
CONTINUOUS SKILLED NURSING CARE BIENNIAL REPORT

Pursuant to
Massachusetts General Law (MGL) Chapter 12C §24

January 2024

Prepared for Massachusetts Center for Health Information and Analysis

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Continuous Skilled Nursing Care Biennial Report 2024

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Significant review and comments were provided by CHIA Deputy Chief of Staff Emma McNamara and by the MassHealth Office of Long-Term Services and Supports.

1.0 Executive Summary

Massachusetts' General Law Chapter 12C Section 24 requires the Center for Health Information and Analysis (CHIA), in conjunction with MassHealth, to provide a "biennial report on the provision of continuous skilled nursing [CSN] care as defined in 101 Code of Massachusetts Regulations (CMR) 361." This biennial report is required to address eight questions, including an assessment of the degree to which hours of care authorized for CSN are delivered and an evaluation of rates paid for CSN care in the Commonwealth of Massachusetts (Commonwealth). CHIA retained BerryDunn to assist with conducting the study.

Registered nurses (RNs) and licensed practical nurses (LPNs) provide CSN care in patients' homes to pediatric and adult patients who have complex medical needs. Patients often have medical equipment and treatments that might require RNs and LPNs to have special training. MassHealth contracts directly with RNs and LPNs as independent nurses to provide CSN care, and MassHealth also pays Home Health Agencies (HHAs) and CSN Agencies that employ RNs and LPNs to provide CSN services. Massachusetts' regulation determines pay rates for independent nurses and for HHAs and CSN Agencies, and HHAs and CSN Agencies then determine the wages paid to nurses they employ as well as those retained under contract.

MassHealth provided BerryDunn with data regarding the enrollment and use of CSN services, including the total hours authorized and delivered for each pediatric and adult patient. Paid visits, in this report, measure hours delivered. BerryDunn reviewed the trends in authorized and paid visits from calendar years (CYs) 2020 through 2022 and developed estimates for average number of hours authorized and delivered by day, week, and month. This report also reviews the adequacy of CSN care staffing levels and nurse wages in the Commonwealth, using the data provided by MassHealth, publicly available data from the United States Bureau of Labor Statistics (BLS), and data from a survey BerryDunn conducted in conjunction with MassHealth and CHIA of HHAs and CSN Agencies that contract with MassHealth to deliver CSN care.

Findings related to service trends include the following:

- The total number of adult and pediatric patients with a prior authorization (PA) for CSN services has declined over the three-year period from 896 total patients in 2020 receiving PAs to 845 in 2022. Some of this decline can be attributed to members discontinuing CSN services and others who received care through other in-home services, such as the Personal Care Attendant (PCA) program and intermittent home health. Notably in 2023, MassHealth saw substantial growth in the total number of CSN patients enrolled in the Community Case Management (CCM) program. Prior to CY 2023, the CCM population had been between 830 and 850 patients; and as of December 2023, there were 918 patients enrolled in CCM.
- MassHealth authorized nearly 2.7 million hours of CSN services in 2022. Children account for over 56% of total authorized and delivered (paid) services.
- Of the nearly 2.7 million hours of CSN services authorized by MassHealth in 2022, approximately 1.7 million (62%) services were delivered (paid).

- For adults, there has been a 14% increase in authorized hours and a 9% increase in paid hours from CYs 2020 to CY2022. In this same period, children had a 9% decrease in authorized hours and an 11% decrease in paid hours.
- From CY2020 to CY2022, the percentage of the total number of authorized hours that were delivered (paid) declined from 64.2% to 62%, with adults having a greater reduction than children.
- The decline in percentage of hours delivered (paid) coincided with the ongoing public health emergency (PHE) due to the 2019 novel Coronavirus (COVID-19) and the nursing workforce shortages faced by the Commonwealth due to the PHE¹. Massachusetts' declared state of emergency ended June 15, 2021, while the federally declared state of emergency ended May 11, 2023.

Findings related to the nursing workforce and available nursing hours include the following:

- An estimated 917 RNs and 525 LPNs, totaling 1,442 total nurses, provide CSN services through Home Health Agencies (HHAs) and CSN Agencies. MassHealth contracted with and had 374 independent nurses bill for CSN services in CY 2023.
- 11 of the 17 HHAs and five of the nine CSN Agencies that responded to the BerryDunn survey report they do not have adequate staffing to meet the hours for CSN services as requested by patients and authorized by MassHealth. These agencies report that they were able to fill, on average, 79.7% of requested authorized hours, with responses ranging from 45% to 100%.
- In aggregate, approximately 7.6% of HHA and CSN Agency nurses provide care to more than one patient at a time. This percentage is higher than the 4.6%² of independent nurses contracting directly with MassHealth who care for more than one patient at a time.

While this report shows a slight decline in the number of patients who received a CSN PA from CY 2020 through CY 2022, in 2023, MassHealth saw substantial growth in the total number of CSN patients enrolled in the Community Case Management (CCM) program. Between December 2022 and November 2023, the CCM population increased from 836 to 918 members, totaling an 8% increase.³

HHAs and CSN Agencies cite many reasons that might explain why authorized hours are not delivered. CSN Agencies were added as a provider type in order to enable more providers to provide CSN services with fewer regulatory burdens. As set forth in Figure 7, the most frequent reasons agencies may be unable to deliver CSN hours include the following: scheduling conflicts due to the fact that many agency nurses hold multiple jobs, the inability to find qualified applicants to fill nursing positions, and families choosing not to receive services from an available nurse. Several agencies also commented that they were unable to offer pay rates comparable to those offered by hospitals and in other settings, thereby hindering their ability to recruit and retain qualified nurses.

¹ HPC Health Care Workforce Trends and Challenges in the Era of COVID-19: Current Outlook and Policy Considerations for Massachusetts. March 2023. Accessed November 17, 2023. <https://www.mass.gov/doc/health-care-workforce-trends-and-challenges-in-the-era-of-covid-19/download>

² In 2022, 17 independent nurses provided care for more than one patient at time. There are currently 374 independent nurses contracted with MassHealth.

³ Data provided by MassHealth, December 8, 2023.

HHAs and CSN Agencies compete with other healthcare provider sectors and with nearby states to attract and retain nursing staff. Furthermore, the number of nurses active in the CSN workforce may relate to how CSN nurse wages compare to nurse wages provided in other healthcare provider sectors. However, this study's findings do not suggest a misalignment of CSN nurse wages within the broader nurse labor market. The wages paid by HHAs and CSN Agencies and the hourly rates paid by MassHealth to independent nurses compares favorably to nurse wages in other non-hospital settings in Massachusetts. In the home health setting, the average LPN hourly wage earned in Massachusetts is higher than in all neighboring states, and the average RN hourly wage earned in Massachusetts is higher than in most neighboring states except for Connecticut.

MassHealth payment rates for CSN services have increased several times since 2020. For a full list of rate increases MassHealth has issued since 2018, please see Appendix A. Recent rate increases include transitioning temporary rate add-ons funded through the American Rescue Plan Act (ARPA) to a 20% permanent rate increase effective January 2022 and a 10% permanent rate increase effective July 2023. MassHealth also implemented a student loan repayment program for new nurse graduates who commit to providing CSN services and began a CSN nurse retention bonus program for agency employed nurses and independent nurses^{4,5,6} In addition to these programs, MassHealth established a new service and provider type called complex care assistant services and Complex Care Assistants (CCAs), as an addition to CSN Agency services. Since the time frame of this report is 2020 – 2022, impacts from the 2023 changes will be seen in the 2026 biennial report.

These policy changes are intended to retain and increase the amount of nursing hours available in the CSN program, as well as expand the workforce serving CSN patients. However, nurses base their employment decisions on many factors, and even with these policy changes, challenges remain in matching the specific and complex needs of each patient and family to available nurses providing CSN care. Gaps in CSN staffing persist amid the overall preexisting shortages in the nursing workforce that were exacerbated by the COVID-19 pandemic.⁷ This broader nursing workforce challenge will continue to affect CSN and healthcare service delivery broadly throughout Massachusetts.

⁴ Continuous Skilled Nursing Agency Retention Bonuses for Nurses. Accessed December 13, 2023. <https://www.mass.gov/doc/continuous-skilled-nursing-agency-bulletin-11-continuous-skilled-nursing-agency-retention-bonuses-for-nurses/download>;

⁵ Continuous Skilled Nursing Retention Bonuses for Independent Nurses. Accessed December 13, 2023. <https://www.mass.gov/doc/independent-nurse-bulletin-12-continuous-skilled-nursing-retention-bonuses-for-independent-nurse-providers/download>.

⁶ Continuous Skilled Nursing (CSN) Loan Repayment Program for Recent Nurse Graduates. Accessed November 12, 2023. <https://www.marepay.org/continuous-skilled-nursing-csn>.

⁷ *Op. cit.* HPC Health Care Workforce Trends and Challenges in the Era of COVID-19: Current Outlook and Policy Considerations for Massachusetts.

2.0 Continuous Skilled Nursing (CSN) Care in Massachusetts

2.1 Introduction

Massachusetts' General Laws Chapter 12C Section 24⁸ requires CHIA, in conjunction with MassHealth, to provide a “biennial report on the provision of CSN care as defined in 101 CMR 361 and 130 CMR 403.402.”^{9,10} CHIA retained BerryDunn to assist with conducting the study. Section 24 specifically requires CHIA to address eight questions related to the provision of CSN care in the Commonwealth for both the pediatric and adult population:

1. The number of pediatric and adult patients requiring CSN care
2. The average and median number of CSN hours authorized by MassHealth per day, week, month, and year for pediatric and adult patients
3. The average and median number of authorized CSN hours actually delivered per day, week, month, and year for pediatric patients and adult patients
4. The total number of CSN hours authorized and actually delivered by MassHealth per month and year for pediatric patients and adult patients
5. The number of nurses providing CSN care to more than one patient at a time and, for the patients cared for by those nurses, the aggregate proportion of authorized CSN hours to utilized CSN hours
6. The number of nurses who contract with MassHealth to provide CSN care, the number of nurses who provide CSN care through an HHA¹¹ that contracts with MassHealth, and whether the total number of nurses providing such care is sufficient to fill all authorized CSN hours
7. A description of the training, experience, and education levels of the nurses who contract with MassHealth to provide CSN care
8. An evaluation of the adequacy of the reimbursement rates for CSN care as established in 101 CMR 350.04(2)¹², and a comparison of those rates against:
 - a. The rate paid to nurses who contract directly with MassHealth to provide CSN care
 - b. The portion of the reimbursement rate paid directly as wages to nurses providing CSN care through a HHA agency that contracts with MassHealth
 - c. The median wage rate paid to all nurses in the Commonwealth

⁸ The full text of the study requirements, as they are provided in the Acts of 2019, Chapter 41, Section 11—making appropriations for fiscal year 2020—can be found in Appendix B.

⁹ 101 CMR 361.02 defines continuous skilled nursing services as “skilled nursing care provided by a licensed nurse to complex care members who require more than two continuous hours of nursing services per day.”

¹⁰ 101 CMR 403.402 defines continuous skilled nursing services as “skilled nursing care provided by a licensed nurse to complex-care members who require more than two continuous hours of nursing services per day.”

¹¹ CSN Agencies were included in the calculations in addition to HHAs.

¹² 101 CMR 350.04 establishes rates for payment for home health services in the home. 101 CMR 361.04 sets forth the rates of payment for CSN Services in the Home. This report uses rates set forth in 101 CMR 361.04.

2.2 Background

CSN services are defined as “skilled nursing care provided by a licensed nurse to complex care members who require more than two continuous hours of nursing services per day.”^{13,14} CSN services enable pediatric and adult patients with complex medical needs to receive nursing care at home and help many avoid extended stays in an institutional healthcare setting. The parameters of the biennial report on the provision of continuous skilled nursing care, refers to individuals as “patients” (Appendix B). This current report will refer generally to those receiving MassHealth CSN services as *patients* or *CSN patients*.

As a service administered by MassHealth, CSN is provided to MassHealth enrolled individuals¹⁵ who are determined by the MassHealth agency to be clinically eligible for CSN services based on criteria set forth in 130 CMR 438.410(B) and 130 CMR 414.408.¹⁶ Each nurse providing CSN must be licensed to provide nursing services in the Commonwealth.¹⁷ Nurses provide CSN either through a direct contract with MassHealth as an independent nurse or under the arrangement of HHAs and CSN Agencies.¹⁸ CSN Agencies were established as a new provider type effective January 1, 2022, and regulated under 130 CMR 438.000; and on August 1, 2023, this regulation was further amended to add a new service type, complex care assistant services. Under the supervision of an RN designated by the CSN Agency,¹⁹ some examples of services provided by a complex care assistant (CCA) include: enteral G-tube/J-tube feedings; oxygen therapy; ostomy and catheter care; and equipment management (CPAP/BiPAP).²⁰

As a condition of payment for CSN services, a prior authorization (PA) must be obtained from the MassHealth agency or its designee before rendering services to a patient.²¹ PAs typically authorize care for a year, although the authorized duration of services can vary. Massachusetts defines care management as a function performed by the MassHealth agency, or by its designee, which assesses and reassesses the medical needs of complex-care patients and authorizes or coordinates community long term services and supports (LTSS) that are medically necessary for such patients to remain safely in the community.²² MassHealth has designated the University of Massachusetts Medical School Commonwealth Medicine Community Case Management (CCM) Program to manage the evaluation and authorization of CSN services, as well as other LTSS for patients receiving CSN. The CCM Program partnership between MassHealth and Commonwealth Medicine began in 2003 to coordinate care for medically complex children

¹³ 101 CMR 361.02 definition of Continuous Skilled Nursing Services.

¹⁴ MassHealth is promulgated a new provider regulation, as of January 1, 2022, at 130 CMR 438: Continuous Skilled Nursing Agency, which establishes CSN agency as a new provider type. This will allow the agency to enrollment criteria for agencies that specialize in providing CSN care, rather than basing it on existing standards for intermittent home health. <https://www.mass.gov/regulations/130-CMR-438000-continuous-skilled-nursing-agency>.

¹⁵ Pursuant to 101 CMR 361.02, a Publicly Aided Individual is “a person who received healthcare and services for which a governmental unit is in whole or part liable under a statutory program.”

¹⁶ A member is clinically eligible for MassHealth coverage of CSN services when all three of the following criteria are met: 1) there is a clearly identifiable, specific medical need for a nursing visit of more than two continuous hours; 2) the CSN services require the skills of a registered nurse or of a licensed practical nurse in accordance with 130 CMR 414.408(B); and 3) the CSN services are medically necessary to treat an illness or injury in accordance with 130 CMR 414.409(D).

¹⁷ 130 CMR 414.02 defines a Nurse as a person licensed as a registered nurse or a licensed practical nurse by a state's board of registration in nursing.

¹⁸ 130 CMR 414 states the requirements for nurses who contract with MassHealth as an independent nurse, 130 CMR 403 and 130 CMR 438 set forth similar requirements under the HHA and CSN Agency program regulations, respectively.

¹⁹ 130 CMR 438. Definition of Registered Nurse Supervisor.

²⁰ 130 CMR 438.415(C) Complex Care Assistant Delivery.

²² 130 CMR 403.402 <https://www.mass.gov/doc/130-cmr-403-home-health-agency/download>

and young adults through age 21.²³ The program expanded in 2013 to include adult patients receiving CSN services; since then, patients can stay in the program into and through adulthood or join the program as an adult.

Complex-care patients can be medically vulnerable, may have multiple and varied diagnoses, and may depend on various forms of technology to provide care related to both acute and chronic medical conditions.²⁴ For example, these technologies may assist with issues related to feeding, medication administration, and breathing. The pediatric complex-care patient population is growing as a result of medical improvements in care that have led to a substantial increase in the number of children surviving previously fatal conditions.²⁵ Children with medical complexities frequently have a congenital or acquired multisystem disease, a severe neurologic condition with marked functional impairment, and/or technology dependence for activities of daily living.²⁶ Children and youth with special needs require services to both address chronic health conditions as well as to maximize their development and wellness.²⁷

The CCM Program coordinates LTSS for patients in Massachusetts who receive CSN services through MassHealth fee for service programs. The CCM Program authorizes service based on specific needs of patients, including CSN and home/personal care support, along with physical, occupational, and speech therapy, medical and respiratory equipment, and supplies.²⁸ The CCM Program coordinates services with HHAs and CSN Agencies and independent nurses as appropriate to meet the individual CSN needs of complex-care patients.²⁹ CCM also coordinates with other LTSS service providers as needed to support the needs of CCM patients. These home- and community-based services allow many complex-care patients to avoid relying on equivalent care in an institutional setting.

In spring 2023, MassHealth launched an electronic directory to assist patients in identifying available CSN providers and transition its manual matching process into an electronic process. The electronic directory is available to CCM staff, CSN providers, and to patients and their families, connecting patients with available providers that match both the professional skills and time frames needed for service.

Figure 1 displays the primary diagnoses for all patients currently enrolled in the CCM program and receiving CSN services.

Figure 2 displays the top five diagnostic categories for adults and children receiving CSN services. These top diagnoses are present in 675 out of 913 (74%) of patients receiving CSN services.

²³ The CCM Program coordinates community long-term services and support for MassHealth members with complex medical needs and their caregivers. <https://www.umassmed.edu/news/news-archives/2013/10/community-case-management-celebrates-10-years/>

²⁴ The Role of Human Factors in Home Health Care: Workshop Summary. National Library of Medicine. Accessed 16 November 2023: <https://www.ncbi.nlm.nih.gov/books/NBK210047/>

²⁵ Collar R, Nelson B, Sklansky D, et.al. Preventing Hospitalizations in Children with Medical Complexity: A Systematic Review. *Pediatrics*. November 2014. Accessed November 27, 2023. <http://pediatrics.aappublications.org/content/early/2014/11/05/peds.2014-1956>.

²⁶ Cohen E, Kuo D, Agrawal R, et.al. Children With Medical Complexity: An Emerging Population for Clinical and Research Initiatives. *Pediatrics*. Mar 2011;127(3):529-538. Accessed November 24, 2023. <http://pediatrics.aappublications.org/content/127/3/529.short>.

²⁷ Access to Services for Children and Youth With Special Health Care Needs and Their Families: Concepts and Considerations for and Integrated System Redesign. <https://publications.aap.org/pediatrics/article/149/Supplement%207/e2021056150H/188217/Access-to-Services-for-Children-and-Youth-With>

²⁸ CCM Welcome Packet. Accessed November 13, 2023. <https://www.mass.gov/doc/ccm-member-packet/download>.

²⁹ 130 CMR 403.412 Complex-Care Members.

Figure 1. Primary Diagnosis for All Enrolled CCM Patients, N=913³⁰

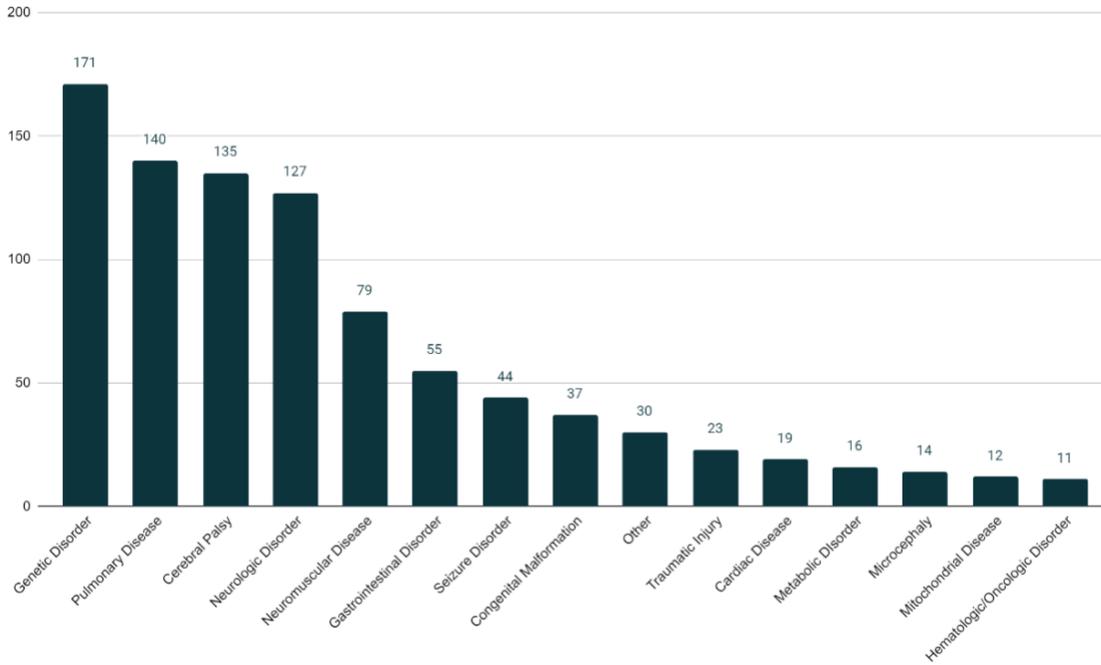
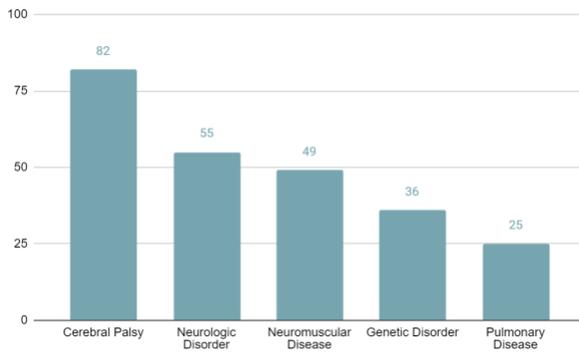
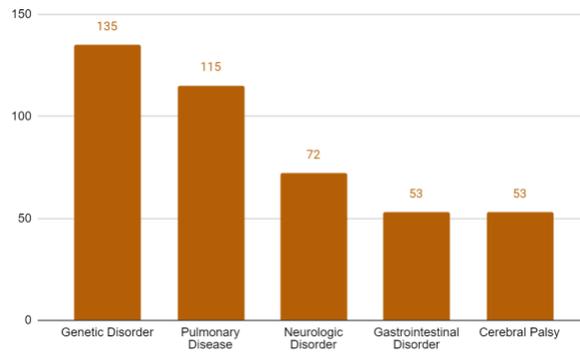


Figure 2. Top Five Primary Diagnoses for Currently Enrolled Adult and Pediatric CCM Patients

Top Diagnoses, Adult, N=247



Top Diagnoses, Pediatric, N=428



³⁰ Member distribution by diagnosis provided by MassHealth and the CCM Program, reported by MassHealth as a representative view of members enrolled in the CCM program as of November 2023. Note that "Other" also includes immunologic disorder, prematurity, and renal disorder.

2.3 Section 24 Requirements

This section provides the analyses specific to each of the eight questions delineated by the legislature for the biennial report of MassHealth CSN services. The report follows the sequence of questions set forth in the Section 24 requirements.

The data used to answer these questions come from several sources. First, BerryDunn used data reported by MassHealth, and independently analyzed MassHealth claims data.³¹ BerryDunn also collected data directly from the HHAs and CSN Agencies that employ nurses providing CSN services. The survey included the 26 agencies that MassHealth identified as currently contracted and having billed and received payment for CSN services in state fiscal year (SFY) 2023.³² Of this survey group, 16 agencies responded. These responding agencies represent the largest and most active agencies, accounting for approximately 95% of CSN service payments to agency providers in SFY 2023. Of the 831 patients receiving CSN services in SFY 2023, these responding HHAs and CSN Agencies provided services in aggregate to 736 unduplicated patients.³³

Number of Pediatric and Adult Patients Requiring CSN Care

This section reports the number of pediatric and adult patients requiring CSN services. Reported trends are based on data provided for CYs 2020, 2021, and 2022.

MassHealth requires prior authorization (PA) to pay claims for CSN services. CSN patients were identified for inclusion in the total count if they had CSN hours paid on a date that fell within any of the three reporting years.

This study defines pediatric patients as individuals under 21 years of age, and defines adult patients as 21 years of age or older.³⁴ A portion of these patients represent individuals who may qualify for institutional-level care.³⁵ The number of pediatric and adult patients who had authorized hours in each year is shown in

Figure 3. The total number of adult, pediatric, and total patients with a PA for CSN services declined in each of the three years observed, with 845 total patients in 2022. This decline in CSN PAs can be attributed to factors such as impacts caused by the COVID-19 PHE, disenrollments and patients accessing other services.³⁶

³¹ For purposes of this study, Procedure Codes – T1002, T1003 were used by MassHealth to identify members and determine authorized and used hours.

³² The Massachusetts State Fiscal Year represents the time period from July 1, 2022 – June 30, 2023.

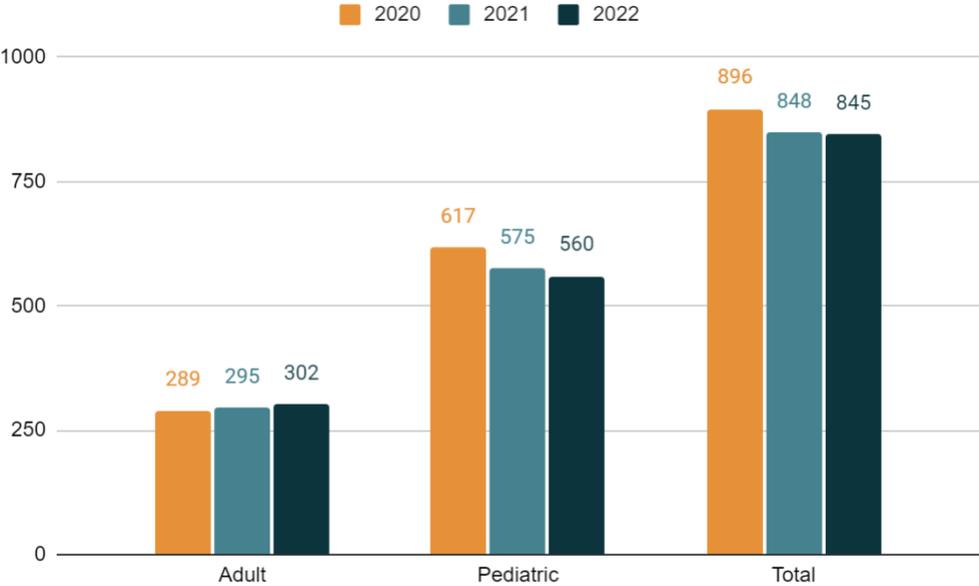
³³ A total of 831 unduplicated patients received CSN services in SFY23 with some patients being served by more than one provider, i.e., a patient may be served by some combination of an HHA, CSN Agency and independent nurse.

³⁴ Age is calculated as of the first day of the measurement period.

³⁵ 130 CMR 519.001 MassHealth Coverage Types.

³⁶ CCM reported reasons for decline in CSN PAs. MassHealth personal communication, December 8, 2023.

Figure 3. Number of Adult, Pediatric, and Total Patients with a PA for CSN³⁷



*Note that the total numbers are unduplicated.³⁸

**Average and Median Number of CSN Hours Authorized, and
Average and Median Number of CSN-Authorized Hours Actually Delivered**

This section reports estimates of the average and median number of CSN hours authorized by MassHealth per day, week, month, and year for pediatric and adult patients. The number of CSN hours delivered are measured within this report by the hours that MassHealth actually paid for CSN services.

A MassHealth CSN PA provides a total aggregate number of authorized hours over the authorized time period. CSN PA time periods vary and are between one day and two years. MassHealth does not prescribe how much or when authorized hours can be used in a given day, week, or month and CCM patients and families can choose when to use their authorized CSN services during a PA time period. This biennial report uses MassHealth’s total aggregate PA data to derive estimates of the average hours authorized per day, week, and month.

³⁷ Data Provided by MassHealth.

³⁸ The 2020 total number has been updated from the 2022 report to remove duplicates of individuals who aged out of the pediatric population into the adult population, resulting in their presence in both population groups.

MassHealth reports modifying the number of authorized hours within a PA time period in 77.8% of cases.³⁹ The MassHealth data system captures and reports the final and total number of hours authorized, therefore historical adjustments and modifications are not reportable. Since a PA can be effective on any calendar day, the data are grouped into three 12-month calendar years. From its data systems, MassHealth pulled authorized and delivered hours for all PAs with an effective date during the three CYs (2020, 2021, 2022), and prior to the start of CY2020. Because a PA can have an effective date any day of the year and may have long time spans, many PAs spanned more than one CY. BerryDunn allocated authorized hours across calendar periods that aligned authorized and delivered hours. Authorized and delivered hours were included in a reporting period based on the payment dates⁴⁰ for hours delivered.

To estimate authorized hours by day, week, and month, BerryDunn took the total authorized hours for the PA period and divided the hours into month, week, and day segments. However, as noted, the PAs total reported authorized hours represent the MassHealth final authorized amount, and PAs are often subject to modification during their authorization period. As well, note again that BerryDunn’s estimates do not represent the actual number of hours a patient was authorized for CSN services on any given day, week, or month during the PA period.

Table 1 and Table 2 present the total authorized hours, total paid hours, and estimated average and median authorized and paid hours per day, week, month, and year for adult and pediatric patients. Questions 2 and 3 delineated by the legislature for the biennial report of MassHealth CSN services ask for the average and median hours authorized and paid per CSN patient. Table 1 and Table 2 report these measures on a per-patient basis.⁴¹

Table 1. Adult Authorized and Paid Hours – Age ≥ 21 ^{42,43}

	2020		2021		2022	
	AUTHORIZED	PAID	AUTHORIZED	PAID	AUTHORIZED	PAID
Day – Average	9.05	6.14	8.93	5.95	8.75	5.70
Day – Median	8.53	5.18	8.39	4.91	8.09	4.76
Week – Average	63.38	42.98	62.52	41.68	61.28	39.91
Week – Median	59.74	36.27	58.70	34.34	56.60	33.35
Month – Average	275.57	186.88	271.85	181.23	266.46	173.52
Month – Median	259.75	157.71	255.24	149.30	246.08	145.01
Year – Average	1,544	1,025	1,552	1,002	1,553	973
Year – Median	1,125	621	1,029	573	1,008	516

³⁹ MassHealth personal communication. November 9, 2023.

⁴⁰ Tables 1 and 2 are summarized by payment date. Date of service was not provided.

⁴¹ Underlying data for Tables 2 and 3 provided by MassHealth.

⁴² The difference between authorized and delivered hours might be due to a number of reasons, including a modification of the total number of authorization hours within the authorization period. The MassHealth data system only captures the final modified hours. See Appendix B for staffing-related reasons.

⁴³ The averages per day, week, and month were derived by dividing the total hours by the authorized number of days, weeks, and months. The number of days falling within the authorized windows increased as the calculations were based on the effective date and the end date.

	2020		2021		2022	
	AUTHORIZED	PAID	AUTHORIZED	PAID	AUTHORIZED	PAID
Year – Total Hours	1,016,010	688,776	1,064,331	697,500	1,160,347	750,155

Table 2. Pediatric Authorized and Paid Hours – Age <21

	2020		2021		2022	
	AUTHORIZED	PAID	AUTHORIZED	PAID	AUTHORIZED	PAID
Day – Average	7.20	4.52	7.10	4.27	7.03	4.12
Day – Median	6.45	3.73	6.29	3.44	6.19	3.34
Week – Average	50.42	31.63	49.67	29.92	49.22	28.84
Week – Median	45.17	26.11	44.01	24.09	43.35	23.41
Month – Average	219.23	137.52	215.95	130.11	214.03	125.42
Month – Median	196.42	113.54	191.36	104.76	188.49	101.78
Year – Average	1,223	747	1,207	708	1,139	670
Year – Median	842	404	813	384	699	354
Year – Total Hours	1,738,480	1,079,651	1,639,831	984,446	1,581,695	950,730

Total CSN Hours Authorized and Delivered Per Month and Year, Adult and Pediatric

This section provides a summary of the total number of CSN service hours that were authorized and delivered per month and year for CYs 2020, 2021, and 2022. As noted previously, hours delivered are measured by the number of hours MassHealth reports as billed and paid. As well, hours authorized by day, week, and month are estimates derived from the total aggregate hours authorized during the PA period. Again, note that this report uses number of hours paid by MassHealth as a measure of hours delivered.

The figures below display the number of authorized and delivered hours daily, weekly, monthly, and yearly, per patient. These figures generally show a steady or slight downward trend in the average number of authorized and delivered hours for the both the adult and pediatric populations (Figure 5).

Table 3 and Figure 4 display the total number of authorized and paid nursing hours for the total CSN population, and for adults and children for 2020 through 2022. Children account for approximately 56% of total authorized and paid services.

Overall, 2022 shows a slight decline in the percent of authorized hours paid annually, with a total decline of 2.2% from 2020 to 2022. The decline was slightly higher for adults, from 67.8% to 64.6% than that for children, from 62.1% to 60.1% of authorized hours paid annually. Figure 4 displays the trend—total, adult, and pediatric—from 2020 through 2022.

Table 3. Total CSN Paid-to-Authorized Hours

TOTAL PATIENTS			
	TOTAL AUTHORIZED	TOTAL PAID	PERCENT PAID TO AUTHORIZED
2020	2,754,490	1,768,427	64.2%
2021	2,704,162	1,681,946	62.2%
2022	2,742,042	1,700,886	62.0%

ADULT PATIENTS			
	TOTAL AUTHORIZED	TOTAL PAID	PERCENT PAID TO AUTHORIZED
2020	1,016,010	688,776	67.8%
2021	1,064,331	697,500	65.5%
2022	1,160,347	750,155	64.6%

PEDIATRIC PATIENTS			
	TOTAL AUTHORIZED	TOTAL PAID	PERCENT PAID TO AUTHORIZED
2020	1,738,480	1,079,651	62.1%
2021	1,639,831	984,446	60.0%
2022	1,581,695	950,730	60.1%

Figure 4. Percent of Authorized Hours Paid, Annual, 2020 – 2022

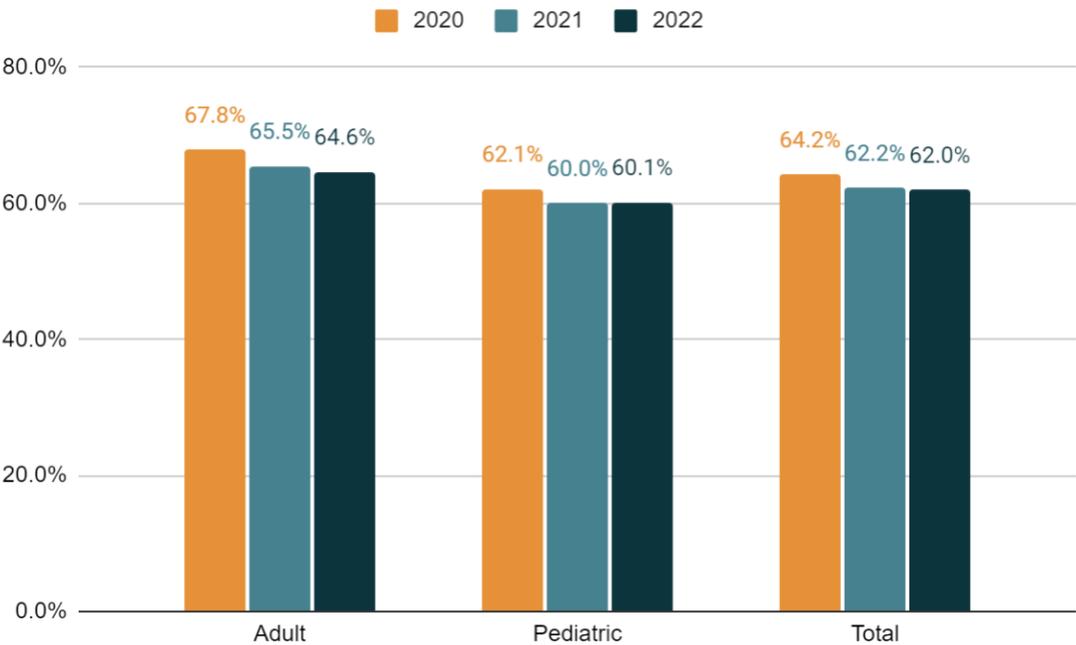
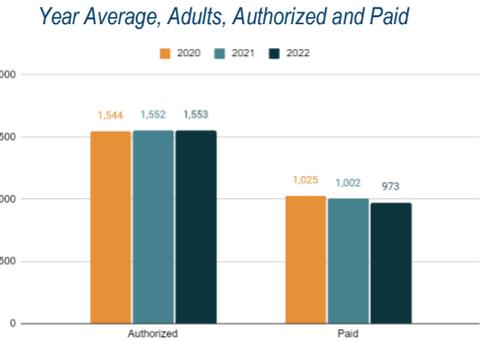
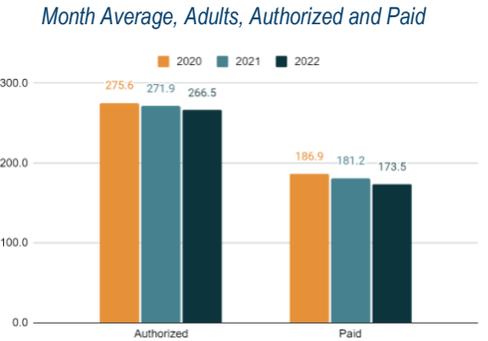
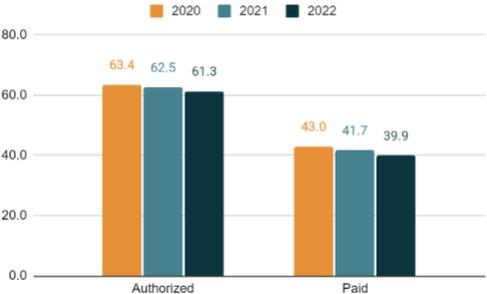
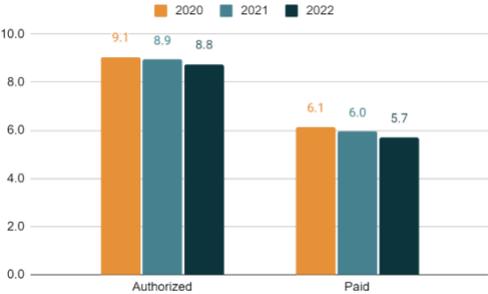


Figure 5 displays details about the average authorized and delivered hours, per patient, per day, week, month, and year, CY 2020 through CY 2022. *Day Average, Adults, Authorized and Paid* *Week Average, Adults, Authorized and Paid*



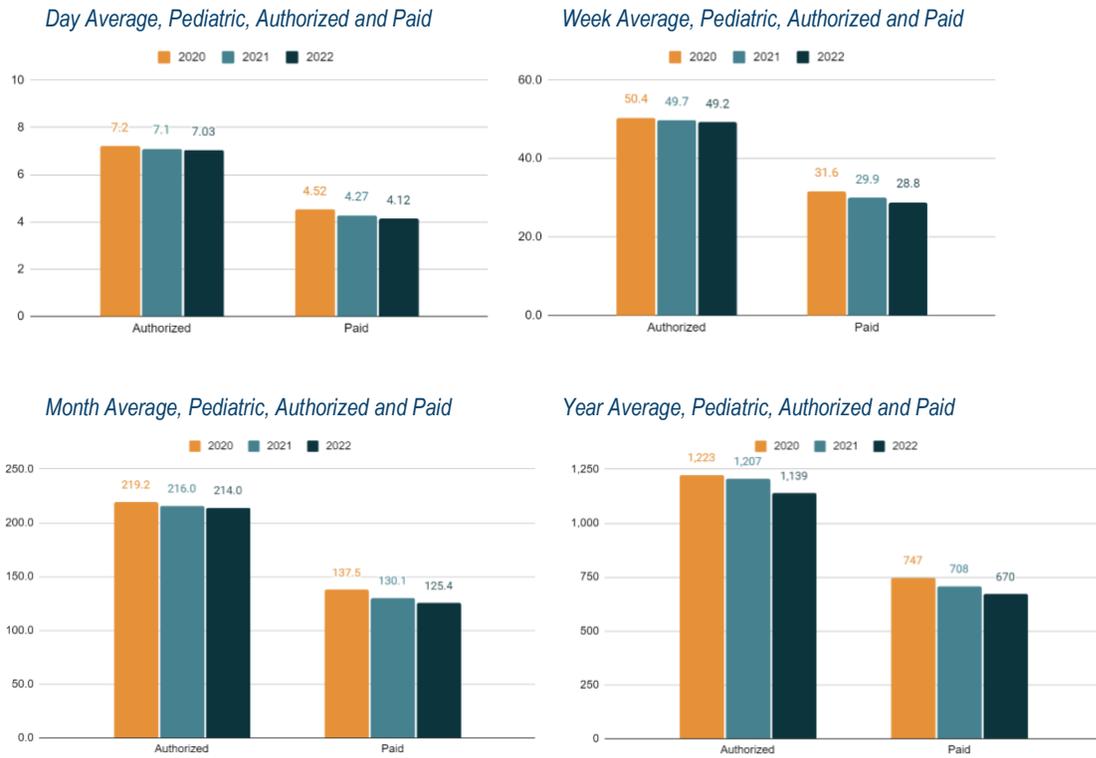


Figure 6 displays the trend at a monthly level for total, adult, and pediatric hours authorized and paid. In 2022, the percentage of hours delivered (paid) showed a modest decline. Overall, the percentage of authorized hours has remained relatively stable from 2020 to 2022 most likely due to the continued impacts of COVID as well as nursing workforce shortages.

Figure 5. Average Authorized and Paid Hours, Per Patient, Per Day, Week, Month, and Year, 2020 – 2022

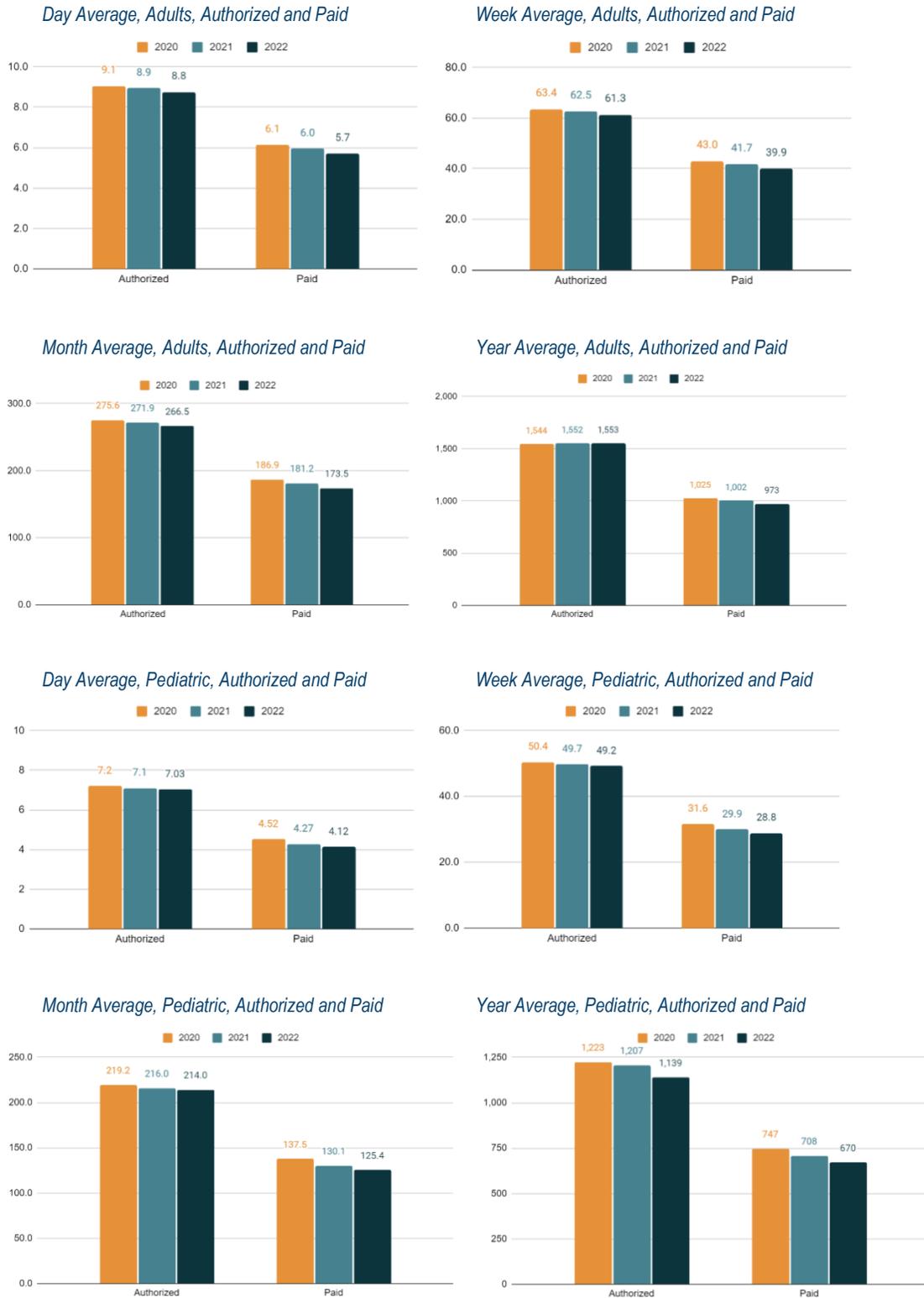
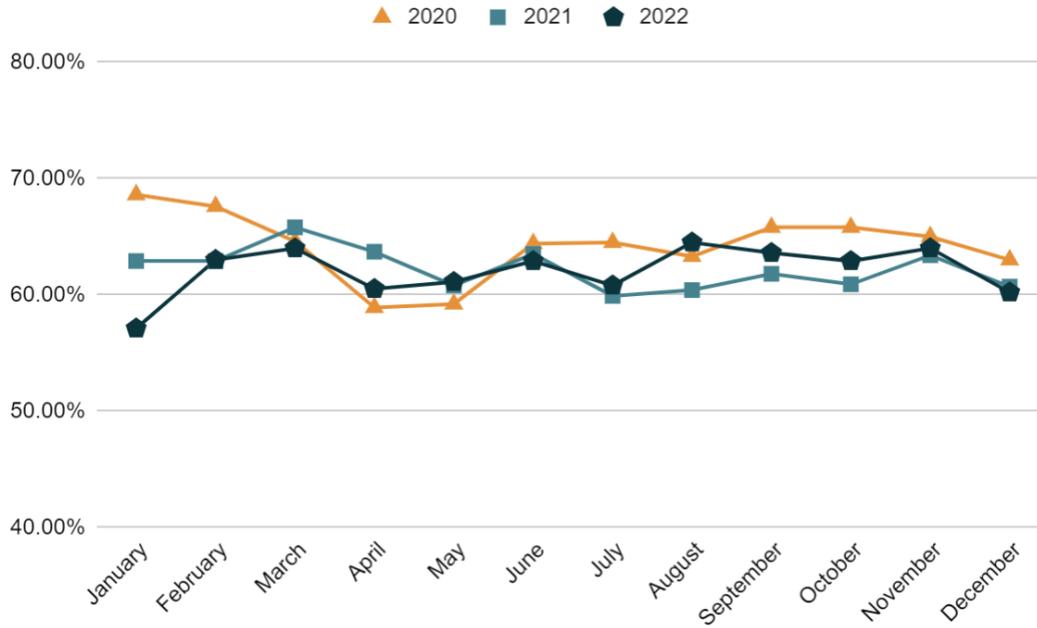
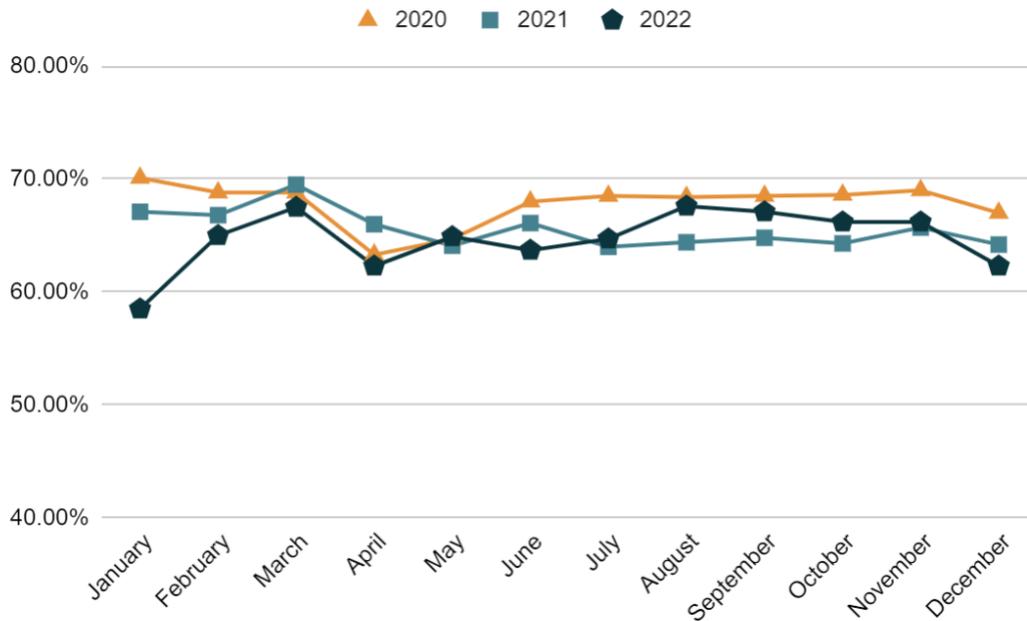


Figure 6. Percent of Authorized Hours Paid, Monthly – Total, Adult, and Pediatric

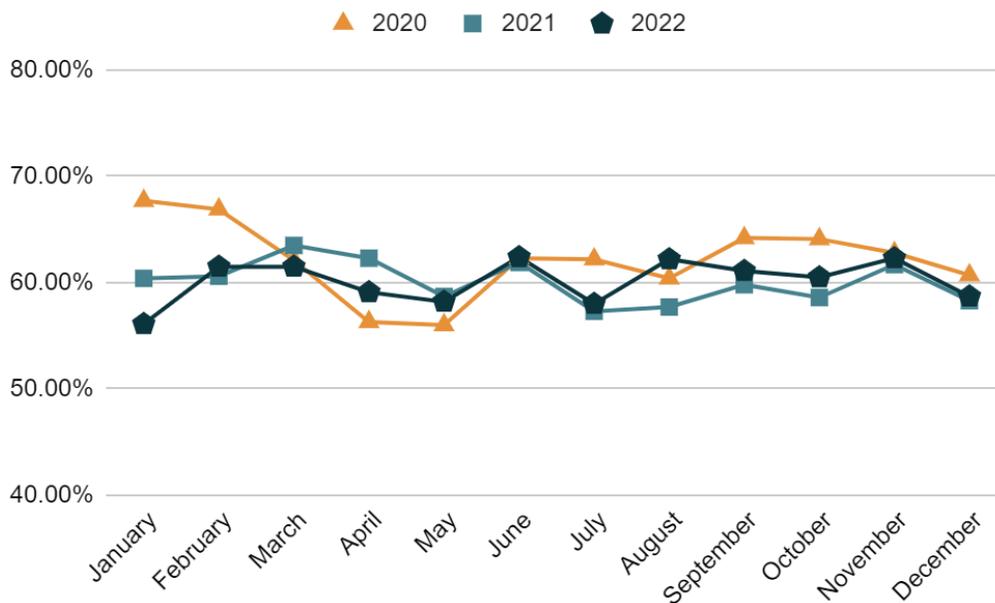
Percent of Authorized Hours Paid, Monthly, CSN Services



Percent of Authorized Hours Paid, Monthly, Adults



Percent of Authorized Hours Paid, Monthly, Pediatric



Unfilled Authorized Hours

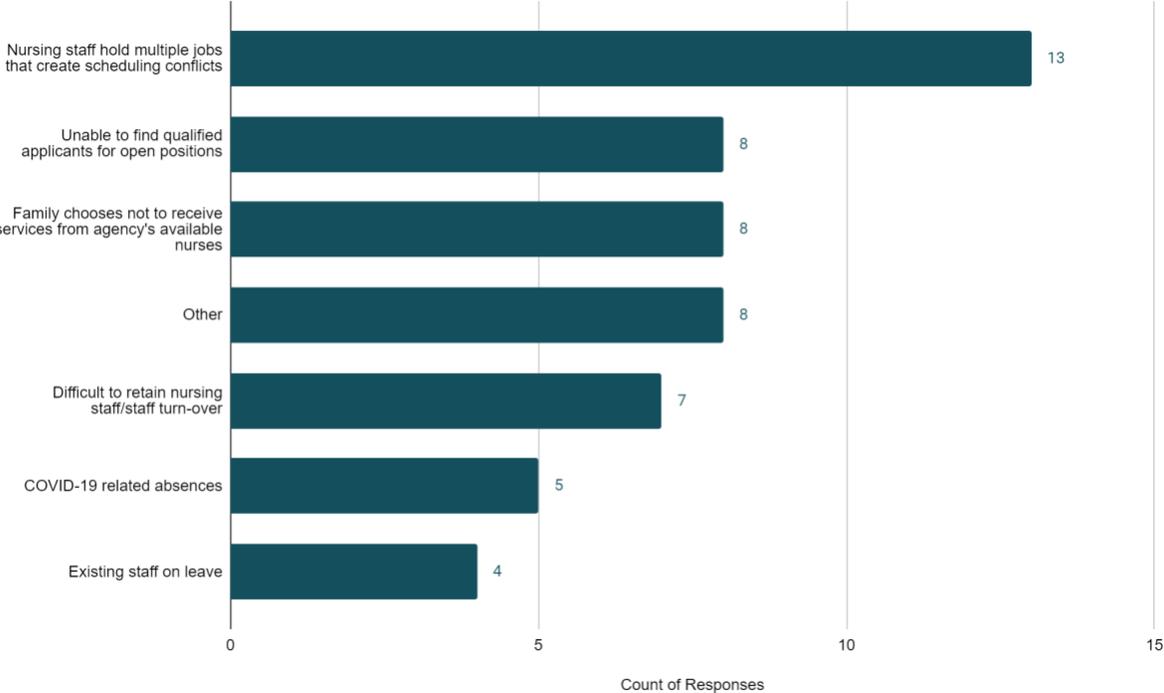
The number of CSN services authorized per patient and the proportion of authorized services delivered per patient can vary widely across the population. The authorized hours not delivered are referred to as “unfilled hours.” Several factors contribute to this gap in delivered services, including difficulty recruiting and retaining qualified nurses, shortage of nurses in the patient’s geographic area who meet their individual medical and personal needs, the nurse becoming unavailable due to unexpected illness or scheduling conflicts, or larger nursing workforce shortages. Authorized CSN hours might not be used because a patient or their family prefers to use their CSN hours in other ways that best meet their individual needs. For example, patients may decline CSN services from specific providers due to previous histories with the provider, or patients may choose to flex their hours from week-to-week or month-to-month. Specifically for CYs 2020, 2021, and 2022 MassHealth reports that patients did forego CSN services to limit the number of caregivers in their home to reduce the risk of exposure to illnesses such as COVID-19 and the flu. Patients may also choose to have services offered by a personal care attendant (PCA)⁴⁴ in lieu of CSN services. MassHealth identified a more complete list of potential reasons, included in Appendix C.

The provision of CSN services requires identifying a nurse who can care for the unique and complex needs of a patient needing CSN services. A nurse must match the skill set required to treat a patient and match the schedule of the patient’s specific needs. The patient/family must then agree to the nurse assigned to provide the care. If the patient chooses to decline services from the nurse identified, the CCM Program will offer to work with the patient to find another nurse who will be a better match for as long as the patient wishes.

⁴⁴ 130 CMR 420.402 Defines a Personal Care Attendant Services as “physical assistance with ADLs and IADLs provided by a PCA.”

The BerryDunn survey of HHAs and CSN Agencies asked about staffing levels and challenges. Nine of the 16 responding agencies that had been paid for services in SFY 2023 reported that they could not fill hours requested by patients and authorized by MassHealth. These agencies report that they were able to fill, on average, 79.1% of authorized hours, with responses ranging from 45% to 100%. Figure 7 lists the frequency that responding HHAs and CSN Agencies note impediments to filling authorized CSN hours.

Figure 7. Reported Reasons That Impede the Ability to Meet Need/Demand for CSN Services



Some comments from survey respondents cited low nursing pay rates. One respondent noted that the physical demands are too intense for some nurses, and another noted that it is often difficult to match a nurse with a family/patient.

Of the responding HHAs and CSN Agencies, the majority (14 out of 16) reported that they are able to perform an initial (RN-provided) evaluation request. One of the responding agencies reported that intake visits are only conducted if the HHA has nurses available to provide care. As reported by MassHealth, HHAs and CSN Agencies may intake a patient when there is no identified nurse upon intake, but the agency agrees to recruit a nurse to provide CSN services.

Number of Nurses Caring for More Than One Patient

This section presents data on the number of nurses caring for more than one patient at a time and, for the patients cared for by those nurses, the aggregate proportion of CSN hours authorized and delivered (paid).

CSN services may be provided to multiple patients at a time. As set forth in 101 CMR 361.04, the multiple-patient nursing reimbursement rate is established in two tiers: reimbursement for two publicly aided individuals and rates for reimbursement for three or more publicly aided individuals.

Table 4 displays the MassHealth-reported information about independent nurses providing services to more than one patient at a time. MassHealth claims data shows that during CY2022, 17 of the 374 independent nurses who billed MassHealth for CSN services provided care to multiple patients at a time.⁴⁵ This amounts to approximately 4.5% of the total number of contracted independent nurses reported by MassHealth.

Table 4 also reports that, for multi-patient cases performed by independent nurses, 86% of authorized services were delivered (paid) in 2022. This far exceeds the overall paid-to-authorized percentage for CSN services, reported at 62% in 2022 (reported in

⁴⁵ MassHealth reports a total of 374 independent nurses billed for the provision of CSN services in FY 2023. MassHealth personal communication, October 4, 2023.

Table 3, above).

**Table 4. Number of Independent Nurses Providing CSN Care to More Than One Patient
Aggregate Proportion of Paid Hours to Authorized Hours**

TIME PERIOD	NUMBER OF INDEPENDENT NURSES	TOTAL AUTHORIZED HOURS	TOTAL PAID HOURS	RATIO OF PAID HOURS TO AUTHORIZED HOURS
2020	13	28,137	26,164	93%
2021	14	35,904	29,178	81%
2022	17	37,321	31,916	86%

MassHealth does not have comparable data about the number of multi-patient cases HHA- and CSN Agency-employed nurses serve. BerryDunn attained this data through its survey of HHAs and CSN Agencies that contract with MassHealth to provide CSN services. BerryDunn asked the HHAs and CSN Agencies how many of their nurses provided CSN services to more than one patient. Ten of sixteen HHAs and CSN Agencies responded that their agency nurses do provide care to more than one patient at a time.

Table 5 displays the level of staffing reported by the HHAs and CSN Agencies, including the number of nurses caring for multi-patient cases. BerryDunn used the reported data to also calculate the ratio of agency RNs and LPNs per patient served.

In aggregate, approximately 7.6% of HHA and CSN Agency nurses provide care to more than one patient at a time. This percentage is slightly higher than the 4.6% of independent nurses contracting directly with MassHealth who care for more than one patient at a time. Based on the information provided by MassHealth and the survey responses, most patients receive CSN services individually with a nurse.

Table 5. HHA and CSN Agency Reported Staffing and Total Caring for More than One Patient

	RN	LPN	TOTAL
Total Nurses	917	525	1,442
Total (%) Caring for More Than One Patient	52 (5.7%)	58 (11.1%)	110 (7.6%)

Total Number of Nurses Providing CSN Services

This section reports the number of independent nurses who contract with MassHealth to provide CSN services, the number of nurses who provide CSN services through an HHA and CSN Agency that contracts with MassHealth, and whether the total number of nurses providing such care is sufficient to fill all authorized CSN hours.

MassHealth reports that 374 independent nurses billed MassHealth for the provision of CSN services in SFY 2023.⁴⁶ Independent nurses provided care to 313 of MassHealth’s 831⁴⁷ unduplicated patients in SFY 2023 and received a total of \$25,896,498 in MassHealth payments for services delivered. This represents 22% of the \$118.6 million paid by MassHealth for CSN services in that year.

Most CSN services are provided through HHAs and CSN Agencies that bill MassHealth for these services—accounting for nearly \$93 million (78%) of CSN services provided in SFY 2023. MassHealth provided a list of agencies that have billed and received payment for CSN services in SFY 2023. These 28 HHAs and CSN Agencies served 736 of MassHealth’s 831 unduplicated CSN patients in SFY 2023. The 26 currently contracted agencies that MassHealth actually paid for CSN services in SFY 2023 received surveys from BerryDunn, and 16 of these agencies responded. The responding agencies represent MassHealth CSN providers delivering approximately 95% of CSN agency services paid for by MassHealth in SFY 2023.⁴⁸

Surveyed HHAs and CSN Agencies were asked to report both the number of nurses they directly employ and also the number of nurses they engage under contract. No agencies reported that they engage nurses under contract. Table 5, above, provides detail about the total number of RNs and LPNs employed to provide CSN services through HHAs that responded to the survey.

The responding HHAs and CSN Agencies report employing 917 RNs and 525 LPNs, totaling 1,442 nurses providing CSN services.⁴⁹ These 1,442 nurses provided care to 916 CSN patients in the most recent month as reported by the agencies.⁵⁰

Nine of 16 HHAs and CSN Agencies that responded to the BerryDunn survey report they do not have adequate staffing to meet the hours for CSN services as requested by patients and authorized by MassHealth. When asked for the approximate percentage of authorized CSN hours their agencies can fill, the respondents’ answers ranged from 45% to 100%—averaging 79.1% among responding agencies.

A complete analysis of the workforce need, demand, and gaps would require measurement of 1) the specific number of actual CSN hours available (daily, weekly, monthly, yearly) from all employed HHA and CSN Agency nurses (full time and part time), 2) the specific number of actual nursing hours available (daily, weekly, monthly, yearly) by all independent nurses providing CSN services, and a comparison of that supply figure with the total number of MassHealth-authorized hours.

The survey conducted by BerryDunn of HHAs and CSN Agencies provides a partial view of the number of nurses employed by HHAs and CSN Agencies and should be understood as an estimated headcount. However, it does not

⁴⁶ MassHealth personal communication, October 23, 2023.

⁴⁷ A total of 831 unduplicated patients received CSN services in SFY23 with some patients being served by more than one provider, i.e., a patient may be served by some combination of an HHA, CSN Agency and independent nurse.

⁴⁸ Calculated as the percentage of total cost of CSN services. 831 unduplicated patients received CSN services with some patients being served by more than one provider, i.e., a patient may be served by some combination of an HHA, CSN Agency and independent nurse.

⁴⁹ Nurse staffing levels of individual agencies within the MassHealth CSN HHA provider network vary, ranging from 461 -- 273 RNs and 188 LPNs -- nurses to as few as one employed nurse providing CSN services.

⁵⁰ The number of CSN patients included in the section of the report is based on survey responses and a November 2023 update from CCM. As a result, there is a slight discrepancy in the numbers, 916 versus 910, and this is most likely due to the point in time that the data was queried.

yield needed specificity about the actual available CSN hours from this workforce. The attainment of a valid measure of the specific number of CSN hours available from all HHA- CSN Agency-employed nurses—requires a more detailed modeling exercise that falls outside the scope of this study. Instead, this report relies on reports by the agencies about the degree to which they are able to fully use their existing workforce.

Nurse Educational and Experience Requirements

Section 24 requires a description of the training, experience, and education levels of the nurses who provide CSN care.⁵¹

Requirements for Independent Nurses

Independent nurses who contract directly with MassHealth to provide CSN services must comply with MassHealth regulations including, but not limited to, 130 CMR 414.000 and 450.000.⁵² In order to participate as a MassHealth independent nurse provider, a nurse must:

- Be licensed and in good standing as a nurse by the board of registration for the state in which the nursing services are provided
- Meet all provider eligibility requirements set forth in 130 CMR 450.212⁵³
- Sign a MassHealth provider contract and receive a MassHealth provider number
- Notify MassHealth in writing within 14 days of any change in any information submitted in the provider application in accordance with 130 CMR 450.232(B)

In addition, MassHealth conducts criminal offender record information (CORI) and sexual offender registry information (SORI) checks on independent nurses upon enrollment, revalidation of their contract with MassHealth every 5 years, and annually independent nurses must agree to and have a CORI check conducted in order to remain a MassHealth provider. MassHealth performs SORI checks automatically. Nurses with incidents marked on a SORI or CORI will have their MassHealth contract subject to termination depending on the type and severity of offense.

Pursuant to 130 CMR 414.402 and 130 CMR 438.402, CSN services may be provided by a nurse who is licensed by the state's board of registration in nursing. MassHealth regulations require independent nurses to be licensed RNs or LPNs. MassHealth reports that some independent nurses also hold an advanced practice nursing license. To be licensed as an RN or LPN in Massachusetts, the Board of Registration in Nursing requires licensure applicants to provide proof that they: 1) graduated from a board-approved nursing program; 2) are of good moral character, as

⁵¹ Children and adults receiving CSN care have complex medical conditions and often require medical equipment (e.g., ventilators), technology (e.g., various monitors), and therapy services, in addition to nursing care.

⁵² 130 CMR 450.232(B) states that each MassHealth provider must notify the MassHealth agency in writing within 14 days of any change in any of the information submitted in the application. Failure to do so constitutes a breach of the provider contract. In no event may a group practice file a claim for services provided by an individual practitioner until the individual practitioner is enrolled and approved by the MassHealth agency as a member of the group. At its discretion, the MassHealth agency may require a provider to recertify, at reasonable intervals, the continued accuracy and completeness of the information contained in the provider's application. Failure to complete such recertification upon request by the MassHealth agency may result in termination of the provider contract.

⁵³ 130 CMR 403.405 and 403.406 state the HHA provider eligibility requirements in state and out of state. An HHA providing CSN care in Massachusetts must be a certified provider of home health services under the Medicare program by the Massachusetts Department of Public Health.

defined by state law; and 3) have passed the National Council Licensure Examination (NCLEX).⁵⁴ For a licensed RN or LPN to remain in good standing with the board in registration in nursing, a nurse must comply with the Standards of Conduct for Nurses set forth in 244 CMR 9.00 and any other laws and regulations related to nursing.⁵⁵

Requirements for Nurses Employed by HHAs and CSN Agencies

HHAs and CSN Agencies may provide CSN services if they meet the requirements set forth in 130 CMR 403.000, 438.000, and 450.000.⁵⁶ Nurses employed by HHAs and CSN Agencies to provide CSN services must also be licensed as a RN or LPN, and thus must comply with the Board of Registration in Nursing requirements for licensure as discussed above.

The BerryDunn survey of HHAs and CSN Agencies asked about the training, experience, and education requirements for nurses employed to provide CSN services. All of the responding HHAs and CSN Agencies confirmed adhering to MassHealth employment requirements for nurses providing CSN, and half of the responding agencies noted requiring additional education, skills, work experience, or training. The additional requirements reported by respondents vary, including the following:

- Annual skill competency test;
- Tracheostomy, ventilator, and IV supplemental education;
- In-service trainings related to, but not limited to, the following: tuberculosis, skin conditions, blood borne pathogens, elder abuse and neglect, universal precautions, and Cardiopulmonary Resuscitation (CPR) certification;
- For recently graduated nurses—training program, shadowing, and skills specific training for pediatrics; and
- Emergency preparedness simulation.

One respondent noted “Any nurse who wants to level up to more complex patients must complete a competency [evaluation] and shadowing before they are cleared to level up.”

Reimbursement Rates

This section presents findings on reimbursement rates for independent nurses delivering CSN services as established in 101 CMR 361.04(2).⁵⁷ As required by Section 24, BerryDunn compared these rates:

- a) To the wages paid directly to nurses providing CSN care through HHAs and CSN Agencies that contract with MassHealth, and
- b) With the median wage rate paid to all nurses in Massachusetts.

⁵⁴ Massachusetts Board of Registration in Nursing. Accessed November 20, 2023. <https://www.mass.gov/how-to/apply-for-a-nursing-license-by-exam>.

⁵⁵ 244 CMR 9.03 Standards of Conduct for Nurses. Accessed December 12, 2023. <https://www.mass.gov/doc/244-cmr-9-standards-of-conduct-for-nurses/download>.

⁵⁶ 130 CMR 414.000 states the requirements for the payment of nursing services, and 130 CMR 450.000 sets forth the Administrative and Billing regulations for the Division of Medical Assistance; 130 CMR 450.212 sets forth the Provider Eligibility Criteria to be eligible to participate in MassHealth as any provider type.

⁵⁷ 101 CMR 350.04 establishes rates for payment for home health services. 101 CMR 361.04 sets forth the rates of payment for CSN Services in the Home. For the purposes of this report, the rate comparisons are to those set forth in 101 CMR 361.04.

This evaluation has two purposes:

- 1) To determine the adequacy of reimbursement rates offered by MassHealth to contracted nurses, and
- 2) To understand how the supply of nurses for CSN care might be affected by differences in pay rates across three groups – Independent Nurses providing CSN care, HHA- and CSN Agency-employed nurses providing CSN care, and Massachusetts nurses working in other health care sectors.

The Massachusetts' Executive Office of Health and Human Services, in 101 CMR 361.04, establishes the reimbursement rates paid to independent RNs and LPNs who contract directly with MassHealth.⁵⁸ BerryDunn converted these rates from 15-minute units to hourly rates to compare them to HHA and CSN Agency employee wages. Several other factors require consideration when assessing the relative wages among various nursing categories:

- Wage rates paid by HHAs and CSN Agencies to nurses providing CSN care are not publicly reported.
- Data from the federal BLS include a time lag and lack wage information specific to independent nurses.
- Provider rates paid to independent nurses will differ from wages paid to HHA- CSN Agency-employed nurses because the two provider rates MassHealth pays independent nurses and agency providers do not treat fringe benefits and other applicable overhead costs similarly.
 - Independent nurses are paid all-inclusive rates that build in the total cost of self-employment, including employer share of payroll taxes, health insurance, retirement contributions, and other fringe benefits, paid vacation or sick leave days, and overhead (office functions).
 - In the case of HHA- and CSN Agency employed nurses, the employing agency pays for the items that, for an independent nurse, are self-employment costs. Additionally, the employing agency has other agency specific employer costs, including but not limited to payroll taxes and supporting administrative staff. HHA and CSN Agency employed nurses receive an hourly wage that does not include the overall hourly costs of employment incurred by their agency employer, including employer-funded benefits.
 - For this reason, the hourly rate for independent nurses (self-employed) would generally be higher than wages paid for HHA or CSN Agency nurse employees.

The use of adjustment factors allows better comparison between the rates paid to contracted independent nurses and the wages paid to HHA and CSN Agency employed nurses. BerryDunn applies an adjustment factor of 0.77 to independent nurse rates, to separate the actual wage component from independent nurse self-employment expenses.^{59,60}

⁵⁸ Massachusetts Executive Office of Health and Human Services. 101 CMR 361.00: Rates for Continuous Skilled Nursing Services. 07/01/2023. Accessed November 15, 2023. <https://www.mass.gov/regulations/101-CMR-36100-rates-for-continuous-skilled-nursing-services>.

⁵⁹ The 1.3 inflation factor from wages to service fees translates to a 0.77 factor to deflate fees to effective hourly wage/salary values. Accessed November 15, 2023: <https://www.salary.com/articles/pay-yourself-right-when-being-your-own-boss/>.

⁶⁰ How to Pay an Independent Contractor in 2023. Accessed November 15, 2023: <https://www.forbes.com/advisor/business/how-pay-independent-contractor/#:~:text=Remember%20that%20independent%20contracts%20will%20pay%20taxes%20out,would%20pay%20an%20employee%20who%20also%20gets%20benefits.>

BerryDunn obtained data about wage rates for RNs and LPNs employed by HHAs and CSN Agencies through surveying those agencies. Surveys were sent to 26 HHAs and CSN Agencies that MassHealth identified as receiving payment for CSN services in SFY 2023, with 16 of these agencies responding. The responding MassHealth CSN provider agencies account for approximately 95% of all MassHealth-paid CSN agency services in SFY 2023. These responding HHAs and CSN Agencies served 736 patients of the 831⁶¹ MassHealth patients receiving CSN services in SFY 2023. This indicates a strong response by the most active MassHealth CSN provider agencies. Therefore, the data received from the survey’s respondents provide a robust measure for the questions of interest.

Alongside the survey data, BerryDunn reviewed 2022 data from the BLS, which reports average hourly wages paid to all RNs and LPNs in Massachusetts.⁶² These hourly wages are averages and medians, and do not include the dollar value of employer-paid benefits or account for factors such as overtime pay or bonus rates for working with multiple patients simultaneously. The BLS reports wage data within specific occupation sectors; BerryDunn used data from RNs and LPNs within the “Home Health Care Services” and compared to other similar healthcare service sectors.

Overall, the analysis of reimbursement rates for CSN services relies on three data sources: 1) Independent nurse reimbursement rates; 2) Wage information in the HHA/CSN Agency survey data, and 3) BLS wage data for all Massachusetts RNs and LPNs. Note again: In order to make the independent nurse reimbursement data comparable to the two sources of wage data, BerryDunn adjusted for the costs of self-employment, applying a factor of 0.77 to the reported rates.

Table and Table present the hourly wages for RNs and LPNs. Wages are broken out separately by the number of patients treated at the same time (in most cases, one patient only) and the shift during which services are provided. MassHealth reimburses CSN services provided on the weekend at the same rate for CSN services provided at night. Table and Table together allow comparison of the average hourly wages of nurses employed by HHAs and CSN Agencies to rates for independent nurses who contract directly with MassHealth to provide CSN services. The MassHealth-established CSN rates were set on July 1, 2023, through regulation and the HHAs and CSN Agencies responding to the BerryDunn survey reflect wages as of November 2023.

Table 6. BLS Hourly Average Wage and Range Data for Nurses in Home Health Care, Massachusetts, 2022⁶³

	AVERAGE	10 TH PERCENTILE	50 TH PERCENTILE (MEDIAN)	90 TH PERCENTILE
RN Hourly	\$41.59	\$28.88	\$39.17	\$50.56
LPN Hourly	\$31.64	\$28.79	\$30.91	\$36.93

⁶¹ A total of 831 unduplicated patients received CSN services in SFY23 with some patients being served by more than one provider, i.e., a patient may be served by some combination of an HHA, CSN Agency, and Independent Nurse.

⁶² U.S. Bureau of Labor Statistics. Occupational Employment and Wage Statics (OEWS). OEWS Research Estimates by State and Industry. May 2022. U.S. Bureau of Labor Statistics. Accessed November 15, 2023. https://www.bls.gov/oes/special.requests/oes_research_2022_sec_62.xlsx.

⁶³ *Ibid.*

Table 7. MassHealth Provider Hourly Wages for RNs and LPNs, by Number of Patients and Shift⁶⁴

Single Patient Rates – Hourly

CODE	DESCRIPTION	INDEPENDENT NURSE RATES, JULY 2023	EMPLOYED CONVERSION FACTOR 0.77	RANGE FOR HHA AND CSN AGENCY NURSES EMPLOYED BY REPORTING AGENCIES, NOVEMBER 2023
T1002	RN Services, Weekday	\$58.60	\$45.12	\$40.00 - \$65.00
T1002-UJ	RN Services, Nights	\$62.64	\$48.23	\$40.00 - \$75.00
T1002	RN Services, Holidays	\$83.96	\$64.65	\$54.60 - \$90.00
T1003	LPN Services, Weekday	\$48.80	\$37.58	\$30.00 - \$47.00
T1003-UJ	LPN Services, Nights	\$52.28	\$40.26	\$30.00 - \$55.00
T1003	LPN Services, Holidays	\$70.32	\$54.15	\$44.20 - \$70.00

Multiple-Patient Nursing, Two Publicly Aided Individuals – Hourly

CODE	DESCRIPTION	INDEPENDENT NURSE RATES, JULY 2023	EMPLOYED CONVERSION FACTOR 0.77	RANGE FOR HHA AND CSN AGENCY NURSES EMPLOYED BY REPORTING AGENCIES, NOVEMBER 2023
T1002-TT	RN Services, Weekday	\$84.72	\$65.23	\$47.00 - \$60.00
T1002-UJ	RN Services, Nights	\$90.88	\$69.98	\$56.50 - \$64.00
T1002-TT	RN Services, Holidays	\$122.72	\$94.49	\$76.50 - \$96.00
T1003-TT	LPN Services, Weekday	\$70.84	\$54.55	\$43.00 - \$51.00
T1003-U1	LPN Services, Nights	\$76.00	\$58.52	\$45.00 - \$54.82
T1003-TT	LPN Services, Holidays	\$103.00	\$79.31	\$62.75 - \$81.00

Overtime Rates – Hourly

CODE	DESCRIPTION	INDEPENDENT NURSE RATES, JULY 2023	EMPLOYED CONVERSION FACTOR 0.77	RANGE FOR HHA AND CSN AGENCY NURSES EMPLOYED BY REPORTING AGENCIES, NOVEMBER 2023 ⁶⁵
T1002-TU	RN Services, Weekday	\$83.96	\$64.65	\$63.00 - \$79.50
T1002-U4	RN Services, Nights	\$90.08	\$69.36	\$63.00 - \$82.50
T1002-TU	RN Services, Holidays	\$121.96	\$93.91	\$64.50 - \$117.00

⁶⁴ The MassHealth-authorized rates were set in a July 1, 2023, 101 CMR 361.04, and the rates reported by HHAs responding to the BerryDunn survey reflect current rates.

⁶⁵ Data obtained from survey responses and reflect CSN services proved to a single patient.

CODE	DESCRIPTION	INDEPENDENT NURSE RATES, JULY 2023	EMPLOYED CONVERSION FACTOR 0.77	RANGE FOR HHA AND CSN AGENCY NURSES EMPLOYED BY REPORTING AGENCIES, NOVEMBER 2023 ⁶⁵
T1003-TU	LPN Services, Weekday	\$70.32	\$54.15	\$51.00 - \$63.00
T1003-U4	LPN Services, Nights	\$75.48	\$58.12	\$54.00 - \$63.00
T1003-TU	LPN Services, Holidays	\$102.40	\$78.85	\$52.59 - \$94.00

The independent nurse rates established in July 2023 (once adjusted for self-employment costs) generally fall within the mid- to high- range of the wages reported by HHAs and CSN Agencies for single patients and are closer to the high range for multiple-patient nursing.

Within Massachusetts, RNs and LPNs have options about practice settings for their work. Table displays the average and median hourly wages for RNs and LPNs in Massachusetts for a range of practice settings that compete for the hiring of nurses. Median hourly wages in 2022 for Massachusetts nurses employed by a home health care agency were \$39.17 for RNs and \$30.91 for LPNs. These hourly wages are inclusive of all nursing services provided by a home care agency and are not solely reflective of CSN nurse wages. Home health care wages falls below the wages available from hospital employment but are comparable to the median hourly wage for nurses in other non-hospital-based nursing practice settings within Massachusetts.

Table 8. Average and Median Hourly Wage, Nurses, Massachusetts Practice Settings, 2022⁶⁶

	RN		LPN	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Home Health Care Services	\$41.59	\$39.17	\$31.64	\$30.91
Hospitals	\$53.49	\$50.80	\$34.11	\$32.50
General Medical and Surgical Hospitals	\$53.45	\$50.80	\$33.92	\$32.46
Ambulatory Health Care Services	\$44.33	\$40.02	\$31.18	\$30.81
Nursing and Residential Care Facilities	\$37.89	\$37.33	\$32.22	\$31.43
Nursing Care Facilities (Skilled Nursing Facilities)	\$39.55	\$38.23	\$32.48	\$31.47
Continuing Care Retirement and Assisted Living Facilities	\$32.48	\$31.48	\$32.40	\$32.11

Nurses may also choose to practice in nearby states. Table 9 displays the average and median hourly wages for RNs and LPNs providing Home Health Care Services. For Home Health Care Services, Massachusetts exceeds all the neighboring states for LPN hourly wages and all neighboring states except for Connecticut for RN hourly wages. As noted above, hourly wages are inclusive of all nursing services provided by a home care agency and are not solely reflective of CSN nurse wages.

⁶⁶ Op. cit. U.S. Bureau of Labor Statistics. Occupational Employment and Wage Statistics. OEWS Research Estimates by State and Industry.

Table 9. BLS Hourly Wage Data for Home Health Care Nurses, Massachusetts Compared to Neighboring States, 2022⁶⁷

	RN		LPN	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Massachusetts	\$41.59	\$39.17	\$31.64	\$30.91
Connecticut	\$44.00	\$40.84	\$30.63	\$30.60
New Hampshire	\$37.35	\$36.94	\$29.26	\$28.93
Rhode Island	\$41.12	\$37.59	NA	NA
Vermont	\$36.16	\$36.80	\$27.29	\$25.69

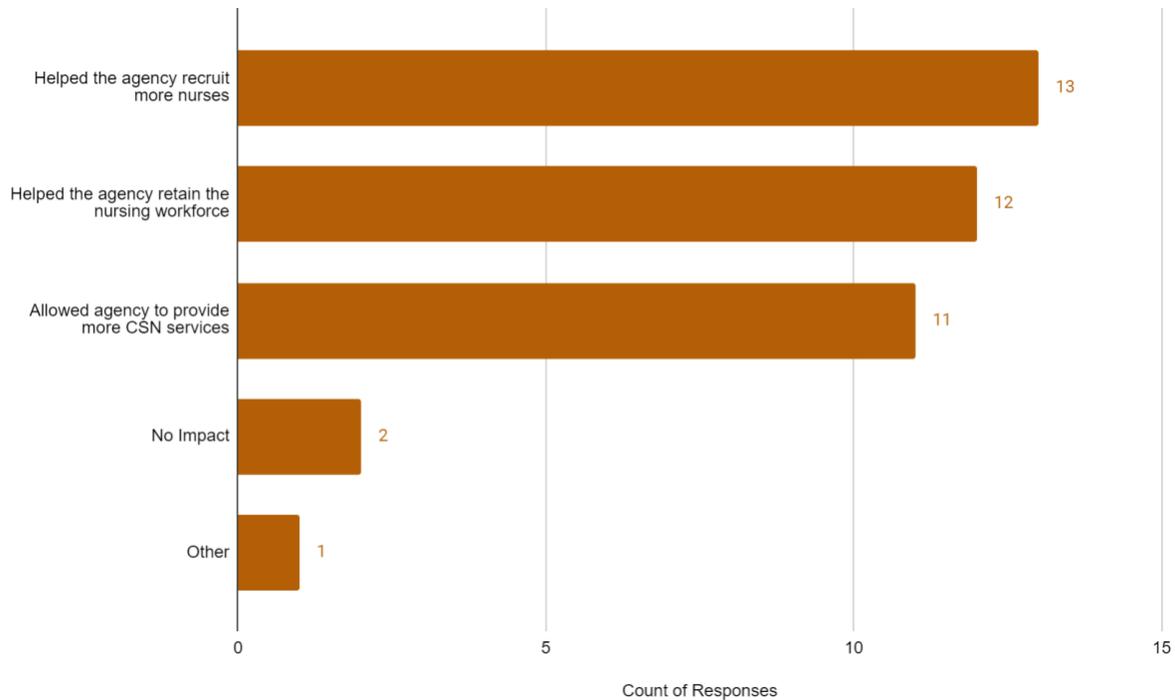
Rate Enhancements, Policy and Regulatory Changes, and COVID-Related Measures

MassHealth reimbursement rates for CSN services have increased several times since 2018. Appendix A lists the series of payment and policy changes as reported by MassHealth. Most recently, MassHealth issued a 20% rate increase in January of 2022 and a 10% increase on July 1, 2023.

These recent payment increases, along with allowing for an agency overtime enhanced reimbursement rate, aim to address the primary challenges noted by agencies in filling CSN authorized hours, and are intended to increase nursing hours in the CSN program. Figure 8 (below) shows how MassHealth rate increases have improved an agency's ability to provide CSN services, as reported by the HHAs and CSN Agencies that responded to BerryDunn's survey.

⁶⁷ *Ibid.*

Figure 8. Effects of MassHealth Rate Increases on the Ability to Provide CSN Services



Nonetheless, HHAs and CSN Agencies struggle to recruit nurses amid the state’s overall shortages in the nursing workforce—an existing shortage made more acute under the conditions of the COVID-19 public health emergency.⁶⁸ A March 2023 Massachusetts Health Policy Commission report asserts the high rate of nurse employment vacancies and turnover across all healthcare settings can be attributed to stressful work environments, which has been exacerbated by the pandemic.⁶⁹

The state has adopted other policies, beyond pay increases, aimed at improving the active nurse workforce. These include increasing funding and resources to support employment and retention of nurses, and advancement opportunities for health care workers. For example, the Commonwealth has created, and MassHealth has

⁶⁸ Taube, S., and Lipson, R. (September 2021). COVID-19 and the Changing Massachusetts Healthcare Workforce. Published by Harvard Kennedy School and the Massachusetts Healthcare Collaborative. Accessed November 20, 2023. <https://www.pw.hks.harvard.edu/post/ma-healthcare-workforce>.

⁶⁹ *Op. cit.* HPC Health Care Workforce Trends and Challenges in the Era of COVID-19: Current Outlook and Policy Considerations for Massachusetts.

implemented, a CSN loan repayment program for new nurse graduates⁷⁰, and began paying CSN nurse retention bonuses to independent nurses⁷¹ and agency nurses^{72,73} to address CSN workforce shortages and turnover.

MassHealth also promulgated a new provider regulation in 130 CMR 438: Continuous Skilled Nursing Agency, effective January 1, 2022, which established CSN Agencies as a new provider type.⁷⁴ By adding CSN Agencies as a new provider type, MassHealth enabled an increase to the number of agencies authorized to provide CSN services.

To further address the need to provide services to patients needing CSN, a new service, Complex Care Assistant (CCAs) services,⁷⁵ was added to the CSN agency regulations and made available to CSN patients on July 21st, 2023. CCAs can either be employed or contracted by a CSN Agency and can be family members (including parents, spouses, and legal guardians) or non-family members (including friends, neighbors, or individuals not connected to the CCM member). Under the supervision of an RN designated by the CSN agency, CCAs can provide enhanced care services such as enteral G-tube/J-tube feedings, oxygen therapy, and ostomy and catheter care.⁷⁶

3.0 Conclusion

In Massachusetts, a need exists for the provision of CSN services for children and adults with complex medical needs. Of the 2.7 million CSN service hours authorized by MassHealth in 2020, 1.7 million (62%) were delivered (paid). Overall, 2022 shows a slight decline in the percent of authorized hours paid annually, with a total decline of 2.2% from 2020 to 2022. This decline was slightly higher for adults, from 67.8% to 64.6%, than that for children, from 62.1% to 60.1%.

Many reasons might contribute to why authorized hours might not be delivered, such as if a member is hospitalized, on vacation, or otherwise unavailable to receive services, or because a scheduled nurse is sick or has a change in their schedule. Please see Appendix C for a non-exhaustive list of potential reasons authorized hours might not be delivered. Nine of 16 HHAs and CSN Agencies that responded to the BerryDunn survey report lacking adequate staffing to provide CSN hours as requested by patients and authorized by MassHealth. Asked for the approximate percentage of authorized CSN hours their agencies are able to fill, the respondents' answers ranged from 45% to 100%—averaging 79.1% among responding agencies.

⁷⁰ Continuous Skilled Nursing (CSN) Loan Repayment Program for Recent Nurse Graduates. Accessed November 12, 2023. <https://www.marepay.org/continuous-skilled-nursing-csn>.

⁷¹ MassHealth Home Health Agency Bulletin 82. Continuous Skilled Nursing Retention Bonuses for Independent Nurse Providers. April 2023. Accessed December 13, 2023. <https://www.mass.gov/doc/independent-nurse-bulletin-12-continuous-skilled-nursing-retention-bonuses-for-independent-nurse-providers/download>.

⁷² MassHealth Home Health Agency Bulletin 82. Home Health Agency Retention Bonuses for Nurses Providing Continuous Skilled Nursing Services. April 2023. Accessed December 13, 2023. <https://www.mass.gov/doc/home-health-agency-bulletin-82-home-health-agency-retention-bonuses-for-nurses-providing-continuous-skilled-nursing-services/download>.

⁷³ MassHealth Home Health Agency Bulletin 82. Continuous Skilled Nursing Agency Retention Bonuses for Nurses. April 2023. Accessed December 13, 2023. <https://www.mass.gov/doc/continuous-skilled-nursing-agency-bulletin-11-continuous-skilled-nursing-agency-retention-bonuses-for-nurses/download>.

⁷⁴ 130 CMR 438.000. Continuous Skilled Nursing Agency. Accessed December 13, 2023. <https://www.mass.gov/regulations/130-CMR-438000-continuous-skilled-nursing-agency>.

⁷⁵ 130 CMR 438.402 Complex Care Assistants. Accessed December 13, 2023. <https://www.mass.gov/doc/130-cmr-438-continuous-skilled-nursing-agency/download#:~:text=For%20complex%20care%20members%2C%20as,with%20CSN%20agencies%20as%20appropriate>.

⁷⁶ Complex Care Assistant Services Information Session with CCM Members and Families. Accessed November 21, 2023. <https://www.mass.gov/doc/complex-care-assistant-information-session-with-ccm-members-and-families/download>.

Most patients receive care on a one-to-one nurse-to-patient basis, although a nurse may provide CSN care to more than one patient at a time. Approximately 7.6% of patients receiving CSN care from HHAs and CSN Agencies are being treated by an RN or LPN simultaneously with at least one other patient. This percentage is higher than the 4.6% of independent nurses contracting directly with MassHealth who care for more than one patient at a time.

Overall, the wages paid to nurses by HHAs and CSN Agencies compare favorably to the rates paid by MassHealth to independent nurses. HHAs and CSN Agencies compete with other healthcare provider sectors and with nearby states in order to hire and retain nursing staff, so the degree to which wages for CSN services are comparable to nurse wages in other healthcare settings may influence the supply of nurses for such employment. Federal data indicate that Massachusetts' median wage for home health care nurses compares well to the median hourly wage for nurses in other non-hospital-based nursing practice settings within Massachusetts. Additionally, for Home Health Care Services, Massachusetts exceeds all the neighboring states in LPN hourly wages and all states except for Connecticut for RN hourly wages.

MassHealth payment rates for CSN services have increased several times since 2018. Most recently, in January 2022, MassHealth issued a 20% rate increase for all CSN services and began allowing HHAs and CSN Agencies to bill for CSN overtime services, and on July 1, 2023, a 10% rate increase was issued to permanently incorporate the 10% ARPA add-on into the CSN base rate. These payment increases, coupled with other service and payment policy changes, are intended to increase the amount of CSN hours provided to complex-care patients.

Increased compensation for nurses providing CSN services might mitigate some of the gap between authorized and delivered hours; however, nurses base their employment decisions on many factors in addition to compensation. CCAs might help to meet some of the service needs of CCM patients who have unfilled CSN hours. However, CSN staffing, and service gaps persist amid the overall state and national shortages in the nursing workforce—an existing shortage made more acute related to the COVID-19 public health emergency. This broader policy challenge will most likely continue to affect CSN and healthcare service delivery throughout Massachusetts.

Appendix A MassHealth-Reported Payment and Policy Changes Related to CSN Services 2018-Current⁷⁷

CSN Rate Enhancements and Flexibilities

SFY19 (July 2018 – June 2019)

- Under the standard rate-setting process promulgated in May 2018 and increased all CSN rates by 3.88%, effective February 2018, and increased agency CSN rates by 7.47%, effective April 2018.

SFY20 Q1-Q2 (July 2019 – December 2019)

- In July 2019, MassHealth removed CSN rates from 101 CMR 350.00 and established a stand-alone rate regulation for CSN services at 101 CMR 361.00.

SFY20 Q3 (January – March 2020)

- March 10, 2020, Gov. Baker declares a state of emergency due to the COVID-19 pandemic
- MassHealth began issuing [COVID-19 flexibilities](#) to allow for the easier provision of CSN services. These flexibilities were last updated in July 2020, and many remained in effect through the end of the state public health emergency, while many others were in effect until the end of the federal public health emergency.
 - Notable CSN flexibilities include: allowing RNs to work and be reimbursed for up to 80 hours per week and 16hrs per day; allowance of telehealth for consultative services, including assessments; easier access to overtime rates for INs; expansion of who can order HH services; and allowance for CCM to conduct assessments via telehealth.
 - Many of these flexibilities were codified through [provider bulletins](#) in January 2021
 - Several flexibilities remain in effect after the end of the federal public health emergency and will ultimately be incorporated into MassHealth regulations

SFY20 Q4 (April – June 2020)

- April 2020 issued 10% rate increase due to COVID-19 pandemic and through [AB 20-23](#)
 - Rates effective April 1, 2020 through July 31, 2020
- June 2020 issued an additional 10% increase through [AB 20-63](#)
 - Rates effective May 1, 2020 through July 31, 2020
 - Additional 10% on top of previous COVID-19 rate

SFY21 Q1 (July to September 2020)

- Permanent rate increases established in July 2020 and increased all CSN rates by 1.57%.

SFY22 Q1-Q2 (July - December 2021)

- MassHealth issued several temporary rate increases for CSN services through the funds from the ARPA and established under 101 CMR 447.

⁷⁷ This payment and policy history was provided by MassHealth, via personal communication, October 23, 2023

- a 10% rate increase to all home and community-based services included in the ARPA, including for CSN for dates of service between 7/1/21 – 12/31/21
- an additional 20% rate increase for CSN services for dates of service between 7/1/21 – 12/31/21

SFY Q3-Q4 (January – June 2022)

- MassHealth extended the standard 10% rate increase for all home- and community-based (HCBS) programs, including CSN, until June 30, 2022
- MassHealth issued a permanent 20% rate increase for all CSN services effective on January 1, 2022.
- MassHealth also began allowing CSN agencies and Home Health Agencies to bill for CSN overtime services, starting January 1, 2022

SFY24 Q1-Q2 (July – December 2023)

- MassHealth incorporated the 10% temporary ARPA rate add-on into the CSN base rate, for dates of service on or after July 1, 2023.
- MassHealth also established rates for a new CSN agency service, called Complex Care Assistant Services, which went into effect on July 1, 2023.

SFY 25

- MassHealth will be proposing amendments to their CSN rate regulations, with a proposed effective date in the summer of 2024. A public hearing will be held on the proposed amendments in the spring of 2024.

Other CSN Initiatives (SFY22 – SFY23)

Additional ARPA Funded Initiatives

- Development of the online CCM Nurse Directory
 - Aim: Create an online directory to match CCM members with both independent nurses and agency providers with available nursing hours
 - Development began in 2022; directory launched in April 2023
 - Have invested \$300K through ARPA funds
 - Working on Phase II improvements to launch later this year/early 2024
- CCM Caregiver Relief Funds
 - Received \$12.3M total in ARPA funds to provide four rounds of relief payments to CCM natural caregivers
 - First round launched at the end of 2022; round 2 launched in June 2023, and round 3 launched in October 2023. Round four anticipated to launch in early 2024.
 - Provides CCM member natural caregivers with relief payments/stipends between \$3,000 and \$4,500 at a time, to be used by the member/family in whatever way provides them relief
- CSN Retention Bonus Program
 - \$15M in ARPA funds to provide retention bonuses to CSN nurses who meet CSN service commitments each quarter
 - Started in April 2023; over 900 retention bonuses have been issued for over \$3.8M as of November 30th, 2023.
 - Retention Bonus amounts range from \$1,250 – \$3,250 for each service quarter

- *CSN Loan Repayment Program for New Nurse Graduates*
 - *\$15M in ARPA funds to provide loan repayment to eligible CSN nurses who make two- or three-year service commitments*
 - *Nurse must have graduated from an eligible nursing program on or after January 1, 2022, to be eligible*
 - *May work full or part time for two or three years to qualify*
 - *Program application opened on September 20, 2023*
 - *Loan repayment amounts range from \$10K to \$35K, depending on service commitment and licensure level*

- *CSN Training Initiative Award*
 - *MassHealth issued a Request for Response (RFR) and ultimately procured two entities to provide a clinical CSN training program to current CSN nurses and nurses interested in joining the CSN workforce*
 - *These awards were finalized in September 2023, with plans for programs to launch in early 2024*
 - *Total of \$1.85M in ARPA funds*

Appendix B

MGL Chapter 12C §24: Report on the provision of continuous skilled nursing care⁷⁸

The center, in conjunction with MassHealth, shall prepare a biennial report on the provision of continuous skilled nursing care as defined in 101 CMR 361 and 130 CMR 403.402. The report shall include, but not be limited to: (i) the number of pediatric patients and the number of adult patients requiring continuous skilled nursing care; (ii) the average and median number of continuous skilled nursing hours authorized by MassHealth per day, week, month and year for pediatric patients and for adult patients; (iii) the average and median number of authorized continuous skilled nursing hours actually delivered per day, week, month and year for pediatric patients and for adult patients; (iv) the total number of continuous skilled nursing hours authorized and actually delivered by MassHealth per month and year for pediatric patients and for adult patients; (v) the number of nurses providing continuous skilled nursing care to more than one patient at a time and, for the patients cared for by those nurses, the aggregate proportion of authorized continuous skilled nursing hours to utilized continuous skilled nursing hours; (vi) the number of nurses who contract with MassHealth to provide continuous skilled nursing care, the number of nurses who provide continuous skilled nursing care through a home health agency that contracts with MassHealth and whether the total number of nurses providing such care is sufficient to fill all authorized continuous skilled nursing hours; (vii) a description of the training, experience and education levels of the nurses who contract with MassHealth to provide continuous skilled nursing care; and (viii) an evaluation of the adequacy of the reimbursement rates for continuous skilled nursing care as established in 101 CMR 350.04 and a comparison of those rates against: (A) the rate paid to nurses who contract directly with MassHealth to provide continuous skilled nursing care; (B) the portion of the reimbursement rate paid directly as wages to nurses providing continuous skilled nursing care through a home health agency that contracts with MassHealth; and (C) the median wage rate paid to all nurses in the Commonwealth.

Not later than January 1 of each even-numbered year, the report shall be filed with the secretary of health and human services, the clerks of the senate and the house of representatives, the joint committee on healthcare financing, the joint committee on public health and the senate and house committees on ways and means. The center shall make the report publicly available on its website.

⁷⁸ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter12C/Section24>

Appendix C

Potential Reasons that CSN-Authorized Hours May Not be Delivered (Filled): Reported by MassHealth⁷⁹

- No available nursing supports identified that matches the member's needs
- Available HH agency nurses or Independent Nurses who have the scheduling availability may not be a good fit for the member for reasons such as:
 - The nurse requires more skills and/or training to perform the member's nursing interventions;
 - A nurse's personal attribute(s) may not be a good fit for the member or family, i.e.. smoker, gender, etc.; or
 - The member prefers to fill specific shifts, or a specific number of hours and the provider's availability does not align. (i.e., nurse wants to work 40 hours for one member and member has or prefers to fill a lesser number of hours)
- The member chooses not to fill their hours with nursing because:
 - The member is taking a break from recruiting nursing care and is using other care services, such as the PCA option or home health aide services;
 - They prefer the PCA option where the family uses PCA services in lieu of CSN;
 - They prefer to transfer CSN enhanced care tasks to CCA (new service 8/2023);
 - Comfortable with current service package/schedule; or
 - The member prefers to use authorized hours at a later date during the prior authorization period;
- The member is waiting for a specific nurse to be available through a HHA, CSN agency, or to obtain Independent Nurse provider number.
- The member travels and does not or cannot take nursing with them.
- A member's hours are filled, but the nurse gets sick, goes on vacation, etc. and there is no coverage from the agency and/or other co-vending providers.
- A member's hours are filled, but their nurse ends up leaving the agency, or ending their contract with MassHealth to pursue other personal or career opportunities.
- The member is brand new (under 3 months) in the CCM Program and is working to find nursing availability.
- The member is hospitalized during a period of time for which they would typically receive CSN services.
- The member is hospitalized for an extended period of time and provider assigned to a new case.
- The member's condition changes and they no longer need services authorized (or some portion of).
- The member's living arrangements change so that CSN services are no longer necessary, i.e., they move out of state, they move to a setting that offers nursing, etc.
- HH Agency discharges member due to safety concerns for HH staff and/or difficult member/family behaviors impacting care
- The member passes away before the end of the PA period.

⁷⁹ This list was provided by MassHealth, via personal communication, November 9, 2023. It is not intended as an exhaustive list and does not represent frequency or relative importance of identified reasons.