

## CWA District 1 Testimony for 2019 Joint Budget Hearing on Health: the Costs of Understaffing

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### *Introduction*

There is a crisis of patient safety in our hospitals and nursing homes in NYS. This crisis is caused by inadequate staffing of our health care institutions. The system for healthcare worker staffing that is now in place varies widely, is not transparent to the public and endangers patients and residents in our hospitals and nursing homes.

The acknowledgment in the Governor's 2020 budget briefing book of the need for action on health care staffing is a significant step forward for NYS. The costs of understaffing, from patient lives to grave patient harm, must be acted upon.

But this acknowledgement is not enough. A study of the problem is a necessary but inadequate first step. We believe the budget must include clear language empowering the Department of Health to regulate staffing, and clear instructions to the DoH that a new staffing regulatory regime must be devised and implemented. We need unequivocal language laying out a path to safe staffing ratios to protect healthcare workers and patient safety. Patient safety cannot wait.

Any study on this subject must examine how staffing ratios can be used to improve patient safety and quality healthcare services, and consider the costs of chronic understaffing in acute and long-term care.

As a union that represents over 10,000 healthcare workers in NYS, we are hearing daily from members about the impossible choices they have to make because they do not have enough staff to adequately care for their patients and residents. Staffing is on the top of the list of poor working conditions for our members year after year. However, this is not exclusively a labor issue. The terror that our members face on a daily basis is not about the bathroom breaks and lunches they are forced to work through, it is the care that goes undone, the minutes patients and families are left waiting and the pit in

workers' stomachs that comes from knowing that given more staff they could've done more.

Our members file hundreds of forms with management each year stating that they are working in unsafe conditions that could jeopardize patient safety. While the geography and size of those hospitals vary widely, the patients and types of floors do not. The needs of patients that have gone through open heart surgery or have pneumonia are not different from Buffalo to Manhattan. Therefore, the ratios of healthcare workers to patients in departments created to care for a certain type of patient are actually fairly consistent regardless of the size or location of the hospital. However, the staffing ratios that each facility provides for one type of patient department are often very different. Not only do the ratios change by geography and system, they also fluctuate wildly day by day. Even when the plans for staffing appear sufficient, facilities are consistently staffing below their own stated goals. The result is an intolerable cost to our state's patients, residents, their families and the healthcare workers that bear the burden of knowledge.

## **I. Costs of Understaffing: Lives Lost**

The most urgent reason we need a path to these minimum nurse and other healthcare worker ratios is because patients' lives are at stake. From decades of research, it is undeniable that safe staffing saves lives. There are three studies among many that best illustrate this point:

### **Study 1**

The first is an analysis of 28 studies, which found a consistent relationship between higher RN staffing and fewer hospital-related deaths. Adding one RN per patient day was associated with a 9% reduction in odds of death for ICU patients and a 6% reduction for medical patients (Kane et al, 2007). The study concluded that if these associations are causal, then adding one RN per patient day would save 5 lives per 1,000 ICU patients, 5 lives per 1,000 medical patients and 6 lives per 1,000 surgical patients (Kane et al, 2007). See Figure 1.

# More Nurses, More Survivors

Increased Likelihood of Patient Survival with One Additional RN per Patient Day

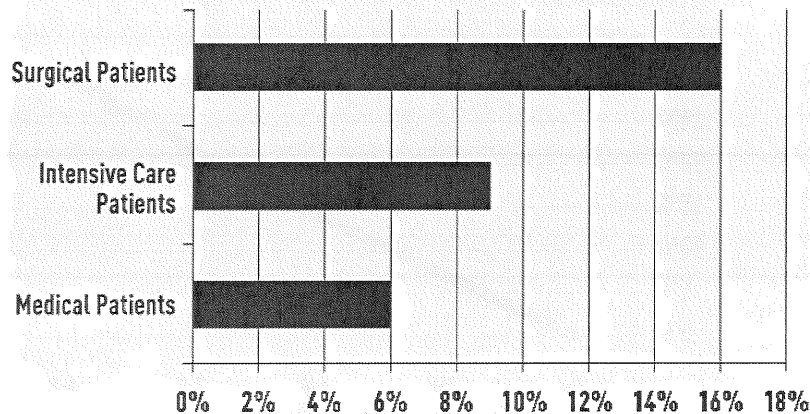


Figure 1: More Nurses, More Survivors (Kane et al, 2007)

## Study 2

The second was a longitudinal study examining data over time from a single hospital, matching nurse staffing, shift-by-shift, with the actual patients cared for (allowing for more sophisticated adjustments for patient acuity and risk). The study, which included nearly 200,000 hospitalizations across 43 hospital units, found that the risk of death rose by 2% for each shift in which RN hours were eight hours or more below target staffing levels, with higher risk if the low staffing occurred in the first five days of hospitalization (Needleman et al, 2011).

## Study 3

The third study describes how each additional patient per nurse was associated with a 7% increase in the likelihood of dying within 30 days of admission (Aiken et al, 2002). See figure 2.

## Higher Workloads, More Deaths

Odds of Patient Mortality Go Up with Each Patient Added to a Nurse's Workload

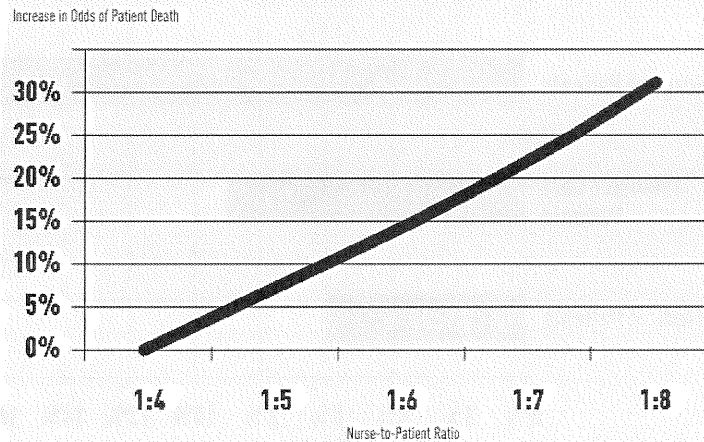


Figure 2: Higher Workloads, More Deaths (Aiken et al, 2002)

## II. Costs of Understaffing: Complications/Adverse Events

The costs of understaffing can also be measured by patient complications or adverse events, which are all different ways of describing patient harm. One study found that an increase of 1% in RN nurse staffing reduced the number of adverse events by 3.4%, and a 5% increase reduced adverse events by 15.8%. In addition to the human cost and associated increase of length of stay and treatment costs for patients, some of these adverse events now lead to penalties from Medicare and Medicaid. See below for a list of some of the specific adverse events or complications that are associated with understaffing.

### A. Infections acquired in hospitals and nursing homes

Understaffing has been linked to an increase in hospital-acquired or nursing home-acquired infections in the following ways:

1. An increase by one RN per patient was linked to lower risk of hospital-acquired bloodstream infection (36%) in surgical patients, and a decrease of 1/10 of a nurse was linked to 40% higher odds of infection for very low-birthweight infants in neonatal ICUs (Kane et al, 2007 & Rogowski et al, 2017).
2. A 10% rise in “burned-out” RNs increased the rate of surgical site infections by over two per 1,000 patients, and urinary tract infections by over one per 1,000 patients (Cimotti et al, 2012).

3. Data from 799 hospitals in 11 states revealed that hospitals with worse RN nurse-to-patient ratios had higher rates of urinary tract infections (Needleman et al, 2002).
4. A rise in total hours of nursing care hours (RNs, LPNs and aides) was linked to lower rates of infections (Blegan, 2011).

#### B. Hospital-acquired pneumonia

1. An increase of 1 RN per patient day was associated with lower odds for hospital-acquired pneumonia; 30% in ICUs, 19% for all patients (Kane et al, 2007).
2. Data from 799 hospitals in 11 states revealed that hospitals with worse RN nurse-to-patient ratios had higher rates of pneumonia (Needleman et al, 2002).

#### C. Cardiac arrest

1. An increase by 1 RN per patient day in the ICU was associated with a 28% lower odds ratio for cardiac arrest (Kane et al, 2007).
2. Data from 799 hospitals in 11 states revealed that hospitals with worse RN nurse-to-patient ratios had higher rates of cardiac arrest (Needleman et al, 2002).

#### D. Respiratory failure

An increase by 1 RN per patient day was associated with a 60% decreased odds ratio for respiratory failure in ICUs (Kane et al, 2007).

#### E. Falls

A 2012 study found that lower nursing hours per patient day (total nursing care) accounted for 13% of the variance in falls. Nursing hours per patient day were significantly associated with “missed nursing care” (specific tasks), and even if specific “missed nursing care” such as patient ambulation were supplied, the impact of nursing hours still accounted for 8.3% of the variance in falls (Kalisch et al, 2012).

#### F. Unplanned Extubations

An increase by 1 RN per patient day was linked to 15% lower odds for unplanned extubation in ICUs (Kane et al, 2007). An unplanned extubation is when a patient requires life-supporting mechanical ventilation and their breathing tube inadvertently becomes dislodged from inside their endotracheal tube.

## G. Shock

Data from 799 hospitals in 11 states revealed that hospitals with worse RN nurse-to-patient ratios had higher rates of shock. Shock is a life-threatening condition of circulatory failure. The effects of shock are initially reversible, but rapidly become irreversible, resulting in multiorgan failure and death (Needleman, 2002).

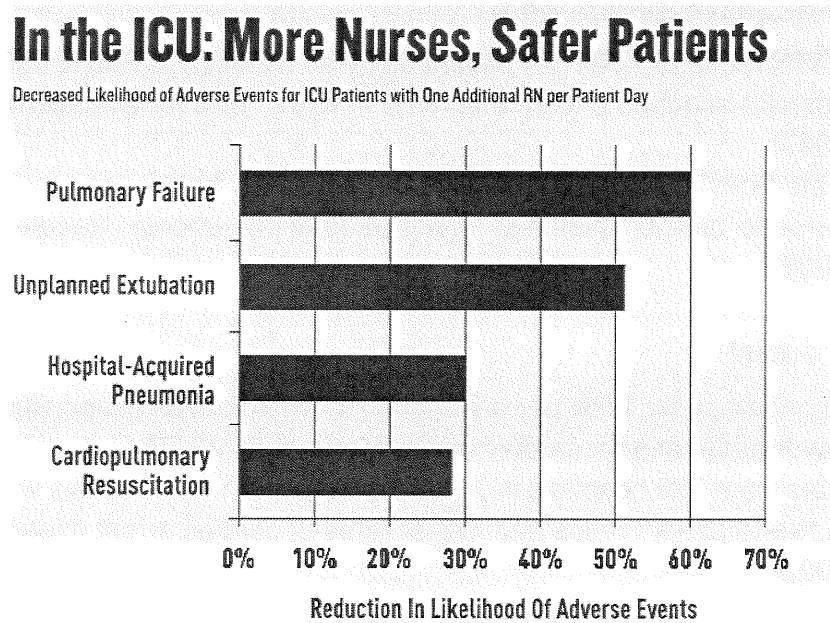


Figure 3: In the ICU: More Nurses, Safer Patients (Kane et al, 2007)

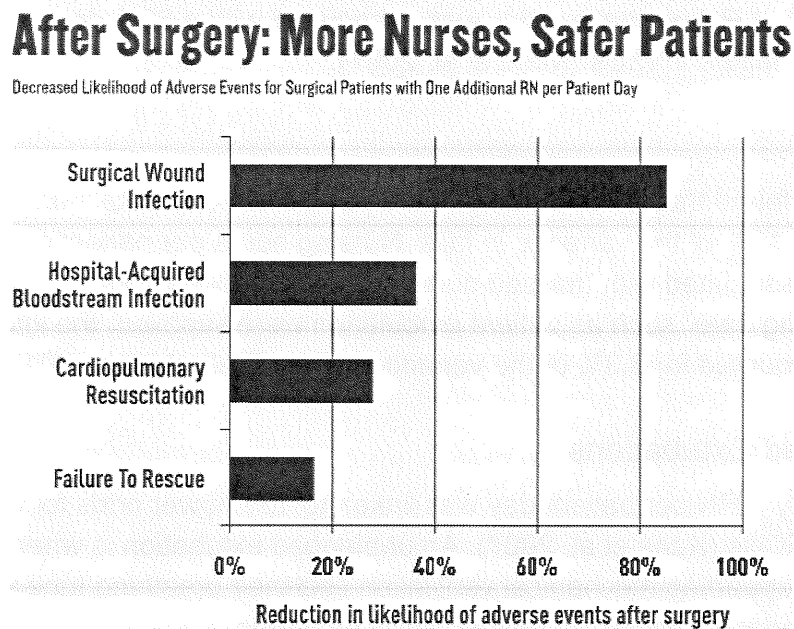


Figure 4: After Surgery: More Nurses, Safer Patients (Kane et al, 2007)

## H. Increased Readmissions

When there is short-staffing, patients are more likely to have to return to the hospital within 30 days. This is such an unacceptable outcome that Medicare penalizes hospitals when this occurs. In the most human terms, it is a terrible experience for patients and their families to be admitted to the hospital in the first place and even worse to return within the month after imagining the experience was finished. See below for a series of figures drawn from studies looking at staffing and 30 day readmissions:

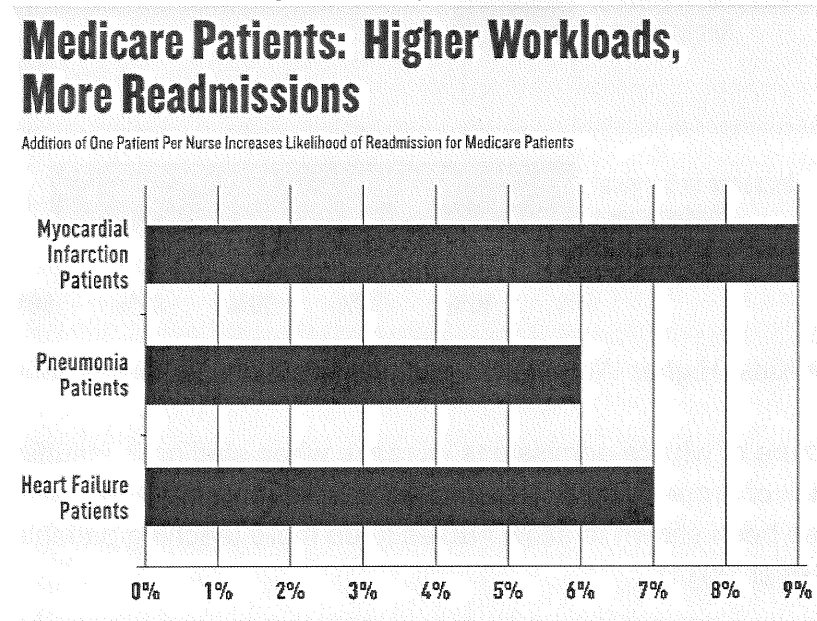


Figure 5: Medicare Patients: Higher Workloads, More Readmissions (McHugh & Ma, 2013)

## For Kids: Higher Workloads, More Readmissions

Addition of One Patient Per Nurse Increases Likelihood of Readmission for Pediatric Patients

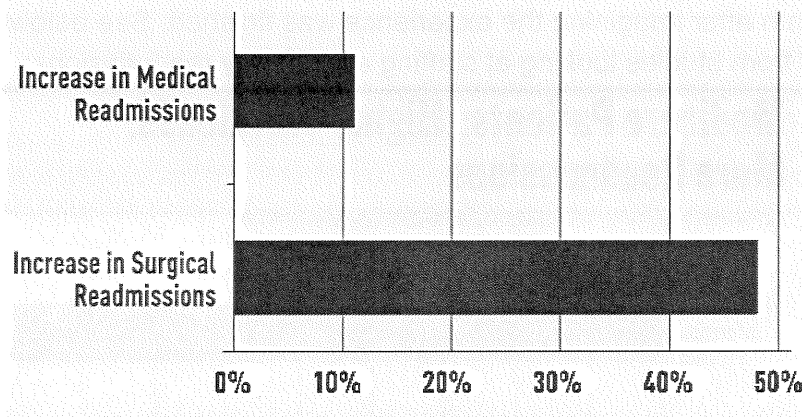


Figure 6: For Kids: Higher Workloads, More Readmissions (Tubbs-Cooley et al, 2013)

Part of the picture of why re-admissions increase when staffing is insufficient is likely related to a lack of proper discharge education for patients and their families. Increasing RN staffing has been shown to allow nurses to do more teaching patients what to do at home (Weiss et al, 2011).

### I. Higher Workers Compensation Claims

The California minimum nurse to patient ratio law implementation was associated with 31.6% fewer occupational injuries and illnesses than expected based on national averages, and the reduction for LPNs was 33.6% lower than expected (Leigh et al, 2014).

### J. Increased Length of Stay

The more understaffed the more likely patients would be to develop pneumonia, a complication that added 5.1 to 5.4 days to a hospital length of stay and \$22,390 to \$28,505 to hospital costs (Cho et al, 2003). While pneumonia was examined in this study, all of the significant adverse events will have some lengthening impact on a patient's hospital stay.

### K. Increased Costs of Litigation

The patient harm created by understaffing then creates litigation costs for hospitals and nursing homes. Nursing homes meeting the recommended staffing levels for RNs had a



23% lower rate of litigation; and those that did so for CNAs had a 15% lower litigation rate (Johnson, C. et al, 2004).

#### **L. Reduced Staff Turnover**

1. In hospitals with low nurse-to-patient ratios, nurses were more likely to experience burnout (Aiken et al, 2002).
2. Hospitals with low nurse retention rates spend, on average, \$3.6 million more than hospitals with high retention rates (Pricewaterhousecoopers, 2007).
3. Nurse turnover in a 2007 study was determined to cost between \$82,000-\$88,000 (Jones, C.B., 2008).

### **III. Costs of Understaffing: Nursing Homes**

While much of the above applies to nursing homes as well, there are additional costs and hindrances to quality of life associated with short-staffing in nursing homes, including increased use of psychotropic drugs and increased use of adult diapers. (Long Term Care Community Coalition, 2017).

### **IV. Evidence of Safe Staffing's Cost-Effectiveness**

- A. No one piece of research has taken into account the vast costs of chronic understaffing and the potential savings from adequate staffing described so far in this testimony. However, one study did investigate cost-effectiveness relative to patient mortality and understaffing. This study found that it was more cost-effective to save lives by safe staffing than thrombolytic therapy (clot-busting drugs) for heart attacks. See Figure 7. It was \$182,000 cost per life saved by thrombolytic therapy. It was between \$64,000 and \$136,000 to save a life by safe staffing (Rothberg et al, 2005).

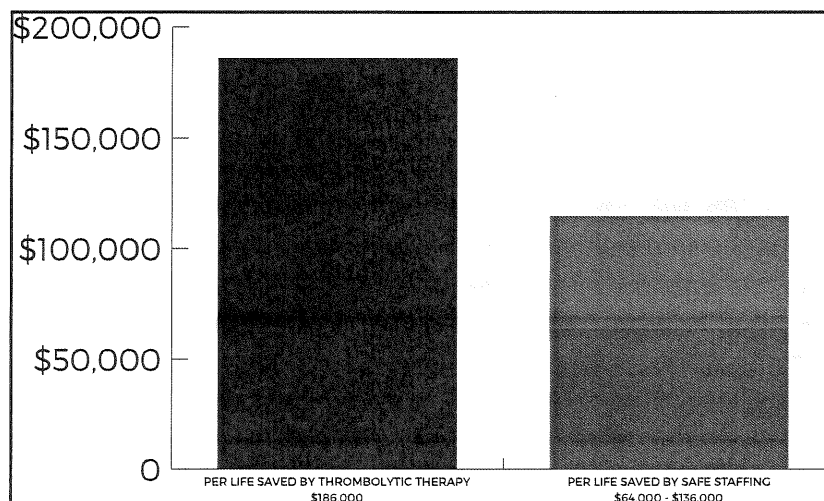


Figure 7: Safe-Staffing Cost-effectiveness Comparison (Rothberg et al, 2005)

- B. The other piece of evidence we have about the long term cost-effectiveness of safe staffing is the California experience. Revenue margins for California hospitals have seen robust increases over the long-term (California Healthcare Foundation, 2013). See Figure 8.

### More Nurses, Higher Margins

California Hospital Margins Increased After Safe Staffing Law

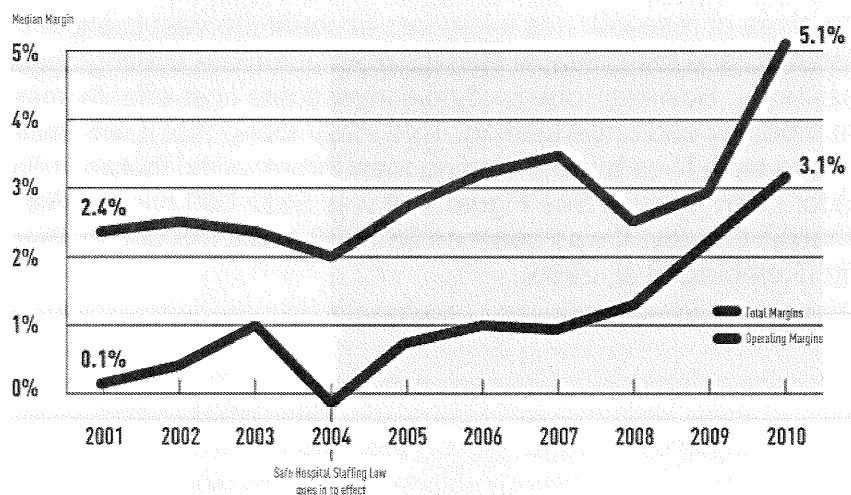


Figure 8: More Nurses, Higher Margins (California Healthcare Foundation, 2013)

## Conclusion

The acknowledgment in the 2020 budget briefing book of the need for action around staffing is a significant step forward for NYS. The costs of understaffing from patient

lives to grave patient harm must be acted upon. We need language in this budget that lays out a pathway to minimum nurse to patient ratios.

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