MARYLAND
Department of Health

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

January 21, 2019

The Honorable Nancy J. King
Chair
Senate Budget and Taxation Committee
3 West Miller Senate Building
Annapolis, MD 21401-1991

The Honorable Maggie McIntosh
Chair
House Appropriations Committee
121 House Office Building
Annapolis, MD 21401-1991

RE: 2018 Joint Chairmen's Report (p. 82): BHA Facility Staffing Study

Dear Chairs King and McIntosh:

The Maryland Department of Health (Department) respectfully submits the Joint Chairmen's Report on the Behavioral Health Administration (BHA) Facility Staffing Study (p. 82). Specifically, the Department was asked to report on:

> *The levels of direct care staffing required at the BHA facilities, similar to the staffing study submitted in response to the 2009 Joint Chairmen's Report that shall include both the staffing levels required to operate specific units of the various facilities as well as the amount of staff that the department will need to operate its desired bed capacity.*

If you have any questions regarding this request, please contact Webster Ye, Deputy Chief of Staff. He may be reached at (410) 767-6480 or at webster.ye@maryland.gov

Sincerely,

Robert R. Neall
Secretary

cc: Sarah Albert, Department of Legislative Services

Behavioral Health Administration Facility Staffing Study

Submitted by the Maryland Department of Health
January 21, 2019

2018 Joint Chairmen's Report (p. 82)

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I. Executive Summary

Staffing standards for the Behavioral Health Administration's (BHA) hospital and residential facilities were reviewed in response to a request made during the 2018 legislative session. On the surface it would appear, as evidenced in Appendix B, the hospitals and facilities are in good standing related to the number of allocated positions. However, a richer analysis of staffing behavior reveals otherwise. The high rate of employee absenteeism (both planned, benefitted time and unplanned time) has significant impact on staffing patterns. More specifically, it is estimated that employee absenteeism accounts for nearly 330 full-time employees, annually. The facilities do not have the capacity to cover this deficit. Several recommendations to improve this situation are included in the report.

II. Background

Staffing standards for BHA hospital and residential facility operations were initially developed by Human Resources in 1986. Twelve years later, in 1998, BHA studied these standards specifically to determine whether staffing needs had changed since their development and introduction. The 1998 review concluded that there had been no significant increase in the level of patient need that would impact clinical staffing levels. Again in 2007, BHA completed a staffing study aimed at updating patient need levels to validate the appropriateness of its staffing models. The methodology for this study relied heavily on a patient need-assessment instrument and took into consideration the comments shared during interviews with discipline[1] chiefs specific to staff recruitment and retention, working conditions, and training. The 2007 review concluded that patient overall needs remained stable since the 1998 review. In response to a request made during the 2018 legislative session, BHA has again reviewed staffing models for its hospitals and residential facilities. As in years past, the body of comparable data from either literature review or professional organizations is very limited. At the same time, issues related to recruitment and retention, working conditions, and training remain.

III. Staffing Analysis

The 2018 Joint Chairmen's Report requires the Maryland Department of Health to submit a report on the levels of direct care staffing required at the BHA facilities and the amount of staff needed to operate the Department's desired bed capacity.

To demonstrate the levels of direct care staffing required at BHA facilities, the Department has provided a detailed presentation of each hospital's and residential facility's patient census and staffing model, by discipline for each patient care unit, see Appendices A1–7, as well as a summary for each hospital and residential facility staffing by comparing the staffing models to FY19 budgeted positions, see Appendix B. Appendix B provides discipline specific staffing shortages and overages as compared to the staffing model.

[1] The facility disciplines are social work, nursing, psychiatry, psychology, security, and law enforcement.

Staffing models represent the ideal number of each staff discipline, per shift, per day of the week, per patient care unit. Staffing models serve as a template or guide for best managing patient care needs, based on a generally accepted belief system about the clinical needs of patients coupled with the number of patients on a given unit. Staffing models do not take into account planned or unplanned staff absences.

Staffing models also do not take into account incidental or episodic changes in patient acuity. Presently, a physician order can remedy the need for additional staff, based on an increase in acuity. While special levels of patient observation (e.g., 1:1 staff to patient staffing) are recorded and monitored closely by both clinical and administrative staff, the run-rate is not considered when allocating staff resources to BHA hospitals or residential facilities. In other words, there is no "built-in" or excess employee capacity to increase staffing numbers when clinically indicated. Rather, these situations are routinely addressed through staff working overtime.

Finally, to further demonstrate the levels of direct care staffing required at BHA facilities, the Department has provided a summary for each hospital and residential facility of overtime costs for FY16–FY18, see Appendix C.

IV. Findings

The 2018 Joint Chairmen's Report expresses concern about the staffing levels that the Department has funded given the level of bed capacity that the department desires to operate.

The concerns about staffing are understandable. There is robust narrative promulgating that staffing levels are inadequate and the consequence of such is directly correlated to staff safety. As offered in testimony during 2018 legislative session, BHA maintains staff safety is influenced by a myriad of factors (see Appendix D) and is much more complex of an issue than would be supported by a "more staff is the answer" solution. In fact, a literature review would indicate that adding more staff leads to unsafe patient care areas. See Appendix D.

Adding more staff is not a reasonable or sound solution to reducing patient assaults. There are a myriad of environmental, staff, and patient factors that influence or contribute positively to the incidence of patient assaults. Environmentally, spatial density (the size of rooms and space where patients are located), noise level, air flow, temperature, access for patient mobility (confinement), items in the milieu that can stimulate a patient (*e.g.*, furniture, electronics, etc.) are all considered positive contributing factors. Regarding staff, the sex of the employee, years on the job, familiarity with the patient assigned, education, and training are contributing factors to patient violence. Patient considerations that impact rates of violence include the diagnosis, medication compliance, length of stay and orientation to the unit rules and protocols, medical comorbidities, patient acuity, commitment status all impact incidence of assault. The single most positive contributing

factor is the prior history of violence. Patients who have an assault history are several times more likely to assault again.

The staffing models for the BHA hospitals and residential facilities are appropriate to provide optimal patient care and to expect quality outcomes. There are, however, inherent limitations to the model that must be considered when evaluating staffing. (A) vacancy rate, recruitment process, and staff turnover, (B) wages, (C) training, (D) patient acuity, (E) absenteeism and leave benefits, and (F) culture all contribute to and impact staffing.

A. Vacancy, recruitment, and turnover

Vacancy rates for direct care staff varied from 7.22–13.36% between FY15 and FY18 (see Appendix F). While there are various nuances that influence variance rate, the persistent vacancy rate for clinical staff obviously impacts staffing. More specifically, an immediate consequence of the vacancy rate is the amount of overtime hours worked by employees. For example, in FY18, there is an average of more than 70 employees at Clifton T. Perkins Hospital Center who each work more than 80 hours of overtime each month. The wage and benefit packages at community hospitals in Maryland are universally more attractive to potential employees and, therefore, significantly limits the State's ability to compete to hire healthcare professionals.

Staff turnover is a limitation assigned to each hospital and residential facility as part of the annual budgeting process. It is a mechanism by which the financial performance of the hospitals and residential facilities are measured. There is an expected staff turnover rate ranging from a low of 5.15% to a high of 9.35% for FY19. The negative impact of staff leaving followed by the need to recruit, hire and train new staff cannot be overstated.

The cycle time to request approval for, to post, and to await eligibility lists to begin scheduling candidate interviews is lengthy. The longer vacant positions remain open, the greater burden on existing staff and the greater the impact on patient care.

B. Wages

All discipline chiefs unanimously report the difficulty hiring as a result of a noncompetitive wage structure as compared to private sector employers.

C. Training

Training curricula and delivery methods vary among the hospitals. While the subject matter can be similar, the methodology for assessing employee training and education needs and the deployment of material is inconsistent. Further, validation of staff competency and understanding of material is not standardized, even when comparing the same subject matter. The goal is to standardize these processes as a part of the current efforts to reorganize the hospital system.

D. Patient acuity

There are few published, validated, or standardized patient acuity tools for psychiatric patients. That said, many hospitals have developed their own, in-house tool to measure patient acuity and to best adjust their staffing models. Typically, these patient acuity scales are found in medical/surgical units. The tool consists of several elements of patient needs that are scaled or scored by nursing staff, tallied and reconciled with a staffing guide that outlines the appropriate number of staff, by discipline, warranted to best manage the patients on a given unit. BHA is currently developing a patient acuity tool that can and will be used in all hospitals and residential facilities. This tool will allow for changes in staffing model that are driven by a clinically objective need. In the interim, physician orders for increased levels of patient observation (e.g., 1:1 staffing to patient ratio) continue to be a viable and routine course for increasing staff levels

E. Absenteeism and leave benefits

The State offers generous leave benefits to its employees that include sick, personal, and holiday leave; access to a voluntary sick bank; and the Family and Medical Leave Act (FMLA). In addition to the employee accrued leave benefits, the policies that govern their use are liberal and enforcement of any violations is challenging for supervisors. The absentee rate is extraordinarily high for what a reasonable employer would anticipate. More specifically, the average annual number of days of leave used by staff in BHA hospitals in CY17 was 41.6, see Appendix G. That equates to over 700,000 hours of used leave benefit. This 700,000 hours of annual leave is the equivalent of 330 full-time employees. This calculation does not take into account the number of hours of unpaid leave used by employees.

F. Culture

We are continuing to improve culture and carrying forth the tenents that hold patient care, experience, and outcomes as the paramount focus, obligation, and responsibility of each and every employee within a BHA hospital or residential facility. Failing to address this perpetuates an employee-first orientation that compromises care, increases liability, keeps absenteeism rates at unacceptable levels, and makes retaining the right employees and staffing, in general, a significant challenge.

V. Conclusion

Finally, 2018 Joint Chairmen's Report requires the Department to report on the amount of staff required to operate the Department's desired bed capacity. See Appendix B.

To best manage staffing the following approaches should be further considered:

- Finalize the development and implementation of a patient acuity tool for all hospital units.

- Complete a market rate pay analysis for employees in patient care disciplines within the BHA hospitals and residential facilities.

- Consolidate training resources and supervisory oversight among the hospitals to create a health system education and training department. This redesign will allow for a systemic review and assessment of employee training needs and better facilitate the delivery of standardized curriculum to the employees.

- Expand upon the existing shared services model for Human Resource management specifically to consolidate recruitment postings and eligibility lists for same positions among the hospitals in the health system. Obtain approval for all hospital based clinical positions as open and continuous recruitments until such time that the clinical vacancy rates are sustained at or below 5% for at least a 2-year period.

- Continue to work closely with employees to address workplace culture and initiate strategies to reduce the incidence of absenteeism.

- Amend BHA hospital and residential facility staffing models to create a pool of special observation staff. This group would serve to augment staffing levels on patient care units as needed. The numbers required for each hospital or facility pool would be driven by historical trend analysis related to special observation run-rates.

- Amend BHA hospital and residential facility staffing models to account for employee absenteeism/leave utilization (approximately the equivalent of 341 full-time employees in CY17). A thorough, deliberate analysis of overtime expenditures (which exceeded $19M in FY18) should be completed with consideration given to the potential and likely cost savings if those dollars were used to fund both increased salary scales and increased employee counts.

- Work with MDH executive team to qualify the budgetary expectation for turn over so that it is limited to an anticipated rate from which savings can be planned/budgeted from a mechanism to exercise specifically to control labor costs.

APPENDICES

APPENDIX A
1. RICA Baltimore

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

SCHOOL IN SESSION

Unit Name	Security Level	Census	Psychiatrist Hours	M-F	Police	Security	RN	LPN	SW	Psychology	Psych Tech	Sa-Su	Police	Security	RN	LPN	SW	Psychology	Psych Tech
Cottage A	N/A	15	32	Day	-	-	2	-	3	-	-	Day	-	-	1	-	-	-	4
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	1	-	-	-	2	Night	-	-	-	-	-	-	2
Cottage B	N/A	15	24	Day	-	-	2	1	3	-	-	Day	-	-	1	1	-	-	3
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	-	-	-	-	2	Night	-	-	-	-	-	-	2
Cottage C	N/A	15	24	Day	-	-	2	-	3	-	-	Day	-	-	1	-	-	-	4
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	0.5	-	-	-	2	Night	-	-	-	-	-	-	2
CNO				Day	1	-	1	-	-	-	-	Day	-	-	1	-	-	-	-
				Evening	1	1	1	-	-	-	-	Evening	-	1	1	-	-	-	-
				Night	1	1	1	-	-	-	-	Night	-	1	1	-	-	-	-
				TOTAL	**3**	**2**	**14**	**4**	**9**	**0**	**15**		**0**	**2**	**9**	**4**	**0**	**0**	**26**

SUMMER - SCHOOL OUT OF SESSION

Unit Name	Security Level	Census	Psychiatrist Hours	M-F	Police	Security	RN	LPN	SW	Psychology	Psych Tech	Sa-Su	Police	Security	RN	LPN	SW	Psychology	Psych Tech
Cottage A	N/A	15	32	Day	-	-	2	-	3	-	3	Day	-	-	1	-	-	-	4
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	1	-	-	-	2	Night	-	-	-	-	-	-	2
Cottage B	N/A	15	20	Day	-	-	2	1	3	-	3	Day	-	-	1	1	-	-	3
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	-	-	-	-	2	Night	-	-	-	-	-	-	2
Cottage C	N/A	15	24	Day	-	-	2	-	3	-	3	Day	-	-	1	-	-	-	4
				Evening	-	-	1	1	-	-	3	Evening	-	-	1	1	-	-	3
				Night	-	-	-	-	-	-	2	Night	-	-	-	-	-	-	2
CNO				Day	1	1	1	-	-	-	-	Day	-	-	1	-	-	-	-
				Evening	1	1	1	-	-	-	-	Evening	-	1	1	-	-	-	-
				Night	1	1	1	-	-	-	-	Night	-	1	1	-	-	-	-
				TOTAL	**3**	**3**	**13**	**4**	**9**	**0**	**24**		**0**	**2**	**9**	**4**	**0**	**0**	**26**

APPENDIX A
2. RICA Rockville

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

	Unit Name	Security Level	Census	Psychiatrist Hours		M-F	RN	SW	Psychology	CAMHA	CNA		Sa-Su	RN	SW	Psychology	CAMHA	CNA
SCHOOL IN SESSION	1A	N/A	8	12		Day	2	-	1	1	-		Day	2	-	-	2	-
						Evening	2	-	-	2	-		Evening	2	-	-	2	-
						Night	1	-	-	-	1		Night	1	-	-	-	1.5
	BAU	N/A	5	12		Day	-	1.5	-	1	-		Day	-	-	-	2	-
						Evening	-	-	-	2	-		Evening	-	-	-	2	-
						Night	-	-	-	-	2		Night	-	-	-	-	2
	1C	N/A	8	10		Day	-	1	-	1	-		Day	-	-	-	2	-
						Evening	-	-	-	2	-		Evening	-	-	-	2	-
						Night	-	-	-	-	1		Night	-	-	-	-	1.5
	EU	N/A	8	10		Day	-	-	3	1	-		Day	-	0.5	0.5	-	-
						Evening	-	-	-	3	-		Evening	-	-	-	-	-
						Night	-	-	-	-	2		Night	-	-	-	-	-
	3A	N/A	8	12		Day		-	1	1	-		Day	-	-	-	-	-
						Evening	1	-	-	2	-		Evening	-	-	-	-	-
						Night		-	-	-	2		Night	-	-	-	-	-
	3B	N/A	8	10		Day	-	-	-	1	-		Day	-	-	-	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	1		Night	-	-	-	-	-
	3C	N/A	8	10		Day	-	-	1	1	-		Day	-	-	-	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	2		Night	-	-	-	-	-
						TOTAL	**6**	**2.5**	**6**	**22**	**11**			**5**	**0.5**	**0.5**	**12**	**5**

	Unit Name	Security Level	Census	Psychiatrist Hours		M-F	RN	SW	Psychology	CAMHA	CNA		Sa-Su	RN	SW	Psychology	CAMHA	CNA
SUMMER - SCHOOL OUT OF SESSION	1A	N/A	8	12		Day	2	-	1	2	-		Day	2	-	-	2	-
						Evening	2	-	-	2	-		Evening	2	-	-	2	-
						Night	1	-	-	-	1		Night	1	-	-	-	1.5
	BAU	N/A	5	12		Day	-	1.5	-	2	-		Day	-	-	-	2	-
						Evening	-	-	-	2	-		Evening	-	-	-	2	-
						Night	-	-	-	-	2		Night	-	-	-	-	2
	1C	N/A	8	10		Day	-	1	-	2	-		Day	-	-	-	2	-
						Evening	-	-	-	2	-		Evening	-	-	-	2	-
						Night	-	-	-	-	1		Night	-	-	-	-	1.5
	EU	N/A	8	10		Day	-	-	3	2	-		Day	-	0.5	0.5	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	2		Night	-	-	-	-	-
	3A	N/A	8	12		Day	-	-	1	2	-		Day	-	-	-	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	2		Night	-	-	-	-	-
	3B	N/A	8	10		Day	-	1	-	2	-		Day	-	-	-	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	1		Night	-	-	-	-	-
	3C	N/A	8	10		Day	-	-	1	2	-		Day	-	-	-	-	-
						Evening	-	-	-	2	-		Evening	-	-	-	-	-
						Night	-	-	-	-	2		Night	-	-	-	-	-
						TOTAL	**5**	**3.5**	**6**	**28**	**11**			**5**	**0.5**	**0.5**	**12**	**5**

APPENDIX A
3. Finan

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

Unit Name	Security Level	Census	Psychiatrist Hours		M-F	Police	Security	RN	LPN	SW	Psychology	Psych Tech		Sa-Su	Police	Security	RN	LPN	SW	Psychology	Psych Tech
Cottage 1	acute	22	40		Day	-	-	1	1	2	1	2		Day	-	-	1	1	-	-	2
					Evening	-	-	1	1	-	-	2		Evening	-	-	1	1	-	-	2
					Night	-	-	1	-	-	-	2		Night	-	-	1	-	-	-	2
Cottage 2	acute	22	40		Day	-	-	1	1	1	1	2		Day	-	-	1	1	-	-	2
					Evening	-	-	1	1	-	-	2		Evening	-	-	1	1	-	-	2
					Night	-	-	1	-	-	-	2		Night	-	-	1	-	-	-	2
Cottage 3	long term	22	40		Day	-	-	1	1	1	1	2		Day	-	-	1	1	-	-	2
					Evening	-	-	1	1	-	-	2		Evening	-	-	1	1	-	-	2
					Night	-	-	1	-	-	-	2		Night	-	-	1	-	-	-	2
ALU	non hospital	22	32		Day	-	-	-	1	2	1	2		Day	-	-	-	1	-	-	2
					Evening	-	-	-	1	-	-	2		Evening	-	-	-	1	-	-	2
					Night	-	-	-	-	-	-	2		Night	-	-	-	-	-	-	2
					TOTAL	**0**	**0**	**9**	**8**	**6**	**4**	**24**			**0**	**0**	**9**	**8**	**0**	**0**	**24**
					1.4 factor	**0**	**0**	**12.6**	**11.2**	**6**	**4**	**33.6**									

APPENDIX A
4. Eastern Shore

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

Unit Name	Security Level	Census	Psychiatrist Hours		M-F	Police	Security	RN	LPN	SW	Psychology	Psych Tech		Sa-Su	Police	Security	RN	LPN	SW	Psychology	Psych Tech
Nanticoke	N/A	20	80		Day	1	-	2	1	2	2	3		Day	1	-	2	1	-	-	3
					Evening	1	-	2	1	-	-	3		Evening	1	-	2	1	-	-	3
					Night	1	-	2	1	-	-	2		Night	1	-	2	1	-	-	2
Choptank	N/A	20	40		Day	-	-	2	1	1.5	1	3		Day	-	-	2	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	2	1	-	-	3
					Night	-	1	2	1	-	-	2		Night	-	1	2	1	-	-	2
Wicomico	N/A	20	40		Day	1	-	2	1	1.5	1	3		Day	1	-	2	1	-	-	3
					Evening	1	-	2	1	-	-	3		Evening	1	-	2	1	-	-	3
					Night	-	-	2	1	-	-	2		Night	-	-	2	1	-	-	2
Manokin	N/A	20	40		Day	-	1	2	1	1	1	3		Day	-	1	2	1	-	-	3
					Evening	-	-	2	1	-	-	3		Evening	-	-	2	1	-	-	3
					Night	-	1	2	1	-	-	2		Night	-	1	2	1	-	-	2
Mall	N/A				Day	1	1	1	-	-	-	3		Day	1	1	1	-	-	-	1
					Evening	-	1	-	-	-	-	1		Evening	-	1	-	-	-	-	-
					Night	-	-	-	-	-	-	-		Night	-	-	-	-	-	-	-
					TOTAL	**6**	**6**	**25**	**12**	**6**	**5**	**36**			**6**	**6**	**25**	**12**	-	-	**33**
					1.4 factor	**8.4**	**8.4**	**35**	**16.8**	6	5	**50.4**									

APPENDIX A
5. Perkins

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

Unit Name	Security Level	Census	Psychiatrist Hours		M-F	Police	Security	RN	LPN	SW	Psychology	SA Nursing		Sa-Su	Police	Security	RN	LPN	SW	Psychology	SA Nursing
1West	max	18	80		Day	-	1	2	1	2	1.5	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
1East	max	28	80		Day	-	1	2	1	2	1	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
2West	max	29	80		Day	-	1	2	1	2	1	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
1South	max	29	80		Day	-	1	2	1	2	1	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
2East	max	29	80		Day	-	1	2	1	2	1	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
3South	max	22	60		Day	-	1	2	1	2	1	3		Day	-	1	1	1	-	-	3
					Evening	-	1	2	1	-	-	3		Evening	-	1	1	1	-	-	3
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	3
4South	med	24	40		Day	-	1	1	1	2	1	3		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	3		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	2
2South	med	29	40		Day	-	1	1	1	2	1	3		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	3		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	3		Night	-	1	1	-	-	-	2
3North	med	20	80		Day	-	1	1	1	2	1	3		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	3		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	2		Night	-	1	1	-	-	-	2
1North	min	20	20		Day	-	1	1	1	2	1	2		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	2		Night	-	1	1	-	-	-	2
2North	min	20	40		Day	-	1	1	1	2	1	2		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	2		Night	-	1	1	-	-	-	2
4North	min	20	40		Day	-	1	1	1	2	-	2		Day	-	1	1	1	-	-	2
					Evening	-	1	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	1	1	-	-	-	2		Night	-	1	1	-	-	-	2
					TOTAL		**36**	**48**	**24**	**24**	**11.5**	**98**				**36**	**36**	**24**			**90**
					1.4 factor		**50.4**	**68**	**33.6**	**24**	**11.5**										

APPENDIX A
6. Springfield

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

Unit Name	Security Level	Census	Psychiatrist Hours		M-F	Police	Security	RN	LPN	SW	Psychology	DCA		Sa-Su	Police	Security	RN	LPN	SW	Psychology	DCA
Salomon A	acute	22	80		Day	-	2	2	1	2	1	2		Day	-	2	2	1	-	-	2
					Evening	-	2	2	1	-	-	2		Evening	-	-	2	1	-	-	2
					Night	-	2	1	1	-	-	1		Night	-	-	1	1	-	-	1
Salomon B	acute	22	80		Day	-	2	2	1	2	1	2		Day	-	-	2	1	-	-	2
					Evening	-	2	2	1	-	-	2		Evening	-	2	2	1	-	-	2
					Night	-	2	1	1	-	-	1		Night	-	-	1	1	-	-	1
Salomon C	acute	22	80		Day	-	2	2	1	2	0.5	2		Day	-	-	2	1	-	-	2
					Evening	-	2	2	1	-	-	2		Evening	-	2	2	1	-	-	2
					Night	-	2	1	1	-	-	1		Night	-	-	1	1	-	-	1
Salomon D	acute	25	80		Day	-	2	2	1	2	0.5	2		Day	-	-	2	1	-	-	2
					Evening	-	2	2	1	-	-	2		Evening	-	2	2	1	-	-	2
					Night	-	2	1	1	-	-	1		Night	-	-	1	1	-	-	1
McKeldin A	recovery	21	40		Day	-	2	1	1	1.5	2	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
McKeldin B	recovery	21	40		Day	-	2	1	1	1	2	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
McKeldin D	recovery	21	40		Day	-	2	1	1	1.5	2	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
Hitchman A		20	40		Day	-	2	1	1	1.5	0.5	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
Hitchman B		22	40		Day	-	2	1	1	1.5	0.5	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
Hitchman C		24	40		Day	-	2	1	1	1.5	0.5	2		Day	-	-	1	1	-	-	2
					Evening	-	2	1	1	-	-	2		Evening	-	1	1	1	-	-	2
					Night	-	2	1	1	-	-	2		Night	-	-	1	1	-	-	2
Hospital					Day	5	8	-	-	-	-	-		Day	-	8	-	-	-	-	-
					Evening	1	6	-	-	-	-	-		Evening	-	6	-	-	-	-	-
					Night	-	2	-	-	-	-	-		Night	-	2	-	-	-	-	-
					TOTAL	**6**	**76**	**38**	**30**	**17**	**10.5**	**56**			**-**	**30**	**38**	**30**	**-**	**-**	**56**
					1.4 factor	**6**	**106**	**53**	**42**	**17**	**10.5**	**78.4**									

APPENDIX A
7. Spring Grove

Patient Census and Staffing Model by Discipline for Each Patient Care Unit

Unit Name	Security Level	Census	Psychiatrist Hours		M-F	Police	Security	RN	LPN	SW	Psychology	DCA		Sa-Su	Police	Security	RN	LPN	SW	Psychology	DCA
Dayhoff A		12	40		Day	3	-	2	2	1	0.5	4		Day	2	-	1	1	-	-	1
					Evening	2	-	2	1	-	-	2		Evening	2	-	1	1	-	-	1
					Night	2	-	1	1	-	-	2		Night	2	-	1	1	-	-	1
Dayhoff B		10	40		Day	-	-	3	-	2	1.5	2		Day	-	-	1	1	-	-	1
					Evening	-	-	3	-	-	-	3		Evening	-	-	1	1	-	-	1
					Night	-	-	2	1	-	-	2		Night	-	-	1	1	-	-	1
Dayhoff C		24	60		Day	-	-	4	-	2	1	5		Day	-	-	1	1	-	-	2
					Evening	-	-	2	1	-	-	3		Evening	-	-	1	1	-	-	2
					Night	-	-	3	1	-	-	2		Night	-	-	1	1	-	-	1
SPEF		24	20		Day	-	-	1	2	1.5	0.5	2		Day	-	1	-	1	-	-	1
					Evening	-	-	2	1	-	-	1		Evening	-	2	-	1	-	-	1
					Night	-	-	2	-	-	-	1		Night	-	2	-	1	-	-	
White B		24	60		Day	-	-	5	-	2	1	4		Day	-	-	1	1	-	-	2
					Evening	-	-	3	1	-	-	3		Evening	-	-	1	1	-	-	2
					Night	-	-	2	1	-	-	2		Night	-	-	1	1	-	-	1
White C		24	60		Day	-	-	4	1	1	0.5	3		Day	-	-	1	1	-	-	2
					Evening	-	-	2	2	-	-	2		Evening	-	-	1	2	-	-	2
					Night	-	-	2	1.5	-	-	2		Night	-	-	1	1	-	-	2
White D		24	60		Day	-	-	4	1	2	1	1		Day	-	1	1	1	-	-	2
					Evening	-	-	3	1	-	-	1		Evening	-	-	1	1	-	-	2
					Night	-	-	3	1	-	-	3		Night	-	-	1	1	-	-	1
Smith		30	80		Day	-	-	6	-	2	1	5		Day	-	-	4	1	-	-	2
					Evening	-	-	4	-	-	-	2		Evening	-	-	4	1	-	-	2
					Night	-	-	4	1	-	-	5		Night	-	-	3	1	-	-	2
Tawes		24	60		Day	-	-	4	1	2	1	3		Day	-	-	1	1	-	-	2
					Evening	-	-	3	1	-	-	3		Evening	-	-	1	1	-	-	2
					Night	-	-	2	1	-	-	2		Night	-	-	1	1	-	-	1
Noyes		30	40		Day	-	-	3	1	2	0.5	4		Day	-	-	2	1	-	-	2
					Evening	-	-	1	2	-	-	4		Evening	-	-	2	1	-	-	2
					Night	-	-	2	1	-	-	4		Night	-	-	2	-	-	-	2
RBC 1		35	60		Day	-	-	4	1	2	0.75	5		Day	-	-	1	2	-	-	2
					Evening	-	-	2	1	-	-	2		Evening	-	-	1	2	-	-	2
					Night	-	-	2	2	-	-	3		Night	-	-	1	2	-	-	1
RBC 2		35	56		Day	-	-	3	2	2	1	5		Day	-	-	1	2	-	-	2
					Evening	-	-	1	2	-	-	3		Evening	-	-	1	2	-	-	2
					Night	-	-	4	-	-	-	4		Night	-	-	1	2	-	-	1
RBC 3		35	64		Day	-	-	5	1	2	1	4		Day	-	-	1	2	-	-	2
					Evening	-	-	2	1	-	-	4		Evening	-	-	1	2	-	-	2
					Night	-	-	2	1	-	-	4		Night	-	-	1	2	-	-	1
RBC 4		34	60		Day	-	-	4	2	2	0.8	5		Day	-	-	1	2	-	-	2
					Evening	-	-	2	1	-	-	3		Evening	-	-	1	2	-	-	2
					Night	-	-	2	1	-	-	4		Night	-	-	1	2	-	-	1
					TOTAL	**7**	**-**	**117**	**42.5**	**26**	**12**	**128**			**6**	**6**	**50**	**54**	**-**	**-**	**66**
					1.4 factor	**9.8**				**26**	**12**										

APPENDIX B

Comparison of Staffing Models to FY19 Budgeted Positions

RICA Baltimore										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Pysch Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	2	3	3	18	5.6	9	-	-	-	35
Budgeted FY19	5	-	-	16	6	20	-	2	9	12
Difference	3	-3	-3	-2	-	11	-	2	9	-23
RICA Rockville										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Pysch Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	2	-	-	8.4	-	4	-	9	13	33
Budgeted FY19	6	-	-	13	-	8	-	15	14	33
Difference	4	-	-	4.6	-	4	-	9	1	0
Finan										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Psych Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	3.8	-	-	13	11.2	6	33.6	-	-	-
Budgeted FY19	2	3	6	25	16	8	36	4	-	-
Difference	-1.8	-	-	12	4.8	2	2.4	-	-	-
Eastern Shore										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Psych Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	5	8.4	8.4	35	17	6	50.4	-	-	-
Budgeted FY19	4	6	-	39	17	5	41	5	-	-
Difference	-1	-2.4	-8.4	4	-	-1	-9.4	-	-	-
Perkins										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Psych Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	18	-	51	68	34	24	137	12	-	-
Budgeted FY19	25	2	84	99	41	23	187	12	-	-
Difference	7	2	33	31	7	-1	50	-	-	-
Springfield										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**Psych Tech**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	14	6	106	53	42	17	78	11	-	-
Budgeted FY19	28	7	40	131	70	25	103	22	-	-
Difference	14	1	-66	78	28	8	25	11	-	-
Spring Grove										
	Physician	**Police**	**Security**	**RN**	**LPN**	**SW**	**DCA**	**Psychology**	**CNA**	**CAMHA**
Staffing Model	19	9.8	6	137	65	26	155	12	-	-
Budgeted FY19	26	13	3	143	51	28	141	25	-	-
Difference	7	3.2	-3	6	-3	2	-12	13	-	-

APPENDIX C

Overtime Expenditures for FY16–FY18

Facility	FY 2015	FY 2016	FY 2017	FY 2018*
Spring Grove Hospital Center	3,538,818	4,177,174	5,049,115	6,183,118
Clifton T. Perkins Hospital Center	6,483,040	6,445,204	6,799,708	8,690,886
Springfield Hospital Center	2,721,850	3,419,169	3,647,841	3,656,323
Thomas B. Finan Center	237,774	314,409	185,441	177,281
Eastern Shore Hospital Center	508,656	714,078	570,355	559,229
RICA-Baltimore	105,437	140,295	207,093	328,022
JLG RICA-Rockville	86,082	103,391	96,197	138,525
TOTALS	**13,681,657**	**15,313,720**	**16,555,750**	**19,733,384**

APPENDIX D

Staff Safety Literature Review

Simply adding more staff is not a reasonable or sound solution to reducing patient assaults. There are a myriad of environmental, employee and patient factors that each influence or contribute positively to the incidence of patient assaults. On the environmental front, spatial density (size of rooms and space where patients are located), noise level, air flow, temperature, access for patient mobility (confinement), items in the milieu that can stimulate a patient (furniture, electronics, etc. …) are all considered positive contributing factors.

On the staff front, the sex of the employee, years on the job, familiarity with the patient assigned, education and training are contributing factors to patient violence. In addition, patient considerations that impact rates of violence include the diagnosis, medication compliance, length of stay and orientation to the unit rules and protocols, medical comorbidities, patient acuity, commitment status all impact incidence of assault. The single most positive contributing factor is the prior history of violence. Patients who have an assault history are several times more likely to assault again. This understanding is patient milieu management 101, fundamental psychiatric best practice knowledge.

Below are just a few references supporting the above position:

- "When injurious assaults against hospital personnel and injurious assaults against patients were considered separately, a more complete and interesting picture emerged. There was no evidence that units with higher nurse staffing levels are safer for hospital personnel. On the contrary, HPPD for both RNs and non-RNs had statistically significant positive associations with the rate of injurious assaults against hospital personnel." Staggs, Injurious Assault Rates on Inpatient Psychiatric Units: Associations With Staffing by Registered Nurses and Other Nursing Personnel, Psychiatric Services, vol. 66, issue 11, pp. 1162–1166 (Jul. 2015), online at http://ps.psychiatryonline.org/doi/10.1176/appi.ps.201400453 (all Internet materials as last visited July 30, 2018).

- The purpose of this article was to explore patient assault in acute inpatient psychiatric units and to examine the interplay between the patients, environmental staff factors related to assaults. A log system for recording assault occurrences was used. Four trained research assistants conducted a chart review and interviewed the nursing staff to complete the overt aggression scale, staff observation aggression scale, and environmental assessment questionnaire separately at the four hospitals. The data showed 855 episodes of assaults from 287 patients. The assault incident density ranged from 1.11 to 1.95 per 1,000 patient days. Patient factors (diagnosis, history of assaultive behavior, the duration of admission, and smoking history), environmental factors (patient/nurse ratio and space density) and staff factors (age, length of work experience, training program received in assault prevention and

management) were contributing variables to patients' assaultive behavior. This reinforces the complexity of models in predicting assaults among psychiatric in-patients." Chou, Lu, & Mao, Factors Relevant to Patient Assaultive Behavior and Assault in Acute Inpatient Psychiatric Units in Taiwan, Archives of Psychiatric Nursing, vol. 16, issue 4, pp. 187–195 (Aug. 2002), online at http://www.psychiatricnursing.org/article/S0883-9417(02)00005-5/abstract.

- "This review of the available literature on violence and aggression supports this notion that such symptoms are often a consideration in providing care psychiatric patients. We can conclude from the information in this review that individuals with mental illness, when appropriately treated, do not pose any increased risk of violence over the general population. Violence may be more of an issue in patients diagnosed with personality disorders and substance dependence. The overall impact of mental illness as a factor in the violence that occurs in society as a whole appears to be overemphasized, possibly intensifying the stigma already surrounding psychiatric disorders. Violence and mental illness are not without connection, however, as they share many biologic and psychosocial aspects." Rueve and Welton, Violence and Mental Illness, Psychiatry (Edgmont), vol. 5, issue 5, pp.34–48 (May 2008), online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2686644/.

- "It is paramount to patient care to sufficiently train staff to identify precipitants of violence as well as effective techniques to manage violent patients so that the incidence of violent attacks against mental health professionals decreases. While it is impossible to prevent every violent situation, it has been shown that proper training in de-escalation techniques can help substantially." Anderson & West, Violence Against Mental Health Professionals: When the Treater Becomes the Victim, Innovations in Clinical Neuroscience, vol. 8, issue 3, pp. 34–39 (Mar. 2011), online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074201/.

- "Individuals who have been arrested or acted violently in the past are more likely than others to become violent again. Much of the research suggests that this factor may be the largest single predictor of future violence. What these studies cannot reveal, however, is whether past violence was due to mental illness or some of the other factors explored below." Mental Illenss and Violence, Harvard Mental Health Letter (Jan. 2011), online at https://www.health.harvard.edu/newsletter_article/mental-illness-and-violence.

- "It is widely thought that low staffing levels are associated with higher risk of psychiatric inpatient violence. The purpose of this study was to determine whether odds of an injurious assault are higher in months in which unit staffing levels are higher or lower relative to unit average, using a design allowing each unit to serve as its own control. Using 2011–2013 National Database of Nursing Quality Indicators data from 480 adult and 90 geriatric units in 361 US hospitals, monthly assault odds were modeled as functions of unit staffing. Monthly RN and non-RN staffing (hours per patient day) were categorized as very low, low, average, high,

or very high, based on deviation from the unit's average staffing across study months. Endpoints were binary indicators for one or more injurious assaults against staff during the month and for one or more injurious assaults against patients during the month. Despite large sample sizes, neither RN nor non-RN staffing was a statistically significant predictor of odds of assault, nor was there a consistent trend of odds of assault being higher at below- or above-average staffing levels. There was little evidence that monthly deviation in unit staffing is associated with the odds of an injurious assault on a unit. This suggests that staffing-assault rate associations in previous studies of monthly data are largely attributable to between-unit rather than within-unit staffing differences. Hospitals may need to look beyond below- or above-average nurse staffing as a cause of assaults." Staggs, Deviations in Monthly Staffing and Injurious Assaults Against Staff and Patients on Psychiatric Units, Research in Nursing & Health, vol. 39, issue 5 (Jun. 15, 2016), online at http://onlinelibrary.wiley.com/doi/10.1002/nur.21735/abstract.

Combined Facility Data:

	Number of Patient-to-Staff Assaults	**Part-Time Days**
FY15	365	374,977
FY16	320	375,685
FY17	354	360,913
FY18 (through June)	283	375,456

APPENDIX E

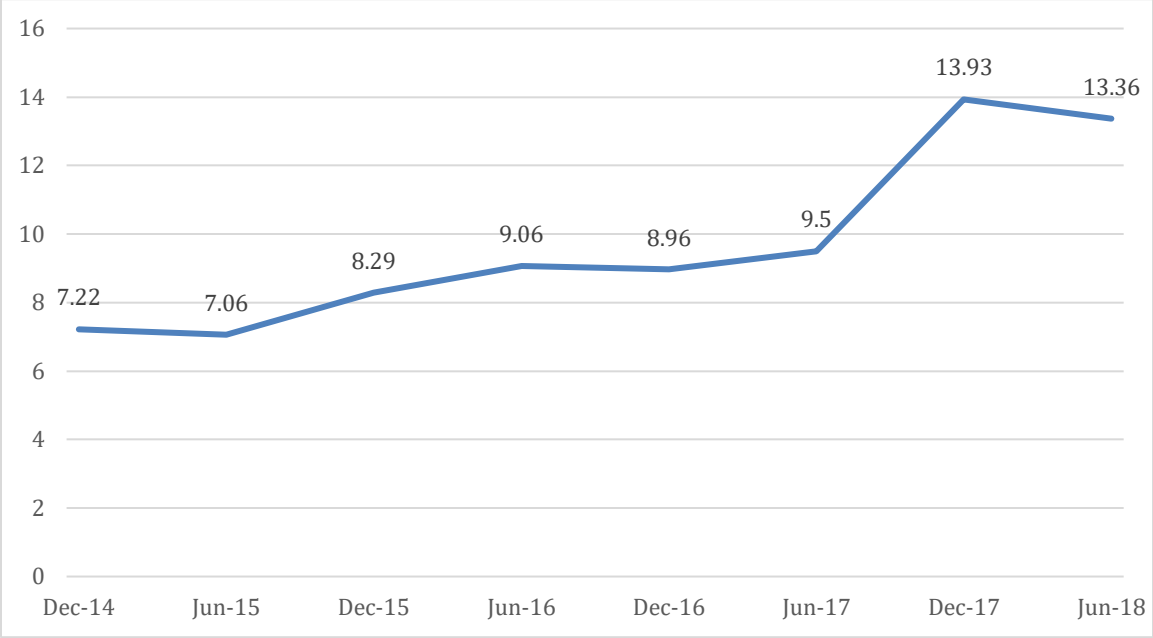
Time Off Comparison

Filled PINs on 06/01/2017	147.9		667.8		612		529		176.5		105.5		119.1		2,357.8	
Leave Type	**ESHC**	**HPFP**	**SCHC**	**HPFP**	**SHC**	**HPFP**	**CTPHC**	**HPFP**	**FINAN**	**HPFP**	**RICA-Baltimore**	**HPFP**	**RICA-Rockville**	**HPFP**	**FACILITY TOTALS**	**HPFP**
Military - Intermittent	-	-	885.1	1.3	120.0	0.2	-	-	120.0	0.7	-	-	-	-	1,125.1	0.5
Personal Leave W/O Pay	-	-	123.7	0.2	153.6	0.3	293.3	0.6	-	-	-	-	199.8	1.9	770.4	0.3
Unpaid Partial Disability	-	-	-	-	56.0	0.1	980.0	1.9	168.3	1.0	48.0	0.5	-	-	1,252.3	0.5
Exams & Interviews	9.5	0.1	109.1	0.2	44.0	0.1	92.4	0.2	4.0	0.0	19.5	0.2	13.3	0.1	291.8	0.1
Paid Administrative Leave	16.0	0.1	120.5	0.2	595.5	1.0	2,028.6	3.8	40.0	0.2	16.8	0.2	147.0	1.4	2,964.4	1.3
Legal Action	32.0	0.2	14.5	0.0	15.5	0.0	15.0	0.0	-	-	8.0	0.1	32.0	0.3	117.0	0.0
Jury Services	51.0	0.3	572.0	0.9	168.0	0.3	411.5	0.8	26.8	0.2	158.0	1.5	40.0	0.4	1,427.3	0.6
Unpaid Time Off	72.9	0.5	7,607.3	11.4	7,321.1	12.0	3,598.6	6.8	264.4	1.5	793.3	1.5	221.2	2.1	19,878.8	8.4
Medical Leave W/O Pay	73.3	0.5	1,136.0	1.7	492.5	0.8	3,259.4	6.2	221.0	1.3	0	-	12.0	0.1	5,194.2	2.2
Salary Reduction Recovery	146.0	1.0	1,022.7	1.5	128.0	0.2	48.3	0.1	296.0	1.7	-	-	4.0	0.0	1,645.0	0.7
CASH OT Comp Time	205.6	1.4	308.5	0.5	49.3	0.1	932.7	1.8	1,068.6	6.1	54.4	0.5	1,390.9	13.2	4,010.0	1.7
Employee Donation Time Off	338.4	2.3	343.5	0.5	327.7	0.5	681.7	1.3	366.9	2.1	26.0	0.2	155.5	1.5	2,239.7	0.9
Bereavement Leave	488.0	3.3	1,161.0	1.7	1,339.0	2.2	901.0	1.7	376.0	2.1	392.0	3.7	275.0	2.6	4,932.0	2.1
Leave Bank Donation	670.2	4.5	3,138.6	4.7	945.6	1.5	1,485.9	2.8	416.9	2.4	-	-	-	-	6,657.2	2.8
IWIF Approved Accident Leave	957.4	6.5	7,829.4	11.7	4,295.3	7.0	10,991.0	20.8	1,234.7	7.0	1,297.3	12.3	1,555.6	14.7	28,160.7	11.9
Comp Time	2,160.0	14.6	8,077.0	12.1	7,716.9	12.6	5,212.6	9.9	1,279.2	7.2	3,785.4	35.9	4,419.3	41.9	32,650.4	13.8
FMLA (All Types)	2,592.8	17.5	16,996.1	25.5	15,384.0	25.1	10,629.3	20.1	805.0	4.6	1,573.2	14.9	2,121.8	20.1	50,102.2	21.2
Pre-Scheduled Holiday	6,448.6	43.6	30,450.0	45.6	28,604.0	46.7	26,384.0	49.9	7,984.0	45.2	3,323.0	31.5	4,178.0	39.6	107,371.6	45.5
Personal Leave	6,564.7	44.4	27,016.8	40.5	25,194.8	41.2	21,794.2	41.2	7,364.3	41.7	5,180.0	49.1	4,890.2	46.4	98,005.0	41.6
Sick Leave	10,888.8	73.6	51,621.9	77.3	40,789.6	66.6	44,566.4	84.2	12,073.1	68.4	6,966.7	66.0	8,074.4	76.5	174,980.9	74.2
Annual Leave	16,903.5	114.3	67,970.6	101.8	60,532.2	98.9	52,234.6	98.7	17,945.9	101.7	11,757.6	111.4	11,511.6	109.1	238,856.0	101.3
Total Hours Per Filled PIN		**328.7**		**339.2**		**317.4**		**352.6**		**294.9**		**329.5**		**372.0**		**331.9**
Total Days Per Filled PIN		**41.09**		**42.40**		**39.68**		**44.08**		**36.87**		**41.19**		**46.49**		**41.49**

HPFP=Hours per filled PIN on 6/1/2018

APPENDIX F

Vacancy Rate Trend—BHA "Direct Care" Positions



APPENDIX G

Leave Data Summary

Leave Category	Average	High	Low
Holidays	11.5	12	11
Personal Days	6	6	6
Sick Leave Days	9.3	10.5	8.3
Annual Days	12.7	14.3	12.3
Accident Leave Days	1.5	2.6	0.8
FMLA Days	2.6	3.2	0.6
Unpaid Days	1	1.5	0.1
Other Leave Days*	1	1	1
TOTALS	**45.6**	**51.1**	**40.1**