

**Index of Exhibits to
Trial Declaration of Robert Joy**

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EXHIBIT A
EXPERT TRIAL DECLARATION OF ROBERT JOY
OCTOBER 27, 2021

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I INTRODUCTION

A. OVERVIEW AND SUMMARY

The Arizona Department of Corrections, Rehabilitation & Reentry (“ADCRR”)¹ is responsible for meeting the reasonable and necessary healthcare needs of its incarcerated residents as part of its obligation to sustain a constitutionally adequate environment during conditions of confinement. To provide for these needs, ADCRR operates a healthcare delivery system at its ten state prisons, and ADCRR contracts with Centurion of Arizona, LLC (“Centurion”) to support healthcare delivery for its residents.

Healthcare delivery—whether in the community or correctional facilities— inherently is a labor-intensive function. A structured, empirical, dynamic and evidence-based staffing model is essential for determining the labor inputs for a healthcare delivery system that effectively meets the healthcare needs of its patients. Through providing adequate, reasonable and necessary care to its constituents, a properly resourced healthcare delivery system not only can sustain and improve patient well-being, it also reduces the likelihood of preventable adverse healthcare events and avoidable healthcare complications.

The healthcare delivery system under ADCRR’s complete control includes primary care, dental care, mental health care, residential-based healthcare (e.g., skilled nursing, psychiatric inpatient), medication administration, collection of laboratory specimens, and x-ray imaging. Other services provided outside the scope of ADCRR’s direct control are those ordered by primary care physicians (e.g., specialist services) or required to meet residents’ acute emergent medical needs (e.g., transfers to a hospital emergency room). While ADCRR is responsible for all reasonably necessary and ordered healthcare provided to its residents, ADCRR’s healthcare delivery model delegates the resource management

¹ Acronyms are defined throughout and can also be found in the Appendix on the last page of this report.

1 of those services outside the scope of its direct control, including staffing, to other entities
2 (i.e., neither ADCRR nor Centurion employ the hospital or specialist staff who provide
3 specialty and hospital care for ADCRR residents).

4 This analysis describes a staffing model for the healthcare under ADCRR's
5 complete control (i.e., excluding hospital and specialty care) delivered to ADCRR
6 residents. The model used in this analysis produces the following outputs:

- 7 • The estimated number of healthcare services that ADCRR residents require
8 annually across various service types;
- 9 • The estimated numbers and types of healthcare services that each staff full-time
10 equivalent ("FTE") in various clinical classifications can provide annually for
11 ADCRR residents; and
- 12 • The estimated number of staff FTEs in various classifications that are required to
13 meet ADCRR resident healthcare demands of various types, presented as a range
14 due to the nature of the estimates involved in determining the potential staffing
15 numbers.

16 To derive these outputs, the staffing model in this analysis requires the following
17 information:

- 18 • The estimated average daily number of ADCRR residents in the various cohorts that
19 impact service demand;
- 20 • The estimated number of various clinical services expected for each resident
21 annually in these cohorts;
- 22 • The estimated number of various clinical services one FTE in each classification
23 can support each day; and
- 24 • The estimated number of days available for patient care in each classification, per
25 year and per FTE.

26 Using this approach and based on the available evidence to support this analysis,

1 there is a significant gap between the current number of contracted or hired staff providing
 2 healthcare services to ADCRR residents and the estimated number of staff needed in the
 3 model. Estimates are provided as a range based on the variability of assumptions used in
 4 the model; percentages in the table below may not add up to 100% due to rounding. The
 5 ranges here are expressed in terms described later in the report and are based on
 6 assumptions about the estimated ranges of resident cohort sizes, resident service utilization,
 7 and provider throughout.

FTEs by Classification	Staffing Model Output Range		Current ADCRR Staffing		% Difference Between Current and Modeled Staffing	
	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
Staff PCP ²	76	89	57	53	-30%	-40%
Staff Psychiatrist	38	58	31	31	-17%	-47%
Staff MH ³ Clinician	358	554	75	100	-72%	-82%
Staff BHT ⁴	417	550	27	29	-93%	-95%
Staff NA / PCT ⁵	208	267	101	99	-52%	-63%
Staff LPN ⁶ + MA ⁷	305	378	135	185	-39%	-51%

23 ² Primary Care Provider
 24 ³ Mental Health
 25 ⁴ Behavioral Health Technician
 26 ⁵ Patient Care Technician
⁶ Licensed Practical Nurses
⁷ Medical Assistant

1	Staff RN⁸	343	424	168	229	-33%	-46%
2	Staff Lab Tech	188	259	9	6	-97%	-98%
3	Staff MRT⁹	9	11	8	8	-12%	-29%
4	Staff Pharm Tech	58	69	35	31	-47%	-55%
5	Staff Dentist	28	35	16	19	-33%	-45%
6	Staff DA¹⁰	57	69	41	43	-24%	-38%
7	Staff RDH¹¹	28	35	0	0	-100%	-100%

8 Among the more prominent potential staffing shortages based on the staffing model
9 output include:

- 10 • Mental Health (“MH”) Clinicians, the understaffing which may reflect the
11 unmet demand for mental health counseling and professionally-led mental
12 health group sessions;
- 13 • BHTs, the understaffing which may reflect unmet specialized mental health
14 bed demands (i.e., MH residential, psychiatric inpatient, and precautionary
15 MH watch);
- 16 • NAs and PCTs, the understaffing which may reflect unmet specialized
17 medical bed needs (i.e., SNU and IPC);
- 18 • Lab Techs, the understaffing which may reflect lab specimen handling
19 workflows where nurses or other licensed and certified staff are drawing
20 samples to fulfill lab orders, which is an exceptionally inefficient use of
21 healthcare resources (i.e., healthcare staff should be assigned to duties at the
22 maximum capacity of, but not to exceed, their scope of licensure or
23 certification); and

24 ⁸ Registered Nurses
25 ⁹ Medical Radiological Technician
26 ¹⁰ Dental Assistant
¹¹ Registered Dental Hygienist

- RDHs, who typically support dental clinic workload in the free world but who are completely missing from ADCRR healthcare staffing

Also notable in this report’s findings is the proportion of prescribing providers (i.e., MD¹², DO¹³, NP¹⁴ and PA¹⁵ licensure) who are Advanced Practice Providers (“APPs”) (i.e., NP and PA). The ratio of APP to physician staff at ADCRR is about 6:1 overall. The overall ratio in the United States is about 1:2 APPs to physicians, and in Arizona the ratio of APPs to physicians is about 1:3. These data suggest that ADCRR uses APPs at a rate nearly 13 times higher than the national ratio of physicians to APPs and nearly 20 times higher than community practice physician-to-APP ratios in Arizona.

Assumptions used in this analysis are based on data available from ADCRR as well as literature on the prevalence of healthcare conditions and use of healthcare services among the U.S. general population, including among the justice-involved population. I created this model separate from the current staffing matrix in place at the ADCRR facilities. This is for several reasons: (1) the staffing model outline in this report is intended to be an independent analysis of what healthcare staffing numbers are sufficient to provide adequate care to the inmates at the ADCRR facilities; (2) it is unclear, even after reviewing internal ADCRR and Centurion documents and depositions of ADCRR and Centurion officials, exactly who comes up with the healthcare staffing numbers in the contract between Centurion and ADCRR or how those decisions are made;¹⁶ and (3) it is clear from internal ADCRR and Centurion documents provided to me and recent deposition testimony that officials at ADCRR and Centurion do not agree on whether the current healthcare

¹² Doctor of Medicine

¹³ Doctor of Osteopathic Medicine

¹⁴ Nurse Practitioner

¹⁵ Physician Assistant

¹⁶ Transcript of Centurion Staffing 30(b)(6) Deposition of Tom Dolan at 70:25–71:10 (stating Centurion does not have a “template staffing model”); Transcript of ADCRR Staffing 30(b)(6) Deposition of Larry Gann at 10:7–11:3.

1 staffing model at the facilities is sufficient to provide adequate healthcare to the inmate
2 population.¹⁷ ADCRR can apply a framework similar to the one used in this evidence-
3 based staffing model to update estimated healthcare staffing needs for its facilities as the
4 healthcare needs of its population change over time.

5 **B. QUALIFICATIONS**

6 I have extensive experience in evidence-based leadership, strategic planning,
7 performance evaluation, quality improvement, and data analysis, both within the healthcare
8 industry in general and within public healthcare and corrections agencies specifically. I
9 have led diverse teams to help large health and human services agencies develop and
10 implement strategies that improve outcomes and reduce inequities for their most vulnerable
11 clients. I obtained my Master of Business Administration from the Thunderbird School of
12 Global Management at Arizona State University and am both Project Management
13 Professional (“PMP”) and Professional Scrum Master (“PSM”) certified.

14 Since 2009, I have worked as an Executive Quality Management Consultant for
15 California Correctional Health Care Services developing and implementing enterprise-
16 wide analytic capabilities to improve the lives of over 100,000 patients at a \$3-plus billion
17 agency under court-supervised oversight. In this role, I led a high-profile time-limited
18 project to redesign its enterprise medical staffing models using an evidence-based, data-
19 driven approach.

20 Since 2017, I have contracted with my clients as Owner, President and Principal
21

22 ¹⁷ See Email from T. Dolan to V. Headstrom, Jan. 14, 2020 (ADCRR00111128–111130)
23 (submitting staffing matrix and a staffing proposal to ADCRR that was ultimately rejected
24 for unspecified reasons); Transcript of Centurion Staffing 30(b)(6) Deposition of Tom
25 Dolan at 88:24–90:4 (stating Centurion proposed a staffing level above the 1052.75 but the
26 proposal was rejected by ADCRR); Transcript of ADCRR Staffing 30(b)(6) Deposition of
Larry Gann at 31:21–32:6 (referring to Centurion as the “experts” and that ADCRR will
not question their staffing numbers) and at 13:17-14:8: (referring to the staffing model
being in place since prior to the Wexford contract).

1 Consultant of Carbone Joy Consulting LLC, a firm focused on designing and executing
2 strategies to improve health and human services delivery for vulnerable populations.
3 Between 2014 and 2017, I contracted with my health and human services clients as
4 Consulting Director at Public Consulting Group. Between 2007 and 2014, I contracted
5 with my clients as Senior Consulting Manager at Hubbert Systems Consulting. In my role
6 of Senior Consulting Manger at Hubbert, I led a set of reports describing opportunities for
7 improvement at the California Department of Public Health.¹⁸ In 2015 I was required to
8 testify about these reports in front of the California State Legislature. Prior to 2007, I held
9 leadership roles at IBM and Sutter Health.

10 A copy of my curriculum vitae including a list of publications I authored in the
11 previous ten years is attached to this report as **Exhibit B**.

12 **C. COMPENSATION DISCLOSURE**

13 I am being compensated at the rate of \$240 per hour for my time on this matter. My
14 compensation is not determined by the nature of my findings or the outcome of this case.

15 **D. MATERIALS CONSIDERED**

16 In conducting my analysis, I reviewed and considered certain documents I was
17 provided, and information I gathered from public sources. A complete listing of the
18 information I have considered to date in forming my opinions is listed in **Exhibit C** of this
19 report.

21 ¹⁸ California Department of Public Health Licensing & Certification Program – Initial
22 Assessment & Gap Analysis Report, Hubbert Systems Consulting (Aug. 2014), available
23 at
[https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Asses
24 smentAndGapAnalysis.pdf](https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/AssesmentAndGapAnalysis.pdf); California Department of Public Health Licensing &
25 Certification Program – Remediation Recommendations, Hubbert Systems Consulting
(Aug. 2014), available at
26 [https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Reme
diationRecommendations.pdf](https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/RemediationRecommendations.pdf).

1 **E. ALLEGATIONS AND SUMMARY OF ASSIGNMENT**

2 I have been retained by counsel to the Plaintiffs in this matter to serve as an expert
3 witness in the above referenced matter. It is my understanding that the Plaintiffs allege
4 they have received inadequate medical, dental, and mental health care while incarcerated
5 by the Arizona Department of Corrections, Rehabilitation & Reentry, and that the
6 conditions of confinement in isolation units place people living in them at substantial risk
7 of serious harm. I have been asked to determine whether ADCRR's healthcare staffing
8 levels are sufficient and, if not, what adequate staffing, hiring, and allocation numbers
9 should be.¹⁹

10 My analysis and evaluation discussed in this report are based on certain
11 assumptions, including data available in the healthcare industry literature, reports supplied
12 by ADCRR, and expert judgement based on extensive experience with healthcare data
13 analysis and correctional healthcare delivery systems. My report is based upon my
14 experience and the information listed in Exhibit C of this report, and I am in a position to
15 render my opinions at this time based on such information. All documents that I reviewed
16 or reference in this report are incorporated as part of this report. I respectfully reserve the
17 right to revise or expand my opinions to reflect any additional opinions I may formulate
18 based upon additional data or information acquired after my report is submitted, including
19 responding to opinions of expert witnesses for the Defendants.

20 **II SUMMARY OF OPINIONS**

21 This analysis contains three components. The first major component describes a
22 statewide staffing model that estimates overall ADCRR patient acuity, patient healthcare
23 service needs, and the number of staff in various classifications required to deliver those
24 healthcare services. The second minor component examines these factors at each location

25 _____
26 ¹⁹ I did not analyze the adequacy of the current staffing model for correctional staff, or the
vacancy levels of those positions.

1 and identifies potential local staffing gaps. The third minor component compares current
2 and proposed ADCRR staffing to other relevant healthcare national staffing data.

3 **A. WHAT QUANTITY OF HEALTHCARE SERVICES DO ADCRR**
4 **RESIDENTS REQUIRE ANNUALLY ACROSS VARIOUS SERVICE**
5 **TYPES, AND WHAT IS THE STAFFING LEVEL REQUIRED TO**
6 **PROVIDE SERVICES TO ADCRR PATIENTS?**

7 This first section of the ADCRR healthcare staffing analysis evaluates the estimated
8 number of staff required to meet overall resident needs for healthcare services by
9 examining the following key factors driving healthcare demand:

- 10 i. What are the characteristics of ADCRR residents that impact service demand?
- 11 ii. How many ADCRR residents are there in each of these cohorts?
- 12 iii. What types of clinical services do ADCRR residents require?
- 13 iv. How many healthcare services are residents in various cohorts expected to
14 require from the providers in different clinical classifications, and how do these
15 demands impact staffing needs?
- 16 v. What is the gap between the current ADCRR healthcare staffing plan and the
17 healthcare staffing required based on this analysis?

18 Each factor is examined in detail below.

19 **i. What are the characteristics of ADCRR residents that impact service**
20 **demand?**

21 This analysis includes an expected count of ADCRR residents at the ten state prisons
22 who are in various group or “cohorts” that require different quantities and types of clinical
23 services, which supports estimating total staff required to meet the healthcare service
24 demands of all the residents. Grouping residents into cohorts and estimating the count of
25 residents in each cohort supports quantifying healthcare service demand, as total service
26 demand is a product of the expected number of residents requiring a service and the
expected number of various services required on average per resident. Service demand

1 varies by cohort (e.g., sicker patients require more services), which requires separate
2 estimates of the count of residents and the expected volume of each type of service that
3 they need.

4 Cohorts are selected based on those groups and sub-categories that:

- 5 • have healthcare demand characteristics that are materially different than other
6 categories in a cohort group;
- 7 • have a significant number of ADCRR residents (e.g., >100 statewide or at any
8 location); and
- 9 • are readily distinguishable in the available internal and external data sources used
10 to differentiate resident cohort and service demand characteristics.

11 Three main cohort groupings are used for this analysis to stratify the ADCRR
12 resident population and estimate the unique healthcare service demand characteristics
13 across each cohort group. Individual ADCRR residents are represented across each of the
14 following cohort groups:

- 15 1. The medical cohort group assigns each resident in the ADCRR census on a single
16 day to a mutually exclusive category based on the resident's expected demands for
17 medical services.
- 18 2. The mental health cohort group assigns each resident in the ADCRR census on a
19 single day to a mutually exclusive category based on the resident's expected
20 demands for mental health services.
- 21 3. The substance use disorder ("SUD") cohort group assigns each resident in the
22 ADCRR census on a single day to a mutually exclusive category based on the
23 resident's expected demands for substance use disorder treatment services.

24 While residents are stratified within each of these three cohort groupings, category
25 assignment is mutually exclusive within each cohort grouping. This means that service
26 demand characteristics are additive between cohorts, i.e., there are additional healthcare

1 requirements for medical services in addition to any ongoing SUD or mental health service
 2 demand; also, ongoing mental health services demands are incremental to those medical-
 3 and SUD-related healthcare service demands.

4 The medical cohort grouping includes residents in the following mutually exclusive
 5 categories, loosely based on the current ADCRR medical classification system²⁰ but also
 6 on literature associating various characteristics with healthcare utilization²¹:

- 7 • Residents with no chronic conditions or special requirements (i.e., episodic medical
 8 care only);
- 9 • Residents with 1 stable chronic medical condition or age 50+;
- 10 • Residents with 2 chronic medical conditions or with restricted physical capacity
 11 requiring accommodation and of any age;
- 12 • Residents with 3+ chronic medical conditions or severe physical illness with high
 13 medical usage characteristics (e.g., HIV, advanced age, dialysis) or limited physical
 14 capacity/ stamina;

16 ²⁰ Arizona Department of Corrections, Admissions, Releases, Confined Population Fact
 17 Sheet, (“Inmate Population Fact Sheet”),
https://corrections.az.gov/sites/default/files/REPORTS/Inmate_Population/inmate_popfacts_sheet_2019.pdf; Arizona Department of Corrections, Rehabilitation & Reentry Medical
 18 Services Division, Medical Services Technical Manual (Updated: June 3, 2021) (“Mental
 19 Health Technical Manual”),
https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adccr-healthservicetechnicalmanual_060321.pdf.

21 ²¹ See, e.g., Multiple Chronic Conditions Chartbook, 2010 MEDICAL EXPENDITURE
 PANEL SURVEY DATA,
 22 <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/prevention-chronic-care/decision/mcc/mccchartbook.pdf>; Correctional Health Care: Addressing the Needs of
 23 Elderly, Chronically Ill, and Terminally Ill Inmates, <https://nicic.gov/correctional-health-care-addressing-needs-elderly-chronically-ill-and-terminally-ill-inmates>; Health, United
 24 States Annual Report (2019), <https://www.cdc.gov/nchs/hus/index.htm>; National
 25 Commission on Correctional Health Care, The Health Status of Soon-to-Be-Released
 26 Inmates: A Report to Congress, <https://www.ncchc.org/health-status-of-soon-to-be-released-inmates>.

- 1 • Special Needs Unit (“SNU”) residents, including patients in assisted living and
 2 sheltered housing requiring a level of care similar to that received in the free
 3 community by patients in assisted living or who require adult day health care;²² all
 4 primary care provider and nursing care needs associated with the SNU level of care
 5 are included in this cohort; this cohort may include some patients who also have
 6 specialized mental health bed needs if they also fall into one of those mental health
 7 cohorts; and
- 8 • Inpatient Components residents (“IPC residents”), including their primary care
 9 provider and nursing care needs associated with the IPC level of care requiring
 10 services similar to that received in the free community by patients in a skilled
 11 nursing facility;²³ this cohort may include some patients who also have specialized
 12 mental health bed needs if they also fall into one of those mental health cohorts.

13 The mental health cohort grouping includes residents in the following eight
 14 mutually exclusive categories, loosely based on the current ADCRR medical classification
 15 system²⁴ but also on literature associating various characteristics with mental health
 16 utilization:²⁵

17

 18 ²² NATIONAL CENTER FOR HEALTH STATISTICS, Vital and Health Statistics,
 19 Series 3, Number 43, (Feb. 2019) https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf.

20 ²³ *Id.*

21 ²⁴ Inmate Population Fact Sheet; Mental Health Technical Manual.

22 ²⁵ *See, e.g.*, Bureau of Justice Statistics: Statistical Models to Predict Mental Illness
 23 Among State and Federal Prisoners, <https://bjs.ojp.gov/library/publications/statistical-models-predict-mental-illness-among-state-and-federal-prisoners>; U.S. Department of
 24 Justice, Office of Justice Programs: Mental Health Problems of Prison and Jail Inmates
 25 (September 2006), <https://www.ojp.gov/ncjrs/virtual-library/abstracts/mental-health-problems-prison-and-jail-inmates>; National Institute of Mental Health - Statistics and
 26 Definitions, <https://www.nimh.nih.gov/health/statistics/mental-illness>; Key Substance Use
 and Mental Health Indicators in the United States: Results from the 2019 National Survey
 on Drug Use and Health
<https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf>.

- 1 1. Residents with no current mental illness and with episodic mental health care needs
2 only, and who are in isolated housing, including residents in maximum security,
3 death row, Special Management Units (“SMU”), protective custody and detention;
- 4 2. Residents with no current mental illness and with episodic mental health care needs
5 only, who are not in isolated housing;
- 6 3. Residents with current mild or moderate mental illness, and who are in isolated
7 housing, including residents in maximum security, death row, SMU, protective
8 custody and detention;
- 9 4. Residents with current mild/moderate mental illness, and who are not in isolated
10 housing;
- 11 5. Residents with current serious mental illness “(SMI”),²⁶ and who are in isolated
12 housing, including residents in maximum security, death row, SMU, protective
13 custody and detention;
- 14 6. Residents with current serious mental illness, and who are not in isolated housing;
- 15 7. Patients in residential mental health care regardless of housing security level,
16 including patients with current SMI who require daily or near-daily mental health
17 treatment similar to intensive mental health outpatient or partial mental health
18 hospitalization care in the community, but who have less than round-the-clock

19
20 ²⁶ The U.S. Department of Health & Human Services’ Substance Abuse and Mental Health
21 Services Administration defines the community standard for Serious Mental Illness (SMI)
22 as “a mental illness that interferes with a person’s life and ability to function”, including
23 bipolar disorder, major depressive disorder, and schizophrenia. *See* Substance Abuse and
24 Mental Health Services Administration, *Living Well with Serious Mental Illness*,
25 <https://www.samhsa.gov/serious-mental-illness>. The ADC Mental Health Technical
26 Manual, Chapter 3, Section 6.0, “Determination and Management of Seriously Mentally
Ill (SMI) Patients” indicates “Any patient determined to be SMI in the community shall
also be designated as SMI in ADC.” *See* ADCRR Mental Health Technical Manual -
Revised 12/24/2019,
[https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adc-
mentalservicestechnicalmanual_042120.pdf](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adc-mentalservicestechnicalmanual_042120.pdf).

1 mental health care needs;²⁷ all of whom also have medical care needs according to
 2 their medical cohort, including in some cases specialized medical bed needs; and
 3 8. Patients in psychiatric inpatient care or precautionary mental health watch
 4 regardless of housing security level, including patients with round-the-clock mental
 5 health care needs;²⁸ all of whom also have medical care needs according to their
 6 medical cohort, including in some cases specialized medical bed needs.

7 The SUD cohort grouping includes residents in the following three mutually
 8 exclusive categories:²⁹

9
 10 ²⁷ NASMHPD - Trend in Psychiatric Inpatient Capacity, United States and Each State
 11 1970 to 2014 [https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-](https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-Inpatient-Capacity_508C.pdf)
 12 [Inpatient-Capacity_508C.pdf](https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-Inpatient-Capacity_508C.pdf); National Mental Health Services Survey (N-MHSS): 2018
 13 Date on Mental Health Treatment Facilities <https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NMHSS-2018.pdf>; Key
 14 Substance Use and Mental Health Indicators in the United States: Results from the 2019
 15 National Survey on Drug Use and Health [https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDF](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf)
 16 [WHTML/2019NSDUHFFR1PDFW090120.pdf](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf); February 2009 Impacts Associated with
 17 the Medicare Psychiatric PPS: A Study in Partial Hospitalization Programs
 18 [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Reports/downloads/Leung_PHP_PPS_2010.pdf)
 19 [Reports/Reports/downloads/Leung_PHP_PPS_2010.pdf](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Reports/downloads/Leung_PHP_PPS_2010.pdf).

16 ²⁸ NASMHPD - Trend in Psychiatric Inpatient Capacity, United States and Each State
 17 1970 to 2014 [https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-](https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-Inpatient-Capacity_508C.pdf)
 18 [Inpatient-Capacity_508C.pdf](https://www.nasmhpd.org/sites/default/files/TACPaper.2.Psychiatric-Inpatient-Capacity_508C.pdf); Treatment Advocacy Center - How Many Psychiatric Beds
 19 Does America Need (Created March 2016),
 20 [https://www.treatmentadvocacycenter.org/storage/documents/backgrounders/how-many-](https://www.treatmentadvocacycenter.org/storage/documents/backgrounders/how-many-psychiatric-beds-does-america-need.pdf)
 21 [psychiatric-beds-does-america-need.pdf](https://www.treatmentadvocacycenter.org/storage/documents/backgrounders/how-many-psychiatric-beds-does-america-need.pdf); National Mental Health Services Survey (N-
 22 MHSS): 2018 Date on Mental Health Treatment Facilities,
 23 <https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NMHSS-2018.pdf>; Key
 24 Substance Use and Mental Health Indicators in the United States: Results from the 2019
 25 National Survey on Drug Use and Health,
 26 [https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDF](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf)
 27 [WHTML/2019NSDUHFFR1PDFW090120.pdf](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf).

23 ²⁹ Based on guidance, data and findings from: Office of the Assistant Secretary - Has
 24 Treatment for Substance Use Disorders Increased, [https://aspe.hhs.gov/reports/has-](https://aspe.hhs.gov/reports/has-treatment-substance-use-disorders-increased-issue-brief)
 25 [treatment-substance-use-disorders-increased-issue-brief](https://aspe.hhs.gov/reports/has-treatment-substance-use-disorders-increased-issue-brief); Key Substance Use and Mental
 26 Health Indicators in the United States: Results from the 2019 National Survey on Drug Use
 and Health,
[https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDF](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFW090120.pdf)

- 1 1. Residents with no substance use disorder or requiring only minimal education
- 2 delivered as part of their normal prison programming;
- 3 2. Residents requiring substantial intervention and education to treat their substance
- 4 use disorder but who do not require medication assisted treatment (“MAT”); and
- 5 3. Residents requiring substantial intervention and education to treat their substance
- 6 use disorder, including MAT.

7 In addition to the mental health, medical and SUD cohort groupings, residents may
 8 require other services associated with various types of movement, the demand or interval
 9 for which is unrelated to assignment in a mental health, medical or SUD cohort. Unlike
 10 the medical, mental health and SUD cohorts, a resident may experience multiple movement
 11 events within and across the following various movement types during their ADCRR
 12 prison sentence, many of which are associated with policy requirements for healthcare
 13 evaluations:³⁰

- 14 • New intake (e.g., residents newly admitted to an ADCRR state prison from other
- 15 jurisdictions or parole violators returning to an ADCRR state prison), including
- 16 healthcare evaluation requirements incremental to any ongoing medical, dental or
- 17 mental health needs commensurate with the medical and mental health cohorts for
- 18 new intakes;

19
 20

 21 WHTML/2019NSDUHFFR1PDFW090120.pdf; Office of the Assistant Secretary for
 22 Planning and Evaluation, Review of Medication - Assisted Treatment Guidelines and
 23 Measures for Opioid and Alcohol Use, [https://aspe.hhs.gov/reports/review-medication-](https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0)
 24 [assisted-treatment-guidelines-measures-opioid-alcohol-use-0](https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0).

25 ³⁰ See Arizona Department of Corrections, Rehabilitation & Reentry - Medical Services
 26 Technical Manual Updated June 3, 2021,
[https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-healthservicestechnicalmanual_060321.pdf)
[healthservicestechnicalmanual_060321.pdf](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-healthservicestechnicalmanual_060321.pdf); Arizona Department of Corrections - Mental
 Health Technical Manual Revised 12/24/2019,
[https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-mentalservicestechnicalmanual_042120.pdf)
[mentalservicestechnicalmanual_042120.pdf](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcurr-mentalservicestechnicalmanual_042120.pdf).

- 1 • Transfer to isolated housing, including maximum security, death row, SMU,
- 2 protective custody and detention beds;
- 3 • Inter-institution transfer;
- 4 • Transfer to/from psychiatric inpatient care or precautionary mental health watch;
- 5 • Return from hospital or specialty care.

6 **ii. How many ADCRR residents are there in each of these cohorts?**

7 Data on the expected distribution of ADCRR residents in various clinically relevant
8 groupings were compiled based on data available from ADCRR as well as literature on the
9 prevalence of healthcare conditions among the US general population, including among
10 the justice-involved population.

11 As described earlier, individual residents are represented across each of the cohort
12 groups, however, cohorts are mutually exclusive within each cohort group. This means
13 that service demand characteristics are additive between cohorts, i.e., there are additional
14 healthcare requirements for newly admitted ADCRR residents in addition to any ongoing
15 medical service demand, and ongoing mental health services demands also are incremental
16 to those medical- and movement-related healthcare service demands.

17 The following tables represent findings from this data and literature search on a
18 range of the expected average daily census in each cohort.³¹ These cohort range estimates
19 generally are expressed as a “Healthier Case-Mix Mid-Range” and a “Sicker Case-Mix
20 Mid-Range” representing some inherent variability in prevalence of healthcare conditions
21 within this population. Note that percentages shown for the entire population may not add

22
23 ³¹ While disparities in disease prevalence and healthcare utilization may vary somewhat
24 by more finely subcategorized cohorts, e.g., by gender (see for example - Bureau of Justice
25 Statistics - Medical Problems of Prisoners (April 2008) <https://bjs.ojp.gov/library/publications/medical-problems-prisoners> and National
26 Ambulatory Medical Care Survey: 2018 National Summary Tables - https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-names-web-tables-508.pdf),
this additional potential level of variability was not discretely accounted for in this analysis.

1 up to 100% due to rounding and the breadth of the range estimates. These estimates are
 2 based on:

- 3 • *ADCRR Data*: The range of expected proportions in each cohort grouping considers
 4 a combination of data on current bed census, prison capacity, publicly available
 5 ADCRR reports, and other resident data provided by ADCRR.³² Notably, the
 6 distribution of healthcare beds and case-mix at Florence changed during the time in
 7 which this analysis was undertaken, and therefore census, capacity and staffing
 8 counts may blend data from the pre- and post-Florence conversion periods. For
 9 these cohort estimate tables, total census from September 24, 2021 for the ten
 10 ADCRR prisons was used as the denominator, against which the cohort proportions
 11 below were applied. Note that while ADCRR data on mental health cohort
 12 distributions were considered, no additional data on ADCRR medical cohorting or
 13 medical classification were provided as requested.

15 ³² Arizona Department of Corrections - ADCRR Institutional Capacity & Committed
 16 Population Report - [https://corrections.az.gov/reports-documents/reports/adcrr-](https://corrections.az.gov/reports-documents/reports/adcrr-institutional-capacity-committed-population)
 17 [institutional-capacity-committed-population](https://corrections.az.gov/reports-documents/reports/adcrr-institutional-capacity-committed-population); ADC Institutional Capacity & Committed
 18 Population for the Month Ending July 31, 2021 Excel Chart,
 19 [https://corrections.az.gov/sites/default/files/REPORTS/Monthly_CP/bed_capacity_2021/](https://corrections.az.gov/sites/default/files/REPORTS/Monthly_CP/bed_capacity_2021/bed-capacity_jul21.pdf)
 20 [bed-capacity_jul21.pdf](https://corrections.az.gov/sites/default/files/REPORTS/Monthly_CP/bed_capacity_2021/bed-capacity_jul21.pdf); Arizona Department of Corrections - Monthly Count Sheets for
 21 2021
 22 <https://corrections.az.gov/capacity-custody-level/2021>; ADC Institutional Capacity
 23 Committed Population - July 31, 2021 - Excel Chart,
 24 [https://corrections.az.gov/sites/default/files/DAILY_COUNT/July2021/07312021_count_](https://corrections.az.gov/sites/default/files/DAILY_COUNT/July2021/07312021_count_sheet.pdf)
 25 [sheet.pdf](https://corrections.az.gov/sites/default/files/DAILY_COUNT/July2021/07312021_count_sheet.pdf), (pre-Florence conversion); ADC Institutional Capacity Committed Population -
 26 September 12, 2021 - Excel Chart,
[https://corrections.az.gov/sites/default/files/DAILY_COUNT/Sept2021/09242021_count_](https://corrections.az.gov/sites/default/files/DAILY_COUNT/Sept2021/09242021_count_sheet.pdf)
[sheet.pdf](https://corrections.az.gov/sites/default/files/DAILY_COUNT/Sept2021/09242021_count_sheet.pdf) (post-Florence conversion); Arizona Department of Corrections - Corrections
 at a Glance
<https://corrections.az.gov/reports-documents/reports/corrections-glance>; Arizona
 Department of Corrections - Admissions, Releases, Confined Population Fact Sheet,
[https://corrections.az.gov/sites/default/files/REPORTS/Inmate_Population/inmate_popfac](https://corrections.az.gov/sites/default/files/REPORTS/Inmate_Population/inmate_popfacts_sheet_2019.pdf)
[ts_sheet_2019.pdf](https://corrections.az.gov/sites/default/files/REPORTS/Inmate_Population/inmate_popfacts_sheet_2019.pdf), ADCRRM0024286-0025059 - 2021-05 - Chronic Conditions List.pdf,
 ADCRRM0024284-0024285 - 2021-05 - ADCRR MH STATISTICAL SUMMARY.pdf.

- 1 • *Expert Judgement and Industry Literature:* The range was based findings in various
 2 studies of both general and justice-involved populations in the US. Given the
 3 breadth of sources reviewed and the various populations associated with the studies,
 4 a cluster or midpoint of findings was used to estimate the expected rate of services
 5 within each cohort grouping for ADCRR's justice-involved population. In most
 6 cases, the overall range for the entire population is unadjusted for the ADCRR
 7 cohort distribution, i.e., it is not weighted to the ADCRR case-mix.³³

8 The first grouping of cohorts and related estimates assigned to ADCRR residents in
 9 this analysis, based not only on ADCRR data but also on expert judgement and industry
 10 literature,³⁴ is intended to align with demand for medical, non-psychiatric services. Note

11 ³³ Findings were supplemented by interviews conducted via Zoom with plaintiffs'
 12 correctional medical expert Todd Wilcox, M.D. on 8/26/2021, 9/6/2021, and 9/14/2021;
 13 and with plaintiffs' mental health expert Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021.

14 ³⁴ U.S. Department of Justice - Special Report (Revised Oct. 4, 2016) Medical Problems
 15 of State and Federal Prisoners and Jail Inmates, 2011-12
 16 <https://bjs.ojp.gov/content/pub/pdf/mpsfpj1112.pdf>; Bureau of Justice Statistics - Medical
 17 Problems of Prisoners (April 2008) Author Laura Maruschak,
 18 https://bjs.ojp.gov/library/publications/medical-problems-prisoners_;
 19 N Engl J Med. June 2, 2011 by Josiah Rich M.D., Sarah Wakeman M.D. and Samuel L. Dickman, Medicine
 20 and the Epidemic of Incarceration in the United States,
 21 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3154686/> ; Urban Institute - Health and
 22 Prisoner Reentry, How Physical, Mental and Substance Abuse Conditions Shape the
 23 Process of Reintegration by Kamala Mallik-Kane and Christy Visser (February 26, 2008),
 24 <https://www.urban.org/research/publication/health-and-prisoner-reentry>

25 <https://www.nap.edu/read/18613/chapter/9>; Am J Public Health (April 2009) The
 26 Health and Health Care of US Prisoners; Results of a Nationwide Survey
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2661478/>; Home Health Care News -
 PlayMaker Releases Data on Home Health Length-of-Stay, Partners with WellSky, by
 Bailey Bryant (December 20, 2018),
<https://homehealthcarenews.com/2018/12/playmaker-releases-data-on-home-health-length-of-stay-partners-with-wellsky/>;
 Bureau of Justice Statistics - Medical Problems of
 Inmates, 1997, <https://bjs.ojp.gov/library/publications/medical-problems-inmates-1997>;
 Centers for Disease Control and Prevention; Prevalence of Multiple Chronic Conditions
 Among US Adults, 2018, https://www.cdc.gov/pcd/issues/2020/20_0130.htm; National
 Health Statistics Report, No. 153, February 23, 2021 -Multiple Chronic Conditions Among
 Veterans and Nonveterans: United States, 2015-2018,
<https://www.cdc.gov/nchs/data/nhsr/nhsr153-508.pdf>;

1 that while the categories are loosely based on ADC medical classification system (i.e., M1
 2 through M5), and the estimated proportions in each cohort are based on the sources outlined
 3 above, this analysis does not make any judgement on how individual patients are
 4 categorized.

Medical Cohorts	Literature / Data Review		Estimated Census	
	Est. Healthier Case-Mix Mid-Range	Est. Sicker Case-Mix Mid-Range	Healthier Case-Mix Mid-Range	Sicker Case-Mix Mid-Range
Residents with no chronic conditions or special requirements (i.e., episodic medical care only)	52%	47%	14,451	13,058
Residents with 1 stable chronic medical condition or age 50+	22%	19%	6,125	5,290
Residents with 2 chronic medical conditions or with restricted physical capacity requiring accommodation and of any age	15%	21%	4,176	5,847
Residents with 3+ chronic medical conditions or severe physical illness with high medical usage characteristics (e.g., HIV, advanced age, dialysis) or limited physical capacity / stamina	10%	12%	2,784	3,341
SNU Residents	0.6%	0.6%	167	167
IPC Residents	0.5%	0.5%	139	139
Total for Medical Cohorts	100%	100%	27,843	27,843

22 of General Internal Medicine - Coming Home: Health Status and Homelessness Risk of
 23 Older Pre-release Prisoners (June 8, 2010),
<https://link.springer.com/article/10.1007/s11606-010-1416-8>;
 24 Centers for Disease Control and Prevention - Health, United States - Annual Report on
 Trends in Health Statistics, <https://www.cdc.gov/nchs/hus/index.htm>; 2010 Medical
 25 Expenditure Panel Survey Data - Multiple Chronic Conditions Chartbook,
 26 <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/prevention-chronic-care/decision/mcc/mccchartbook.pdf>.

1 The next cohort grouping describes general level of need for mental health services
2 is based not only on ADCRR data but also on expert judgement and industry literature.³⁵

3
4 ³⁵ Bureau of Justice Statistics - Statistical Models to Predict Mental Illness Among State
5 and Federal Prisoners [https://bjs.ojp.gov/library/publications/statistical-models-predict-](https://bjs.ojp.gov/library/publications/statistical-models-predict-mental-illness-among-state-and-federal-prisoners)
6 [mental-illness-among-state-and-federal-prisoners](https://bjs.ojp.gov/library/publications/statistical-models-predict-mental-illness-among-state-and-federal-prisoners); N Engl J Med. June 2, 2011 by Josiah
7 Rich M.D., Sarah Wakeman M.D. and Samuel L. Dickman, Medicine and the Epidemic of
8 Incarceration in the United States
9 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3154686/>; Treatment Advocacy Center -
10 Serious Mental Illness Prevalence in Jails and
11 Prisons, [https://www.treatmentadvocacycenter.org/evidence-and-research/learn-more-](https://www.treatmentadvocacycenter.org/evidence-and-research/learn-more-about/3695)
12 [about/3695](https://www.treatmentadvocacycenter.org/evidence-and-research/learn-more-about/3695); Urban Institute - Health and Prisoner Reentry, How Physical, Mental and
13 Substance Abuse Conditions Shape the Process of Reintegration by Kamala Mallik-Kane
14 and Christy Visher (February 26, 2008)
15 <https://www.urban.org/research/publication/health-and-prisoner-reentry>;
16 Urban Institute - Using Research to Improve Health and Health Care in US Correctional
17 Facilities by Alexandra Kirkland (January 19, 2021),
18 [https://www.urban.org/research/publication/using-research-improve-health-and-health-](https://www.urban.org/research/publication/using-research-improve-health-and-health-care-us-correctional-facilities)
19 [care-us-correctional-facilities](https://www.urban.org/research/publication/using-research-improve-health-and-health-care-us-correctional-facilities); Robert Wood Johnson Foundation - Health and
20 Incarceration: A Workshop Summary by A. Smith (September 1, 2013),
21 <https://www.rwjf.org/en/library/research/2013/09/health-and-incarceration.html>, Adults
22 with Behavioral Health Needs Under Correctional Supervision: A Shared Framework for
23 Reducing Recidivism and Promoting Recovery (2012);
24 [https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/CSG_Behavioral_](https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/CSG_Behavioral_Framework_k.pdf)
25 [Framework](https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/CSG_Behavioral_Framework_k.pdf)
26 [k.pdf](https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/CSG_Behavioral_Framework_k.pdf);
U.S. Dept. of Corrections - Mental Health Problems of Prison and Jail Inmates (Sept. 2006)
[https://www.ojp.gov/ncjrs/virtual-library/abstracts/mental-health-problems-prison-and-](https://www.ojp.gov/ncjrs/virtual-library/abstracts/mental-health-problems-prison-and-jail-inmates)
[jail-inmates](https://www.ojp.gov/ncjrs/virtual-library/abstracts/mental-health-problems-prison-and-jail-inmates); The Growth of Incarceration in the United States, Exploring Causes and
Consequences
<https://www.nap.edu/read/18613/chapter/9#207>; Am J Public Health (April 2009) The
Health and Health Care of US Prisoners; Results of a Nationwide Survey,
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2661478/>; National Commission on
Correctional Health Care - The Health Status of Soon-to-Be-Released Inmates: A Report
to Congress, <https://www.nchc.org/health-status-of-soon-to-be-released-inmates>;
National Institute of Mental Health - Statistics on Mental Illness and Definitions,
<https://www.nimh.nih.gov/health/statistics/mental-illness>; Key Substance Use and Mental
Health Indicators in the United States: Results from the 2019 National Survey on Drug Use
and Health
[https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDF](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFWHTML/2019NSDUHFFR1PDFW090120.pdf)
[WHTML/2019NSDUHFFR1PDFW090120.pdf](https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFWHTML/2019NSDUHFFR1PDFW090120.pdf); Adm Policy Mental Health (March 2015)
The dynamics of psychiatric bed use in general hospitals,
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4207711/>; Psychiatric Services - Length
of Inpatient Stay of Persons With Serious Mental Illness: Effects of Hospital and Regional

1 Because the distribution of beds by security level impacts demands for mental health
 2 services, these cohort estimates include an expectation that 18 to 20% of ADCRR prison
 3 beds are for residents requiring isolated housing.³⁶ This estimate of the proportion in
 4 isolated housing is based on available ADCRR bed census and capacity data, and it is
 5 applied to both the ADCRR cohort distributions as well as those found in the literature,
 6 i.e., estimates within each level of mental health acuity are proportionately split between
 7 residents in isolated and non-isolated beds. Also note that while the MH cohorts are loosely
 8 based on ADC mental health classification system (i.e., MH-1 through MH-5), and the
 9 estimated proportions in each cohort are based on the sources outlined above, this analysis
 10 does not make any judgement on how individual patients are categorized.

Mental Health Cohorts	Literature / Data Review		Estimated Census	
	Est. Healthier Case-Mix Mid-Range	Est. Sicker Case-Mix Mid-Range	Healthier Case-Mix Mid-Range	Sicker Case-Mix Mid-Range
Residents with no current mental illness in isolated housing	12%	9%	3,341	2,506
Residents with no current mental illness not in isolated housing	45%	44%	12,641	12,251
Residents with current mild/moderate mental illness in isolated housing	5%	3%	1,392	835
Residents with current mild/moderate mental illness not in isolated housing	20%	13%	5,569	3,620
Residents with serious mental illness in isolated housing	3%	6%	835	1,671
Residents with serious mental	12%	22%	3,341	6,237

21 Characteristics, <https://ps.psychiatryonline.org/doi/10.1176/appi.ps.201100412>; CDC
 22 Prescription Drug Use in the United States, 2015-2016 (May 2019) NCHS Data Brief No.
 23 334, <https://www.cdc.gov/nchs/products/databriefs/db334.htm>; Arizona Dept. of
 24 Corrections - Inmate Assault, Self-Harm & Mortality Data, [https://corrections.az.gov/reports-documents/reports/inmate-assault-self-harm-mortality-](https://corrections.az.gov/reports-documents/reports/inmate-assault-self-harm-mortality-data)
 25 data

26 ³⁶ Although prevalence of mental illness may vary by level of security (e.g., there may be a higher proportion of residents in isolated housing than in the general population), the analysis does not adjust for this potential disparity.

1	illness not in isolated housing				
2	Patients in residential mental health care	2%	2%	557	557
3	Patients in psychiatric inpatient care or precautionary mental health watch	0.6%	0.6%	167	167
4	Total for MH Cohorts	100%	100%	27,843	27,843

5
6 As part of the development of projections for the estimated proportion of patients
7 with various levels of mental illness and mental healthcare needs, it was notable that the
8 ADC data showed that only between six and seven percent of the ADC population have
9 SMI.³⁷ However as shown and referenced above, relevant literature indicates the expected
10 proportion of patients with SMI could be as much as five times greater than what ADC is
11 reporting. This improbably low proportion of patients identified by ADC as having SMI
12 is an example of a data reliability issue caused by significant data systems capability
13 maturity shortcomings, the remediation of which is foundational to ADC sustaining a
14 healthcare delivery system that can adequately identify and meet the needs of its patients.

15 The community standard of care for individuals with substance use disorder
16 (“SUD”), including for justice-involved patients, includes cognitive behavioral therapy and
17 medication assisted treatment.³⁸ These services are the targets of healthcare demand

18 ³⁷ See *supra* note 24 (The U.S. Department of Health & Human Services’ Substance Abuse
19 and Mental Health Services Administration defines the community standard for Serious
20 Mental Illness (SMI) as “a mental illness that interferes with a person’s life and ability to
21 function”, including bipolar disorder, major depressive disorder, and schizophrenia. See
22 Substance Abuse and Mental Health Services Administration, *Living Well with Serious
23 Mental Illness*, <https://www.samhsa.gov/serious-mental-illness>. The ADC Mental Health
24 Technical Manual, Chapter 3, Section 6.0, “Determination and Management of Seriously
25 Mentally Ill (SMI) Patients” indicates “Any patient determined to be SMI in the community
26 shall also be designated as SMI in ADC.” See ADCRR Mental Health Technical Manual
- Revised 12/24/2019,
https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcmamentalservicestechnicalmanual_042120.pdf).

³⁸ Based on Zoom interviews with Todd Wilcox on 8/26/21, 9/6/21, and 9/14/21; also
based on guidance, data and findings from Office of the Assistant Secretary for Planning
and Evaluation - Has Treatment for Substance Use Disorders Increased ASPE Issue Brief

1 associated with the SUD cohort grouping, estimates for which are based not only on
 2 ADCRR data but also on expert judgement and industry literature.³⁹

SUD Cohorts	Literature / Data Review		Estimated Census	
	Est. Healthier Case-Mix Mid-Range	Est. Sicker Case-Mix Mid-Range	Healthier Case-Mix Mid-Range	Sicker Case-Mix Mid-Range
Residents who may require only education but not SUD treatment	38%	22%	10,580	6,125

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 4
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 8
 9
 10 by Ellen Bouchery (March 2021) <https://aspe.hhs.gov/reports/has-treatment-substance-use-disorders-increased-issue-brief>; Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health <https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFRPDFWHTML/2019NSDUHFFR1PDFW090120.pdf>; Office of the Assistant Secretary for Planning and Evaluation - Review of Medication - Assisted Treatment Guidelines and Measures for Opioid and Alcohol Use (Nov. 24, 2015) <https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0>.

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 12
 13
 14 ³⁹ Urban Institute - Health and Prisoner Reentry, How Physical, Mental and Substance Abuse Conditions Shape the Process of Reintegration by Kamala Mallik-Kane and Christy Visser (February 26, 2008) <https://www.urban.org/research/publication/health-and-prisoner-reentry>

15
 16 <https://www.rwjf.org/en/library/research/2013/09/health-and-incarceration.html>; Adults with Behavioral Health Needs Under Correctional Supervision: A Shared Framework for Reducing Recidivism and Promoting Recovery (2012), https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/CSG_Behavioral_Framework_k.pdf;

17
 18
 19 U.S. Department of Justice, Office of Justice Programs: Mental Health Problems of Prison and Jail Inmates (September 2006), <https://www.ojp.gov/ncjrs/virtual-library/abstracts/mental-health-problems-prison-and-jail-inmates>;

20
 21 Office of the Assistant Secretary for Planning and Evaluation - Has Treatment for Substance Use Disorders Increased ASPE Issue Brief by Ellen Bouchery (March

22
 23 2021) <https://aspe.hhs.gov/reports/has-treatment-substance-use-disorders-increased-issue-brief>; Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health,

24
 25 <https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFRPDFWHTML/2019NSDUHFFR1PDFW090120.pdf>; Behavioral Health Barometer, Arizona Volume 6, SAMHSA

26 https://www.samhsa.gov/data/sites/default/files/reports/rpt32819/Arizona-BH-Barometer_Volume6.pdf.

Residents who need SUD treatment but not MAT	41%	52%	11,416	14,478
Residents who need SUD treatment including MAT	21%	26%	5,847	7,239
Total for SUD Cohorts	100%	100%	27,843	27,843

New and returning resident intake into ADCRR is the final patient-level characteristic associated with healthcare service demand used in this analysis and are based on ADCRR historical trends⁴⁰ and industry literature.⁴¹

New Intake Type	Literature / Data Review
New and returning resident intakes	12,200 – 18,500
New and returning residents with potential psychiatrist-prescribed medication at intake	2,762 – 3,875

iii. What types of clinical services do ADCRR residents require from staff in various clinical classifications?

In this analysis, we estimate the demands for different types of healthcare services that residents in various cohorts require based on historical utilization data and external benchmarks. Notably while documents with ADC utilization data were reviewed as part of this analysis, they were not used to support projections of resident healthcare demand in this model. As a healthcare system with a fixed number of staff, as is the case with ADC via its contract with Centurion, the amount of resident healthcare demand that can be met by those limited staff are constrained by the fixed ceiling of those resources' capacity to provide care for patients. Actual healthcare demand may be artificially suppressed in

⁴⁰ Arizona Dept. of Corrections - Corrections at a Glance, <https://corrections.az.gov/reports-documents/reports/corrections-glance>

⁴¹ Based on (a) estimated percentage range in any psychiatry care in the past year based on cohort estimates above; and (b) estimated percentage range of patients with recent history of mental illness and with recent history of any psychiatrist-prescribed medication, from: Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health, <https://www.samhsa.gov/data/sites/default/files/reports/rpt29393/2019NSDUHFFR1PDFWHTML/2019NSDUHFFR1PDFW090120.pdf>.

1 settings where resident demand exceeds the capacity for the available clinicians to meet
2 the that demand.

3 Distinguishing between various clinical service types supports quantifying
4 healthcare service demand and the supply of clinicians required to meet that demand.
5 Different resident cohorts require different types and quantities of clinical services.

6 Different clinicians can provide or support different types of clinical services. Using
7 data on demand for various services helps estimate the number of clinicians required with
8 various licensure requirements based on the demands for different types of healthcare
9 services that residents in various cohorts require.

10 Understanding the volume of different services required by residents in each cohort
11 helps determine the staff mix needed to deliver those services, as different types of service
12 are delivered by different types of staff with different scopes of practice. Once we
13 accumulate the number of different types of services required by all the resident cohorts,
14 we can later calculate the total number of staff required to meet the overall healthcare
15 service demand across various healthcare settings.

16 Because clinician throughput per day varies by clinician type and service type (e.g.,
17 the number of outpatient mental health visits a full-time mental health clinician can provide
18 in one day vs. the number of mental health precaution rounds the same clinician can attend),
19 understanding the types of services each clinician can provide and the daily throughput
20 each FTE can deliver helps us understand the clinical capacity of each provider type. This
21 expected daily or annual capacity for each clinical classification among the various clinical
22 service event types can be compared to the expected daily or annual patient demand for
23 services of various types to arrive at an expected staffing level required to meet the needs
24 of the ADCRR resident population.

25 Services included and separately evaluated in in this analysis have:
26

- 1 • a significant number of clinical service events in ADCRR locations (e.g., >100
- 2 annually at any location);
- 3 • clinician licensure and scope of practice requirements that are different than for
- 4 other service types;
- 5 • daily throughput characteristics (e.g., how many clinical service events a clinician
- 6 can attend each day) that are materially different than other service types; and
- 7 • readily distinguishable characteristics in the available internal and external data
- 8 sources that differentiate the service clinical service events from one another.

9 The following service types are used for this analysis to describe the various types

10 of clinical service events clinicians have with ADCRR residents. In addition, each clinical

11 service event requires time from one or more licensed clinicians with a specified licensure

12 or scope of practice. Each of these services may be delivered by a team of providers, and

13 therefore a clinical service event with a resident may involve more than one clinician. Also,

14 the various clinical service events including in this analysis may have different units of

15 measure (e.g., visit, specimen, bed day), which are included below with each service type

16 description. This list is intended to (a) reflect virtually all the healthcare services provided

17 in ADCRR state prisons and (b) align with ADCRR policy requirements, scope of practice

18 standards, community practice, and standard healthcare utilization categories.

- 19 • Primary Care
 - 20 ○ Health Needs Requests Review/Triage: RN⁴²

21 ⁴² While ADC policy allows an LPN to review and triage HNRs or evaluate patient care

22 needs, scope of practice standards suggest that RNs are more appropriate for this role. For

23 example, an RN can make a nursing diagnosis and can “Use critical thinking and nursing

24 judgment to analyze client assessment data to: a. Make independent nursing decisions and

25 formulate nursing diagnoses; and b. Determine the clinical implications of client signs,

26 symptoms, and changes, as either expected, unexpected, or emergent situations”, whereas

a LPN cannot. See Arizona State Board of Nursing - Questions by License Type
<https://www.azbn.gov/scope-of-practice/faqs>; COMPARISON AND RN AND LPN
 RELATED TO SCOPE ARIZONA STATE BOARD OF NURSING

- 1 ○ Unplanned Episodic Nursing Care Visits: RN
- 2 ○ Unplanned Episodic PCP Care Visits (including follow-up): MA; MD, DO,
- 3 NP or PA
- 4 ○ Planned Chronic Nursing Care Visits: RN
- 5 ○ Planned Chronic PCP Care Visits: MA; MD, DO, NP or PA
- 6 ● SNU and IPC Care
 - 7 ○ PCP Visits: MD, DO, NP or PA
 - 8 ○ Nursing Care: RN; LPN; Nursing Assistant or PCT
- 9 ● Mental Health Care (outpatient and inpatient)
 - 10 ○ Psychiatrist Visits: MD, DO or NP
 - 11 ○ Mental Health Clinician Visits: Psychologist, LCSW or other mental health
 - 12 clinician with an advanced degree
 - 13 ○ Mental Health Group Visits; Isolation Welfare Checks and MH Precaution
 - 14 Watch Contacts:⁴³ Psychologist, LCSW or other mental health clinician with
 - 15 an advanced degree⁴⁴

16 [https://www.azbn.gov/sites/default/files/education/student/12-comparison-of-rn-and-lpn-](https://www.azbn.gov/sites/default/files/education/student/12-comparison-of-rn-and-lpn-standards-related-to-scope.pdf)
 17 [standards-related-to-scope.pdf](https://www.azbn.gov/sites/default/files/education/student/12-comparison-of-rn-and-lpn-standards-related-to-scope.pdf).

18 ⁴³ Based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and
 19 based on the court's orders in Dkt. 3518 and 3861, rounds for suicide precaution watch are
 20 expected to be a minimum of 10 minutes of mental health clinician time per contact. Also,
 21 based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and
 22 based on guidance at American Psychological Association - Psychotherapy: Understanding
 23 group therapy, <https://www.apa.org/topics/psychotherapy/group-therapy>, mental health
 24 group sessions should run for approximately one hour and on average involve six
 25 participants. When estimating throughput for mental health clinicians, these activities are
 26 expected to be approximately equivalent in duration on a per-patient basis (i.e.,
 approximately 10 minutes of mental health clinician time per patient on average as a
 workload estimate). In addition, based on Zoom interviews with Pablo Stewart, M.D. on
 8/23/2021 and 9/20/2021, isolation welfare rounds are expected to take five to ten minutes
 on average including documentation, follow-up and related orders.

⁴⁴ Based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and
 despite current ADC practices or policy BHTs are not qualified to competently perform
 isolation watch rounds during which a patient's medical and mental health needs are

- 1 ○ Mental Health Residential and Inpatient Nursing Care: RN, LPN, BHT
- 2 • Dental Care
 - 3 ○ Dental Evaluation, Procedural and Restorative Visits: DA, DDS
 - 4 ○ Dental Preventive Visits: RDH, DA, DDS
- 5 • Medication Administration
 - 6 ○ Prescription Dispenses:⁴⁵ Pharmacy Technician
 - 7 ○ Visits for Medication Administration: LPN
- 8 • Diagnostics
 - 9 ○ Lab Specimen Processing: Lab Technician
 - 10 ○ Diagnostic Image Processing: Imaging Technician
- 11 • Care Transitions
 - 12 ○ Intakes: RN⁴⁶; MA; MD, DO, NP, PA; DDS; PhD, LCSW or other mental
 - 13 health clinician with an advanced degree; and Psychiatrists (MD, DO or NP)
 - 14 when a new resident arrives requiring psychotropic medications
 - 15 ○ Transfers to Isolated Housing: PhD, LCSW or other mental health clinician
 - 16 with an advanced degree
 - 17 ○ Inter-Institution Transfers: RN⁴⁷
 - 18 ○ Transfers to/from Precautionary Watch: MH Clinician
 - 19 ○ Returns from Specialty/Hospital Care: RN⁴⁸

20 _____
assessed and evaluated. In addition, BHTs are not qualified to competently lead group
21 sessions for patients with mental illness.

22 ⁴⁵ Medications prescribed to ADC residents appear to be filled from a central location and
shipped to each ADC location. I have been told to assume a pharmacy technician, or
23 “inventory controller”, appears to (a) receive these prescriptions locally, (b) process their
inventory tracking per policy and regulatory guidelines related to physical handling of
24 prescribed medicines, and (c) dispense them to nursing staff for their later administration
or distribution to patients.

25 ⁴⁶ *See supra* note 42.

26 ⁴⁷ *Id.*

⁴⁸ *Id.*

1 Note that only clinical staff providing direct patient care are included in this
2 analysis. The following staff and services are not included in this analysis:

- 3 • Headquarters and regional staffing
- 4 • Administrative, supervisory and executive staffing
- 5 • Staffing for non-clinical support functions, including but not limited to human
6 resources, finance, information technology, data analytics, facilities maintenance,
7 legal, compliance, legislative, communications, custody/guarding, transportation,
8 dietary, non-pharmacy inventory, and discharge/release planning
- 9 • Public health staffing
- 10 • Training staffing
- 11 • Staffing for subcontracted onsite specialty or ancillary services (e.g., audiology,
12 optometry) provided by licensed or certified specialists not regularly employed as
13 part of Centurion's contract with ADCRR
- 14 • Staffing for healthcare services provided offsite or outside the secure prison
15 perimeter (e.g., hospital and specialist services)

16 Looking at the catalog of healthcare services provided to ADCRR residents from
17 another perspective, the following clinical classifications are evaluated in this analysis to
18 assess the quantitative demand the various types of services each clinical classification can
19 provide.⁴⁹ Clinicians are expected to operate both within their scope of practice and ideally
20 at their highest capability within their scope (e.g., LPNs should not be diagnosing patients,
21 and physicians should not be administering medications at the pill line).

22
23 ⁴⁹ This analysis does not address the specific clinical qualifications or competencies
24 required for the various classifications other than valid licensure. Competitive
25 compensation and adequate recruitment procedures to attract and screen appropriate
26 candidates are required to ensure all locations attract, screen and retain clinical staff at the
1 levels described in this analysis (e.g., see recommendations from Advisory Board Report
"Arizona Department of Corrections Staffing and Retention Assessment" Document 2940-
1 Filed 07/23/18).

- 1 • PA, NP, DO or MD license required⁵⁰
 - 2 ○ Unplanned Episodic PCP Care Visits
 - 3 ○ Planned Chronic PCP Care Visits
 - 4 ○ Intakes (e.g., transfers from municipal jails, parole violation, probation
 - 5 revocation)
 - 6 ○ IPC and SNU Rounds
- 7 • LPN license required
 - 8 ○ Medication Administrations for general population residents (e.g., at Pill
 - 9 Windows)
 - 10 ○ Medication Administrations for residents in isolated housing (e.g., a cell
 - 11 front)
 - 12 ○ Medication Administrations for residents in IPC and SNU beds
 - 13 ○ Medication Administration for residents in MH residential beds
 - 14 ○ Medication Administration for patients in psychiatric inpatient beds or on
 - 15 precautionary mental health watch
 - 16 ○ Primary care team support (e.g., episodic and chronic care within LPN scope
 - 17 of practice)
- 18 • RN license required
 - 19 ○ Health Needs Requests Review/Triage
 - 20 ○ Unplanned Episodic Nursing Care Visits

22 ⁵⁰ For the purpose of this analysis, scope of clinical licensure is interchangeable between
23 non-psychiatric physicians (MD, DO) and APPs (NP, PA) in primary care, IPC and SNU
24 settings. Scope of licensure also is considered to be interchangeable between psychiatric
25 physicians (MD, DO) and psychiatric mental health nurse practitioners (PMHNPs).
26 Supervision requirements, community standards and medical practices related to physician
oversight of APPs, patient complexity suitable for APPs, or appropriate physician-to-APP
staffing ratios are not addressed in this analysis. Physician-to-APP staffing ratios in the
community are compared to ADC staffing data later in this analysis.

- 1 ○ Planned Chronic Nursing Care Visits
- 2 ○ Intakes (e.g., transfers from municipal jails, parole violation, probation
- 3 revocation)
- 4 ○ Inter-Institution Transfers
- 5 ○ Returns from Specialty/Hospital Care
- 6 ○ Nursing care for residents in IPC beds
- 7 ○ Nursing care for residents in SNU beds
- 8 ○ Nursing care for residents in MH residential beds
- 9 ○ Nursing care for residents in psychiatric inpatient beds or on precautionary
- 10 mental health watch
- 11 ○ 24/7/365 RN staffing at each location
- 12 • MA certification required⁵¹
- 13 ○ Supporting Unplanned Episodic PCP Care Visits
- 14 ○ Supporting Planned Chronic PCP Care Visits
- 15 ○ Supporting New/Returning Resident Intakes
- 16 • PhD Psychologist or advanced degree in psychology, social work, or counseling⁵²
- 17 ○ Mental health clinician visits for residents in outpatient settings (including
- 18 isolated housing)

19
20 ⁵¹ A reasonable ratio in the primary care setting is one MA supporting one PCP each,
21 excluding IPC and SNU rounding activity but including new resident intakes. For more
22 on primary care teams and “teamlets”, including staffing models, see:

23 [https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration)
24 [administration;](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration) [https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf)
25 [centered-team-based-primary-care-white-paper.pdf;](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf)

26 https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430

⁵² For the purpose of this workload analysis, scope of practice for mental health clinicians evaluating and treating patients during face-to-face visits is considered to be similar for both PhD-level mental health clinicians and masters level mental health clinicians with an advanced degree in psychology, social work, or counseling. Note that unlicensed clinicians may currently perform these services. This analysis makes no judgement about the clinical appropriateness of unlicensed MH staff providing care for residents with mental illness.

- 1 ○ Mental health clinician visits for residents in mental health residential beds
- 2 ○ Mental health clinician visits for residents in psychiatric inpatient beds
- 3 ○ Mental health group visits (all settings)
- 4 ○ Transfers to isolated housing
- 5 • DO, MD or NP license required with psychiatry board certification
- 6 ○ Outpatient psychiatrist visits
- 7 ○ Psychiatrist visits for residents in mental health residential beds
- 8 ○ Psychiatrist visits for residents in psychiatric inpatient beds or precautionary
- 9 mental health watch
- 10 • DDS license required
- 11 ○ Dental Preventive Visits
- 12 ○ Dental Evaluation / Procedure / Restorative Visits
- 13 • RDH license required
- 14 ○ Supporting Dental Preventive Visits
- 15 • DA certification required
- 16 ○ Supporting Dental Preventive, Evaluation, Procedural and Restorative
- 17 Visits
- 18 • Pharmacy Technician certification required
- 19 ○ Supporting Dispensed Prescriptions
- 20 • MLT certification required
- 21 ○ Obtaining and Processing Lab Specimens
- 22 • MRT certification required
- 23 ○ Obtaining and Processing Diagnostic Images
- 24 • CNA / LNA / PCT certification required
- 25 ○ Supporting care for patients in IPC and SNU beds
- 26

- 1 • BHT certification required⁵³
- 2 ○ Supporting care for residents in mental health residential beds
- 3 ○ Supporting care residents in psychiatric inpatient beds or on precautionary
- 4 mental health watch

5 Only clinical classifications that need to provide a significant amount of direct
6 patient care inside the 10 ADCRR state prisons are included in this analysis. Also, as noted
7 earlier, the following staff and services are not included in this analysis:

- 8 • Headquarters and regional staffing
- 9 • Administrative, supervisory and executive staffing
- 10 • Staffing for non-clinical support functions, including but not limited to human
11 resources, finance, information technology, data analytics, facilities maintenance,
12 legal, compliance, legislative, communications, custody/guarding, transportation,
13 dietary, inventory, and discharge/release planning
- 14 • Public health staffing
- 15 • Training staffing
- 16 • Staffing for healthcare services provided offsite or outside the secure prison
17 perimeter (e.g., hospital and specialist services)

18 **iv. How many healthcare services are residents in various cohorts**
19 **expected to require from the providers in different clinical**
20 **classifications, and how do these demands impact staffing needs?**

21 Tables in the following sub-sections represent estimates of expected annual rates of
22 clinical services per person based on review of relevant data and literature. Data in these
23 tables are based on (a) the estimated average daily proportion of the ADCRR population

24 ⁵³ Based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and
25 despite current ADC practices or policy, BHTs are not qualified to competently a) perform
26 isolation watch rounds during which a patient's medical and mental health needs are
assessed and evaluated or b) lead group sessions for patients with mental illness.

1 in each of the cohorts, (b) the estimated annual number of clinical services expected for
2 each member of these cohorts, and (c) the estimated capacity (or throughput) for each
3 clinical classification to provide each service assigned to them in to staffing model. Output
4 in the tables represents the plausible range of the estimated total count services and
5 providers in each respective category. Components may not add to totals due to rounding.

6 Data on the estimated clinical services of different types expected for ADCRR
7 residents in various cohorts were compiled based on data available from ADCRR as well
8 as from literature on the rates of healthcare services among the U.S. general and justice-
9 involved populations. A range of estimates are presented based on information from the
10 following sources:

- 11 • *ADCRR Policy*: Annual clinical service intervals are based on requirements
12 described in ADCRR performance measures, technical manuals, court orders, or
13 stipulations.⁵⁴
- 14 • *Expert or Literature High and Low Mid-Ranges*: The range was based findings in
15 various studies of both general and justice-involved populations in the U.S. Given
16 the breadth of sources reviewed and the various populations associated with the
17 studies, a cluster or midpoint of findings was used to estimate the expected rate of
18 services within each cohort grouping for ADCRR's justice-involved population. In
19 some cases, overall range for the entire population is unadjusted for the ADCRR
20 cohort distribution, i.e., it is not weighted to the ADCRR case-mix (e.g., rates of lab

21 ⁵⁴ See for example: Arizona Dept. of Corrections - Medical Services Technical Manual -
22 Updated June 3, 2021,
23 [https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcr-](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcr-healthservicestechnicalmanual_060321.pdf)
24 [healthservicestechnicalmanual_060321.pdf](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcr-healthservicestechnicalmanual_060321.pdf); Arizona Dept. of Corrections - Medical
25 Services Technical Manual - Revised 12/24/2019,
26 [https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcm1607639-1607812 - Monitor Guide](https://corrections.az.gov/sites/default/files/documents/PDFs/tech_manuals/adcm1607639-1607812-Monitor-Guide-Draft-Version-03-13-2020.pdf)
Draft Version 03-13-2020.pdf; *see also* Dkt. 3518, 3861, 1185, 3495.

1 and x-ray orders). Findings were supplemented by interviews conducted via Zoom
2 with plaintiff's correctional medical expert Todd Wilcox, M.D. on 8/26/21, 9/6/21,
3 and 9/14/21; and with plaintiff's correctional mental health expert Pablo Stewart,
4 M.D. on 8/23/21 and 9/20/21.

5 Notably while documents with ADC utilization data were reviewed as part of this
6 analysis, they were not used to support projections of resident healthcare demand in this
7 model. As a healthcare system with a fixed number of staff, as is the case with ADC via its
8 contract with Centurion, the amount of resident healthcare demand that can be met by those
9 limited staff are constrained by the fixed ceiling of those resources' capacity to provide
10 care for patients. Actual healthcare demand may be artificially suppressed in settings
11 where resident demand exceeds the capacity for the available clinicians to meet the that
12 demand.

13 Included with these tables are various assumptions and formulas that drive expected
14 workload for each clinical classification. The following are among the more common
15 assumptions that drive the output of all the staffing models created for this analysis:

- 16 • *Cohort-level utilization range estimates:* As described earlier, the previously
17 outlined cohorts are presented as a range due to some expected level of variability
18 in estimating the prevalence of healthcare conditions over the population as a whole.
19 Likewise, individual cohort member utilization estimates below are expressed as a
20 possible range, i.e., as annual "Lower Mid-Range Usage" and "Higher Mid-Range
21 Usage" averages over the population as a whole for residents in each cohort based
22 on available data, policies and literature reviewed for this analysis.
- 23 • *Overall utilization range estimates:* The overall utilization for each service is the
24 product of the estimated size of each cohort and the associated annual estimated
25 average utilization per cohort member. The values for each cohort are summed to
26 arrive at a total population-wide estimate. The overall utilization ranges that are the

1 products of these values are represented as two numbers, which also function as a
2 range:

- 3 ○ The “Balanced Estimate” is intended to represent an overall midrange
4 estimated utilization by blending the expected values for cohort distributions
5 and utilization rates at the relative opposite ends of the various mid-range
6 estimates. It is calculated as the average of the a) “Healthier Case-Mix Mid-
7 Range” cohort count multiplied by the “Higher Mid-Range Usage”, and b)
8 the “Sicker Case-Mix Mid-Range” cohort count multiplied by the “Lower
9 Mid-Range Usage”.
- 10 ○ The “High Estimate” is intended to represent the population’s overall
11 maximum likely expected utilization, and it is the product of the “Higher
12 Mid-Range Usage” service utilization estimate average per cohort member
13 and the “Sicker Case-Mix Mid-Range” cohort count.
- 14 • *Available working days*: Estimating total capacity for each FTE is a function of (a)
15 how many days per year one FTE is available for patient care in each classification,
16 and (b) how many clinical services of various types one FTE in each classification
17 can support each day. For the purposes of this analysis, 223 total annual working
18 days are estimated to be available for patient care in all classifications per FTE based
19 on the assumption that individual staff can provide patient care five days per week
20 except during the following days:⁵⁵

21 ⁵⁵ 34 days off estimated based on ADC civil service employee benefits from Arizona Dept.
22 of Corrections - CO Benefits, <https://corrections.az.gov/co-benefits>, plus three days off for
23 continuing healthcare education CME based on an estimated 40-hour allowance every two
24 years to satisfy licensing, certification or other professional requirements, e.g., Arizona
25 Osteopathic Medical Association, Continuing Medical Education Requirements,
26 <https://azosteo.org/cme-requirements/>; American Medical Association, Online Courses for
Arizona CME Requirements, <https://edhub.ama-assn.org/state-cme/Arizona>; Arizona
Regulatory Board of Physician Assistants - Licensure (Renewal Opioid CME)
<https://www.azpa.gov/Licensure/Licensure/pa-renewal-opioid-cme>.

- 1 ○ 10 paid holidays per year
- 2 ○ 12 paid vacation days per year
- 3 ○ 12 paid sick days per year
- 4 ○ 3 paid continuing healthcare education days per year⁵⁶
- 5 • *Clinician capacity*: The various models make assumptions about clinician
6 throughput, e.g., visits per day. These estimates are presented as a range, i.e., “Low
7 Mid-Range” and “High Mid-Range” to represent relatively lower or higher capacity
8 daily clinician throughput expectations respectively. Also, staff generally are
9 available to work productively between 6 and 8 hours daily during a 8-hour shift
10 due to various constraints and requirements that are presented in a correctional
11 setting, including additional administrative and security requirements that reduce
12 their capacity to provide direct patient care.⁵⁷
- 13 • *FTE estimates*: The output of the staffing model for each classification generates
14 the following figures based on the estimated service utilization and estimated
15 clinician capacity estimates outlined above and detailed below. These FTE outputs
16 are expressed as a range with the following three values (although in some cases
17 these values are based on outputs from other pieces of the staffing model, e.g., where
18 FTEs are modeled proportionately as is the case with MAs being staffed
19 proportionate to elements of the PCP model output):
 - 20 ○ The “Balanced Estimate” FTE calculation uses the “Balanced Estimate”
21 utilization described above and applies an average of the “Low Mid-Range”

22
23 ⁵⁶ This analysis assumes that all licensed or certified clinicians, or clinicians eligible for
24 licensure or certification, are expected to take a limited amount of time off annually for
25 ongoing professional continuing healthcare education, paid or otherwise, regardless of
26 whether the licensure or certification requires continuing education as a condition for
credential renewal.

⁵⁷ Based on interviews with plaintiff’s correctional mental health and medical experts Drs.
Stewart and Wilcox on 8/23/2021, 8/26/2021, 9/6/2021, 9/14/2021, and 9/20/2021.

1 and “High Mid-Range” clinician capacity figures to arrive at the FTE
2 estimate for the classification. This is intended to be the low mid-range FTE
3 estimate for the classification.

- 4 ○ The “High Visit Estimate” uses the “High Estimate” from the utilization
5 calculations and the “Low Mid-Range” clinician capacity estimate to arrive
6 at the expected FTEs for the classification. This number represents the
7 maximum expected FTEs required to meet the population’s healthcare
8 demands.
- 9 ○ The “High Mid-Point” is the average of the “Balanced Estimate” and the
10 “High Visit Estimate”. This is intended to be the high mid-range FTE
11 estimate for the classification.

12 Healthcare positions providing administrative support, oversight, quality assurance,
13 supervision and leadership are excluded from the model, including positions not staffed at
14 prison locations (e.g., “Regional” or “Headquarters” staff) and local supervisory or
15 management positions not providing face-to-face direct patient care as their primary duty.
16 However, clinicians in these supervisory positions may occasionally provide support in
17 locations at which there are staffing shortages due to vacancies. In addition, this analysis
18 does not attempt to attribute any efficiencies or inefficiencies to providers delivering
19 healthcare via video link (e.g., telemedicine, telepsychiatry). No judgement is rendered in
20 this report on the appropriateness or quality of care provided during a video visit.

21 The following sub-sections are dedicated to the following categories of healthcare
22 provider services: (1) Primary Care Provider Services, (2) Psychiatrist Service, (3) Mental
23 Health Clinician Services, (4) RN Service, (5) LPN Services, (6) MA Services, (7)
24 NA/PCT Services, (8) BHT Services, (9) Pharmacy Technician Services, (10) Laboratory
25 Technician Services, (11) Medical Radiologic Technologist Services, and (12) Dentist,
26 Dental Assistant, & RDH Services.

1 1. Primary Care Provider (“PCP”) Services

2 Primary care in the community is delivered in a team-based, patient-centered
3 approach. This means that a core group of consistent providers deliver healthcare services
4 to a relatively stable panel of patients. The staffing model components associated with
5 primary care are built based on these community standard practices. A feature of the
6 primary care team model is assignment of nursing and paraprofessional staffing (e.g., RN,
7 LPN, MA, pharmacy) directly proportionate to the number of primary care providers.⁵⁸

8 Estimated demand outlined in the table below for primary care provider services
9 includes unplanned episodic care, planned chronic care follow-up, follow-up from hospital
10 or specialty services, intakes (e.g., transfers from municipal jails, parole violation,
11 probation revocation), and IPC or SNU patient rounds. Total estimated PCP visits per year
12 are calculated using previously presented cohort counts.

PCP Staffing Model	Policy / Literature Review: Est. PCP Visits per Year ⁵⁹	Total Estimated PCP Visits per Year
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15
16 ⁵⁸ For more on primary care teams and “teamlets”, including staffing models, see: AJMC -
17 The Patient-Centered Medical Home in the Veterans Health Administration (July 13, 2013)
18 [https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration)
19 [administration](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration); White Paper - Creating Patient-centered Team-based Primary Care by
20 Agency for Healthcare Research and Quality (March 2016),
21 [https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf)
22 [based-primary-care-white-paper.pdf](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf), Department of Veterans Affairs - Patient Centered
23 Management Module (PCMM) for Primary Care (June 20, 2017)
24 https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430.

25 ⁵⁹ Based on Zoom interviews with plaintiff’s correctional medical expert Todd Wilcox,
26 M.D., on 8/26/21, 9/6/21, and 9/14/21 and Primary Care in the United States - A Chartbook
on Facts and Statistics (February 2021), [https://www.graham-](https://www.graham-center.org/content/dam/rgc/documents/publications-reports/reports/PrimaryCareChartbook2021.pdf)
center.org/content/dam/rgc/documents/publications-
reports/reports/PrimaryCareChartbook2021.pdf; National Institute of Corrections -
Correctional Health Care: Addressing the Needs of Elderly, Chronically Ill, and Terminally
Ill Inmates,
[https://nicic.gov/correctional-health-care-addressing-needs-elderly-chronically-ill-and-](https://nicic.gov/correctional-health-care-addressing-needs-elderly-chronically-ill-and-terminally-ill-inmates)
terminally-ill-inmates; National Ambulatory Medical Care Survey: 2018 National
Summary Tables, [https://www.cdc.gov/nchs/data/ahcd/names_](https://www.cdc.gov/nchs/data/ahcd/names_summary/2018-namcs-)
summary/2018-namcs-

1	Medical Cohorts	Lower Mid- Range Usage	Higher Mid- Range Usage	Balanced Estimate	High Estimate
2					
3					
4	Residents with no chronic conditions or special requirements (i.e., episodic medical care only)	2	3	34,734	39,175
5	Residents with 1 stable chronic medical condition or age 50+	3	4	20,186	21,161
6	Residents with 2 chronic medical conditions or with restricted physical capacity requiring accommodation and of any age	5	6	27,147	35,082
7					
8					
9	Residents with 3+ chronic medical conditions or severe physical illness with high medical usage characteristics (e.g., HIV, advanced age, dialysis) or limited physical capacity / stamina	7	12	28,400	40,094
10					
11					
12	SNU Residents	52	52	8,687	8,687
13	IPC Residents	122	156	19,351	21,718
14	Subtotal PCP Visits for Medical Cohorts			138,505	165,916
15	SUD Cohort ⁶⁰				
16	Residents who may require only education but not SUD treatment	0	0		
17	Residents who need SUD treatment but not MAT	0	0		
18	Residents who need SUD treatment including MAT	4	6		
19	Subtotal Visits for SUD Cohorts			32,019	43,435
20	New Resident Intakes			15,350	18,500
21	Grand Total PCP Visit Estimate			185,874	227,852

web-tables-508.pdf

⁶⁰ Based on Office of the Assistant Secretary for Planning and Evaluation - Review of Medication - Assisted Treatment Guidelines and Measures for Opioid and Alcohol Use (Nov. 24, 2015), <https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0> and Zoom interviews with plaintiff's correctional medical expert Todd Wilcox, M.D., on 8/26/2021, 9/6/2021, and 9/14/2021

1	PCP Capacity	Low	High
2		Mid-	Mid-
3		Range	Range
4	Work Days (net of vacation, sick, holidays, continuing medical education (“CME”)) per PCP	223	223
5	Estimated Visits per Day per PCP⁶¹	10	12
6	Estimated Visit Capacity per Year Per PCP	2,230	2,676

8	Estimated PCP FTEs Required	Balanced	High	High Mid-
9		Est.	Visit Est.	Point
10				Estimate
11		76	102	89

2. Psychiatrist Services

Estimated demand outlined in the table below for psychiatrist services includes unplanned episodic outpatient psychiatric care, planned outpatient follow-up, visits for residents in mental health residential beds, and visits to residents in psychiatric inpatient beds or precautionary mental health watch. ADCRR policies for psychiatrist visit intervals per resident represent absolute minimums, and patients on average may require more frequent visits than are stipulated in policy, as a patient’s actual psychiatry needs may exceed the minimum required visit timeframes. Total estimated psychiatrist visits per year are calculated using previously presented cohort counts.

21	Psychiatrist Staffing Model	Policy / Literature	Total Estimated
22		Review:	Psychiatrist Visits /
23		Est. Psychiatrist	Year
		Visits / Year ⁶²	

⁶¹ Net five to six working hours per day and on average 30 minutes per encounter based on Zoom interviews with plaintiff’s correctional medical expert Todd Wilcox, M.D., on 8/26/2021, 9/6/2021, and 9/14/2021

⁶² Based on ADC policies, the court’s orders in this case, and Zoom interviews with

Mental Health Cohort	Lower Mid- Range Usage	Higher Mid- Range Usage	Balanced Estimate	High Estimate
Residents with no current mental illness in isolated housing	0	0	0	0
Residents with no current mental illness not in isolated housing	0	0	0	0
Residents with current mild/moderate mental illness in isolated housing	4	6	5,847	5,012
Residents with current mild/moderate mental illness not in isolated housing	4	6	23,945	21,718
Residents with serious mental illness in isolated housing	4	12	8,353	20,047
Residents with serious mental illness not in isolated housing	4	12	32,521	74,842
Patients in residential mental health care	6	12	5,012	6,682
Patients in psychiatric inpatient care or precautionary mental health watch	12	52	5,346	8,687
Subtotal Psychiatry Visits for MH Cohorts			81,023	136,988
Total Intakes for new residents with psychiatrist-prescribed medication at intake			2,762	3,875
Grand Total Psychiatrist Visit Estimate			83,785	140,863
Psychiatrist Capacity			Low Mid- Range	High Mid- Range
Work Days (net of vacation, sick, holidays, CME) per Psychiatrist			223	223
Visits per Day per Psychiatrist ⁶³			8	12

plaintiff's correctional mental health expert Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021.

⁶³ Net 5-6 working hours per day and minimum 30 minutes per visit, with likely average 30-45 minutes per visit, based on the court's orders in Dkt. 3518 and 3861 and Zoom

Visit Capacity per Year Per Psychiatrist	1,784	2,676	
Estimated Psychiatrist FTEs Required	Balanced Est.	High Visit Est.	High Mid-Point Estimate
	38	79	58

3. Mental Health (“MH”) Clinician Services

Estimated demand outlined in the table below for mental health clinician services includes unplanned episodic MH care, planned outpatient MH follow-up, visits for residents in mental health residential beds, isolation welfare checks, visits for residents in psychiatric inpatient beds, contacts with patients on precautionary mental health watch, and MH support for transitions in care. MH Clinicians also are responsible for leading mental health group visits and SUD group visits.

ADCRR policies for MH clinician visit intervals per resident represent absolute minimums, and patients on average may require more frequent visits than are stipulated in policy, as a patient’s actual needs for a mental health clinician may exceed the minimum required visit timeframes. Total estimated MH clinician visits or contacts as part of group therapy, isolation welfare checks and precautionary mental health watch are calculated using previously presented cohort counts.⁶⁴

For the purpose of this analysis, MH group visits are categorized with MH clinician watch contacts because of the relatively similar impact on annual MH clinician workload

interviews with plaintiff’s correctional mental health expert Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021.

⁶⁴ Based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and despite current ADC practices or policy, BHTs are not qualified within their scope of practice to competently and independently perform isolation watch rounds during which a patient’s medical and mental health needs are assessed and evaluated. In addition, BHTs are not qualified within their scope of practice to competently and independently lead group sessions for patients with mental illness. Staff with advanced degrees or clinical licensure (e.g., LCSW, RN) command a scope of practice most appropriate to deliver these services.

1 per resident. This analysis assumes MH clinician watch contacts (for residents in
 2 precautionary mental health watch) are expected to take at least 10 minutes per contact. In
 3 addition, this analysis assumes MH welfare contacts for residents in isolated housing (i.e.,
 4 who are in in maximum security, death row, SMU, protective custody or detention cells)
 5 are expected to take 5 to 10 minutes per contact. The analysis also assumes MH group
 6 visits are expected to take one hour and may have on average six participants, i.e., 10
 7 minutes of contact time on average per participant.⁶⁵

MH Clinician Staffing Model	Policy / Literature Review Est. MH Clinician Visits / Year		Total Estimated MH Clinician Visits / Year	
Mental Health Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
Residents with no current mental illness in isolated housing	0	0	0	0
Residents with no current mental illness not in isolated housing	0	0	0	0
Residents with current mild/moderate mental illness in isolated housing	12	52	41,208	43,435
Residents with current mild/moderate mental illness not in isolated housing	4	12	40,651	43,435
Residents with serious mental illness in isolated housing	12	52	31,741	86,870
Residents with serious mental illness not in isolated housing	12	52	124,291	324,315
Patients in residential mental health care	12	52	17,820	28,957
Patients in psychiatric inpatient care or precautionary mental health watch	52	365	34,832	60,976
Subtotal MH Clinician Visits for MH Cohorts			290,542	587,988

26 ⁶⁵ See *supra* n.40.

1	MH Group and MH Precaution Watch Contacts		“Policy / Literature Review Est. MH Group Participants + MH Watch Contacts”		Total Estimated MH Group Participants + MH Watch Contacts	
2						
3						
4	Mental Health Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate	
5						
6	Residents with no current mental illness in isolated housing	0	0	0	0	
7						
8	Residents with no current mental illness not in isolated housing	0	0	0	0	
9						
10	Residents with current mild/moderate mental illness in isolated housing	0	0	0	0	
11						
12	Residents with current mild/moderate mental illness not in isolated housing	0	0	0	0	
13						
14	Residents with serious mental illness in isolated housing	156	156	195,458	260,610	
15						
16	Residents with serious mental illness not in isolated housing	52	52	249,028	324,315	
17						
18	Patients in residential mental health care	52	52	28,957	28,957	
19						
20	Patients in psychiatric inpatient care or precautionary mental health watch	365	365	60,976	60,976	
21						
22	Subtotal MH Group Visits and MH Clinician Watch Contacts for MH Cohorts			534,419	674,859	
23						
24	MH Isolation Welfare Contacts	Policy / Literature Review Est. MH Isolation Welfare Rounds		Total Estimated MH Isolation Welfare Rounds		
25						
26	Mental Health Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate	
	Residents with no current mental	52	52	152,023	173,740	

1	illness in isolated housing				
2	Residents with no current mental illness not in isolated housing	0	0	0	0
3					
4	Residents with current mild/moderate mental illness in isolated housing	52	52	57,913	72,392
5					
6	Residents with current mild/moderate mental illness not in isolated housing	0	0	0	0
7					
8	Residents with serious mental illness in isolated housing	156	156	195,458	260,610
9					
10	Residents with serious mental illness not in isolated housing	0	0	0	0
11					
12	Patients in residential mental health care	0	0	0	0
13					
14	Patients in psychiatric inpatient care or precautionary mental health watch	0	0	0	0
15					
16	Subtotal MH Group Visits and MH Clinician Watch Contacts for MH Cohorts			405,394	506,743
17					

21	SUD Cohort⁶⁶	Policy / Literature Review	Total Estimated SUD Group Visits / Year
22		Est. SUD Group Visits / Year	

24 ⁶⁶ Based on Office of the Assistant Secretary for Planning and Evaluation - Review of Medication - Assisted Treatment Guidelines and Measures for Opioid and Alcohol Use
 25 (Nov. 24, 2015), [https://aspe.hhs.gov/reports/review-medication-assisted-treatment-](https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0)
 26 [guidelines-measures-opioid-alcohol-use-0](https://aspe.hhs.gov/reports/review-medication-assisted-treatment-guidelines-measures-opioid-alcohol-use-0), and Zoom interviews with plaintiff's correctional medical expert Todd Wilcox, M.D., on 8/26/2021, 9/6/2021, and 9/14/2021

	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
Residents who may require only education but not SUD treatment	0	0	0	0
Residents who need SUD treatment but not MAT	52	156	1,266,857	2,258,624
Residents who need SUD treatment including MAT	52	156	644,287	1,129,312
Subtotal Visits for SUD Cohorts			1,911,144	3,387,936

Total Intakes	Balanced Estimate	High Estimate
	15,350	18,500
Grand Total MH Clinician Visit Estimate	305,892	606,488
Grand Total MH Group Visits + Precautionary MH Watch Contact Estimate	2,445,562	4,062,795
Grand Total MH Isolation Welfare MH Contact Estimate	405,394	506,743

MH Clinician Capacity	MH Clinician Visits		Patients in Groups + Watch Contacts		Isolation Welfare Contacts	
	Low Mid-Range	High Mid-Range	Low Mid-Range	High Mid-Range	Low Mid-Range	High Mid-Range
Work Days (net of vacation, sick, holidays, CME) per MH Clinician	223	223	223	223	223	223
Number of Visits, Watch/Welfare Contacts, or Patients Participating in Groups per MH Clinician per Day ⁶⁷	8	12	50	60	50	120

⁶⁷ Net five to six working hours per day and minimum average 30-45 minutes per visit, average of at least ten minutes per mental health precaution watch, average of at least ten minutes per participant for groups based on average six per group one hour per group,

Capacity per Year Per MH Clinician	1,784	2,676	11,150	13,380	11,150	26,760
Estimated MH Clinician FTEs Required			Balanced Est.	High Visit Est.	High Mid- Point Estimate	
			358	750	554	

4. Registered Nurse (“RN”) Services

RN workload and FTEs in this model are driven by several factors:

- Support for specialized healthcare beds, e.g., ICP, SNU, MH residential, psychiatric inpatient and MH precautionary watch;
- 24-hour daily coverage of an institution’s healthcare needs, including round-the-clock availability for urgent and emergency care needs; and
- Support for the primary care team, including intakes, HNR triage, episodic nursing care, nursing care for patients with chronic conditions, and review of patients returning from specialty or hospital care. As described earlier, primary care in the community is delivered in a team-based, patient-centered approach. This means that a core group of consistent providers deliver healthcare services to a relatively stable panel of patients. The staffing model components associated with primary care are built based on these community standard practices. A feature of the primary care team model is assignment of nursing and paraprofessional staffing (e.g., RN, LPN, MA, pharmacy) directly proportionate to the number of primary care providers.⁶⁸

average of five to ten minutes per isolation welfare encounter; based on the court’s orders in Dkt. 3518 and 3861 and Zoom interviews with plaintiff’s correctional mental health expert Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021.

⁶⁸ For more on primary care teams and “teamlets”, including staffing models, see AJMC - The Patient-Centered Medical Home in the Veterans Health Administration (July 13, 2013),

<https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration>; White Paper - Creating Patient-centered Team-based Primary Care by

1 In light of the significant primary workload associated with HNR triage, intakes,
 2 episodic care, chronic care, case management and other correctional healthcare nursing
 3 duties,⁶⁹ the model allocates RN staff at a ratio of 2 RNs to each PCP (excluding allocations
 4 for specialized healthcare beds and 24-hour nursing coverage at each location, which are
 5 addressed separately in the RN staffing model).

RN Staffing Model	Policy / Literature Review Hours per Resident Day		Total Estimated Hours per Year ⁷⁰	
Medical Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
SNU Residents	0.2	0.4	18,293	24,390
IPC Residents	0.8	2.4	81,302	121,952
Subtotal Hours for Medical Cohorts			99,594	146,343

14 Agency for Healthcare Research and Quality (March 2016),
 15 <https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf>; Department of Veterans Affairs - Patient Centered
 16 Management Module (PCMM) for Primary Care (June 20, 2017),
 17 https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430.

18 ⁶⁹ For examples, see NCCHC - Correctional Nursing Practice: What you Need to Know
 19 <https://www.ncchc.org/cnp-intro> and Department of Nursing - What to Expect as a
 Correctional Care Nurse and How to Avoid Burnout in Challenging Settings
 20 <https://nursing.usc.edu/blog/correctional-nurse-career/>.

21 ⁷⁰ Estimates for RN hours per resident day in SNU, IPC, MH residential, PIP and MH
 precautionary watch units based on: Carol L. Howe, *Staffing Ratios in Nursing Homes*,
 Arizona Geriatrics Society Vol. 15, No. 2 (“Staffing Ratios in Nursing Homes”); National
 Central for Health Statistics - Vital and Health Statistics (February 2019) Long-term Care
 22 Providers and Services Users in the United States, 2015-2016,
 23 https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf; Health Serv Insights (June
 24 29, 2020) Appropriate Nurse Staffing Levels for U.S. Nursing Homes,
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328494/>; PSNet - Nursing and Patient
 25 Safety (Updated March 2021), <https://psnet.ahrq.gov/primer/nursing-and-patient-safety>;
 National Central for Health Statistics - Vital and Health Statistics (February 2019) Long-
 term Care Providers and Services Users in the United States, 2015-2016,
 26 https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf.

Mental Health Cohort				
Patients in residential mental health care	0.2	0.4	60,976	81,302
Patients in psychiatric inpatient care or precautionary mental health watch	0.8	2.4	97,562	146,343
Subtotal Hours for Mental Health Cohorts			158,538	227,644

RN Capacity	Low	High
	Mid-Range	Mid-Range
Work Days (net of vacation, sick, holidays, CME) per RN	223	223
Net Working Hours per Day per RN	6	8
Hours Capacity per Year Per RN	1,338	1,784

RN FTEs	Balanced Est.	High Est.	High Mid-Point Estimate
Est. Subtotal RN FTEs Required for SNU, IPC, Residential MH and PIP/Watch	165	280	222

Primary Care Allocations (for determining RN FTEs associated with the Primary Care Team)	Balanced Est.	High Est.	High Mid-Point Estimate
Estimated Total PCP FTEs Required	76	102	89
Est PCP FTEs for SNU/IPC Patients	-11	-14	-13
Net PCPs for Primary Care (including SUD) and intakes	64	89	76

Subtotal FTEs with RN:PCP Staffing 2:1 for Primary Care⁷¹	129	177	153
Subtotal 1 RN per watch per facility (24/7/365) dedicated to urgent / emergent care, including adjustment for weekends and relief factor⁷²	49	49	49

⁷¹ 2:1 RN:PCP ratio is for primary care nursing, specifically to provide coverage for HNR triage, RN FTF visits for episodic or chronic care, and reviews of patients returning from specialty or hospital care; new and returning resident intake workload matches PCP workload, i.e., RNs will see as many intakes as PCPs; RN FTEs are allocated separately for specialized beds and are accounted for as part of medical and mental health cohorts in the prior table

⁷² Required per policy (for example, see CGAR01); also provides primary coverage for urgent and emergent care; secondary duty includes healthcare review of residents transferring to and from other locations.

Total Estimated RN FTEs	343	506	424
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5. Licensed Practical Nurse (“LPN”) Services

LPN workload and FTEs in this model are driven by several factors:

- Support for specialized healthcare beds, e.g., ICP, SNU, MH residential, psychiatric inpatient and MH precautionary watch;
- Medication administration, including for:
 - General population residents (e.g., at Pill Windows)
 - Residents in isolated housing (e.g., at cell front)
 - Residents in IPC and SNU beds
 - Residents in MH residential beds
 - Patients in psychiatric inpatient beds or on precautionary mental health watch
- Support for the primary care team, including episodic, chronic, and urgent care within the LPN scope of practice. As described earlier, primary care in the community is delivered in a team-based, patient-centered approach. This means that a core group of consistent providers deliver healthcare services to a relatively stable panel of patients. The staffing model components associated with primary care are built based on these community standard practices. A feature of the primary care team model is assignment of nursing and paraprofessional staffing (e.g., RN, LPN, MA, pharmacy) directly proportionate to the number of primary care providers.⁷³

⁷³ For more on primary care teams and “teamlets”, including staffing models, see AJMC - The Patient-Centered Medical Home in the Veterans Health Administration (July 13, 2013), <https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration>; White Paper - Creating Patient-centered Team-based Primary Care by Agency for Healthcare Research and Quality (March 2016),

1 A 2:1 LPN:PCP ratio provides for support for a) full operational pill line coverage
 2 for the patient panel at the A.M., noon, P.M. and HS⁷⁴ pill passes that extend beyond a
 3 single 8-hour shift, plus b) primary and urgent care support between pill lines (excluding
 4 allocations for specialized healthcare beds, which are addressed separately in the LPN
 5 staffing model).

LPN Staffing Model	Policy / Literature Review		Total Estimated Hours per Year	
	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
Medical Cohort				
SNU Residents	0.2	0.3	15,244	18,293
IPC Residents	0.6	1.7	58,435	86,383
Subtotal Hours for Medical Cohorts			73,680	104,676
Mental Health Cohort				
Patients in residential mental health care	0.2	0.3	50,813	60,976
Patients in psychiatric inpatient care or precautionary mental health watch	0.6	1.7	70,123	103,659
Subtotal Hours for Mental Health Cohorts			120,936	164,636

20 <https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf>; Department of Veterans Affairs - Patient Centered Management Module (PCMM) for Primary Care (June 20, 2017),
 21 https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430.

22 ⁷⁴ HS means: *hora somni* or to “take at bedtime”

23 ⁷⁵ Estimated LPN hours per resident day based on: Staffing Ratios in Nursing Homes,
 24 *supra* note 68; National Central for Health Statistics - Vital and Health Statistics (February
 25 2019) Long-term Care Providers and Services Users in the United States, 2015-2016,
 26 https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf; Health Serv Insights (June
 29, 2020) Appropriate Nurse Staffing Levels for U.S. Nursing Homes,
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328494/>.

LPN Capacity	Low	High	
	Mid-Range	Mid-Range	
Work Days (net of vacation, sick, holidays, CME) per LPN	223	223	
Net Working Hours per Day per LPN	6	8	
Hours Capacity per Year Per LPN	1,338	1,784	
LPN FTEs	Balanced Est.	High Est.	High Mid-Point Estimate
Est. Subtotal LPN FTEs Required for SNU, IPC, Residential MH and PIP/Watch	125	201	163
Primary Care Allocations (for determining LPN FTEs associated with the Primary Care Team)	Balanced Est.	High Est.	High Mid-Point Estimate
Estimated Total PCP FTEs Required	76	102	89
Est PCP FTEs for SNU/IPC Patients and Intakes	-18	-22	-20
Net PCPs for Primary Care (including SUD)	58	80	69
Subtotal FTEs with LPN:PCP Staffing 2:1 for Primary Care ⁷⁶	116	160	138
Total Estimated LPN FTEs	241	362	301

6. Medical Assistant (“MA”) Services

MA workload is driven exclusively by PCP staffing, and in the staffing model for this analysis, the MA is assumed to only support PCPs in the primary care clinic and during intakes. The primary duties of the MA are to support unplanned episodic PCP visits, planned chronic care PCP visits, new and returning resident intakes with PCPs, and any other face-to-face visits either scheduled or unscheduled and accepted as a “walk-in” with PCPs.

⁷⁶ LPN ratio only is for primary care; LPNs are not required to support new or returning resident intakes; a separate LPN allocation is already calculated for their support of specialized bed needs in the previous table; a 2:1 LPN:PCP ratio provides for support for a) full operational pill line coverage for the patient panel at the AM, noon, PM and HS pill passes plus b) primary and urgent care support between pill lines

1 This workload model is consistent with how primary care in the community is
 2 delivered, i.e., in a team-based, patient-centered approach. This means that a core group
 3 of consistent providers deliver healthcare services to a relatively stable panel of patients.
 4 The staffing model components in this analysis associated with primary care are
 5 constructed based on these community standard practices. A feature of the primary care
 6 team model is assignment of nursing and paraprofessional staffing (e.g., RN, LPN, MA,
 7 pharmacy) directly proportionate to the number of primary care providers.⁷⁷

MA Staffing Model	Balanced Est.	High Visit Est.	High Mid-Point Estimate
Estimated Total PCP FTEs Required	76	102	89
Est PCP FTEs for SNU/IPC Patients	11	14	13
Net PCPs for Primary Care (including SUD and Intakes)	64	89	76
MA:PCP Staffing 1:1 for Primary Care and Intakes	64	89	76

7. Nursing Assistant (“NA”) / Patient Care Technician (“PCT”) Services

16 The primary role for NA and PCT staff is to provide support for activities of daily
 17 living among SNU and ICP residents. Workload estimates are entirely based on the
 18 expected census, level of care and the estimated hours per resident per day required to
 19 provide adequate support to the patients in these specialized medical beds.

21 ⁷⁷ For more on primary care teams and “teamlets”, including staffing models, see AJMC -
 22 The Patient-Centered Medical Home in the Veterans Health Administration (July 13,
 23 2013), [https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration)
 24 [administration](https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration); Creating Patient-centered Team-based Primary Care, Agency for
 25 Healthcare Research and Quality White Paper,
 26 [https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf)
[based-primary-care-white-paper.pdf](https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf); Department of Veterans Affairs - Patient Centered
 Management Module (PCMM) for Primary Care (June 20, 2017),
https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430.

NA / PCT Staffing Model	Policy / Literature Review Hours per Resident Day ⁷⁸		Total Estimated Hours per Year	
Medical Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
SNU Residents	1	3	121,952	182,929
IPC Residents	3	5	203,254	254,067
Total Hours for Medical Cohorts			325,206	436,996
NA / PCT Capacity			Low Mid-Range	High Mid-Range
Work Days (net of vacation, sick, holidays, CME) per NA / PCT			223	223
Net Working Hours per Day per NA / PCT			6	8
Hours Capacity per Year Per NA / PCT			1,338	1,784
Estimated NA / PCT FTEs Required		Balanced Estimate	High Estimate	High Mid-Point Estimate
		208	327	267

8. Behavioral Health Technician (“BHT”) Services

Similar to NA and PCT staff, the BHT’s primary role is to provide support for

⁷⁸ Estimated NA/PCT hours per resident day are based on data and guidelines from: Staffing Ratios in Nursing Homes, *supra* note 68; Health Serv Insights (June 29, 2020) Appropriate Nurse Staffing Levels for U.S. Nursing Homes, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7328494/>; KFF - State Health Facts - Average Nurse Hours per Resident Day in All Certified Nursing Facilities (2019), [https://www.kff.org/other/state-indicator/average-nurse-hours-per-resident-day-in-all-certified-nursing-facilities-2003-2014](https://www.kff.org/other/state-indicator/average-nurse-hours-per-resident-day-in-all-certified-nursing-facilities-2003-2014;); National Central for Health Statistics - Vital and Health Statistics (February 2019) Long-term Care Providers and Services Users in the United States, 2015-2016, https://www.cdc.gov/nchs/data/series/sr_03/sr03_43-508.pdf.

1 activities of daily living among patients in specialized healthcare beds, however their
 2 specialty is patients with psychiatric needs, i.e., individuals in MH residential, psychiatric
 3 inpatient, and mental health precautionary watch settings. Workload estimates are entirely
 4 based on the expected census, level of care and the estimated hours per resident per day
 5 required to provide adequate support to the patients with these highest-level specialized
 6 mental health needs.⁷⁹

BHT Staffing Model	Policy / Literature Review Hours per Resident Day		Total Estimated Hours per Year	
Mental Health Cohort	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
Patients in residential mental health care	1	3	406,508	609,762
Patients in psychiatric inpatient care or precautionary mental health watch	3	5	243,905	304,881
Totals for MH Cohorts			650,412	914,643
BHT Capacity			Low Mid-Range	High Mid-Range
Work Days (net of vacation, sick, holidays, CME) per BHT			223	223
Net Working Hours per Day per BHT			6	8
Hours Capacity per Year Per BHT			1,338	1,784

79 Based on Zoom interviews with Pablo Stewart, M.D. on 8/23/2021 and 9/20/2021, and despite current ADC practices or policy, BHTs are not qualified within their scope of practice to competently perform isolation watch rounds during which a patient's medical and mental health needs are assessed and evaluated. In addition, BHTs are not qualified within their scope of practice to competently lead group sessions for patients with mental illness. Staff with advanced degrees or clinical licensure (e.g., LCSW, RN) command a scope of practice most appropriate to deliver these services.

Estimated BHT FTEs Required	Balanced Est.	High Est.	High Mid-Point Estimate
	417	684	550

9. Pharmacy Technician Services

Pharmacy Technician workload is driven exclusively by pill line demand. In the staffing model for this analysis, one Pharmacy Tech is assumed to support each daily line (including all four pill passes, i.e., morning, noon, afternoon and HS) for a single PCPs panel. For the purposes of this model, Pharmacy Tech staffing is driven by the same formula used to allocate LPN staffing, which also primarily is focused on administering medications.

Ratio-based allocation for pharmacy services within the primary care team is consistent with how primary care in the community is delivered, i.e., in a team-based, patient-centered approach. This means that a core group of consistent providers deliver healthcare services to a relatively stable panel of patients. The staffing model components in this analysis associated with primary care are constructed based on these community standard practices. A feature of the primary care team model is assignment of nursing and paraprofessional staffing (e.g., RN, LPN, MA, pharmacy) directly proportionate to the number of primary care providers, and in this case, proportionate to LPNs, the model for which is based on the count of PCPs not allocated to.⁸⁰

⁸⁰ For more on primary care teams and “teamlets”, including staffing models, see AJMC - The Patient-Centered Medical Home in the Veterans Health Administration (July 13, 2013), <https://www.ajmc.com/view/the-patient-centered-medical-home-in-the-veterans-health-administration>; White Paper - Creating Patient-centered Team-based Primary Care by Agency for Healthcare Research and Quality (March 2016), <https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf>; Department of Veterans Affairs - Patient Centered Management Module (PCMM) for Primary Care (June 20, 2017),

Pharmacy Tech Staffing Model	Balanced Est.	High Visit Est.	High Mid-Point Estimate
Estimated Total LPNs Required (2 per PCP for one panel's 4 daily pill passes)	116	160	138
Estimated Daily Pill Lines (4 pill passes per day)	58	80	69
Estimated Pharm Techs per Pill Line per Day	1	1	1
Estimated Pharm Tech FTEs	58	80	69

10. Laboratory Technician Services

Laboratory Technician workload is driven exclusively by laboratory orders from PCPs and psychiatrists. It is a good practice for these staff to be exclusively responsible for specimen draws and collection instead of delegating this function to other staff with different or higher licensure but who are less specialized in laboratory-related workflows.

Processing lab samples, including managing supplies and handling specimens is a complicated process over the breadth of specimens collected from patients. Other staff do not perform these functions frequently or with the level of specialization of a Laboratory Technician, which can result in lab errors or other inefficiencies.⁸¹

There are at least two sets of benchmarks that can be used to estimate the potential volume of laboratory specimens: one based on the number of provider visits, and a second based on the rate of laboratory specimens process in the population overall. The findings from these two methods are merged to arrive at a blended estimate.

ADCRR Lab Tech Staffing Model:	Balanced Est.	High Est.
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https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=5430.

⁸¹ Based on 10/4/2021 email from plaintiff's correctional medical specialist Todd Wilcox, M.D.

1	Estimated Total Annual PCP Visits, including SUD, excluding Intake	170,524	209,352
2	Estimated Total Annual Psychiatry Visits, excluding Intake	81,023	136,988
3	Estimated Total Annual PCP and Psychiatry Visits, excluding Intake	246,981	346,339
5	Estimated Rate of Patients with Laboratory Orders per PCP or Psychiatry Visit⁸²	24%	24%
6	Estimated Average Number of Specimens per Visit with Lab Order	1	2
8	Subtotal Estimated Annual Laboratory Specimens from PCP or Psychiatry Visits	60,371	166,243
9	Estimated Total Annual Intakes	15,350	18,500
10	Estimated Rate of Patients with Laboratory Orders per Intake	100%	100%
11	Estimated Average Number of Specimens per Intake with Lab Order⁸³	1	2
12	Subtotal Estimated Annual Laboratory Specimens from Intake Visits	15,350	37,000
14	Estimated Visit-Based Total Annual Laboratory Specimens	75,721	203,243
15	Population-Based Laboratory Volume Estimate		
16	Estimated Census	27,843	
17	Estimated Rate of Laboratory Specimens per Resident per Year⁸⁴	24.4	
18	Estimated Population-Based Annual Laboratory Specimens	680,758	

⁸² Based on CDC - Characteristics of Office - based Physician Visits 2019 (May 2021) <https://www.cdc.gov/nchs/products/databriefs/db408.htm>; at least one lab per visit in which one or more labs are ordered; more than one lab may be ordered per visit, which may require more than one specimen.

⁸³ At least one lab per intake in which one or more labs are ordered; more than one lab may be ordered per intake, which may require more than one specimen.

⁸⁴ Based on Center for Surveillance, Epidemiology, and Laboratory Services - Big Data: CMS's Quality Improvement Evaluation System (QIES) and Proficiency Testing Database by Thomas Taylor, Jr. https://www.cdc.gov/cliac/docs/addenda/cliac0418/17_Taylor_Lab_Landscape.pdf.

	Balanced Est.	High Est.
Estimated Annual Laboratory Specimens ⁸⁵	378,240	442,000
Lab Tech Capacity	Low Mid-Range	High Mid-Range
Work Days (net of vacation, sick, holidays, CME) per Lab Tech	223	223
Lab Specimens Processed per Hour per Lab Tech⁸⁶	6	12
Estimated Net Working Hours per Day per Lab Tech	6	8
Lab Specimen Capacity per Year Per Lab Tech	1,338	2,676

Estimated Lab Tech FTEs Required	Balanced Estimate	High Estimate	High Mid-Point Estimate
	188	330	259

11. Medical Radiologic Technologist Services

Medical Radiologic Technologist workload is driven primarily by imaging orders from PCPs. Estimated imaging orders is based on a multiplier of non-SUD PCP visits, including visits for new and returning resident intakes, the counts of which were estimated earlier in this staffing model analysis.

MR Tech Staffing Model	Balanced Est.	High Est.

⁸⁵ Based on the average of the a) balanced or high and b) population-based estimates

⁸⁶ Laboratory technician throughput estimates based on: Oxford Academic Lab Medicine - Hospital Automates Phlebotomy Department for Efficiency and Patient Safety (Sept. 2005)

<https://academic.oup.com/labmed/article/36/9/528/2657433>; Center for Phlebotomy Education - Patients Per Hour: How Many Should You Draw (May 6, 2020), <https://www.phlebotomy.com/phlebotomyblog/how-fast-is-fast-enough.html>; Oxford Academic Lab Medicine - Phlebotomy Cycle Time Related to Phlebotomist Experience and/or Hospital Location, <https://academic.oup.com/labmed/article/47/1/83/2505042>; CAP TODAY - Lab shoots for better phlebotomy services, satisfied patients (2016), <https://www.captodayonline.com/lab-shoots-for-better-phlebotomy-service-satisfied-patients/>; Mayo Clinic Laboratories - Staffing to Workload in Phlebotomy Areas - Direct Effort (March 1, 2019), <https://news.mayocliniclabs.com/2018/03/01/staffing-workload-phlebotomy-areas-direct-effort/>

1	Estimated Total Annual PCP Visits, including Intake, excluding SUD	170,524	209,352
2	Estimated Rate of Patients with X-Ray Orders per non-SUD PCP Visit⁸⁷	13%	13%
3	Estimated Average Number of Images per Visit with X-Ray Order	1	1
4	Subtotal Estimated Annual Laboratory Orders from non-SUD PCP Visits	22,168	27,216

6	MR Tech Capacity	Low	High
7		Mid-Range	Mid-Range
8	Work Days (net of vacation, sick, holidays, CME) per MRT	223	223
9	Estimated Average Imaging Visits per hour per MRT⁸⁸	1.5	1.6
10	Estimated Net Working Hours per Day per MRT	6	8
11	X-Ray Capacity per Year Per MRT	2,007	2,854

12	Estimated MRT FTEs Required	Balanced Est.	High Est.	High Mid-Point Est.
13		9	14	11

12. Dentist, Dental Assistant and Registered Dental Hygienist (“RDH”) Services

ADCRR policy provides for annual preventive dental care visits in addition to necessary dental procedures. In addition, a dental screening is performed during the intake of any new or returning prison resident.

Because the nature of evaluation at intake is not preventive or restorative but instead

⁸⁷ Based on CDC - Characteristics of Office - based Physician Visits 2019 (May 2021) <https://www.cdc.gov/nchs/products/databriefs/db408.htm>.

⁸⁸ Based on estimates from: JACR - Measuring and Improving Productivity in General Radiology (October 1, 2010), [https://www.jacr.org/article/S1546-1440\(10\)00262-0/fulltext](https://www.jacr.org/article/S1546-1440(10)00262-0/fulltext); Advisory Board - Imaging Productivity and Turnaround Time Benchmarks Preview, <https://advisory-prod.azureedge.net/-/media/project/advisoryboard/shared/research/ipp/success-pages/imaging-productivity-and-turnaround-time-benchmarks-report.pdf>; Journal of Digital Imaging -SCAR Radiologic Technologist Survey: Analysis of the Impact of Digital Technologies on Productivity https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3613256/pdf/10278_2002_Article_10.1007-s10278-002-0021-8.pdf.

1 is an assessment of the new or returning resident's oral health, it is treated as a separately
 2 required service in addition to those required as part of an annual preventive visit (e.g.,
 3 including related hygiene, etc.). Workload and demand related to dental intakes is
 4 therefore distinct from annual or episodic preventive and restorative dental care.

Dentist Staffing Model	Policy / Literature Review Est. Dentist Visits / Year		Total Estimated Dentist Visits / Year	
	Lower Mid-Range Usage	Higher Mid-Range Usage	Balanced Estimate	High Estimate
Census Multiplier⁸⁹	1	1.3	32,019	36,196
Intakes			15,350	18,500
Grand Total Dentist Visit Estimate			47,369	54,696

Dentist Capacity	Low Mid-Range	High Mid-Range
Work Days (net of vacation, sick, holidays, CME) per Dentist	223	223
Visits per Day per Dentist⁹⁰	6	9
Visit Capacity per Year Per Dentist	1,338	2,007

Estimated Dentist FTEs Required	Balanced Est.	High Visit Est.	High Mid-Point Est.
	28	41	35

19 ⁸⁹ Based on ADC policy and data from MEPS - Research Findings #38 - Dental Services:
 20 Use, Expenses of Payment, Coverage and Procedure Type, 1996-2015
https://meps.ahrq.gov/data_files/publications/rf38/rf38.pdf.

21 ⁹⁰ Estimated dentist capacity based on: U.S. Dept. of Veterans Affairs - Assessment G
 22 (Staffing/Productivity/Time Allocation) (September 1, 2015)
https://www.va.gov/HEALTHPOLICYPLANNING/Assessment/Assessment_G_Staffing_Productivity.pdf;
 23 Operations Manual for Health Center Oral Health Programs - Chapter
 24 Five: Workforce and Staffing <http://www.nnoha.org/nnoha-content/uploads/2013/08/OpManualChapter5.pdf>;
 25 Safety Net Dental Clinic Manual - Section 3 Staffing - Staffing Configurations, <https://www.dentalclinicmanual.com/2-facilities/sec3-01.php>;
 26 2015 Dental Assistant Workforce in the United States, https://oralhealthworkforce.org/wp-content/uploads/2015/11/Dental_Assistant_Workforce_2015.pdf.

1 Dental Assistant and Dental Hygienist workload is expected to be proportionate to
 2 that of a Dentist, with community standard dental paraprofessional staffing in the range of
 3 2:1 Dental Assistants to Dentists and 1:1 for Dental Hygienists.⁹¹

Dental Assistant Staffing Model	Balanced Est.	High Visit Est.	High Mid-Point Est.
Estimated Total Dentist FTEs Required	28	41	35
DA:Dentist Staffing 2:1	57	82	69

RDH Staffing Model	Balanced Est.	High Visit Est.	High Mid-Point Est.
Estimated Total Dentist FTEs Required	28	41	35
RDH:Dentist Staffing 1:1	28	41	35

9
 10 **v. What is the gap between the current ADCRR healthcare staffing plan and the healthcare staffing required based on this analysis?**

11
 12 Based on the estimated cohort distributions, the expected range of service
 13 utilization, and estimated clinician throughput, the following staffing FTE ranges are
 14 expected to satisfy expected demand for healthcare services by ADCRR residents. These
 15 ranges are presented with data on current hired and contracted positions for each
 16 classification in this analysis. Healthcare positions not staffed at prison locations (i.e.,
 17 “Regional” classifications) are excluded from this comparative analysis, as are supervisory
 18 positions not providing face-to-face direct patient care as their primary duty.

19 Using this approach and based on the available evidence to support this analysis, it
 20 appears that there is a significant gap between the current number of contracted or hired
 21 staff providing healthcare services to ADCRR residents and the estimated number of staff
 22 needed in the model. Estimates are provided as a range based on the variability of
 23 assumptions used in the model; percentages in the table below may not tie due to rounding.

24 ⁹¹ Based on: SafetyNet Dental Clinic Manual - Section 3 Staffing - Staffing Configurations
 25 <https://www.dentalclinicmanual.com/2-facilities/sec3-01.php>;
 26 2015 Dental Assistant Workforce in the United States, https://oralhealthworkforce.org/wp-content/uploads/2015/11/Dental_Assistant_Workforce_2015.pdf.

FTEs by Classification	Staffing Model Output Range		Current ADCRR Staffing		% Difference Between Current and Modeled Staffing	
	Balance Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balance Estimate	Variance between Contract and High Mid-Point Estimate
Staff PCP	76	89	57	53	-30%	-40%
Staff Psychiatrist	38	58	31	31	-17%	-47%
Staff MH Clinician	358	554	75	100	-72%	-82%
Staff BHT	417	550	27	29	-93%	-95%
Staff NA / PCT	208	267	101	99	-52%	-63%
Staff LPN + MA	305	378	135	185	-39%	-51%
Staff RN	343	424	168	229	-33%	-46%
Staff Lab Tech	188	259	9	6	-97%	-98%
Staff MRT	9	11	8	8	-12%	-29%
Staff Pharm Tech	58	69	35	31	-47%	-55%
Staff Dentist	28	35	16	19	-33%	-45%
Staff DA	57	69	41	43	-24%	-38%
Staff RDH	28	35	0	0	-100%	-100%

Among the more prominent potential staffing shortages:

- MH Clinicians, the understaffing of which may reflect the unmet demand for mental health counseling and professionally-led mental health group sessions;

- 1 • BHTs, the understaffing of which may reflect unmet specialized mental
2 health bed demands (i.e., MH residential, psychiatric inpatient, and
3 precautionary MH watch);
- 4 • NAs and PCTs, the understaffing of which may reflect unmet specialized
5 medical bed needs (i.e., SNU and IPC);
- 6 • Lab Techs, the understaffing of which may reflect lab specimen handling
7 workflows where nurses or other licensed and certified staff are drawing
8 samples to fulfill lab orders instead of the Lab Techs, which is an
9 exceptionally inefficient use of healthcare resources (i.e., healthcare staff
10 should be assigned to duties at the maximum capacity of, but not to exceed,
11 their scope of licensure or certification) that introduces potential for error due
12 to the complexity of laboratory workflows; and
- 13 • RDHs, who typically support dental clinic workload in the free world but
14 who are completely missing from current ADCRR healthcare staffing.

15 **B. Institution-level staffing projections and gap analysis**

16 In applying this statewide staffing model to the ten ADCRR Locations, estimates
17 for the number and type of healthcare staff needed can be created for each prison, along
18 with a comparison to current staffing levels. The location-specific estimates use the same
19 model and assumptions as the state-wide estimates, adjusted for types of housing and
20 services available at each of the locations. The following table summarizes the location-
21 specific differences accounted for in the estimates:

22 Location-Specific Characteristics Accounted for in Staffing Estimates	
23 Douglas	No capacity for residents with mental illness or MH precaution watch needs; no capacity for residents with three or more chronic conditions, limited physical capacity / stamina, or IPC/SNU level of care needs
24 Eyman	No capacity for residents with IPC/SNU level of care needs
25 Florence	No capacity for residents with MH residential, psychiatric inpatient or MH precaution watch needs;

Lewis	No capacity for residents with MH residential needs; no residents with SNU level of care needs; all minors (male and female) incarcerated here
Perryville	All female intakes here; all female residents (except minors) incarcerated here; full spectrum of cohorts
Phoenix	All male intakes here; no capacity for residents with IPC/SNU level of care needs; all inpatient mental health patients here
Safford	No capacity for residents with mental illness or MH precaution watch needs; no capacity for residents with three or more chronic conditions, limited physical capacity / stamina, or IPC/SNU level of care needs
Tucson	Full spectrum of cohorts
Winslow	No capacity for residents with mental illness or MH precaution watch needs; no capacity for residents with three or more chronic conditions, limited physical capacity / stamina, or IPC/SNU level of care needs
Yuma	No capacity for residents with MH residential, psychiatric inpatient or MH precaution watch needs; no capacity for residents with IPC/SNU level of care needs

Adjustments to the models for each location impacted the assumptions about how the population is distributed among the medical and mental health cohorts. No institution-specific adjustments were made for the SUD cohorts. In addition, for the purposes of estimating local staffing needs, clinician throughput was not adjusted for the proportion of local census or capacity in isolated housing, although the number of residents in isolated housing may be a factor impacting healthcare staffing needs due to potential clinician throughput constraints (i.e., based on Zoom interviews with plaintiff’s correctional medical expert Todd Wilcox, M.D., on 8/26/21, 9/6/21, and 9/14/21). However, local isolated housing proportions were considered for estimating the number of residents requiring isolation welfare checks.

The two tables below display the percentage distributions used for medical cohorts at each of the ten locations, with column A representing the estimated healthier case-mix mid-range percentages and column B representing the estimated sicker case-mix mid-range percentages:

Case-Mix Percentage Ranges by Cohort	Statewide	Douglas	Eyma	Florence	Perryville	Phoenix
			n			

1	Medical Cohort	A	B	A	B	A	B	A	B	A	B	A	B
2	Residents with no chronic conditions or special requirements (i.e., episodic medical care only)	52	47	63	60	46	40	60	57	44	38	46	40
3													
4													
5	Residents with 1 stable chronic medical condition or age 50+	22	19	22	19	22	19	22	19	22	19	22	19
6													
7	Residents with 2 chronic medical conditions or with restricted physical capacity requiring accommodation and of any age	15	21	15	21	15	21	15	21	15	21	15	21
8													
9													
10													
11	Residents with 3+ chronic medical conditions or severe physical illness with high medical usage characteristics (e.g., HIV, advanced age, dialysis) or limited physical capacity / stamina	10	12	0	0	17	20	0	0	17	20	17	20
12													
13													
14													
15													
16													
17	SNU Residents	0.6	0.6	0	0	0	0	1.6	1.6	1.6	1.6	0	0
18	IPC Residents	0.5	0.5	0	0	0	0	0.9	0.9	0.9	0.9	0	0

Case-Mix Percentage Ranges by Cohort		Statewide		Lewis		Safford		Tucson		Winslow		Yuma	
Medical Cohort		A	B	A	B	A	B	A	B	A	B	A	B
Residents with no chronic conditions or special requirements (i.e., episodic medical care only)		52	47	62	59	63	60	44	38	63	60	46	40
Residents with 1 stable chronic medical condition or age 50+		22	19	22	19	22	19	22	19	22	19	22	19

1	Residents with 2 chronic medical conditions or with restricted physical capacity requiring accommodation and of any age	15	21	15	21	15	21	15	21	15	21	15	21
2													
3													
4													
5	Residents with 3+ chronic medical conditions or severe physical illness with high medical usage characteristics (e.g., HIV, advanced age, dialysis) or limited physical capacity / stamina	10	12	0	0	0	0	17	20	0	0	17	20
6													
7													
8													
9													
10													
11	SNU Residents	0.6	0.6	0	0	0	0	1.6	1.6	0	0	0	0
12	IPC Residents	0.5	0.5	0.9	0.9	0	0	0.9	0.9	0	0	0	0

13 The two tables below display the percentage distributions used for mental health
 14 cohorts at each location, with column A representing the estimated healthier case-mix mid-
 15 range percentages and column B representing the estimated sicker case-mix mid-range
 16 percentages:

17	Case-Mix Percentage Ranges by Cohort	State-Wide		Douglas		Eyman		Florence		Perryville		Phoenix	
18	Mental Health Cohort	A	B	A	B	A	B	A	B	A	B	A	B
19	Residents with no current mental illness in isolated housing	12	9	2	2	17	16	2	2	0.1	0.1	22	20
20													
21	Residents with no	45	44	98	98	33	30	48	43	50	45	28	25
22													
23													
24													
25	Residents with no												
26													

1	current												
2	mental												
3	illness not												
4	in isolated												
5	housing												
6	Residents	5	3	0	0	10	7	1.4	0.9	0.1	0.0	13	8
7	with										5		
8	current												
9	mild /												
10	moderate												
11	mental												
12	illness in												
13	isolated												
14	housing												
15	Residents	20	13	0	0	19	12	28	18	29	19	16	10
16	with												
17	current												
18	mild /												
19	moderate												
20	mental												
21	illness not												
22	in isolated												
23	housing												
24	Residents	3	6	0	0	7	12	1.0	1.8	0.0	0.1	9	16
25	with												
26	serious												
27	mental												
28	illness in												
29	isolated												
30	housing												
31	Residents	12	22	0	0	8	18	20	34	15	31	6	15
32	with												
33	serious												
34	mental												
35	illness not												
36	in isolated												
37	housing												
38	Patients in	2.0	2.0	0	0	4.2	4.2	0	0	4.2	4.2	4.2	4.2
39	residential												
40	mental												
41	health												
42	care												

1	Patients in psychiatric inpatient care or precautionary mental health watch	0.6	0.6	0	0	0.9	0.9	0	0	0.9	0.9	0.9	0.9
2													
3													
4													
5													
6	Case-Mix Percentage Ranges by Cohort	State-Wide		Lewis		Safford		Tucson		Winslow		Yuma	
7													
8	Mental Health Cohort	A	B	A	B	A	B	A	B	A	B	A	B
9	Residents with no current mental illness in isolated housing	12	9	27	24	27	27	2	2	2	2	2	1.6
10													
11	Residents with no current mental illness not in isolated housing	45	44	24	21	73	73	48	44	98	98	48	44
12													
13													
14	Residents with current mild/moderate mental illness in isolated housing	5	3	16	10	0	0	1.2	0.8	0	0	1	0.7
15													
16													
17	Residents with current mild/moderate mental illness not in isolated housing	20	13	14	9	0	0	28	18	0	0	28	18
18													
19													
20													
21	Residents with serious mental illness in isolated housing	3	6	11	19	0	0	0.9	1.5	0	0	0.7	1.3
22													
23	Residents with serious mental illness not in isolated housing	12	22	9	16	0	0	15	29	0	0	20	35
24													
25													
26	Patients in residential	2.0	2.0	0	0	0	0	4.2	4.2	0	0	0	0

1	mental health care												
2	Patients in psychiatric inpatient care or precautionary mental health watch	0.6	0.6	0.9	0.9	0	0	0.9	0.9	0	0	0	0
3													
4													
5													

6 Analysis of institution-level healthcare staffing estimates and gap analysis
 7 introduced additional complexity into the methodology used in this model. Most notably,
 8 because of the myriad location-specific factors described above that were considered for
 9 allocating the cohorts among the various locations, the total estimated staff counts may not
 10 tie exactly to the statewide estimates. Also notably, the distribution of healthcare beds and
 11 case-mix at Florence changed during the time in which this analysis was undertaken, and
 12 therefore census, capacity and staffing counts may blend data from the pre- and post-
 13 conversion periods for Florence. However, the general findings at the location level are
 14 the same as the statewide findings, i.e., ADCRR locations appear to be understaffed
 15 compared to the estimates of staff required to meet resident healthcare demands based on
 16 the healthcare staffing model created for this analysis.

17 Below are tables with location-specific healthcare staffing estimates compared to
 18 current local staffing levels. The same statewide healthcare staffing model has been
 19 applied to each location, however the location-specific cohort distribution estimates
 20 outlined above were used to determine estimated healthcare staffing needs. Percentages
 21 may not align due to rounding, and total FTEs may not add to the statewide model results
 22 due to rounding.

23	Douglas	Balanced	High	Current	Current	Variance	Variance
24	FTEs	Estimate	Mid-Point	Hired	Contract	between	between
25			Estimate			Contract	Contract
26						and	and
							High

					Balanced Estimate	Mid-Point Estimate	
1							
2							
3							
4	Staff PCP	2.8	3.2	2.0	1.5	-46%	-54%
5	Staff Psychiatrist	0.0	0.0	0.0	0.0	N/A	N/A
6	Staff MH Clinician	8.7	12.8	1.0	1.0	-88%	-92%
7	Staff BHT	0.0	0.0	0.0	0.0	N/A	N/A
8	Staff NA / PCT	0.0	0.0	4.0	4.0	N/A	N/A
9	Staff LPN + MA	8.3	9.7	4.0	4.0	-52%	-59%
10	Staff RN	10.4	11.4	7.3	8.0	-23%	-30%
11	Staff Lab Tech	9.8	12.6	0.0	0.0	-100%	-100%
12	Staff MRT	0.4	0.4	0.3	0.3	-31%	-44%
13	Staff Pharm Tech	2.8	3.2	2.0	2.0	-27%	-38%
14	Staff Dentist	1.1	1.3	0.8	1.0	-5%	-22%
15	Staff DA	2.1	2.6	2.0	2.0	-5%	-22%
16	Staff RDH	1.1	1.3	0.0	0.0	-100%	-100%
17	Eyman FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
18							
19							
20							
21							
22	Staff PCP	12.0	14.4	7.0	6.5	-46%	-55%
23	Staff Psychiatrist	8.1	12.5	4.5	4.5	-45%	-64%
24	Staff MH Clinician	80.5	123.2	8.0	16.0	-80%	-87%
25	Staff BHT	146.8	195.2	4.0	4.0	-97%	-98%
26	Staff NA / PCT	0.0	0.0	10.7	9.0	N/A	N/A

1	Staff LPN + MA	61.7	76.2	21.9	30.0	-51%	-61%
2	Staff RN	62.3	78.1	9.2	22.0	-65%	-72%
3	Staff Lab Tech	34.6	47.2	0.0	0.0	-100%	-100%
4	Staff MRT	1.6	2.0	1.0	1.0	-36%	-50%
5	Staff Pharm Tech	12.0	14.4	3.0	4.0	-67%	-72%
6	Staff Dentist	3.6	4.3	3.8	3.0	-16%	-31%
7	Staff DA	7.2	8.6	6.0	6.0	-16%	-31%
8	Staff RDH	3.6	4.3	0.0	0.0	-100%	-100%

9	Florence FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
10	Staff PCP	6.7	7.7	8.0	8.0	19%	4%
11	Staff Psychiatrist	3.6	5.7	4.5	4.5	23%	-21%
12	Staff MH Clinician	29.4	46.5	5.9	11.0	-63%	-76%
13	Staff BHT	0.0	0.0	4.0	4.0	N/A	N/A
14	Staff NA / PCT	41.7	54.0	15.2	20.0	-52%	-63%
15	Staff LPN + MA	22.3	27.4	19.8	30.0	35%	9%
16	Staff RN	25.7	31.4	24.6	37.0	44%	18%
17	Staff Lab Tech	16.9	23.0	2.0	0.5	-97%	-98%
18	Staff MRT	0.9	1.1	1.0	1.0	14%	-6%
19	Staff Pharm Tech	4.5	5.3	4.8	4.0	-11%	-24%
20	Staff Dentist	1.7	2.1	1.0	3.0	72%	43%
21	Staff DA	3.5	4.2	3.0	6.0	72%	43%
22	Staff RDH	1.7	2.1	0.0	0.0	-100%	-100%

23	Lewis FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-
24							
25							
26							

						Point Estimate	
1							
2							
3							
4	Staff PCP	10.3	11.9	7.5	8.0	-22%	-33%
5	Staff Psychiatrist	6.8	10.6	3.8	4.5	-34%	-58%
6	Staff MH Clinician	76.2	115.2	13.3	15.0	-80%	-87%
7	Staff BHT	38.8	47.6	2.0	4.0	-90%	-92%
8	Staff NA / PCT	39.1	48.1	10.7	14.0	-64%	-71%
9	Staff LPN + MA	46.1	58.3	27.2	34.0	-26%	-42%
10	Staff RN	51.8	66.3	27.3	32.0	-38%	-52%
11	Staff Lab Tech	29.4	39.9	0.0	0.0	-100%	-100%
12	Staff MRT	1.3	1.7	1.0	1.0	-26%	-39%
13	Staff Pharm Tech	7.9	9.3	6.0	5.0	-37%	-46%
14	Staff Dentist	3.0	3.7	2.0	3.0	-1%	-18%
15	Staff DA	6.1	7.3	5.8	6.0	-1%	-18%
15	Staff RDH	3.0	3.7	0.0	0.0	-100%	-100%
16	Perryville FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
17							
18							
19							
20							
21	Staff PCP	11.2	13.1	7.5	6.2	-45%	-53%
22	Staff Psychiatrist	5.3	8.2	5.2	4.5	-16%	-45%
23	Staff MH Clinician	41.1	64.8	10.8	12.0	-71%	-81%
24	Staff BHT	93.7	124.6	3.0	3.0	-97%	-98%
24	Staff NA / PCT	54.7	70.9	11.7	14.0	-74%	-80%
25	Staff LPN + MA	51.5	64.5	18.6	24.0	-53%	-63%
26	Staff RN	58.4	74.2	19.0	35.2	-40%	-53%

1	Staff Lab Tech	23.0	32.0	2.0	0.5	-98%	-98%
2	Staff MRT	1.4	1.7	1.0	0.5	-64%	-71%
3	Staff Pharm Tech	7.6	9.1	4.0	3.0	-60%	-67%
4	Staff Dentist	3.4	4.1	3.0	4.0	18%	-3%
5	Staff DA	6.8	8.3	6.0	6.0	-11%	-28%
6	Staff RDH	3.4	4.1	0.0	0.0	-100%	-100%
7	Phoenix FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
8	Staff PCP	1.8	2.6	4.5	4.5	-23%	-34%
9	Staff Psychiatrist	13.3	18.6	10.5	15.0	153%	75%
10	Staff MH Clinician	12.5	16.6	5.0	5.0	13%	-19%
11	Staff BHT	0.0	0.0	3.9	5.8	-60%	-70%
12	Staff NA / PCT	10.8	12.9	3.4	3.0	N/A	N/A
13	Staff LPN + MA	20.8	23.9	18.9	27.8	-72%	-77%
14	Staff RN	6.3	11.8	0.5	0.5	34%	16%
15	Staff Lab Tech	0.1	0.2	1.0	1.0	-92%	-96%
16	Staff MRT	1.0	1.2	2.0	2.0	649%	490%
17	Staff Pharm Tech	8.4	10.5	0.0	0.0	96%	64%
18	Staff Dentist	16.8	21.0	3.0	3.0	-100%	-100%
19	Staff DA	8.4	10.5	0.0	0.0	-82%	-86%
20	Staff RDH	1.8	2.6	4.5	4.5	-100%	-100%
21	Safford FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
22	Staff PCP	1.9	2.2	2.0	1.0	-46%	-54%
23							
24							
25							
26							

1	Staff Psychiatrist	0.0	0.0	0.0	0.0	N/A	N/A
2	Staff MH Clinician	6.6	9.6	1.0	1.0	-85%	-90%
3	Staff BHT	0.0	0.0	0.0	0.0	N/A	N/A
4	Staff NA / PCT	0.0	0.0	4.0	4.0	N/A	N/A
5	Staff LPN + MA	5.6	6.6	2.8	6.0	7%	-9%
6	Staff RN	8.6	9.3	12.8	8.0	-7%	-14%
7	Staff Lab Tech	6.6	8.6	0.0	0.0	-100%	-100%
8	Staff MRT	0.2	0.3	0.3	0.3	2%	-18%
9	Staff Pharm Tech	1.9	2.2	2.0	2.0	7%	-9%
10	Staff Dentist	0.7	0.9	0.0	0.0	-100%	-100%
11	Staff DA	1.4	1.7	2.0	2.0	40%	16%
12	Staff RDH	0.7	0.9	0.0	0.0	-100%	-100%
13	Tucson FTEs	Balanced Estimate	High Mid-Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid-Point Estimate
14	Staff PCP	14.0	16.3	8.8	10.0	-28%	-39%
15	Staff Psychiatrist	6.9	10.7	4.3	4.5	-35%	-58%
16	Staff MH Clinician	55.4	87.3	15.0	18.0	-68%	-79%
17	Staff BHT	124.9	166.0	6.0	6.0	-95%	-96%
18	Staff NA / PCT	72.9	94.5	18.7	19.0	-74%	-80%
19	Staff LPN + MA	67.6	84.8	24.2	40.0	-41%	-53%
20	Staff RN	74.2	94.9	20.2	38.0	-49%	-60%
21	Staff Lab Tech	30.0	41.3	2.0	2.0	-93%	-95%
22	Staff MRT	1.8	2.3	1.0	1.0	-45%	-56%
23	Staff Pharm Tech	10.1	12.1	6.0	4.0	-60%	-67%
24	Staff Dentist	3.0	3.7	3.0	3.0	-2%	-18%
25	Staff DA	6.1	7.4	6.0	6.0	-2%	-18%
26							

1	Staff RDH	3.0	3.7	0.0	0.0	-100%	-100%
2							
3	Winslow FTEs	Balanced Estimate	High Mid- Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid- Point Estimate
4							
5							
6							
7	Staff PCP	2.7	3.1	1.0	2.0	-25%	-36%
8	Staff Psychiatrist	0.0	0.0	0.0	0.0	N/A	N/A
9	Staff MH Clinician	8.4	12.4	1.0	1.0	-88%	-92%
10	Staff BHT	0.0	0.0	0.0	0.0	N/A	N/A
11	Staff NA / PCT	0.0	0.0	6.7	3.0	N/A	N/A
12	Staff LPN + MA	8.0	9.4	1.0	4.0	-50%	-57%
13	Staff RN	10.2	11.2	9.2	6.0	-41%	-46%
14	Staff Lab Tech	9.5	12.3	0.0	0.0	-100%	-100%
15	Staff MRT	0.3	0.4	0.5	0.5	43%	15%
16	Staff Pharm Tech	2.7	3.1	2.0	2.0	-25%	-36%
17	Staff Dentist	1.0	1.2	0.0	0.0	-100%	-100%
18	Staff DA	2.0	2.5	2.0	2.0	-2%	-19%
18	Staff RDH	1.0	1.2	0.0	0.0	-100%	-100%
19	Yuma FTEs	Balanced Estimate	High Mid- Point Estimate	Current Hired	Current Contract	Variance between Contract and Balanced Estimate	Variance between Contract and High Mid- Point Estimate
20							
21							
22							
23							
24	Staff PCP	7.8	9.4	6.9	5.0	-36%	-47%
25	Staff Psychiatrist	4.9	7.6	4.0	4.0	-18%	-47%
26							

1	Staff MH Clinician	39.0	61.8	8.8	10.0	-74%	-84%
2	Staff BHT	0.0	0.0	3.0	3.0	N/A	N/A
3	Staff NA / PCT	0.0	0.0	15.8	6.0	N/A	N/A
4	Staff LPN + MA	23.4	28.1	12.0	10.0	-57%	-64%
5	Staff RN	20.5	23.7	19.6	15.0	-27%	-37%
6	Staff Lab Tech	22.5	30.6	2.0	2.0	-91%	-93%
7	Staff MRT	1.0	1.3	1.0	1.0	-2%	-23%
8	Staff Pharm Tech	7.8	9.4	3.0	3.0	-62%	-68%
9	Staff Dentist	2.3	2.8	2.0	2.0	-14%	-29%
10	Staff DA	4.7	5.6	5.0	4.0	-14%	-29%
10	Staff RDH	2.3	2.8	0.0	0.0	-100%	-100%

11 C. Comparison to Other Healthcare Systems

12 Although there is considerable variability in healthcare service delivery and staffing
13 models among state prison systems, comparisons of staffing ratios among states can
14 provide a useful check on overall staffing. This analysis examined two data sources on
15 healthcare staffing in state prisons: (a) A Pew Charitable Trusts report using data from
16 2010 through 2015,⁹² and (b) data from a partnership between the CDC's National Center
17 for Health Statistics (NCHS) and the Bureau of Justice Statistics (BJS) using data from
18 2011.⁹³ Data from other U.S. prisons also were considered for comparative analysis to
19 verify whether the ADCRR staffing model developed for this analysis resulted in estimated
20 healthcare staff FTE requirements that were in a reasonable range.⁹⁴

21 The Pew report compared healthcare spending and staffing levels among states.
22 Using 2015 data, the report listed Arizona as 44th out of 49 states in terms of healthcare

23 ⁹² <https://www.pewtrusts.org/en/research-and-analysis/reports/2017/10/prison-health-care-costs-and-quality>

24 ⁹³ <https://www.cdc.gov/nchs/dhcs/nspnc.htm>; state-level staffing survey data used for the
25 report were requested and obtained from CDC

26 ⁹⁴ For example, see <https://publicpay.ca.gov/Reports/State/StateEntity.aspx?entityid=3761&year=2020>

1 spending per inmate. Although staffing is not the only driver of prison healthcare costs,
 2 states with fewer staff generally had lower costs. In terms of healthcare staffing, Arizona
 3 ranked 35th out of 43 reporting states in terms of healthcare staffing rates per 1,000 prison
 4 residents.

5 Although not every state provided data in every category, both the Pew report and
 6 the NCHS data support the calculation of comparable staffing levels by several healthcare
 7 classifications. Due to the way that ADCRR, Pew and CDC roll up various types of staff
 8 into single categories, some of these groupings are combinations of several licensed or
 9 certified provider types (e.g., LPN and RN staff were combined into single “nursing”
 10 categories in both the CDC and Pew reports). ADCRR’s number of contracted staff by
 11 position⁹⁵ were compared to the 75th percentile⁹⁶ Pew and NCHS staffing rates per 1,000
 12 residents, and these comparative benchmarks were recalculated for the combined
 13 groupings. In cases where both clinical staff categories were comparable and state-level
 14 data were appropriately comparable, the following staffing rates and benchmarks were
 15 calculated:

Staff FTEs by Classification	Per 1,000 ADC Contract	Per 1,000 “Balanced Estimate”	CDC 75th Percentile Range	Pew 75th Percentile Range
Staff PCP	1.9	2.7	2.4 – 6.0	N/A
Staff Psychiatrist	1.1	1.3	1.6 - 6.4	N/A
Staff MH Clinician	3.6	12.9	5.4 - 26.8	N/A
Staff BHT	1.0	15.0	3.7 - 23.6	N/A
Staff Pharm Tech	1.1	2.1	0.9 - 2.3	N/A
Staff Dentist	0.7	1.0	1.2 - 2.7	1.0 - 1.9
Combined Staffing Classifications				

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⁹⁵ ADCRRM0024277-0024283 - 2021-04 - Variance Report.xlsx

⁹⁶ The 75th percentile was selected due to concerns about the utility of prison healthcare staffing benchmarks given national concerns about prison healthcare adequacy in general and staffing adequacy specifically, including recruiting and retention challenges. For example see <https://www.governing.com/archive/gov-prison-health-care.html> and <https://www.pewtrusts.org/en/research-and-analysis/reports/2017/10/prison-health-care-costs-and-quality>

1	Staff PCP + Staff Psychiatrist	3.0	4.1	1.7 - 6.4	3.5 - 7.8
2	Staff MH Clinician + BHT	4.6	27.8	9.3 - 28.4	9.4 – 22.0
3	Staff DA + RDH	1.5	3.7	1.6 - 3.7	N/A
4	Staff RN + LPN	8.2	26.1	18.9 - 42.2	22.4 - 30.5

5
6 With the possible exception of Pharmacy Technicians, all comparable healthcare
7 classifications are staffed below the national 75th percentile rates at ADCRR, and in some
8 cases they are well below the 75th percentile. In most cases, the staffing model estimates
9 move ADCRR staffing from below the target range to within the expected reasonable range
10 of staffing rates.

11 The following are among the findings after based on these comparative rates,
12 adjusting for prison census, that further support the need to enhance current ADCRR
13 healthcare staffing levels:

- 14 • Estimated psychiatry staffing required in this staff model analysis for the “balanced
15 estimate” only raises current staffing levels slightly, but the level would still below
16 the 75th percentile. In the case of this classification, the larger “high mid-point”
17 staffing estimate presented earlier in this analysis may be more appropriate based
18 on this comparison.
- 19 • ADCRR uses significantly fewer non-psychiatric mental health staff than other
20 prisons on a per 1,000 basis. While the staffing model in this analysis estimates a
21 significant increase in staffing need for these classifications over current allocations,
22 these new staffing rates would move ADCRR into a reasonable range compared to
23 other prisons.
- 24 • Likewise, ADCRR uses significantly fewer nursing staff (i.e., RNs and LPNs) than
25 other prisons after adjusting for census. The staffing model in this analysis
26 estimates a significant increase in staffing need for these classifications over the

1 contract current allocations, however these new nursing staffing rates would move
2 ADCRR into a reasonable range compared to other prisons' nursing staffing.

- 3 • Overall current combined ADCRR contracted prescriber staffing (MD, DO, NP,
4 PA) appears to result in a FTE value close to the Pew 75th percentile benchmark
5 range and within the CDC 75th percentile benchmark range. However, when
6 evaluated separately for medical and psychiatric prescribers, both currently are
7 below their respective 75th percentile benchmark ranges.

8 **i. Advanced Practice Provider (“APP”) Staffing**

9 One of the more notable staffing disparities when compared to external data is the
10 ratio of APPs to physicians providing care to ADCRR residents. ADCRR appears to have
11 about 50 APPs and 7 physicians hired in primary care (excluding medical directors and
12 other clinical supervisors). In addition, approximately 25 APPs are hired as mental health
13 providers along with approximately 6 physician psychiatrists. This produces a ratio of
14 about 7:1 APP to physician staff in primary care, about 4:1 in MH, and about 6:1 overall.⁹⁷

15 Compared to the US overall, the APP to physician ratio in primary care is inverted
16 relative to ADCRR, at 1.7:1 physicians to APPs. In US specialty care, the ratio is 2.5:1
17 physicians to APPs. The ratio across both primary and specialty care in the US is 2.2:1
18 physicians to APPs. Despite broader the practice scope for NPs in the Arizona,⁹⁸ state-
19 level data show an overall physician to APP ratio of 3.3:1, suggesting community practice
20 in Arizona is to staff more heavily with physicians vs APPs than in the US overall.⁹⁹

21 ⁹⁷ Variance Report based on hired FTEs, April 2014, (ADCRRM0024277-0024283).

22 ⁹⁸ See Arizona Board of Nursing Scope of Practice APRN Questions & Answers,
23 [https://www.azbn.gov/sites/default/files/2020-11/FAQs%20Final%20Questions-
24 %20NP%207.24.20%20%281%29.pdf](https://www.azbn.gov/sites/default/files/2020-11/FAQs%20Final%20Questions-%20NP%207.24.20%20%281%29.pdf), [https://www.azbn.gov/sites/default/files/2018-
25 12/rulesjuly12017final.pdf](https://www.azbn.gov/sites/default/files/2018-12/rulesjuly12017final.pdf); Nurse Practitioner - Nurse Practitioner Scope of Practice
26 Breakdown (September 7, 2021)
<https://www.nursepractitionerschools.com/resources/scope-of-practice/>

⁹⁹ Primary Care in the United States - A Chartbook on Facts and Statistics (February 2021)
<https://www.graham-center.org/content/dam/rgc/documents/publications->

1 These data suggest that ADCRR uses APPs at a rate nearly 13 times greater than the
2 national ratio of physicians to APPs, both overall and in primary care specifically. The
3 overall ADCRR APP to physician ratio compared to community practices in Arizona data
4 is nearly 20 times higher than expected.

5 The previously referenced data from CDC and Pew included APP and physician
6 breakdowns. These data showed that prisons appear to rely more heavily on APP staff than
7 the community at large. However, ADCRR physician to APP ratios are still significantly
8 divergent from even this benchmark. For example, the overall ADCRR ratio of hired
9 physicians to APPs is about 0.2:1 (i.e., the previously noted ADCRR APP ratio was
10 inverted). The median ratio in the CDC data was 1.5 physicians to APPs, and the median
11 ratio in the Pew data was about 0.9:1

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reports/reports/PrimaryCareChartbook2021.pdf; The Supply of Physician Assistants,
23 Nurse Practitioners, and Certified Nurse Midwives in Arizona (June 2014)
24 https://azahec.uaahs.arizona.edu/sites/default/files/supply_of_pa_np_cnm.pdf; Arizona
25 Primary Care Physician Workforce Report (October 2019),
26 [https://uaahs.arizona.edu/sites/default/files/2019_az_primary_care_physician_workforce_r
eport.pdf](https://uaahs.arizona.edu/sites/default/files/2019_az_primary_care_physician_workforce_report.pdf); Arizona's Primary Healthcare Workforce 2008-2016
[https://chs.asu.edu/sites/default/files/az_primary_care_workforce_report_final_7.27.17.p
df](https://chs.asu.edu/sites/default/files/az_primary_care_workforce_report_final_7.27.17.pdf).

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Appendix: List of abbreviations

- ADCRR: Arizona Department of Corrections
- APP: Advanced Practice Providers
- BHT: Behavioral Health Technician
- CME: Continuing Medical Education
- DA: Dental Assistant
- DO: Doctor of Osteopathic Medicine
- FTE: Full Time Equivalent
- HS: *hora somni* or to “take at bedtime”
- IPC: Inpatient Components residents
- LPN: Licensed Practical Nurses
- MA: Medical Assistant
- MAT: Medically Assisted Treatment
- MD: Doctor of Medicine
- MH: Mental Health
- NP: Nurse Practitioner
- PA: Physician’s Assistant
- PCP: Primary Care Provider
- PCT: Patient Care Technician
- RDH: Registered Dental Hygienist
- RN: Registered Nurses
- SMI: Serious Mental Illness
- SMU: Special Management Units
- SNU: Special Needs Unit
- SUD: Substance Use Disorder

Exhibit B

Robert Joy

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With my extensive experience in evidence-based leadership, strategic planning, performance evaluation, quality improvement, and data analysis, I have led diverse teams to help large health and human services agencies develop and implement strategies that improve outcomes and reduce inequities for their most vulnerable clients. I ensure my teams learn about client needs, listen to evidence, identify root causes to problems, discover opportunities, support solutions, and sustain frameworks that help struggling families thrive. Health and human services organizations facing complex problems rely on my expertise to define, evaluate, stabilize and improve performance.

Since 2017, I have contracted with my clients as Owner, President and Principal Consultant of Carbone Joy Consulting LLC, a firm focused on designing and executing strategies to improve health and human services delivery for vulnerable populations. Between 2014 and 2017, I contracted with my health and human services clients as Consulting Director at Public Consulting Group. Between 2007 and 2014, I contracted with my clients as Senior Consulting Manager at Hubbert Systems Consulting. Prior to 2007, I held leadership roles at IBM and Sutter Health. Throughout my career, 100% of my clients have provided positive references about my performance.

Key Knowledge and Skills

Cross functional leadership, coaching and team building • Strategy development and execution • Public sector procurement, contracting and compliance monitoring • Establishing, developing and sustaining partnerships with senior executives • Cross-cultural fluency • Diverse stakeholder engagement, including donor/funding organizations, non-governmental organizations, non-profit organizations, elected officials, community leaders, and beneficiaries • Organizational change management • Developing, monitoring, executing and adjusting project plans • Agile execution frameworks and methods • Performance monitoring and evaluation for health and human services delivery • Designing and leading training programs • Recruitment and staff development • Designing and developing performance measures and benchmarks • Quality assurance and quality improvement • Program evaluation • Defining deliverable expectations and ensuring high deliverable quality • Root cause analysis • Market intelligence on current and emerging trends • Superior oral and written communications skills • Creative, solutions-oriented problem analysis • Business process analysis • Gap analysis between as-is (current state) and to-be (future state) capabilities • Not-for-profit health and human services delivery • Behavioral health • Substance use treatment • Payment reform • Managed care • Budgeting, pricing, and invoicing • Financial statement analysis • RFP/RFO design and response • Healthcare enrollment, claims processing, medical records and billing systems • Global health programs • International health disparities • Justice-involved populations • Social determinants of health • Health Information Exchange (HIE) • Lean Six Sigma • PDCA/PDSA • DMAIC • Strong facilitation and collaboration skills in challenging/complex situations

Achievements

- **Effectively engaging executives** and building coalitions of decision-makers in large health and human services organizations, including negotiating consensus to define strategies, goals, objectives and actions for high-profile data-driven improvement initiatives
- **Measurably improving health and human services delivery** through implementing a sustainable governance framework that establishes priorities, specifies objectives, standardizes metrics, optimizes data systems, analyzes information, supports evidence-based decisions, identifies high-impact improvement opportunities, implements interventions, assigns accountability, tracks progress against targets, and responds to inevitable change

- **Providing thought leadership** on good practices and lessons learned in health and human services delivery, strategic planning, high performing teams, problem analysis, performance monitoring, quality improvement, project management, decision-aiding analytics, data management, and information visualizations
- **Leading high-performing teams of staff and contractors** using contemporary project management frameworks to track tasks, deliverables, and issues for multiple concurrent initiatives, including Agile, Lean, Scrum, DevOps and Kanban methodologies
- **Delivering objective analysis** using quantitative and experiential methods to evaluate opportunities for interventions, solution alternatives, and returns on investment for health and human services initiatives at public, private and not-for-profit agencies
- **Serving unique needs of vulnerable populations** through providing strategic planning and execution for global, national, state and local healthcare agencies (e.g., Medicaid, Medicare, justice-involved populations); and implementing the processes for meeting the unique requirements of their at-risk clients
- **Designing performance monitoring and analysis solutions** for clinicians, analysts, managers, executives and external stakeholders; acquiring and validating new data sources; implementing business intelligence capabilities; supporting big data analytics; leading data scientists to apply artificial intelligence, machine learning and predictive modeling; creating standardized metrics and benchmarks for evaluating quality, efficiency, access, enrollment, satisfaction and outcomes; and developing action-oriented visualizations with measures, trends, targets, comparisons and narratives
- **Enhancing usability of strategic management inputs** required for analysis, planning and execution by verifying information is accurate, timely, complete, and reliable, including implementation of tools such as Statistical Process Control (SPC) and Failure Modes and Effects Analysis (FMEA) to ensure continuous data quality assessment and improvement
- **Recruiting, developing, coaching, disciplining and promoting** staff and managers on matrixed teams in large, complex organizations

Education and Certifications

- **Master of Business Administration**, Thunderbird School of Global Management, Arizona State University, Phoenix, AZ
- **Bachelor of Arts, International Relations**, Uppsala University, SE; Copenhagen University, DK; Sacramento State University, CA
- **Project Management Professional (PMP)**, Project Management Institute, ID# 1282794
- **Professional Scrum Master Certification (PSM)**, Ken Schwaber, Scrum Co-Founder, *scrum.org*

Experience

Executive Quality Management Consultant, 10.2009 – Present

California Correctional Health Care Services (CCHCS), Elk Grove, CA

(Multiple competitively awarded contracts via Carbone Joy Consulting LLC, Public Consulting Group, and Hubbert Systems Consulting)

- Facilitated executive teams to prioritize, develop, implement, and monitor strategic health initiatives at 35 facilities across the state
- Developed and implemented enterprise-wide analytic capabilities to improve the lives of 100,000+ patients at a \$3+ billion agency under court-supervised oversight via multiple class action lawsuits, leading to delegation of over half the sites back to state control
- Oversaw development of enterprise dashboard with 200+ standardized metrics, receiving the 2019 national HIMSS Davies Award
- Led high-profile time-limited project to redesign enterprise medical staffing models, resulting in executive consensus on a transparent, evidence-based approach for allocating limited clinical resources across multiple classifications, sites and settings
- Developed and implemented artificial intelligence and machine learning capabilities to support clinical risk stratification and predictive models for forecasting patient and resource needs, identifying the 13% of patients driving majority of the population's cost and acuity
- Organized agile design and delivery of tools for external stakeholders, executive decision-makers, and individual clinicians to monitor emerging healthcare priorities for residents and staff during the COVID-19 pandemic

Senior Health Systems Consultant, 7.2016 – 6.2017

California Department of Health Care Services (DHCS), Sacramento, CA (Public Consulting Group contract)

- Provided thought leadership for executives in a \$100B+ public agency to overhaul metrics, reports, data, and processes to support strategic planning and healthcare operations
- Improved governance approach used to oversee strategies at 20+ health plans delivering care to 10+ million vulnerable Californians

Strategic Planning Consultant, 1.2014 – 8.2014

California Department of Public Health (CDPH), Sacramento, CA (Hubbert Systems Consulting contract)

- Evaluated governance processes, performance data, analytic capabilities, information sources, data quality, and information technologies used for strategic planning and stakeholder engagement
- Delivered organizational performance assessment, gap analysis and remediation recommendations to senior executives
- Provided testimony to the California Legislature on my assessment findings and recommendations at the \$3B+ public health agency

Enterprise Health Data Analytics Consultant, 6.2013 – 1.2014

California Health Care Foundation (CHCF), Oakland, CA (Hubbert Systems Consulting contract)

- Worked with Foundation leadership on grant to evaluate enterprise analytic capabilities of DHCS staff, technologies and processes
- Led a team to develop action plan for closing gaps related to strategic planning and analytic capabilities at the \$100B+ health agency
- Assessed agency governance structures and recommended improvements to data-driven decision-making

Senior Health Informatics Consultant, 2.2011 – 10.2012

National Commission on Correctional Health Care (NCCHC), Chicago, IL (Hubbert Systems Consulting contract)

- Facilitated nationwide project to develop strategy for standardized performance monitoring of inmate health delivery
- Provided thought leadership to participants in developing guidance and executing strategy to capture national performance data
- Presented Correctional Health Outcomes Resource Data Set (CHORDS) as a new model during international NCCHC conference

Lead Mental Health Information System Implementation Consultant, 9.2008 – 10.2009

California Department of State Hospitals (DSH), Sacramento, CA (Hubbert Systems Consulting contract)

- Oversaw design and implementation for strategic mental health initiative with 58 participating counties and 4 state health agencies
- Facilitated decision-making and managed conflict among healthcare agency executives to address major risks, issues and alternatives

Strategic Planning and Change Management Consultant, 1.2007 – 9.2008

California Department of Health Care Services (DHCS), Sacramento, CA (Hubbert Systems Consulting contracts)

- Implemented unique strategy to improve Medicaid performance, which CMS promoted as a national model at its annual conference
- Worked with health agency executives to establish updated strategies, goals, objectives, and actions for two newly created agencies

Director, Medicaid Services, 12.1997 – 1.2007

Truven Health Analytics, an IBM Watson Health Company, Sacramento, CA (formerly Thomson MedSTAT)

- Led strategies to improve healthcare analytic capabilities and health service delivery with executives at five state Medicaid agencies
- Delivered and documented \$488 million in cost savings related to provider fraud and insurer capitation overpayments

Recent Publications

California Department of Public Health Licensing & Certification Program Evaluation, August 2014

- Initial Assessment & Gap Analysis Report, Hubbert Systems Consulting, available at:

<https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/AssessmentAndGapAnalysis.pdf>

- Remediation Recommendations, Hubbert Systems Consulting, available at:

<https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/RemediationRecommendations.pdf>

Exhibit C

Documents Considered by Robert Joy
Updated as of October 27, 2021

No.	Document Title / Description
	Production Documents:
1.	Contract Variance Reports ADCRR00069737; ADCRR00069738; ADCRR00069739
2.	Contract Variance Report ADCRRM002477-0024283
3.	Specialty Care Monthly Reports ADCRR00069740; ADCRR00069741; ADCRR00069742
4.	Weekly Health Care Staffing Schedules June 2021 ADCRR00021949-ADCRR00021976
5.	Population and Census Projections 12 month rolling prepared 8/29/2020 ADCRR00061547-ADCRR00061552
6.	Employee Handbook Health Care Annual Work Hours 3/13/2020 ADCRR00061539-ADCRR00061546
7.	Clinical Data Reports from January 2020 – August 2021 and Dental Statistics from February 2020 – August 2021 ADCRR00069938-ADCRR00069974
8.	Centurion Contracts ADCRR00046154-ADCRR00046157
9.	Off-Site Specialty Care Encounters January 2020-July 2021 ADCRR00046158-ADCRR00056159
10.	Hiring Reports for Correctional Staff August 31, 2020- August 23, 2021 ADCRR00055817-ADCRR00056119
11.	CQI Meeting Minutes 03/13/2020 Phoenix ADCM1608373-ADCM1608377
12.	CQI Meeting Minutes 8/20/2020 Eyman ADCM1644181-ADCM1644186)
13.	CQI Meeting Minutes - Florence 08/13/2020 ADCM1644187-ADCM1644197
14.	CQI Meeting Minutes 08/25/2020 Perryville ADCM1644204-ADCM1644211
15.	CQI Meeting Minutes 08/17/2020 Phoenix ADCM1644212-ADCM1644215
16.	CQI Meeting Minutes 09/8/2020 Douglas ADCM1656911-ADCM1656924
17.	CQI Meeting Minutes 10/8/2020 Florence ADCM1656932-ADCM1656943
18.	CQI Meeting Minutes 9/11/2020 Phoenix ADCM1656958-ADCM1656963
19.	CQI Meeting Minutes 9/16/2020 Safford ADCM1656964-ADCM1656969

No.	Document Title / Description
20.	CQI Meeting Minutes 9/9/2020 Winslow ADCM1656974-ADCM1656978
21.	CQI Meeting Minutes 10/14/2020 Douglas ADCM1658032-ADCM1658050
22.	CQI Meeting Minutes 10/22/2020 Eyman ADCM1658051-ADCM1658059
23.	CQI Meeting Minutes 10/27/2020 Lewis ADCM1658072-ADCM1658076
24.	CQI Meeting Minutes 10/19/2020 Phoenix ADCM1658085-ADCM1658090
25.	CQI Meeting Minutes 10/14/2020 Winslow ADCM165801-ADCM1658090
26.	CQI Meeting Minutes 11/9/2020 Douglas ADCM1669715-ADCM1669733
27.	CQI Meeting Minutes 11/20/2020 Eyman ADCM1669734-ADCM1669741
28.	CQI Meeting Minutes 11/12/2020 Florence ADCM1669742-ADCM1669752
29.	CQI Meeting Minutes 11/20/2020 Phoenix ADCM1669765-ADCM1669772
30.	CQI Meeting Minutes 11/12/2020 Winslow ADCM1669783-ADCM1669788
31.	CQI Meeting Minutes 7/30/2021 ADCRR00000856-ADCRR00000883
32.	CQI Meeting Minutes 5/25/2021 Eyman ADCRR00056264-ADCRR00056304
33.	CQI Meeting Minutes 5/13/2021 Parole Board ADCRR00056305-ADCRR00056464
34.	CQI Meeting Minutes 5/14/2021 Phoenix ADCRR00056541-ADCRR00056587
35.	CQI Meeting Minutes 5/26/2021 Safford ADCRR00056588-ADCRR00056663
36.	CQI Meeting Minutes 5/28/2021 ADCRR00056664-ADCRR000566719
37.	CQI Meeting Minutes 5/26/2021 Yuma ADCRR00056731-ADCRR00056771
38.	CQI Meeting Minutes 6/22/2021 Eyman ADCRR00061620-ADCRR00061741
39.	CQI Meeting Minutes 6/10/2021 ADCRR00061742-ADCRR00061821
40.	CQI Meeting Minutes 6/28/2021 Perryville ADCRR00061874-ADCRR00061886
41.	CQI Meeting Minutes 6/30/2021 Safford ADCRR00061958-ADCRR00061999

No.	Document Title / Description
42.	CQI Meeting Minutes 7/20/2021 Eyman ADCRR00062184-ADCRR00062288
43.	CQI Meeting Minutes 7/16/2021 Parole Board Room ADCRR00062289-ADCRR00062464
44.	CQI Meeting Minutes 7/22/2021 Lewis ADCRR00062465-ADCRR00062538
45.	CQI Meeting Minutes 7/22/2021 Phoenix ADCRR00062551-ADCRR00062576
46.	CQI Meeting Minutes 7/14/2021 Winslow ADCRR00062613-ADCRR00062623
47.	CQI Meeting Minutes 12/15/2020 Eyman ADCRRM0001680-ADCRRM0001689
48.	CQI Meeting Minutes 12/10/2020 Florence ADCRRM0001690-ADCRRM0001702
49.	CQI Meeting Minutes 12/17/2020 Lewis ADCRRM0001703-ADCRRM0001707
50.	CQI Meeting Minutes 12/10/2020 Phoenix ADCRRM0001716-ADCRRM0001723
51.	CQI Meeting Minutes 12/15/2020 Safford ADCRRM0001724-ADCRRM0001729
52.	CQI Meeting Minutes 1/29/2021 Eyman ADCRRM0013347-ADCRRM0013359
53.	CQI Meeting Minutes 1/14/2021 Florence ADCRRM0013360-ADCRRM0013371
54.	CQI Meeting Minutes 1/28/2021 Winslow ADCRRM0013408-ADCRRM0013413
55.	CQI Meeting Minutes 1/28/2021 Yuma ADCRRM0013414-ADCRRM0013421
56.	CQI Meeting Minutes 2/11/2021 Florence ADCRRM0018532-ADCRRM0018543
57.	CQI Meeting Minutes 2/26/2021 Phoenix ADCRRM0018560-ADCRRM0018568
58.	CQI Meeting Minutes 2/17/2021 Safford ADCRRM0018569-ADCRRM0018574
59.	CQI Meeting Minutes 2/25/2021 Tucson ADCRRM0018569-ADCRRM0018582
60.	CQI Meeting Minutes 3/9/2021 Douglas ADCRRM0019418-ADCRRM0019430
61.	CQI Meeting Minutes 3/25/2021 Eyman ADCRRM0019431-ADCRRM0019448
62.	CQI Meeting Minutes 3/09/2021 Winslow ADCRRM0019501-ADCRRM0019507
63.	CQI Meeting Minutes 4/22/2021 Eyman ADCRRM0024129-ADCRRM0024142

No.	Document Title / Description
64.	CQI Meeting Minutes 4/30/2021 Tucson ADCRRM0024188-ADCRRM0024195
65.	CQI Meeting Minutes 5/10/2021 Douglas ADCRRM0025060-ADCRRM0025074
66.	CQI Meeting Minutes 5/25/2021 Eyman ADCRRM0025075-ADCRRM0025093
67.	CQI Meeting Minutes 5/20/2021 Lewis ADCRRM0025107-ADCRRM0025116
68.	CQI Meeting Minutes 5/14/2021 Phoenix ADCRRM0025127-ADCRRM0025135
69.	CQI Meeting Minutes 5/26/2021 Safford ADCRRM0025136-ADCRRM0025141
70.	CQI Meeting Minutes 5/28/2021 Tucson ADCRRM0025142-ADCRRM0025149
71.	CQI Meeting Minutes 5/18/2021 Winslow ADCRRM0025150-ADCRRM0025156
72.	CQI Meeting Minutes 4/16/2020 Winslow ADCM1610499-ADCM1610503
73.	CQI Meeting Minutes 8/20/2020 Eyman ADCM1644181-ADCM1644186
74.	CQI Meeting Minutes 8/25/2020 Perryville ADCM1644204-ADCM1644211
75.	CQI Meeting Minutes 9/8/2020 Douglas ADCM1656911-ADCM1656924
76.	CQI Meeting Minutes 10/8/2020 Florence ADCM1656932-ADCM1656943
77.	CQI Meeting Minutes 9/15/2020 Perryville ADCM1656950-ADCM1656957
78.	CQI Meeting Minutes 10/14/2020 Douglas ADCM1658032-ADCM1658050
79.	CQI Meeting Minute 10/22/2020 Eyman ADCM1658051-ADCM1658059
80.	CQI Meeting Minute 11/9/2020 Douglas ADCM1669715-ADCM1669733
81.	CQI Meeting Minutes 11/20/2020 Eyman ADCM1669734-ADCM1669741
82.	CQI Meeting Minutes 11/12/2020 Florence ADCM1669742-ADCM1669752
83.	CQI Meeting Minutes 5/25/2021 Eyman ADCRR00056264-ADCRR00056304
84.	CQI Meeting Minutes 05/17/2020 Perryville ADCRR00056507-ADCRR00056540
85.	CQI Meeting Minutes 6/22/2020 Eyman ADCRR00061620-ADCRR00061741

No.	Document Title / Description
86.	CQI Meeting Minutes 6/10/2021 Parole Board Room ADCRR00061742-ADCRR00061821
87.	CQI Meeting Minutes 7/12/2021 Douglas ADCRR00062152-ADCRR00062183
88.	CQI Meeting Minutes 7/20/2021 Eyman ADCRR00062184-ADCRR00062288
89.	CQI Meeting Minutes 7/16/2021 ADCRR00062289-ADCRR00062464
90.	CQI Meeting Minutes 7/14/2021 Winslow ADCRR00062613-ADCRR00062623
91.	CQI Meeting Minutes 1/28/2021 Douglas ADCRRM0013328-ADCRRM0013346
92.	CQI Meeting Minutes 2/8/2021 Douglas ADCRRM0018501-ADCRRM0018514
93.	CQI Meeting Minutes 02/11/2021 Eyman ADCRRM0018515-ADCRRM0018531
94.	CQI Meeting Minutes 2/11/2021 Florence ADCRRM0018532-ADCRRM0018543
95.	CQI Meeting Minutes 4/14/2021 Winslow ADCRRM0024196-ADCRRM0024201
96.	Mental Health Staff Roster with Licensure 04/2021 ADCRRM0019588-ADCRRM0019591
97.	Email from T. Dolan to V. Headstrom (Jan. 14, 2020) ADCRR01111128
98.	Staffing Variances (August 2021) ADCRR00137140
99.	Excel Chart Attachment B and 9 Fee Schedule and Budget Narrative
100.	Request for Proposal Final BMP003905 Final (1) Rev. 8/17/2021
101.	Solicitation Attachments BMP003905 Rev. 8/17/2021
102.	Inpatient Hospital Report January 2020 All Facilities ADCRR00000910
103.	Inpatient Hospital Report January 2020 All Facilities ADCRR00001169
104.	February 2020 All Facilities ADCRR00001427
105.	March 2020 All Facilities ADCRR00018342
106.	April 2020 All Facilities ADCRR00020487
107.	May 2020 All Facilities Hospital Report ADCRR00021480
108.	June 2020 Hospital Report All Facilities ADCRR00021494
109.	July 2020 All Facilities Hospital Report

No.	Document Title / Description
	ADCRR00021510
110.	August 2020 Hospital Report All Facilities ADCRR00021534
111.	Sept. 2020 All Facilities ADCRR00021562
112.	October 2020 All Facilities ADCRR00021596
113.	November 2020 All facilities Hospital Report ADCRR00021620
114.	December 2020 Inpatient Hospital Report All Facilities ADCRR00021645
115.	January 2021 All Facilities ADCRR00021680
116.	February 2021 All Facilities ADCRR00021716
117.	March 2021 All Facilities ADCRR00021752
118.	April 2021 All Facilities ADCRR00021787
119.	May 2021 All Facilities ADCRR00021822
120.	June 2021 All Facilities ADCRR00021863
121.	July 2021 All Facilities ADCRR00021889
122.	April 2020 All Facilities ADCRR00021977
123.	April 2021 All Facilities ADCRR00022970
124.	August 2020 Hospital Report All Facilities ADCRR00023005
125.	December 2020 Inpatient Hospital Report All Facilities ADCRR00023033
126.	February 2020 All Facilities ADCRR00023068
127.	February 2021 All Facilities ADCRR00039983
128.	January 2021 All Facilities ADCRR00040019
129.	July 2020 All Facilities Hospital Report ADCRR00040055
130.	July 2021 All Facilities ADCRR00040079
131.	June 2020 Hospital Report All Facilities

No.	Document Title / Description
	ADCRR00040139
132.	June 2021 All Facilities ADCRR00040155
133.	March 2020 All Facilities ADCRR00040181
134.	March 2021 All Facilities ADCRR00042326
135.	May 2020 All Facilities Hospital Report ADCRR00042361
136.	May 2021 All Facilities ADCRR00042375
137.	November 2020 All Facilities Hospital Report ADCRR00042416
138.	October 2020 All Facilities ADCRR00042441
139.	Sept. 2020 All Facilities ADCRR00042465
140.	Variance Report August 2021 ADCRR00137140
141.	Arizona Department of Corrections, Rehabilitation & Reentry ADCRR00137141
142.	Lab Test Ordered by Type 01/2020-07/2021 ADCRR00137153
143.	X-Rays Processed by Type 01/2020-07/2021 ADCRR00137154
144.	On-Site Specialty Service Encounters ADCRR00137155
145.	2021.01.26 CGAR Data through October 2020
146.	AZ Chronic Conditions Report ADCM1629171-1629749
147.	AZ Chronic Conditions Report ADCRRM0004705-5522
148.	2021-03 Chronic Conditions list ADCRRM0016136-0016952
149.	2021-03 - Chronic Conditions List ADCRRM0018608-0019417
150.	2021-04 - Chronic Conditions List ADCRRM0023395-0024114
151.	2021-05 - Chronic Conditions List ADCRRM0024286-0025059
152.	Monthly Staffing Reports All Prisons March to July 2015 ADCM199664-199729
153.	Monthly Staffing Rpt - 2015-11 ADCM273945-273955

No.	Document Title / Description
154.	Monthly Staffing - 2015-12 - All Complexes ADCM274691-274701
155.	2016-01 - Monthly Staffing Report ADCM387315-387325
156.	2016-02 - Monthly Staffing Report ADCM387326-387336
157.	Monthly Staffing Rpt - 2016-03 ADCM462724-462734
158.	Monthly Staffing Rpt - 2016-04 ADCM463749-463759
159.	Monthly Staffing Rpt - 2016-05 – Statewide ADCM496743-496753
160.	Monthly Staffing Rpt - 2016-06 – Statewide ADCM537964-537974
161.	Monthly Staffing Report - 2016-07 – Statewide ADCM586016-586026
162.	Monthly Staffing Report - 2016-08 – Statewide ADCM603839-603849
163.	Monthly Staffing Report - 2016-09- Statewide ADCM659629-659639
164.	Monthly Staffing Report - 2016-10 – Statewide ADCM701197-707207
165.	Monthly Staffing Report - 2016-11 – Statewide ADCM750753-750763
166.	Monthly Staffing Report - 2016-12 ADCM772361-772371
167.	Monitor Guide Draft Version 03-13-2020 ADCM1607639-1607812
	Legal Filings and Rulings:
168.	<i>Parsons v. Shinn</i> , 2:12-cv-00601-ROS, Stipulation, Dkt. 1185 (Oct. 14, 2014).
169.	<i>Parsons v. Shinn</i> , 2:12-cv-00601-ROS, Arizona Department of Corrections Staffing and Retention Assessment, Dkt. 2940-1 (July 23, 2018).
170.	<i>Parsons v. Shinn</i> , 2:12-cv-00601-ROS, Order, Dkt. 3495 (Feb. 12, 2020).
171.	<i>Parsons v. Shinn</i> , 2:12-cv-00601-ROS, Order, Dkt. 3518 (Mar. 11, 2020).
172.	<i>Parsons v. Shinn</i> , 2:12-cv-00601-ROS, Order, Dkt. 3861 (Feb. 24, 2021).
	Depositions:
173.	Transcript of Dr. Stefanie Platt Deposition (Oct. 15, 2021).
174.	Transcript of Larry Gann Deposition (Oct. 13, 2021).
175.	Transcript of ADCRR 30(b)(6) Staffing Deposition (Oct. 13, 2021).
176.	Transcript of Dr. Wendy Orm Deposition (Oct. 13, 2021).
177.	Transcript of Centurion 30(b)(6) Staffing Deposition (Oct. 13, 2021).
178.	Rough Transcript of David Shinn Deposition (Oct. 21, 2021).
179.	Rough Transcript of Centurion 30(b)(6) Staffing Deposition (Oct. 19, 2021).

No.	Document Title / Description
	Expert Reports and Declarations:
180.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Declaration of Robert L. Cohen (Nov. 7, 2012).
181.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Declaration of Jay D. Shulman (Nov. 5, 2012).
182.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Declaration of Pablo Stewart (Nov. 9, 2012).
183.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Report of Robert L. Cohen, M.D. (Nov. 8, 2013).
184.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Haney Isolation Report (Nov. 8, 2013).
185.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Expert Report of Jay D. Shulman (Nov. 8, 2013).
186.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Stewart Mental Health Report (Nov. 8, 2013).
187.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Vail Isolation Report (Nov. 8, 2013).
188.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Expert Report of Todd Randall Wilcox (Nov. 8, 2013).
189.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Williams Isolation Report (Nov. 8, 2013).
190.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Supplemental Expert Report of Pablo Stewart (Dec. 9, 2013).
191.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Supplemental Expert Report of Brie Williams (Dec. 9, 2013).
192.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Rebuttal Report of Robert L. Cohen (Jan. 31, 2014).
193.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Haney Rebuttal Report (Jan. 31, 2014).
194.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Rebuttal Report of Jay D. Shulman (Jan. 31, 2014).
195.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Rebuttal Report of Pablo Stewart (Jan. 31, 2014).
196.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Rebuttal Declaration of Eldon Vail (Jan. 31, 2014).
197.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Rebuttal Report of Todd Randall Wilcox (Jan. 31, 2014).
198.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Rebuttal Expert Report of Brie Williams (Jan. 31, 2014).
199.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Supplemental Report of Robert L. Cohen (Feb. 24, 2014).
200.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Supplemental Report of Jay D. Shulman (Feb. 24, 2014).

No.	Document Title / Description
201.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Second Supplemental Report of Pablo Stewart (Feb. 24, 2014).
202.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Supplemental Report of Eldon Vail (Feb. 24, 2014).
203.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Second Supplemental Report of Brie Williams (Feb. 24, 2014).
204.	<i>Parsons v. Ryan</i> , No. CV 12-00601-PHX-NVW, Confidential Supplemental Report of Todd Randall Wilcox (Feb. 24, 2014).
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