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Testimony
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Patient Safety Act HB106
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**Research Shows Pennsylvania's Patient Safety Act HB106
Is Predicted to Save Lives and Money**

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I am Professor Linda Aiken, Founding Director of the Center for Health Outcomes and Policy Research, University of Pennsylvania School of Nursing and Senior Fellow, Leonard Davis Institute of Health Economics. I am an elected member of the National Academy of Medicine and the American Academy of Arts and Sciences. The Center for Health Outcomes and Policy Research is the world's foremost authority on nurse staffing research. My research on nurse staffing has received the top research awards of the National Academy of Medicine, the Joint Commission that accredits hospitals and healthcare systems, and the International Council of Nurses. I am among the most cited social science researchers in the world.

The Center's mission is to produce objective, scientific evidence to inform healthcare services directions and policies. The Center's researchers have published hundreds of peer-reviewed research papers in the highest impact scientific journals on the outcomes of nurse staffing including policy outcomes evaluations of patient-to-nurse ratio policies enacted in California (1-4), in the state of Queensland, Australia (5), and proposed in New York State (6), and Illinois (7). With funding from the NIH, we have been studying the outcomes of Pennsylvania hospital nurse staffing since 1999 with numerous publications in high impact scientific journals over the past 20 years. **The common finding in all our policy outcomes research on nurse staffing is that there is significant variation across hospitals in nurse staffing adequacy with substantial adverse outcomes for the public and that establishing mandated minimum safe hospital nurse staffing standards saves lives and money.**

Policy Analysis of the Estimated Impact of HB106 on Patient Outcomes and Costs

Background: In 2002 the Center published what became a landmark scientific paper in the *Journal of the American Medical Association JAMA* cited over 8000 times showing great variation in patient-to-nurse staffing across Pennsylvania general acute hospitals (8). The variation was associated with substantial numbers of preventable deaths annually. We documented that every 1 patient increase in hospital inpatient nurses' workloads was associated with a 7% increase in mortality, a 7% increase in failure to rescue patients experiencing complications, as well as a 23% increase in nurse burnout and a 15% increase in nurse job dissatisfaction which are associated with expensive nurse turnover. We studied Pennsylvania hospitals again in 2006 and 2016 with the same results and are currently studying all Pennsylvania hospitals in 2023.

Our research findings using a rigorous NIH-funded research protocol inform consideration of HB106. Our independent, comprehensive study of the outcomes of nurse staffing variation across 114 Pennsylvania hospitals with linked PHC4 data on 522,873 patients shows:

1. There is significant variation in patient-to-nurse staffing across general acute non-federal hospitals in Pennsylvania. **Nurse staffing on adult medical and surgical units averages 5.6 patients per nurse and varies among hospitals from 3 to 11 patients per nurse.** This is huge variation in a hospital resource that has been shown in hundreds of studies to be associated with a wide range of patient outcomes including mortality, failure to rescue patients with complications, hospital acquired infections, patient satisfaction, length of stay, readmissions, and patient safety.
2. After considering differences between Pennsylvania hospitals in 33 different aspects of patient severity of illness and organizational characteristics like teaching status, technology availability, hospital size, and whether metro, micro, or rural location:
 - In-hospital mortality increased by 7% for each additional medical patient and 8% for each surgical patient added to nurses' workloads
 - 13% of adult medical patients and 9% of surgical patients were readmitted within 30 days of discharge. Readmissions increased by 2% for medical patients and 4% for surgical patients for each 1 patient increase in nurses' patient workloads.
 - Average length of stay was 4.68 days for medical patients. Each 1 patient increase in nurses' workloads increased the odds of a patient staying a day longer by 2%.

If HB106 is passed requiring nurses in Pennsylvania hospitals to care for no more than 4 adult medical and surgical patients each (outside ICUs), we estimate:

- **1,155 hospital deaths would be prevented annually.**
- **771 hospital readmissions would be avoided annually.**
- **Length of stay would be reduced by 39,919 days annually.**

- Length of stay reductions alone would save Pennsylvania hospitals \$93 million annually.
- Additional savings would accrue to hospitals for achieving higher patient satisfaction, avoiding Medicare readmission penalties, and reducing nurse turnover which currently costs Pennsylvania hospitals many millions of dollars annually.
- Increased hospital costs of hiring more nurses would be substantially offset by cost-savings from better patient outcomes and lower nurse turnover.

Other considerations:

- In a recent national Harris Poll, **90% of the public favor mandatory minimum nurse staffing standards in hospitals** (9)
- Mandated minimum nurse staffing ratios as in HB106 is **not one size fits all** as hospitals can elect to staff better than the minimum required.
- Setting a minimum nurse staffing level does not result in hospitals with better staffed hospitals prior to the legislation reducing their staffing to the minimum as evidenced by 20 years of data from California.
- Would a nurse shortage be created in Pennsylvania by passing the legislation? Not likely because:
 - **Pennsylvania has a significantly greater supply of nurses than the national average and most other states.** The national average is 9.19 RNs per 1000 population; Pennsylvania has 11.48 RNs per 1000 population. Only 5 other states plus DC have a better supply of nurses than Pennsylvania. California successfully implemented ratios with a significantly lower nurse supply than Pennsylvania at 8.20 RNs per 1000 population. Every year more than 185,000 new nurses graduate nationally. The U.S. supply of nurses is increasing by more than a million RNs every 10 years.
 - Pennsylvania is now a Nurse Licensure Compact State meaning that nurses from 40 states can work in Pennsylvania without having to get a new license which would make it easier to attract nurses from other states if necessary to meet the new staffing requirements.
 - Research shows that better staffed hospitals have greater success recruiting and retaining nurses. Indeed, there is much evidence that the current difficulties hospitals are experiencing recruiting and retaining nurses are due to chronic nurse understaffing and poor work environments that predated the pandemic.

- HB106 includes mandated minimum safe hospital nurse staffing ratios and mandated hospital nurse staffing committees. It is important to note that research shows that hospital nurse staffing committees without mandated ratios have had no impact on improving nurse staffing or reducing nurse staffing variation in the states where staffing committees have been adopted. (10)

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