. This rate, multiplied by the actual facility ADP forms the basis for the vendor's compensation for facility-based health care services.

The contract also establishes fixed sums to cover several higher risk program areas that are less predictable than staff costs. These fixed sums include pharmaceutical and off-site care costs. The vendor is paid on a monthly pro-ration of each fixed sum. If the actual cost for a service category comes in below the pro-rated payment, the vendor must reimburse VDOC for the difference. If spending exceeds the fixed limit, the vendor will share that exposure, covering the first 3 percent of the overage, with VDOC responsible for the balance. In addition, the VDOC shares risk with the vendor by assuming responsibility for catastrophic costs exceeding $85,000 per individual. The contract also establishes fixed sums for the vendor regional office as well as for overhead and profits. These sums are paid out the vendor on a prorated monthly basis.

The contract also contains somewhat complicated provisions for performance reward payments for meeting defined benchmarks, as well as terms to cover liquidated damages and contract non-compliance.

Service delivery standards in the contract scope of work follow NCCHC policies. The contract spells out specific policy, procedure, and reporting requirements in extensive detail over 60 pages of contract terms. The scope requirements are the most detailed that the project team has ever reviewed.

Current Request for Proposal. The new RFP developed by VDOC works to improve on the current contract by simplifying the performance incentive elements and clarifying reporting and CQI provisions. The RFP creates additional reporting and data collection requirements and mandates

annual peer review. The document also includes 80 multi-part questions that require a proposer to describe in some detail how they intend to address a number of VDOC program priorities and operational concerns. The RFP carries over the capitated and fixed sum rate calculations, as well as provisions for shared risk.

The contract model used by VDOC provides very low-risk terms for a vendor. Those cost categories that are most unpredictable and hold the most potential risk (hospitalization and pharmaceuticals) are moved to fixed sum pools with relatively low shared risk thresholds. Underspending in categories may be used to cover overages in other contract areas. Profit and overhead payments are fixed. At the same time, the highly prescriptive, detailed definitions of how service must be provided leaves the vendor relatively little discretion in managing service delivery. This is a positive factor in that VDOC is assured of getting precisely what it requires in terms of service, and it can be considered a positive factor for the vendor in that they make a guaranteed profit with very little risk.

The payment structure of the contract and the extensive directives on program operations also leave the vendor little ability or incentive to innovate or seek opportunities to lower cost. An RFP that left more operational discretion to the vendor and a more straightforward way to monetize high performance might result in lower cost bids by providing vendors with greater opportunity and incentive to achieve VDOC performance goals while still achieving savings. VDOC has attempted to address this issue with its performance incentive payments. In the past contract, this approach appeared to have little impact on vendor performance. The specific incentives in the current contract did not appear to be at a level that would materially improve vendor performance. In FY 2017, performance incentive payments averaged $2,350 per month. The VDOC believes that the simplified incentive formula in the new RFP should improve the effectiveness of this tool.

However, the most significant factor that diminishes the potential ability of a private vendor to improve performance and cost efficiency for the VDOC, even with a contract model that affords more discretion and profit potential, is quite simply the size of the system relative to potential cost risks. Health care vendors can save correctional systems money by aggressively bidding on price, on the assumption that their management expertise can produce savings. They hedge these bids by spreading the risk of an adverse experience over a large inmate population. In the case of a very small system like Vermont, the profit potential is somewhat limited by the limited opportunities to achieve substantial savings and efficiencies. However, the risk for a single adverse case that can easily eliminate a projected profit margin remains real, with reduced opportunity to offset such a case with positive experience over a much larger pool of inmates. The contract model developed by the VDOC, is probably the most effective means to attract multiple bidders and generate meaningful competition, and is thereby most likely to balance the VDOC's goals of for performance while remaining cost-effective.

APPENDIX A: FACILITY CONTRACT STAFFING

Chittenden Regional Correctional	880.00	
Position	**Hrs/Wk**	**FTE**
Physician	**14.00**	**0.35**
Health Services Administrator	**40.00**	**1.00**
Director of Nursing	**40.00**	**1.00**
PA/NP	**30.00**	**0.75**
Administrative Assistant	**40.00**	**1.00**
Medical Records Technician	**20.00**	**0.50**
Dentist	**18.00**	**0.45**
Dental Assistant	**18.00**	**0.45**
Licensed MHP (Masters)	**88.00**	**2.20**
APRN	**24.00**	**0.60**
Total Non-Nursing Hours	**332.00**	**8.30**
RN	**56.00**	**1.40**
LPN	**132.00**	**3.30**
LNA	**40.00**	**1.00**
Total Day Nursing Hours	**228.00**	**5.70**
RN	**56.00**	**1.40**
LPN	**112.00**	**2.80**
Total Evening Nursing Hours	**168.00**	**4.20**
LPN	**112.00**	**2.80**
LNA	**40.00**	**1.00**
Total Night Nursing Hours	**152.00**	**3.80**
Total CRCF Hours	**880.00**	**22.00**

Marble Valley Regional Correctional	534.00	
Position	**Hrs/Wk**	**FTE**
Physician	**8.00**	**0.20**
Health Services Administrator	**40.00**	**1.00**
PA/NP	**8.00**	**0.20**
Administrative Assistant	**40.00**	**1.00**
Licensed MHP (Masters)	**70.00**	**1.75**
APRN	**8.00**	**0.20**
Total Non-Nursing Hours	**174.00**	**4.35**
RN	**40.00**	**1.00**
LPN	**56.00**	**1.40**
LNA	**20.00**	**0.50**
Total Day Nursing Hours	**116.00**	**2.90**
LPN	**112.00**	**2.80**
LNA	**20.00**	**0.50**
Total Evening Nursing Hours	**132.00**	**3.30**
LPN	**56.00**	**1.40**
LNA	**56.00**	**1.40**
Total Night Nursing Hours	**112.00**	**2.80**
Total MVRCF Hours	**534.00**	**13.35**

Northeast Correctional Complex	596.00	
Position	**Hrs/Wk**	**FTE**
PA/NP	**20.00**	**0.50**
Health Services Administrator	**40.00**	**1.00**
Director of Nursing	**40.00**	**1.00**
Administrative Assistant	**40.00**	**1.00**
Licensed MHP	**48.00**	**1.20**
APRN	**14.00**	**0.35**
Total Non-Nursing Hours	**202.00**	**5.05**
LPN	**170.00**	**4.25**
Total Day Nursing Hours	**170.00**	**4.25**
LPN	**112.00**	**2.80**
Total Evening Nursing Hours	**112.00**	**2.80**
LPN	**56.00**	**1.40**
LNA	**56.00**	**1.40**
Total Night Nursing Hours	**112.00**	**2.80**
Total NECC Hours	**596.00**	**14.90**

Northern State Correctional Facility	812.00	
Position	**Hrs/Wk**	**FTE**
Physician	**0.00**	**0.00**
Health Services Administrator	**40.00**	**1.00**
PA/NP	**50.00**	**1.25**
Director of Nursing	**40.00**	**1.00**
Administrative Assistant	**40.00**	**1.00**
Medical Records Technician	**24.00**	**0.60**
Dentist	**30.00**	**0.75**
Dental Assistant	**30.00**	**0.75**
Dental Director	**2.00**	**0.05**
MH Coordinator	**40.00**	**1.00**
Licensed MHP (Masters)	**40.00**	**1.00**
APRN	**34.00**	**0.85**
Total Non-Nursing Hours	**370.00**	**9.25**
RN	**42.00**	**1.05**
LPN	**112.00**	**2.80**
LNA	**40.00**	**1.00**
Total Day Nursing Hours	**194.00**	**4.85**
RN	**28.00**	**0.70**
LPN	**108.00**	**2.70**
Total Evening Nursing Hours	**136.00**	**3.40**
LPN	**56.00**	**1.40**
LNA	**56.00**	**1.40**
Total Night Nursing Hours	**112.00**	**2.80**
Total NSCF Hours	**812.00**	**20.30**

Northwest State Correctional Facility	738.00	
Position	**Hrs/Wk**	**FTE**
Physician	**10.00**	**0.25**
Health Services Administrator	**40.00**	**1.00**
PA/NP	**30.00**	**0.75**
Director of Nursing	**40.00**	**1.00**
Administrative Assistant	**40.00**	**1.00**
Medical Records Technician	**20.00**	**0.50**
Dentist	**16.00**	**0.40**
Dental Assistant	**16.00**	**0.40**
Licensed MHP (Masters)	**88.00**	**2.20**
APRN	**22.00**	**0.55**
Total Non-Nursing Hours	**322.00**	**8.05**
RN	**16.00**	**0.40**
LPN	**96.00**	**2.40**
LNA	**40.00**	**1.00**
Total Day Nursing Hours	**152.00**	**3.80**
LPN	**112.00**	**2.80**
LNA	**40.00**	**1.00**
Total Evening Nursing Hours	**152.00**	**3.80**
LPN	**56.00**	**1.40**
LNA	**56.00**	**1.40**
Total Night Nursing Hours	**112.00**	**2.80**
Total NWSCF Hours	**738.00**	**18.45**

Southern State Correctional Facility	1512.00	
Position	**Hrs/Wk**	**FTE**
Physician	**32.00**	**0.80**
Health Services Administrator	**40.00**	**1.00**
PA/NP	**30.00**	**0.75**
Director of Nursing	**40.00**	**1.00**
Dialysis Nurse	**40.00**	**1.00**
Administrative Assistant	**40.00**	**1.00**
Recreational Therapist Supervisor	**40.00**	**1.00**
Medical Records Technician	**40.00**	**1.00**
Dentist	**30.00**	**0.75**
Dental Assistant	**30.00**	**0.75**
Licensed MHP (Masters)	**174.00**	**4.35**
MH Coordinator	**40.00**	**1.00**
APRN	**36.00**	**0.90**
MH Medical Records Technician	**40.00**	**1.00**
Total Non-Nursing Hours	**652.00**	**16.30**
RN	**76.00**	**1.90**
LPN	**162.00**	**4.05**
LNA	**72.00**	**1.80**
Total Day Nursing Hours	**310.00**	**7.75**
RN	**96.00**	**2.40**
LPN	**148.00**	**3.70**
LNA	**56.00**	**1.40**
Total Evening Nursing Hours	**300.00**	**7.50**
RN	**56.00**	**1.40**
LPN	**138.00**	**3.45**
LNA	**56.00**	**1.40**
Total Night Nursing Hours	**250.00**	**6.25**
Total SSCF Hours	**1512.00**	**37.80**

APPENDIX B: Sources

Alaska Department of Corrections, 2018 Budget

Connecticut Department of Corrections, 2018 Budget

Matt D'Agostino, Financial Director, Vermont Department of Corrections

Delaware Department of Corrections, 2018 Budget

Hawaii Department of Public Safety, 2018 Budget

Maine Department of Corrections, 2018 Budget

Massachusetts Department of Correction, 2018 Budget

Massachusetts Department of Correction, Health Care Services RFP Revised BAFO Cost Calculation

Paula Mattis, Director of Forensic and Medical Services, New Hampshire Department of Corrections

New Hampshire Department of Corrections 2016 Annual Report

New Hampshire Department of Corrections, 2018 Budget

Michael Regan, Chief of Fiscal Services, Connecticut Department of Corrections

Rhode Island Department of Corrections, 2018 Budget

Rhode Island Department of Corrections, Inmate-Driven Per Diem Expenditures, 2018

Dr. Ronald Shansky

Vermont Department of Corrections, Centurion Contract

Vermont Department of Corrections, Centurion Staffing Matrix

Vermont Department of Corrections, Facility Profiles

Vermont Department of Corrections, Health Care Per Capita Costs

Vermont Department of Corrections, Health Services Statistics, 2017

Vermont Department of Corrections, Policy Directives Related to Health Services

Vermont Department of Corrections, RFP for Correctional Healthcare Services

Vermont Department of Corrections, Table of Organization

George Vose, Director of the Massachusetts Department of Correction; Director of the Rhode Island Department of Corrections, retired

Ben Watts, Health Services Administrator, Vermont Department of Corrections

April Wilkerson, Director of Administrative Services, Alaska Department of Corrections

Karen Yeaton, Associate Commissioner, Maine Department of Corrections