

Upstate New York's Hospital Staffing Crisis

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Chronic understaffing increases mortality and threatens workforce

Key Findings:

- Upstate hospitals require an increase of about 5,000 registered nurses (RNs) and 20,000 ancillary staff — such as Licensed Practical Nurses, Nursing Assistants, and other direct caregivers — in order to be fully staffed.
- The Upstate hospital understaffing of both RNs and ancillary hospital employees causes unsafe staffing levels in 90 percent of hospital shifts.
- Mortality risk rises by over 14 percent for patients on the worst 10 percent of hospital units. This is equivalent to an additional 280 patient deaths for every 100,000 hospitalizations (up from a baseline of 2,000 deaths per 100,000 hospitalizations).
- Without policy intervention, at the current workforce growth rate, it will take over 9 years to reach safe staffing levels and improve care for New Yorkers.
- Approximately 70,000 individuals in New York are trained RNs and are not currently working as nurses — over 35 percent of all trained RNs.

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Introduction

The hospital workforce in New York has been strained since before the onset of the Covid-19 pandemic. The crisis has now reached new heights, particularly for direct care workers who have faced emotional and physical strain, as well as what is known as "moral injury" from working through such a strenuous period. For New York's healthcare workforce, hospital working conditions have become untenable, with understaffing consistently noted as the top concern. Since the pandemic, many nurses and ancillary staff (such as nursing assistants and licensed practical nurses) have left their positions, either to find less strenuous work, or to leave the workforce all together, creating a shortage driven by poor working conditions.

The shortage of hospital nurses and ancillary staff is not a new phenomenon; nurses and academics alike have long pointed to the staffing of nurses as a key axis on which hospitals are failing to meet the needs of patients, with mortality rates heightened and burnout high among nursing staff (Aiken et al., 2002; Aiken et al., 2014; Shah et al., 2021). In 2021, New York passed the first safe staffing law, requiring hospitals and other acute care facilities to create staffing committees and staffing plans that will ensure enough nurses and ancillary staff are on site to care for patients. This law reflects not only the acute shortage of nurses in the wake of the Covid-19 pandemic, but a long history of unsafe staffing in hospitals that led nurse's unions to advocate for the state law.

Rebuilding and strengthening the hospital workforce in Upstate New York will take deep and robust investment on several policy axes. This report provides evidence that Upstate hospitals need to recruit, hire, and retain 5,000 additional nurses and 20,000 additional ancillary staff to meet safe staffing requirements and improve working conditions for hospital care providers. Making swift investments in staffing will dramatically improve the working conditions for nursing staff, thereby reducing costly turnover while simultaneously improving care for all New Yorkers. In the short run, this investment will be significant; however, in the long run the investment will create a more cost-effective and stable workforce.

Upstate hospital workforce shrank by 8.4 percent during the Covid-19 pandemic

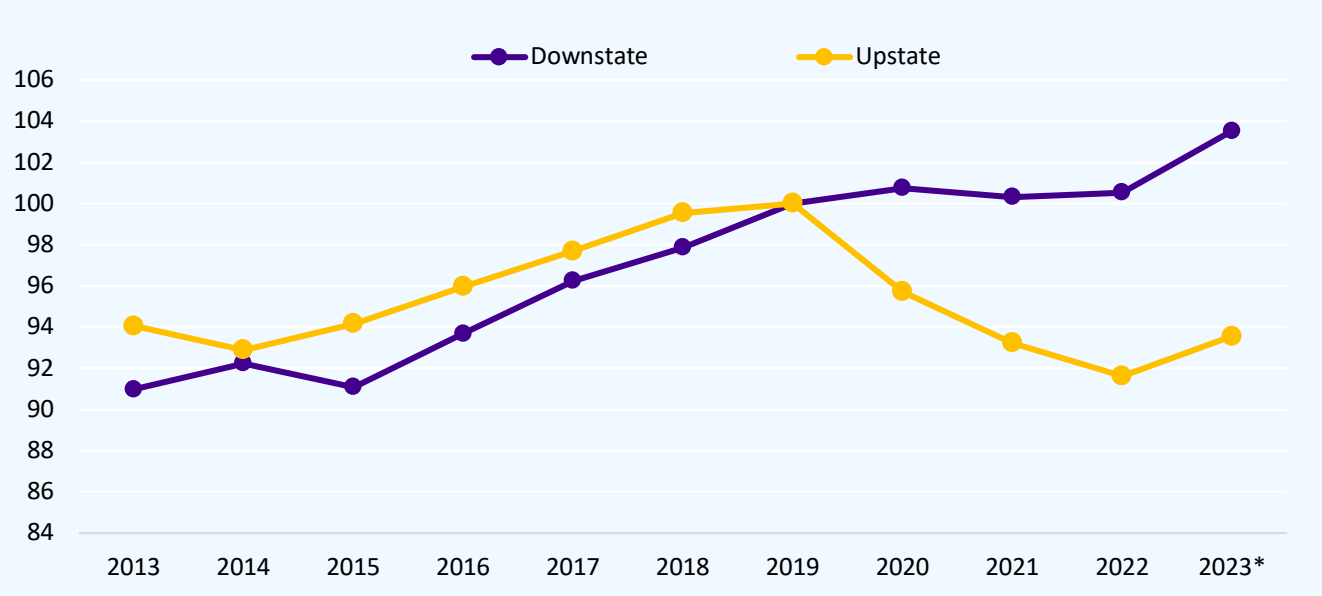
Between 2019 and 2022, total employment in Upstate New York hospitals dropped by over 11,600 workers — from 138,901 workers in 2019 to 127,264 in 2022 — an 8.4 percent decline in the overall Upstate hospital workforce. This precipitous decline in employment reflects the immense strain faced by healthcare workers during the Covid-19 pandemic and a severe deterioration in safety for patients. This decline occurred primarily in Upstate hospitals (while downstate hospitals saw flatlined employment). The most recent data show that from 2022 to 2023 the situation Upstate started to slowly improve, but less than a quarter of total lost jobs have been recovered, with total employment across all Upstate hospitals rising by only 2,700 jobs. At the current rate of growth, it will take about 4.5 years to reach the 2019 hospital staffing levels, and over 9 years to reach truly safe staffing levels. Downstate hospital employment, by contrast, has returned to rapid growth.[1]

To merely recover the workforce that was lost during the Covid-19 pandemic, the hospitals of Upstate New York would need to add 2,400 RNs and 1,500 ancillary staff — far below what is needed to achieve

[1] It is important to note that rapid growth in employment does not necessarily translate to safe staffing levels.

fully safe staffing.[2] While available data do not reliably show the change in the population of RNs employed in hospitals over this period, they indicate that there are approximately 40,000 RNs and 30,000 ancillary staff employed in Upstate hospitals.

Figure 1. Employment in NY hospitals, as percent of 2019 level



Note: Data from the Quarterly Census of Employment and Wages. Downstate is defined as the NYC counties, Westchester County, Suffolk County and Nassau County. This data is restricted to private hospitals and does not include public hospitals which make up only a small proportion of total employment in hospitals. Data for 2023 is considered preliminary as of June 2024.

Table 1. Total annual private employment in NY hospitals, 2019-2023

	2013	2019	2020	2021	2022	2023
Downstate	224,243	246,469	248,332	247,241	247,781	255,178
Upstate	130,651	138,901	132,952	129,494	127,264	129,959
Total	354,894	385,370	381,284	376,735	375,045	385,137

Note: Data from the Quarterly Census of Employment and Wages. Note that 2023 data is preliminary.

[2] Even at peak employment in January and February 2020 (before the onset of Covid-19 in New York), Upstate hospitals were short staffed. This is also true for downstate hospitals which, despite seeing employment growth, continue to demonstrate significant understaffing of caregivers to patients (Aiken, 2021).

Table 2. Total annual private employment in NY hospitals, 2019-2023

	2013-2023 Change	2013-2023 % Change	2019-2023 Change	2019-2023 % Change
Downstate	30,935	14%	8,709	4%
Upstate	-692	-1%	-8,942	-6%
Total	30,243	9%	-233	0%

Note: Data from the Quarterly Census of Employment and Wages. Note that 2023 data is preliminary.

Upstate hospitals are failing to meet safe staffing ratios

The 2021 Clinical Staffing Committee Law, which went into effect in 2022, requires that each hospital have a Staffing Committee that sets "Staffing Plans" for each unit of the hospital. The Staffing Plans prescribe the number of RNs and ancillary staff — support staff providing direct patient care — needed based on the number of patients contemporaneously receiving care on the unit. For example, a staffing plan may require a Medical/Surgical unit to have 1 RN on staff for every 5 patients admitted. If there are 20 patients receiving care, the staffing plan would then require that 4 RNs be working on the shift to meet the care needs of patients, not including the RN without a patient assignment who is tasked with Charge (administrative) duties.

> *"I love being an RN but most days/nights now I am exhausted thinking about going to work and wondering if I will have the appropriate staff to help care for the patients without putting myself in jeopardy."*
>
> -- Hospital bedside RN in Upstate NY

This report evaluates staffing data from an anonymous hospital in Upstate New York. The data from this hospital is taken to be representative of the broader situation faced by most Upstate hospitals, though of course specific circumstances likely vary widely across geography and hospital administrations.[3] The data give the number of patients, RNs and ancillary staff on each unit of the hospital, for each shift for the periods July 2023 – September 2023 and June 2024 – September 2024. These data are compared to the publicly available staffing plan for the hospital to measure the frequency of safe staffing violations.

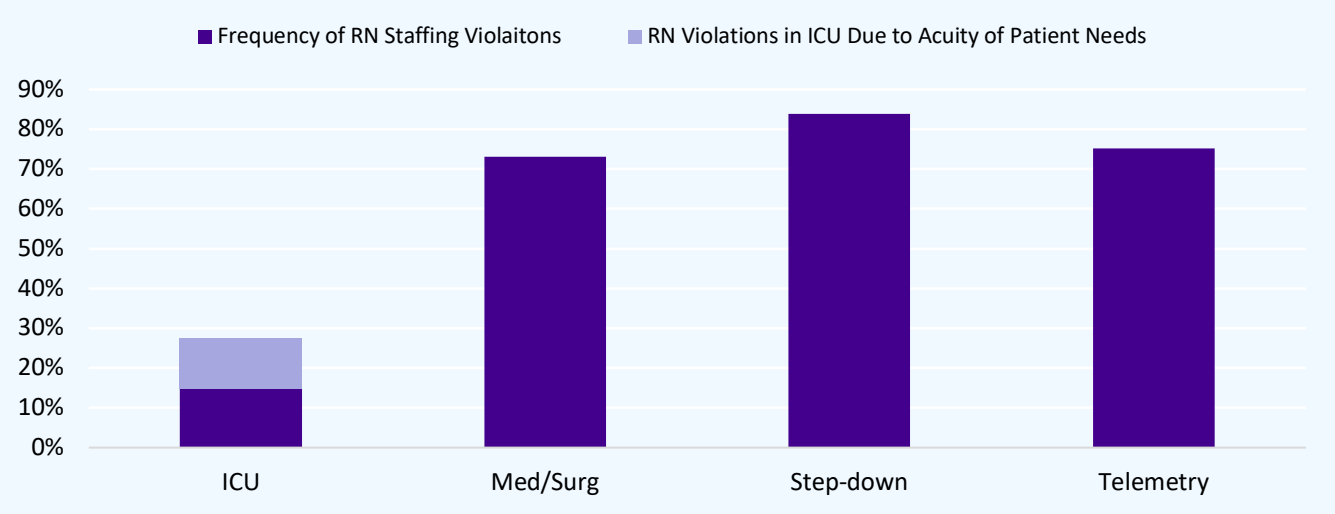
Importantly, the 2021 Clinical Staffing Committee legislation, PHL 2805-t Section 17, does require that the Department of Health provide actual staffing data on a quarterly-basis, which would allow the evaluation of staffing trends across facilities and geography. However, these data have yet to be released making it difficult to quantify the exact prevalence of short staffing across New York State more broadly.

[3] Preliminary data on August 2024 staffing from another anonymous hospital in Upstate New York shows a similar pattern of non-compliance with safe staffing. The data reported indicate that greater than 75 percent of Med/Surg and Telemetry shifts have staffing violations.

RNs are understaffed in up to 84 percent of hospital shifts

The data demonstrate that, over the time periods studied, non-ICU units have seen staffing violations in over 70 percent of shifts, and in up to 84 percent of shifts in step-down units (which care for patients who have just come out of the ICU). In ICUs, the law and staffing plans mandate that there be at least one RN for every two patients at all times, and that there be additional RNs on duty when the needs of patients are sufficiently high, i.e. there is high acuity. For example, patients that have had recent cardiac events may require one-on-one supervision by nursing staff. In these cases, the required staffing ratio of patients to RNs may fall below 2-to-1, and can be as low as two RNs to 1 patient for very severe cases. On average, it is unlikely that there need to be more than two nurses for every three patients (i.e. 1.5 patients for each RN on duty). Unfortunately, the staffing data do not report patient acuity. Thus, we estimate that violations of RN staffing in the ICU occur on between 15 percent and 28 percent of all shifts, based on the assumption that the true required staffing ratio is between 1.5-to-1 and 2-to-1 patients per RN.

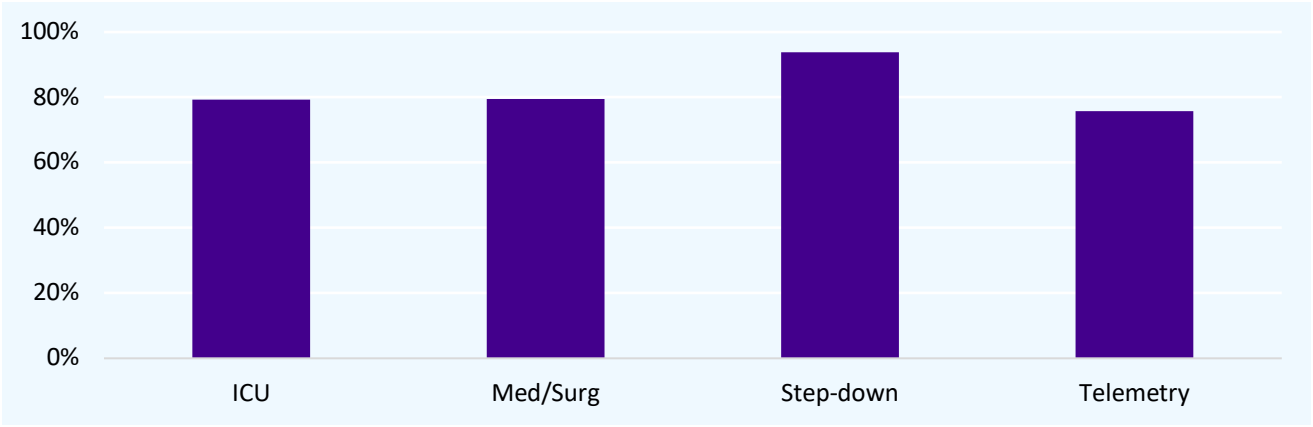
Figure 2. Share of total hospital shifts with violation of RN safe-staffing ratios



Ancillaries are understaffed in up to 95 percent of hospital shifts

Data on the staffing of ancillary roles that support nurses show even more extreme under-staffing. In ICUs, almost 80 percent of all shifts have too few ancillary care staff. In other units, understaffing occurs in 75 to 95 percent of all shifts. Without enough ancillary staff on the floor, RNs must pick up additional tasks, straining their overall workload and lessening the quality of care further. In the ICU, which treats patients in the most vulnerable state, staffing of RNs is out of compliance between 15 percent and 28 percent of the time, but ancillary shortages occur 80 percent of the time, placing additional strain on the working RNs and jeopardizing care.

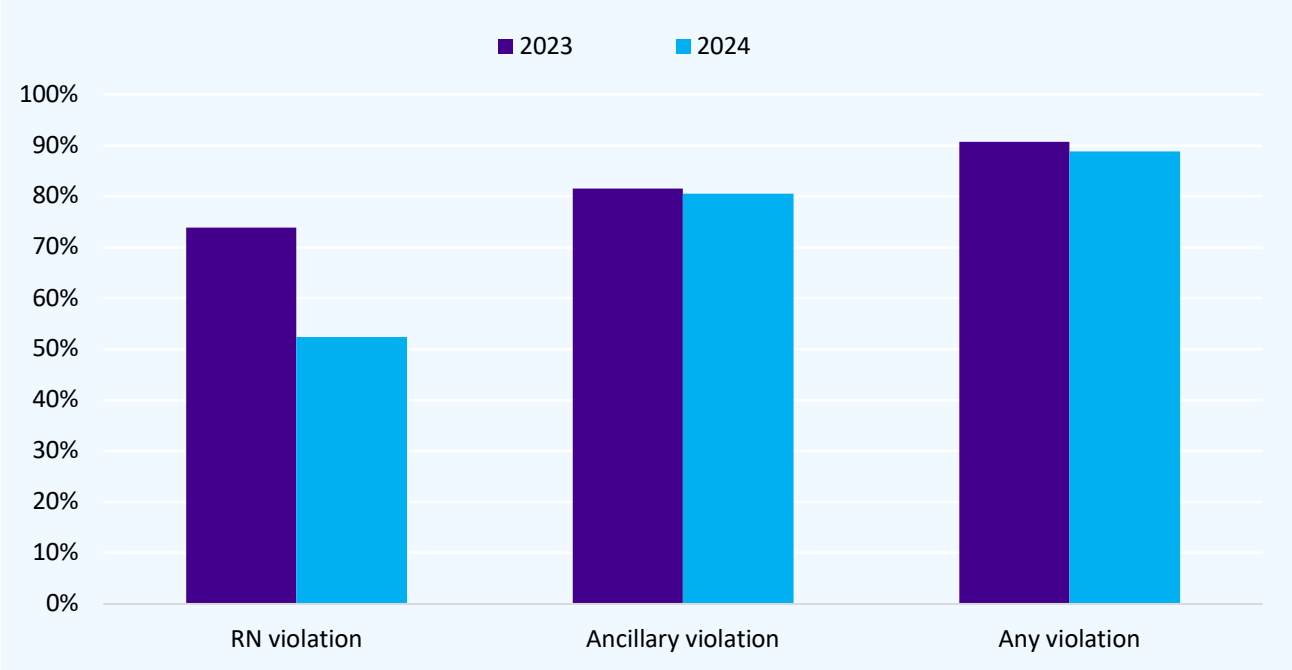
Figure 3. Share of total hospital shifts with violation of ancillary safe-staffing ratios



Overall, 90 percent of hospital shifts are understaffed

Staffing shortages of nurses and ancillary staff often happen simultaneously, compounding the risks to patients. Nine out of every ten hospital shifts have some sort of staffing violation with RNs, ancillaries, or both. This is true of hospital shifts in data from both 2023 and 2024. While the frequency of shifts with RN staffing shortages have decreased significantly between 2023 and 2024, the frequency of shifts with ancillary shortages has not.

Figure 4. Share of total hospital shifts with reported staffing violations, by year



Patient mortality risk rises by over 14% in short-staffed hospital units

Safe staffing ratios are generally designed to ensure that the ratio of caregivers to patients stays below a certain threshold, consistent with empirical research demonstrating risks to patients when these ratios are not met. Safe staffing violations are known to have serious consequences for patients, over-burdening nurses and thus lessening the quality of care. Mortality risk increases by 7 percent with every additional 1 patient per RN (Aiken et al., 2002).

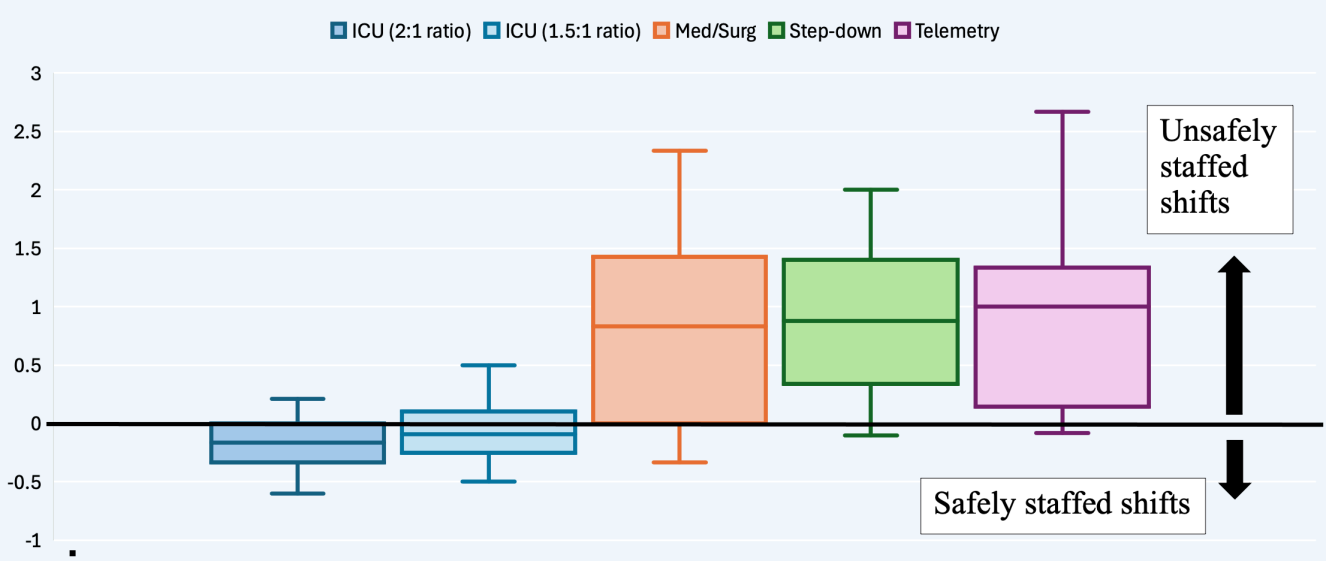
Staffing violation data shows that the median Med/Surg and Step-Down units have an additional 0.8 patients per RNs and the median Telemetry unit has an additional 1 patient per RN, forcing RNs in each unit each to split their attention across an unsafe number of patients.

> *"Being short staffed made me realize how fragile our healthcare system is. I'm terrified someone I love will get sick & be treated in an undignified way or be a victim of a mistake made by an overtired or overwhelmed employee."*
>
> -- Hospital bedside RN in Upstate NY

Combined with prior research on the consequences of insufficient nurse staffing, the data on staffing violations in Upstate New York indicate that on the median non-ICU hospital unit, mortality rates are increased by 6 percent relative to a unit without a staffing violation. For the worst 25 percent of non-ICU units by RN staffing per patient, mortality rates increase by over 10.5 percent relative to a safely staffed unit. And in the worst 10 percent of units by staffing, mortality rates increase by over 14 percent. A 14 percent increase in mortality risk translates to approximately an additional 280 additional deaths for every 100,000 hospitalizations (Roemer and Welch, 2022). ICU units see relatively little under-staffing relative to other hospital floors. In ICUs, the worst 10 percent of shifts have increased mortality rates of 1.4-3.5 percent or more.

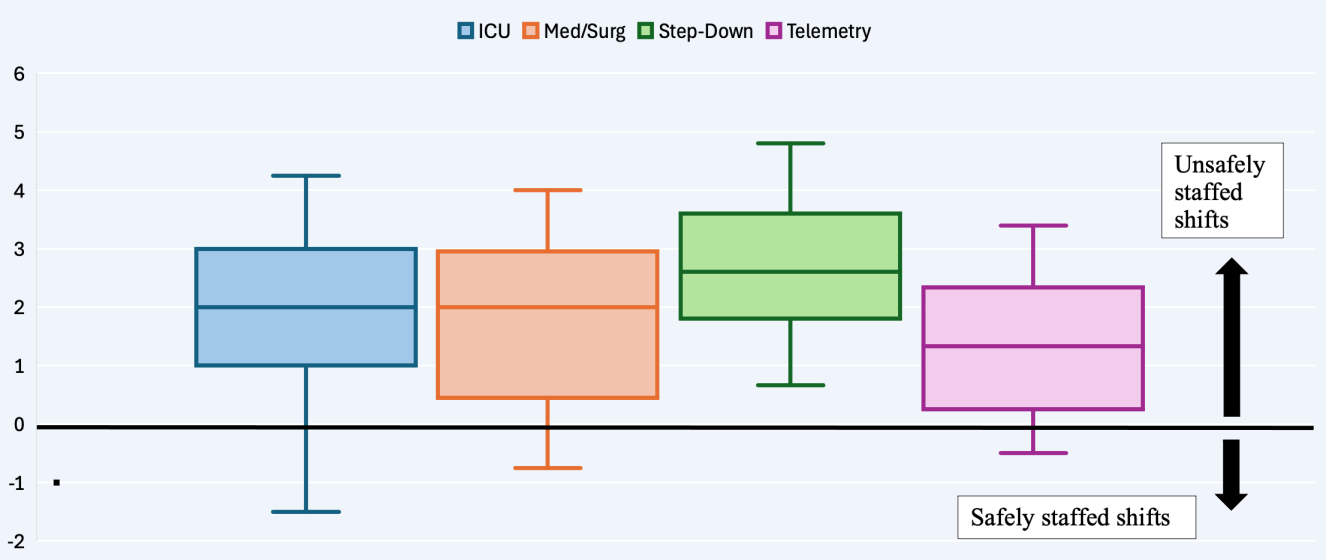
For staffing of ancillary roles, short staffing is even more severe, with most units having only half of the required ancillary staff on a shift with a violation. In addition to patient care, short-staffing ancillaries can have a large impact on the workload of both the remaining ancillary staff as well as the RN staff that often pick up additional tasks.

Figure 5. Distribution of excess patients-per-RN across all units and shifts, by unit type



Note: This chart depicts box-and-whisker plots showing the distribution of staffing ratios, relative to the required ratio. The top and bottom of each rectangle represent the 75th and 25th percentile shifts by how many additional patients there are per RN (over the staffing plan's required ratio). The top "whisker" indicates the 90th percentile and the bottom "whisker" indicates the 10th percentile. The median is marked by the line going through the middle of the rectangle. For example, for Med/Surg shifts, the bottom of the box is at 0 meaning that 25 percent of all shifts are safely staffed, and 75 percent have excess patients. The middle line, indicating the median is at 0.83, indicating that 50% of shifts have more than 0.83 excess patients per RN.

Figure 6. Distribution of patients-per-ancillary across all units and shifts, by unit type



Note: This chart depicts box-and-whisker plots showing the distribution of staffing ratios, relative to the required ratio. The top and bottom of each rectangle represent the 75th and 25th percentile shifts by how many additional patients there are per RN (over the staffing plan's required ratio). The top "whisker" indicates the 90th percentile and the bottom "whisker" indicates the 10th percentile. The median is marked by the line going through the middle of the rectangle. For example, for ICU shifts, the bottom of the box is at one meaning that 75 percent of all shifts have at least one additional patient per ancillary over the staffing plans required ratio. The middle line, indicating the median is at two, indicating that 50% of shifts have more than two excess patients per ancillary.

Lack of investment in permanent workforce drives up hospital costs

To recruit more nurses and ancillary staff to the Upstate hospital workforce, policymakers need to focus on improving job conditions. One of the key factors currently contributing to poor working conditions is chronic understaffing. With chronic understaffing, the nurses and ancillary staff working in a hospital unit report that they cannot adequately do their jobs because their time and energy is spread too thin among patients. This creates "moral injury" — a feeling of futility in the work that these healthcare workers are performing. Ultimately, understaffing leads to more understaffing, as healthcare workers leave their jobs in search of work that is either more lucrative or less demanding. Many leave the workforce altogether. The issue of understaffing a hospital unit creates a dangerous cycle that leads to greater turnover and more trouble staffing, as the working conditions deter long-term employment.

The cycle of understaffing leading to greater workforce instability can be understood in the context of a labor market supply curve. When working conditions are poor — including when a hospital department is chronically understaffed, forcing employees to over-work and under-perform — fewer individuals are willing to work at any given wage. This is equivalent to a downward shift in the labor supply curve for hospital healthcare workers, where pay must rise significantly to hire workers to perform a job that is difficult and unpleasant. In fact, this is exactly what has happened for contract workers in hospitals over the past few years: wages have risen dramatically, reflecting a large downward shift in the supply curve for healthcare labor.

To restore the labor supply curve to a healthier and more sustainable level, policymakers and hospitals must focus on improving job quality for healthcare providers. Improving job quality through improving staffing levels will ensure that nurses and other supportive healthcare providers feel that they can perform their jobs adequately without incurring moral injury. Improving staffing in a hospital would not only improve patient care, but would also improve working conditions and shift the labor supply curve back to the left, reducing long run costs for hospitals.

> *"No one wants a career in this type of environment where everyone is set up to fail. I stay because I am within two years of retiring and the light is at the end of the tunnel."*
>
> -- Hospital bedside RN in Upstate NY

Figure 7. Illustrative model of downward shift in RN labor supply curve associated with understaffing and poor working conditions for nurses.

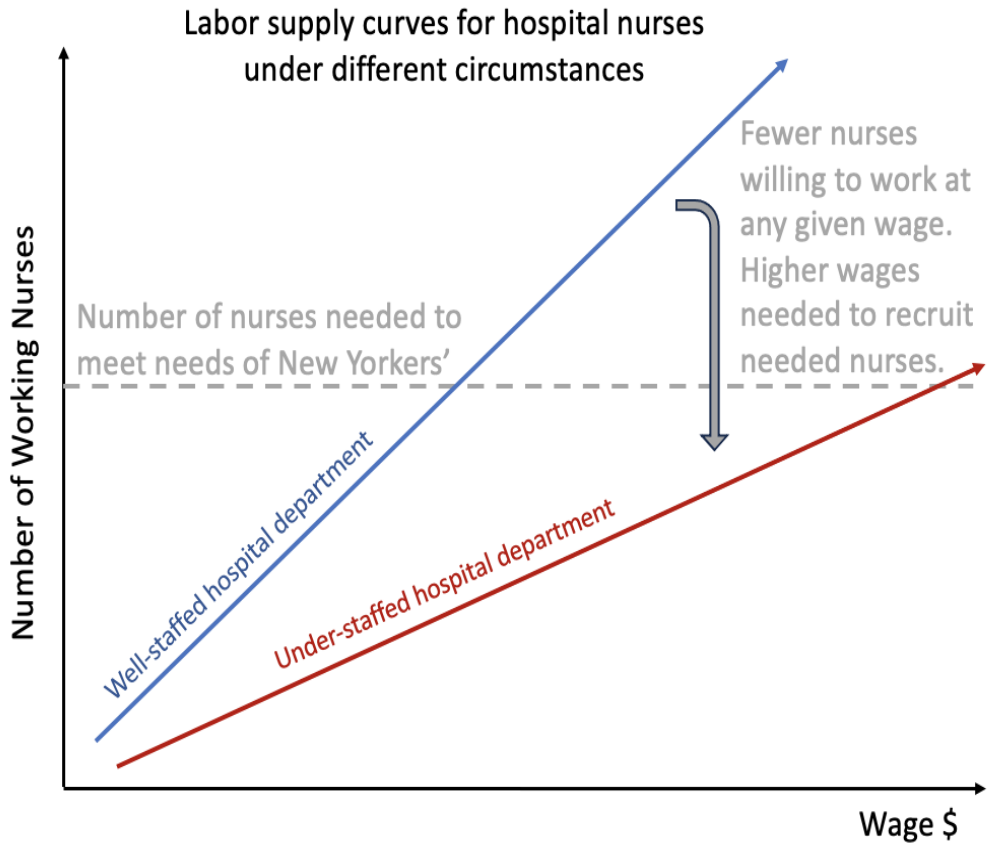
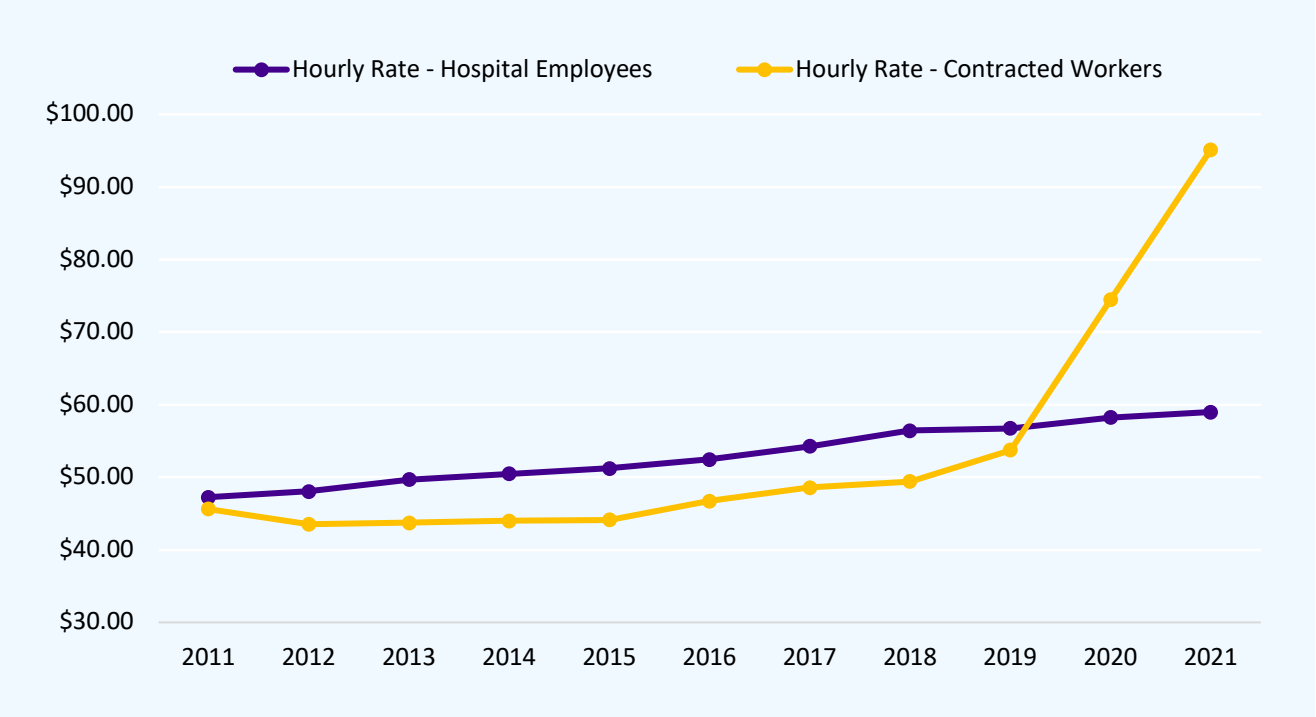


Figure 8. Average pay for direct patient care in New York hospitals

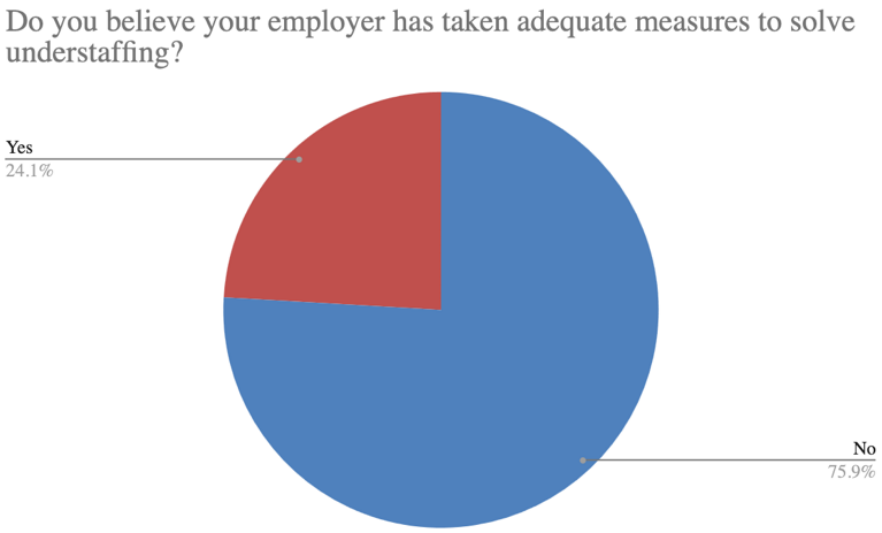


Note: Data from CMS.

One indicator of the current workforce shortage of nurses is the steep rise in wages for contract nurses. Between 2019 and 2021, the hourly wage for contract workers providing direct patient care in New York hospitals rose from $54 to over $95. During the Covid-19 pandemic, many travel nurses were needed to meet the growing gap between the supply of, and the demand for, healthcare workers. The high wages of contract workers reflect the stress and demands of the job over this period as well as the reduced number of staff nurses working at the hospital. The job became more taxing and dangerous, and fewer individuals were willing to work in the environment given the moral injury they faced at the wages they received. This dramatic increase in wages for contracted workers providing direct care to patients was not matched by a similar increase in wages for the hospital employees who provide direct care, as hospitals preferred to pay temporary staff more rather than raising the long-term wages of employees, incentivizing many healthcare workers to leave permanent positions in search of better wages.

A recent survey of hospital employees conducted by the Communication Workers of America found that only 24 percent of employees believe that hospital management is doing enough to improve staffing levels. This data point indicates that understaffing continues to be an area of key concern for nurses and ancillary staff working in New York hospitals.

Figure 9. Responses to a survey of nurses and hospital support staff show little confidence that hospital administrators are taking necessary steps to address staffing shortages.



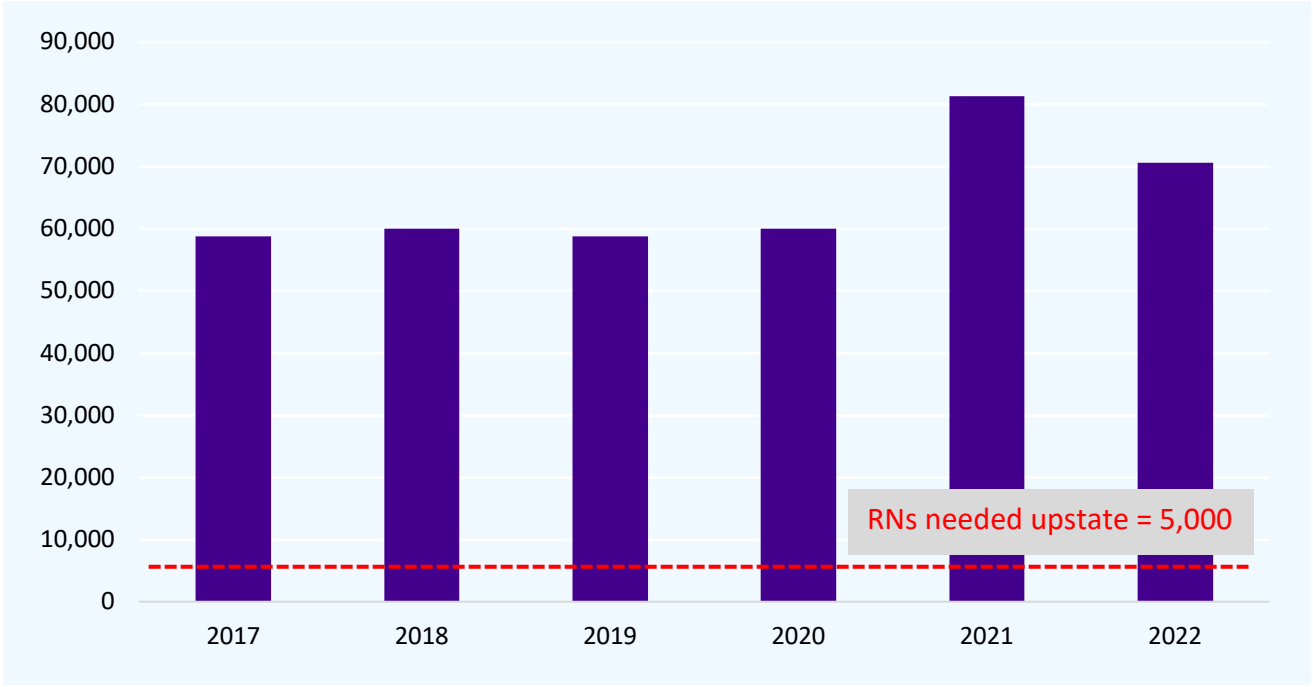
Note: CWA survey of hospital staff.

New York has a large population of working-age trained RNs currently not working in nursing roles

Most programs designed to rebuild the healthcare workforce currently focus on either education and training, or expanding "scope-of-practice" to increase the number of healthcare providers able to perform certain services. However, there is also a large population of trained nurses in New York who could be attracted back into the healthcare workforce given the appropriate incentives and compensation. In 2022, there were an estimated 70,000 individuals with nursing degrees — over 35% of all trained RNs — in New York who were not working as nurses. This pattern is true in almost every region in New York, both Upstate and Downstate. In addition, the percent of trained nurses who were also actively working as nurses fell over 2020 and 2021 — the worst period of the Covid-19 pandemic — though it rebounded somewhat in 2022.

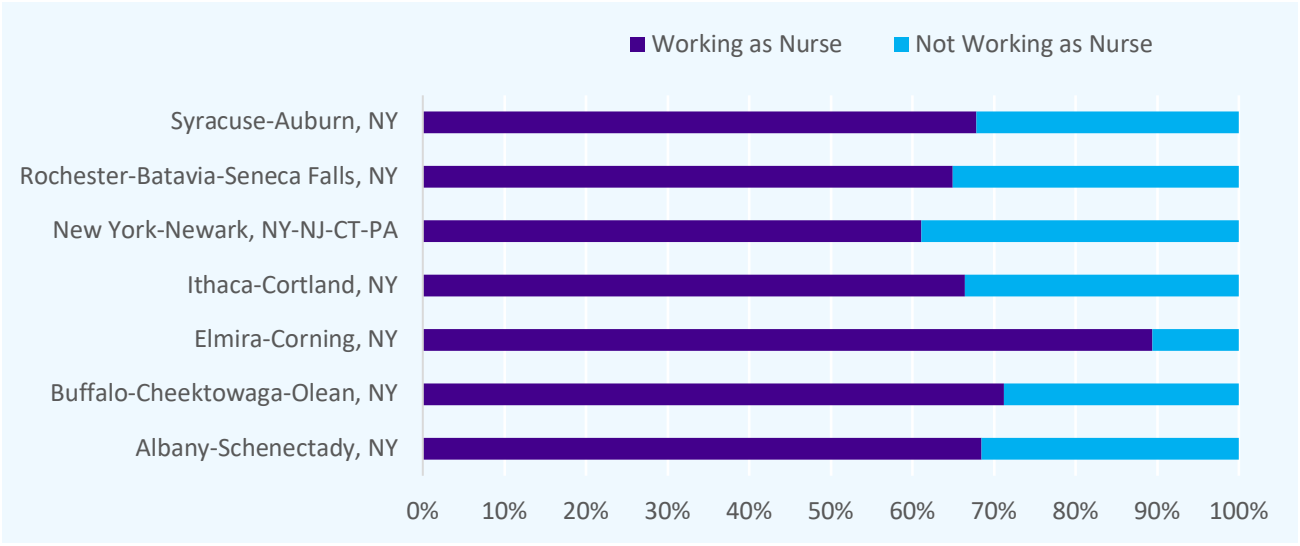
The fact that this population exists in such magnitude speaks to just how taxing the profession can be and how frequently people leave the profession in search of other work. New York's policy solutions need to focus on the job quality problem to solve the long-term issue of nurse staffing in the state.

Figure 10. Estimated number of trained RNs currently living in NY, but not working in a nurse position, ages 20-65.



Note: Data from the American Community Survey 1-year files.

Figure 11. Proportion of trained nurses ages 20-65 currently working in nurse roles by region.



Note: Data from the American Community Survey 2022 1-year file.

The current occupations of this large population of trained nurses not actively working in the nursing profession ranges from other types of healthcare professionals to elementary school teachers. The majority of these individuals still work in hospitals, but outside of a nursing role. Additionally, over ten thousand individuals who hold nursing degrees are not currently working in the labor force at all, despite the fact that many of them are under 65. While it is hard to know how many of these individuals could

be recruited back to work as nurses again and at what cost, the existence of so many already-trained nurses indicates that the policy solutions needed to solve the current staffing shortages must address job quality and retention.

Table 3. Top 10 industries of work for individuals trained as nurses but not currently working as a nurse, 2022.

Industry	Count
Not in Labor Force, Over 65	5,754
Not in Labor Force, Under 65	4,722
Hospitals	11,732
Elementary And Secondary Schools	5,885
Outpatient Care Centers	4,406
Colleges, Universities, And Professional Schools, Including Junior Colleges	4,163
Individual And Family Services	3,696
Home Health Care Services	2,328
Other Health Care Services	2,147
Management, Scientific, And Technical Consulting Services	2,142
Offices Of Physicians	2,118

Note: Data from the American Community Survey 1-year files.

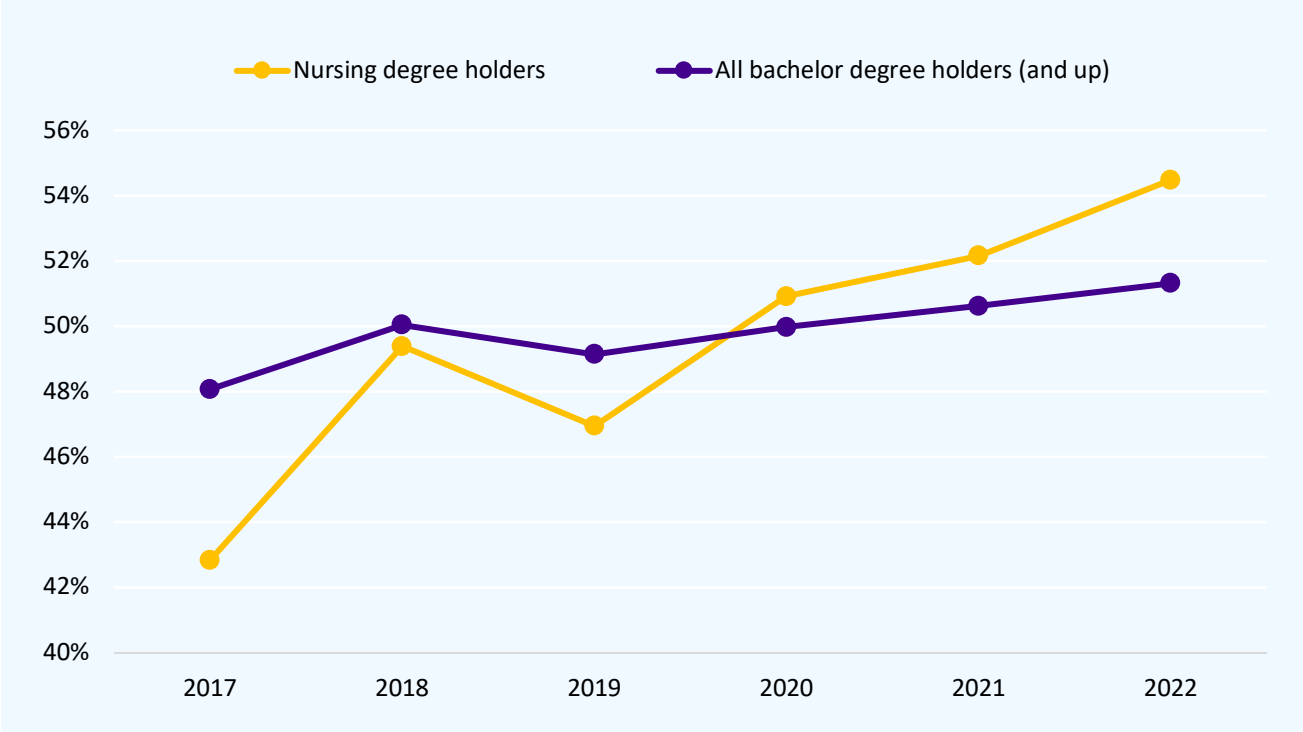
Table 4. Top 10 occupations of work for individuals trained as nurses but not currently working as a nurse, 2022.

Occupation	Count
Not in Labor Force, Over 65	5,754
Not in Labor Force, Under 65	4,722
Medical And Health Services Managers	5,301
Physicians	3,657
Post-Secondary Teachers	3,294
Elementary and Middle School Teachers	2,459
Home Health Aides	1,990
Personal Care Aides	1,807
Other Managers	1,686
Nursing Assistants	1,543
Secretaries And Administrative Assistants, Except Legal, Medical, And Executive	1,450

Note: Data from the American Community Survey 1-year files.

Nursing degree holders are retiring at a faster rate than workers of a similar educational background. For individuals over 55 years old, over 54 percent of nursing degree holders have left the labor force, whereas only about 50 percent of bachelor's degree holders have retired in this age group. This is a reversal of the trend seen before the pandemic, when fewer than 44 percent of nursing degree holders over 55 had left the labor force, compared to 48 percent of bachelor's degree holders.

Figure 12. Percent of individuals aged 55 and older who are not in the labor force.



Note: Data from the American Community Survey 1-year files.

Conclusion

Upstate New York's hospitals urgently need a plan to increase staffing of both RNs and ancillary support staff. The 2021 Clinical Staffing Committee Law attempted to ensure safe patient care by setting forth standards for RNs and ancillaries – but, as this report shows, the reality falls far short of these requirements.

Approximately 90 percent of shifts in Upstate hospitals are understaffed, either by RNs or by ancillary support staff. RN understaffing occurs in over 70 percent of shifts outside of the ICU (which typically has adequate RN staffing), rising to 84 percent of shifts in step-down units. Ancillary understaffing occurs in between 75 and 95 percent of all hospital shifts – including the ICU, where about 80 percent of shifts are understaffed by ancillaries.

Chronic understaffing undermines patient care, even leading to increased patient mortality overall. Past research on such mortality risks, when applied to the findings in this report, indicates an increase in patient mortality by over 14 percent for the worst 10 percent of hospital shifts. This is equivalent to an additional 280 patient deaths for every 100,000 hospitalizations (up from a baseline of 2,000 deaths per 100,000 hospitalizations).

Moreover, chronic understaffing poses a threat to the hospital workforce, which has seen high burnout rates among overwhelmed nurses and ancillaries, especially during the Covid-19 pandemic. Nurses report high levels of moral injury, stress, and burnout. In turn, many RNs and ancillary caregivers leave the workforce to find less stressful work or to retire early. While the Upstate hospital workforce has slowly started to recover from some of its pandemic decline, this recovery has been so gradual that it would take over 9 years to reach safe staffing levels given the current trend; and this optimistically assumes there will be no increases in staff burnouts.

Solving this crisis for Upstate New York's hospitals will require a staffing increase of about 5,000 RNs and about 20,000 ancillary staff. Fortunately, there are already about 70,000 trained RNs in the state who do not work as nurses, who could be recruited into nursing roles with adequate incentives.

Many of these nurses are well-trained and could provide vital support as the healthcare workforce develops a new generation of healthcare workers and continues to recover from the stress of the Covid-19 pandemic. Supporting nurses by enforcing the 2021 Clinical Staffing Committee Law is a key component to improving the job quality for nurses, improving patient care outcomes, and ensuring a strong healthcare system that will meet the needs of New Yorkers.

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