QUANTIFYING A CRISIS WITH MULTIPLE DATA SOURCES: RN STAFFING CHALLENGES IN MASSACHUSETTS ARE MORE ABOUT RETENTION THAN SUPPLY CHARLOTTE BURLINGAME, MA; SASHA ALBERT, PhD; DAVID AUERBACH, PhD

INTRODUCTION

The health care system is experiencing significant workforce challenges, both at the national level and in Massachusetts. One major challenge involves the nursing workforce, where preexisting burnout, stress, and lean staffing were exacerbated by the COVID-19 pandemic,¹ leading to many short-staffed nursing units and heavy reliance on contract labor.

Registered nurses, particularly those in hospitals, have experienced high turnover amid difficult and disrupted work environments,² which contributes to depletion of institutional knowledge and worsens continuity of patient care.

OBJECTIVES

Due to the complexity and current fragility of the health care system and the interconnectedness of roles within it, health care systems have had difficulty addressing nurse staffing challenges. Likewise, there is no single data source that captures up-to-date information about employment trends within roles and across settings, including metrics such as training, vacancies, and turnover.

To better understand the crisis in nursing, the Massachusetts Health Policy Commission (HPC) sought to synthesize multiple data sources to understand where Massachusetts nursing workforce challenges are most acute in terms of the workforce life cycle – pipeline, employment, retention, and advancement.

STUDY DESIGN

The HPC used several types of data to measure trends throughout the workforce life cycle and attempt to identify where challenges exist (**Table 1**).

Degrees conferred by Massachusetts post-secondary institutions for registered nursing programs³ and NCLEX-RN licensure exam pass rates for first time, U.S.-educated candidates taking the exam for U.S. licensure⁴ were examined to measure trends in the nursing pipeline.

Stakeholder interviews and literature were used to understand issues in different settings of care and contextualize information found in the data.

The Occupational Employment and Wage Statistics series from the Bureau of Labor Statistics⁵ was used to examine trends in nurse wages and employment. To understand trends in contract labor and hospital

LIFE CYCLE STAGE	DATA SOURCE	METRICS
Pipeline	U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics	Degrees earned
	National Council of State Boards of Nursing	Licensure exam completion rates
Employment	Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment and Wage Statistics, 2021.	RN wage and employment trends
Retention	National Academy for State Health Policy, Hospital Cost Tool Data, 2022.	Contract vs hospital- employed wages
	National Sample Survey of Registered Nurses, U.S. Department of Health and Human Services, Health Re- sources and Services Administration, National Center for Health Workforce Analysis. 2018.	Reasons for leaving positions
Advancement	American Community Survey, 1-year Sample, 2021.	Age distribution of RNs
	U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics	Degrees earned

labor costs, the HPC looked at data from the CMS hospital cost reports as aggregated by the National Academy for State Health Policy⁶, along with Massachusetts hospital discharge data⁷ to address incomplete hospital reporting. The American Community Survey⁸ provided more granular trends in RN employment by setting and age.

To better understand reasons for leaving nursing and working conditions, the HPC relied on the 2018 National Sample Survey of RNs⁹ and state-level surveys conducted on behalf of the Massachusetts Nurses Association.

EXHIBIT 1. RN employment per 100,000 population by setting, Massachusetts vs United States, 2015 – 2021



EXHIBIT 2. Change in average wages for patient care labor for contractor vs employed hospital staff, Massachusetts, 2011-2021



EXHIBIT 3. Cycle of turnover in nursing units



EXHIBIT 4. Age Distribution of RNs, Massachusetts vs U.S. average, 2019-2021



RESULTS

PIPELINE. The number of graduates from nursing programs did not significantly change with the onset of the pandemic, with the total number of nursing degrees increasing over time from 4,796 in 2017 to 5,061 in 2020. The number of people who took the NCLEX-RN declined only 0.6% in 2021 relative to 2018, largely due to an increase in candidates with baccalaureate degrees and a decrease in candidates with associate degrees.

EMPLOYMENT. There are more RNs per capita in Massachusetts than the U.S., with 1,291 RNs per 100,000 residents as of 2021, and a 12% per-capita increase from 2015 to 2021 (Exhibit 1). Likewise, Massachusetts RN employment and wages across all care settings increased by 6.5% and 8.2% respectively, from 2017 to 2021. However, wages for contract patient care providers in hospitals have grown more quickly than wages for hospital employees (Exhibit 2).

RETENTION. As of 2018, 88% of Massachusetts RNs were considering leaving their positions, and over a quarter of these RNs were considering leaving nursing altogether.¹⁰ Massachusetts RNs continued to report workplace challenges throughout the pandemic, with over 60% of those surveyed in 2021-2022 citing insufficient time for their patients.¹¹ Stakeholders report high turnover during the pandemic has also led employers to rely on contract labor to backfill positions, which has created less cohesion with other staff, limited nursing units' capacity to mentor new nursing graduates, and raised the cost of labor¹² (Exhibit 3).

ADVANCEMENT. Completion of advanced degree programs has risen by nearly 86% from 2017-2020. However, Massachusetts has an increasingly older RN workforce compared to the U.S., with the share of nurses aged 35-49 declining 4.2 percentage points from 2019 to 2021 (Exhibit 4).





CONCLUSIONS

Combining publicly available data sources provides a fuller picture of trends and challenges in the nursing workforce and helps to identify opportunities for intervention, an approach that can be used by other states to evaluate the strengths and needs of their own nursing workforces.

The HPC found that ultimately, challenges for the Massachusetts RN workforce are concentrated around employment and retention issues, rather than stemming from an overall lack of nurses. Improvement is needed in workplace environments with mentoring new nurses, supporting staff, compensation, and schedule flexibility to address ongoing retention challenges both within a given job and across the workforce broadly.

POLICY IMPLICATIONS

Solutions to RN turnover and vacancies lie in addressing the conditions that contribute to unsustainable working environments for nurses. Health care systems can focus on job quality and retention by improving mentoring for new nurses, enhancing compensation and schedule flexibility, and increasing support for preceptors, appropriate use of paraprofessional roles, and mitigation strategies for workplace violence incidents.

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