

Four Challenges Facing the Nursing Workforce in the United States

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Four challenges face the nursing workforce of today and tomorrow: the aging of the baby boom generation, the shortage and uneven distribution of physicians, the accelerating rate of registered nurse retirements, and the uncertainty of health care reform. This article describes these major trends and examines their implications for nursing. The article also describes how nurses can meet these complex and interrelated challenges and continue to thrive in an ever-changing environment.

Keywords: Nursing workforce, physician shortage, registered nurse retirements

Over the first 15 years of the 21st century, the size, education, and age of the nursing workforce changed considerably. The annual number of nursing graduates increased rapidly. The growth of registered nurses (RNs) prepared with bachelor's degrees exceeded those prepared with an associate's degree starting in 2011, and the number of RNs who have obtained a graduate degree (master's, PhD, or doctorate in nursing practice) increased fourfold. Moreover, the size of the workforce increased by approximately 1 million RNs, with employment growth occurring in hospital and nonhospital settings. Since 2000, the number of employed RNs older than age 50 years increased by 600,000, and these older RNs currently account for 30% of RNs working in hospital settings and 40% of RNs working in nonhospital settings (Buerhaus, Skinner, Staiger, & Auerbach, In press).

These changes in the RN workforce occurred alongside other forces. The new millennium began with a national shortage of more than 100,000 RNs that lasted until 2003, a brief but sharp economic recession in 2001, and the development and spread of the quality and safety movement. The Great Recession in 2007 to 2009 was followed by a slow and prolonged recovery, the implementation of health reforms created by the 2010 Patient Protection and Affordable Care Act (ACA), and the release of the National Academies Institute of Medicine Report, *The Future of Nursing: Leading Change, Advancing Health* (Institute of Medicine, 2010).

The increasing educational preparation of RNs, the growth in the size of the nursing workforce, and the ability to overcome nursing shortages, recessions, and health reform implementation establishes a strong foundation that can sustain the nursing profession as it faces new and unprecedented challenges that lie ahead. This article discusses four challenges that RNs throughout the country will face during the next 20 years. They include the aging of the nation's baby boom generation, physician shortages, the retirement of RNs, and a new era of health reform implementation.

These challenges will undoubtedly affect nursing regulation, particularly those rules concerned with patient care safety in acute and non-acute care settings, use of technology, access to care, scopes of practice for both nurse practitioners (NPs) and RNs, and accreditation of nursing education programs. Regulators will need to be alert for new regulations that may be needed or current regulations that may need to be examined and updated to help nurses successfully respond to each of these challenges.

Aging of the Baby Boom Generation

An estimated 76 million people were born during the baby boom from 1946 to 1964, far more than any generation born before them (Colby & Ortman, 2014). By 2030, all baby boomers will be aged 70 years and older, and the number of U.S. seniors will be 55% greater than that in 2015 (Kirch & Petelle, 2017). The U.S. population aged 85 years and older will double from 6.3 million in 2015 to nearly 13 million by 2035 (See Figure 1), and the number of U.S. residents aged 100 years will triple between today and 2045 (U.S. Census Bureau, 2014).

Currently, 54 million people are enrolled in Medicare, which provides health insurance coverage to U.S. citizens aged 65 years and older, people with end-stage renal failure, and people with certain disabilities (Centers for Medicare and Medicaid Services [CMS], 2017). As baby boomers age, Medicare enrollment is projected to grow to 80 million in 2030 (CMS, 2016) and lead to a substantial increase in demand for health care. Because the demand for RNs is closely related to the factors that drive the demand for health care, as the Medicare population increases, so too will the demand for RNs.

The large numbers of aging baby boomers will also increase the intensity and complexity of the nursing care required. Because of advancements in medicine, more active lifestyles, and lower rates of smoking, emphysema, and myocardial infarction, baby boomers

are predicted to have longer life expectancies than previous generations and therefore will use more health care services financed by Medicare (King, Matheson, Chirina, Shankar, & Broman-Fulks, 2013).

Although baby boomers may be living longer, the prevalence of chronic diseases among them is increasing. By 2030, 40% of baby boomers are expected to have diabetes, 43% are expected to have heart disease, and 25% are expected to have cancer. Additionally, the percentage of Medicare beneficiaries with three or more chronic conditions is predicted to increase from 26% in 2010 to 40% in 2030 (Goldman & Gaudette, 2015). Chronic disease management will stimulate an increase in the demand for health care providers, the complexity of treatment regimens, the use of prescription medications (with consequent untoward adverse effects), the potential for conflicting medical advice, and the risks of duplicative tests, hospitalizations, and emergency visits (Centers for Disease Control and Prevention, 2013).

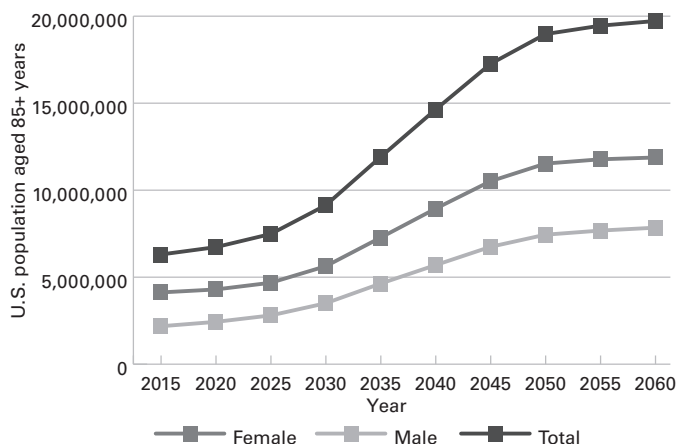
Approximately 11% of adults aged older than 65 years and 32% aged older than 85 years have Alzheimer disease (Alzheimer's Association, 2016). Degenerative and debilitating diseases will require long-term care and challenge families, professional caregivers, and public resources. In the United States, the old-age dependency ratio (number of people aged 65 years and older per 100 people aged 20 to 64 years) will increase from 21 in 2010 to more than 30 by 2030 (Ortman, Velkoff, & Hogan, 2014), increasing pressures on health care providers and family caregivers.

Aging baby boomers are also expected to affect the geography of retirement. In 2010, states with the highest proportion of their population aged older than 65 years were Florida (17%), West Virginia (16%), Maine (16%), and Pennsylvania (15%) (West, Cole, Goodkind, & He, 2014). In 2014, 32% of women and 18% of men aged older than 65 years lived alone (Stepler, 2016). If baby boomers follow the pattern of past generations, the rural and small-town population of 55- to 75-year-olds will increase to 14 million by 2020. Much of this growth is reflected by "aging in place," in which older people have remained in rural communities, while younger people have left for urban areas (Baernholdt, Yan, Hinton, Rose, & Mattos, 2012). However, those living in rural areas have access to fewer health and social resources than those in urban areas, and they have higher rates of poverty, unemployment, substance abuse, and depression. Older people living in rural areas often face a double jeopardy. In addition to the increased risk of age-associated mental health problems and cognitive degenerative diseases, those living in rural areas are more likely to experience social isolation and inadequate or no access to mental health services (Administration on Aging, 2011).

The increased number of older people, the complexity of their health conditions, their geographic location, and their need for social services and family involvement will pose many challenges for nurses and health care delivery organizations in the coming years. Not only will the demand for nurses increase, but also the intensity and types of nursing care required will rise.

FIGURE 1

Projections of Male, Female, and Total Number of the U.S. Population Aged 85 Years and Older, 2015–2060



Source: U.S. Census Bureau (2014).

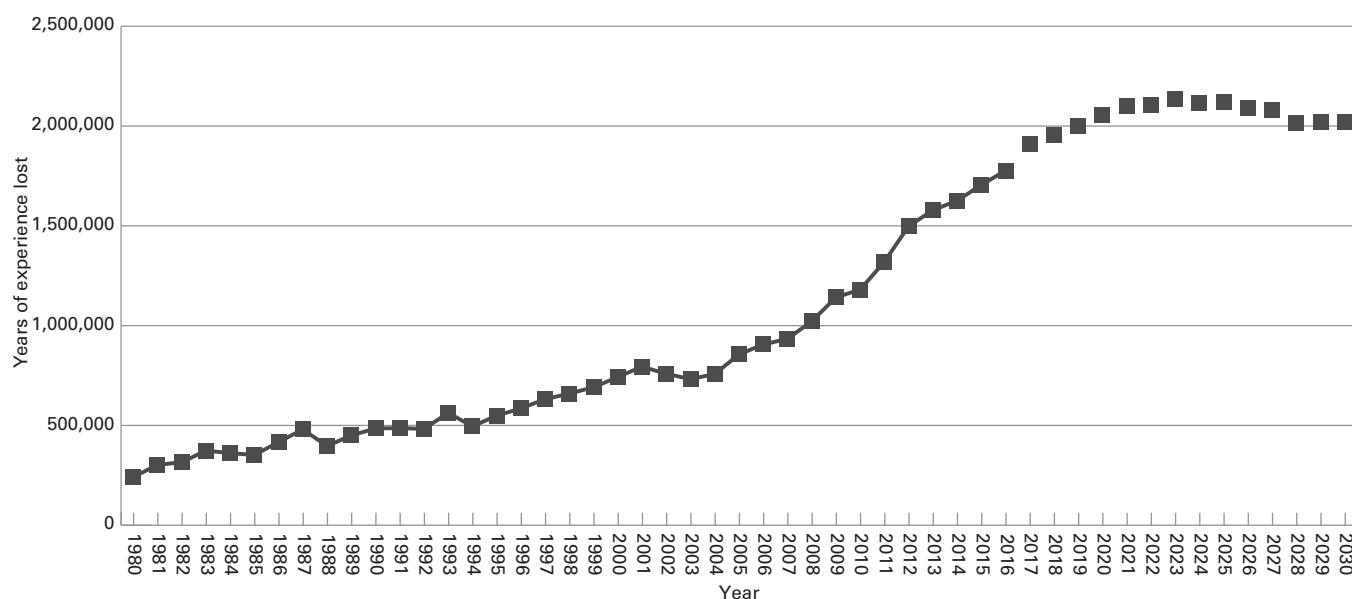
Physician Shortages

The American Association of Medical Colleges estimates a shortage of between 40,800 and 104,900 physicians by 2030 driven by decreasing working hours, retirement, and increasing demand, particularly from aging baby boomers (Kirch & Petelle, 2017; Association of American Medical Colleges, 2017). Separately, the Health Resources and Services Administration (HRSA) projects a shortage of 24,000 primary care physicians by 2025, mainly because of the aging of the population and the overall population growth (HRSA, 2016). However, not all agree that physician shortages exist. For example, Gudbranson, Glickman, & Emanuel (2017) argue that with improvements in the organization of health care, gains in administrative efficiency, and technologic advances in telemedicine and communication, the size of the physician workforce is more than adequate to meet current and future demands of the U.S. population.

Despite discrepancies regarding the estimates on the size, timing, and existence of primary care and specialty physician shortages, little disagreement exists regarding the uneven geographic distribution of physicians (Gudbranson, Glickman, & Emanuel, 2017). Rural areas average 68 primary care physicians per 100,000 residents; urban areas average 80 per 100,000 (Champlin, 2013). Residents of rural areas are already reporting long wait times and difficulties accessing a physician (Kirch & Petelle, 2017). On the eve of the ACA's 2014 health insurance expansions, nearly 60 million people had inadequate access to primary care, and the HRSA reported 5,900 health professional shortage areas in the United States (Graves et al., 2016).

Current and projected shortages of primary care and specialty care physicians as well as the persistent uneven geographic distribution mean that the nursing workforce will be increas-

FIGURE 2

Years of Experience Lost to the RN Workforce, 1980–2030^a

^a Years of experience is the product of the number of registered nurses (RNs) leaving the workforce and the average years of experience for each. The latter is approximated based on data from the *National Sample Survey of Registered Nurses*, conducted by the Health Resources and Services Administration, in which RNs were asked how many years they had worked as RNs. Source: Current Population Survey, 1980–2000, <https://www.census.gov/programs-surveys/cps.html>. American Community Survey, 2001–2015, <https://www.census.gov/programs-surveys/acs/>.

ingly called on to provide some care that would otherwise be provided by physicians (DesRoches, Clarke, Perloff, O'Reilly-Jacob, & Buerhaus, In press).

Retirement of Registered Nurses

Beginning in the early 1970s, career-oriented and primarily female baby boomers embraced the nursing profession in unprecedented numbers following large increases in health care spending resulting from the introduction of Medicare and Medicaid (Buerhaus, Auerbach, & Staiger, 2017). By 1990, baby boomer RNs numbered nearly 1 million and accounted for about two-thirds of the RN workforce (Buerhaus, Staiger, & Auerbach, 2000). As these RNs aged over the next two decades, they accumulated substantial knowledge and clinical experience. The number of boomer RNs peaked at 1.26 million in 2008 and, after a brief delay in the early part of the current decade (likely associated with the Great Recession), the baby boomer RN cohort began retiring in large numbers (Auerbach, Buerhaus, & Staiger, 2014). Since 2012, roughly 60,000 RNs have exited the workforce each year, and by the end of the decade, more than 70,000 RNs will be retiring annually (Staiger, Auerbach, & Buerhaus, 2012; Auerbach, Buerhaus, & Staiger, 2015). In 2020, baby boomer RNs will number 660,000, roughly half their 2008 peak.

The retirement of 1 million RNs between now and 2030 means the years of nursing experience and knowledge they have

accumulated will be lost to the nursing workforce as these RNs exit from the workforce. The authors estimate that in 2015, the nursing workforce lost 1.7 million experience-years (the number of retiring RNs multiplied by the years of experience for each RN), double the number in 2005 (See Figure 2). This trend will continue to accelerate as the largest groups of baby boomer RNs reach their middle to late 60s. The departure of such a large cohort of experienced RNs means that patient care settings and other organizations that depend on RNs will face a significant loss of nursing knowledge and expertise that will be felt for many years to come.

Health Care Reform

The 2016 elections gave Republicans control over the White House and Congress and, as promised, they initiated efforts to repeal and replace the ACA. As of this writing, they have not been able to do so, and the main goals of the ACA remain: improving the efficiency of health care delivery systems, expanding insurance coverage, increasing the number of certain health care professionals, emphasizing health education and disease prevention, and replacing fee-for-service payment with a value-based system. Determining the direct impact of these reforms on the nursing workforce is difficult, but RN employment in both hospital and nonhospital settings has continued to grow over the past several years (Buerhaus, Skinner, Staiger, & Auerbach, In press).

However, the new administration and Congress now seek to scale back and either modify or reform the ACA in several ways, including eliminating personal and employer mandates to purchase health insurance, converting Medicaid to a block grant program, promoting health savings accounts, emphasizing greater competition among insurers, and allowing states more flexibility in determining what constitutes essential health benefits and coverage of pre-existing conditions (Antos & Capretta, 2017). Recent Congressional Budget Office estimates suggest that these provisions would lead to large reductions in the number of people with health insurance. If the Congressional Budget Office estimates are reasonably accurate, the demand for health care would fall toward pre-ACA levels, and hospitals would once again contend with a larger portion of uncompensated care. Moreover, how an increasing portion of uninsured hospital patients will affect nurse employment is unclear, but greater financial pressure on hospitals could lead to lower RN wages and hospital closures.

Meeting the Challenges

Each of these challenges is formidable and will significantly affect the RN workforce. What is more, these challenges will occur simultaneously and interact with each other, making the next 15 years perhaps the most important time in the nursing profession's history.

Aging Baby Boomers

Given the large number of baby boomers with multiple chronic diseases, the nursing profession should realize that its clinical workforce will be unable to provide all the care required. After all, nursing education undergraduate and graduate programs offer little focused content on geriatrics, and such content has never been popular with nursing students. Thus, nurses should not count on the education system to meet this challenge. Instead, nurses should form partnerships with others—social workers, pharmacists, community health departments, primary care and other physicians, community health workers, churches, home health care agencies, long-term care facilities, and emerging health care delivery systems—to both understand the scope of need in their communities and to determine how resources can best be organized to provide a more coordinated and efficient system of care delivery. Such partnerships can involve community housing planners; schools of engineering, business, and architecture; developers of wearable digital sensors; and others who can contribute to modifying physical environments, developing business ventures, and enabling digital devices to ease the burdens on aging boomers and make better use of professional and family caregivers.

Nurses in policy positions can urge state legislatures to recognize the health care implications of aging baby boomers and to find nonpartisan public policy strategies that can help nurses and others improve the care of the nation's aging society. Similarly, nurses can develop interprofessional models of care that go beyond

physical care to provide mental and behavioral health support, especially for patients with Alzheimer disease and other cognitive degeneration conditions. Nurses, by themselves, are unlikely to be able to provide all the needed care, but they can lead the development of new care models and interprofessional and interdisciplinary teamwork as well as increase their influence in shaping private and public policies and removing barriers to appropriate care delivery.

Shortages of Physicians

Although the magnitude of physician shortages is uncertain, little doubt exists about their effect. They will impact nurses providing primary or specialty care, particularly in rural areas and for vulnerable populations—women, low-income people, the uninsured, people who do not speak English as a first language, people with disabilities, people who are dually eligible for Medicare and Medicaid, and Native Americans and African Americans (DesRoches, Clarke, Perloff, O'Reilly-Jacobs, & Buerhaus, *In press*). The expected increase in demand for primary care and the uncertainties associated with payment and delivery reforms have invigorated policymakers to address how to ensure the primary care workforce can respond to the health needs of all U.S. individuals.

Efforts aimed at removing restrictive state-level scope-of-practice laws and regulations governing NPs should continue. Additionally, regulations promulgated at the local level (namely by hospitals and insurers affecting NP hospital admitting privileges reimbursement, etc.) can also constrain NPs' scope, often more directly, even in states that do not impose state-level restrictions, will need to be carefully examined. Growing evidence on the cost, quality, consumer satisfaction, and other contributions of primary care NPs is stimulating policymakers and influential health organizations to increase the number of NPs and to expand their scopes of practice (Donelan, DesRoches, Dittus, & Buerhaus, 2013; DesRoches, Gaudet, Perloff, Donelan, Iezzoni, & Buerhaus, 2013; Buerhaus, DesRoches, Dittus, & Donelan, 2015; Perloff, DesRoches, & Buerhaus, 2016). However, rather than viewing the lifting of scope-of-practice restrictions as a fight between nurses and physicians, NP leaders could structure their public policy arguments around the opportunity (and evidence) that NPs can increase access to care, especially to aging and medically complex baby boomers and people living in rural areas (which should appeal to Democrats), and reduce costs and increase consumer choice (which should appeal to Republicans).

Furthermore, NP leaders need to recognize that solutions addressing the implications of physician shortages and the growing demand for care of older adults must acknowledge the complex relationship between physicians and NPs. Beyond differences in perspective (cure versus holism), education, training, and the ways their roles have been shaped by health care delivery organizations over decades, the roles and expectations of both physicians and NPs are changing. Payment incentives are evolving, and health delivery systems are beginning to emphasize population health and

implementation of care delivery models that address social determinants of health. In this environment, improving the capacity of the health care workforce can be aided by nursing leaders adopting a more inclusive perspective and working with physicians and other stakeholders to jointly determine questions such as who can best provide needed services and whether changes in payment and other policy changes are needed to improve the delivery and coordination of care. Ultimately, NP leaders should envision a relationship with physicians that allows for the evolution of roles and practices that make sense to both NPs and physicians, respect each other's strengths, and ultimately lead to a reconfiguration of the workforce that is more responsive to the health needs of a changing society (Buerhaus, DesRoches, Dittus, & Donelan, 2015).

Growing concern about the adequacy of the primary care system has stimulated efforts to find new ways to reconfigure primary care delivery systems. This concern is best described in the recent Josiah Macy Jr. Foundation report, *Registered Nurses: Partners in Transforming Primary Care* (2017). The report makes clear the futility of continuing to use RNs in limited ways and offers recommendations aimed at expanding the number of RNs and their roles in primary care, increasing primary care content and clinical experience in undergraduate nursing education, and offering other strategies to expand the productive capacity of RNs providing primary care. In the future, nursing education accreditors may need to consider regulatory incentives to increase the inclusion of primary care content into the curriculum.

Accelerating Rate of RN Retirements

The replacement of retiring RNs will not occur uniformly. Health care delivery organizations in some regions of the country will face faster RN retirements and slower replacements (especially the New England and Pacific regions) than organizations in other regions (the Southern and Central regions) (Buerhaus, Auerbach, & Staiger, 2017; Auerbach, Buerhaus, & Staiger, 2017). Consequently, some organizations will experience bursts in RN retirements that may result in temporary nursing shortages and disruptions in care delivery. How can health care delivery organizations overcome the loss of so much nursing knowledge, wisdom, and expertise?

Health care administrators, state and federal policy makers, and quality review organizations must recognize that the retirement of a large number of RNs has only begun. It will intensify over the coming years, and the loss of RNs with decades of experience will create multiple risks. Foremost, the quality of patient care could decrease as new, less experienced RNs replace RNs with decades of experience. This statement does not intimate that RNs with fewer years of nursing experience are less qualified to provide high-quality nursing care. Rather, it simply acknowledges that the longer an RN is in the workforce, the more likely he or she is to have an increased ability to effectively manage all types of clinical and organizational challenges.

Experienced RNs are likely to be more adept at identifying complications and unexpected changes in patient conditions sooner

and respond appropriately. They are also more likely to know how to manipulate the organization's culture to get things done, make clinical assignments that better match the knowledge and skills of nurses with the needs of the patient, serve as role models and mentors, and deal effectively with physicians, administrators, and others to ensure the well-being of patients and families. All these attributes matter greatly in providing a consistent, predictable, and safe patient environment.

Hospital chief nursing executives, hospital patient care unit managers, and human resource officers should take four actions to anticipate and prevent the negative consequences that could result as RN retirements accelerate.

First, information on an organization's nursing workforce must be gathered to ascertain when and how many RNs are expected to retire and identify the nursing units, departments, and patient populations that will be affected. Sharing this information with physicians and other clinicians who will be affected and seeking their involvement will be critical to mitigating potential harmful consequences.

Next, hospital leaders should prioritize working with department and unit leaders to engage soon-to-be retiring RNs to learn what can be done to delay their retirement—for example, decreasing work hours and the number of workdays, modifying their responsibilities, improving the ergonomic environment to minimize injuries, or revising organizational policies and clinical conditions that hinder and dissatisfy nurses. Similarly, older, more experienced RNs could be offered opportunities to fill new roles in community engagement, patient navigation, or education and prevention.

Organizations also should encourage the creation of programs that bring older and younger RNs together to identify the knowledge and skills needed by rising RNs that can be imparted by older, more experienced RNs.

Finally, organizations should review and strengthen succession planning to ensure that retiring nursing managers are replaced by RNs well prepared to assume management of clinical and administrative operations on patient-care units. Future RN leaders could be identified and partnered with soon-to-be retiring RNs managers and participate in formal programs in management and leadership development, team building, communications, budgeting, program development, and other leadership roles.

Effects of Health Care Reform

Although the future of the ACA is uncertain, the provisions that aim to increase the efficiency of health care systems and move away from a fee-for-service system toward value-based purchasing could be advantageous to the nursing workforce. The spread of accountable care organizations, medical and health care homes, and bundling payments means that systems will want to employ the clinicians most productive at achieving the best outcomes at lowest cost. For example, in a fee-for-service environment, much of the work that RNs do in care management, care transitions, and

patient self-management in their home is not directly billable and, therefore, is a cost to the organization, and the care is underemphasized. In a value-based environment in which provider organizations are more likely to face financial incentives to be accountable for the quality and total cost of care, the same care management activities become advantageous to the organization's bottom line, assuming they help the organization avoid costly care episodes, such as hospitalizations, readmissions, and unnecessary use of emergency departments. RNs are already working in expanded roles in Medicare accountable care organizations, including direct provision of services and in care management and coordination roles (Pittman & Forrest, 2015). When health care organizations are at risk for the total health spending of their attributed patients, their concerns can extend to addressing social determinants of health and focusing on population factors, which can enhance the roles of RNs, particularly those with expertise in public health, care coordination, and partnership building to improve health care.

Conclusion

Although the four challenges facing the nursing workforce are daunting, they offer nurses unprecedented opportunities to shape health care delivery systems and increase nurses' influence everywhere along the care delivery continuum. Taking advantage of the opportunities created by these challenges will require leadership from all areas of nursing—practice, administration and management, education, research, policy, and unions. Nurses in each of these areas need to see themselves as leaders. According to Bohmer (2013), leaders anticipate challenges, see the big picture, motivate others to focus on the right opportunities, and create conditions that help achieve common goals. Perhaps the most important step moving forward is for all RNs to see themselves as leaders and spearhead efforts to address the challenges that will face the nursing workforce in the years ahead.

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