

NURSING: A CLOSER LOOK AT WORKFORCE OPPORTUNITIES, EDUCATION AND WAGES

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ABSTRACT. This article analyzes education demand, competencies and credentials, earnings, and demographic distribution of the nursing workforce in the United States. It finds that nursing remains an oasis of opportunity for women, paying wages above the national average and offering well-developed career pathways for those who acquire the credentials necessary to practice and advance in the nursing career. Despite the fairly competitive wages in nursing compared to other occupations for workers with a baccalaureate degree, nursing remains highly segregated by sex, largely for social reasons. Furthermore, notwithstanding great progress in equity and racial and ethnic inclusion in the nursing professions, LPNs/LVNs (licensed practical and licensed vocational nurses) are still disproportionately minority women, while RNs (registered nurses) and APRNs (advance practice registered nurses) are disproportionately white women. Transitioning from the LVN/LPN to RN also proves to be much more difficult in practice than those starting off with the BSN degree, as evidenced by length of time to graduation. Continuous up-skilling to the BSN (bachelor of science in nursing) as the new entry-level credential in the field, presents additional challenges, as low-income nurses and those from racial and ethnic minority groups face additional new educational barriers to upward economic mobility.

Keywords: nursing workforce; wages/earnings; nursing demographics; education; minorities; LVN/LPN; RNs; APRNs; nursing specialties; immigrant nurses; Obamacare; Affordable Care Act

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1. Introduction

Nursing has always been a profession that offered economic and social opportunity for women. Nurses were once viewed as a source of inexpensive skilled female labor that moved freely across national and international borders. Over a century ago, nursing offered dignity, charity, income security, and religious service for the women who chose to leave their homes and work in the field. Today, nursing has diversified into a highly complex set of vocations available to both men and women who work collaboratively with physicians and patients to care for individuals, treat illnesses, and improve quality of life. The earnings for registered nurses (RNs) remain above average for college-educated women, though they have stagnated in recent years. Despite these concerns, the nursing profession has very well developed career pathways that offer seniority, autonomy, and opportunity as one's education, skills, and experience improve over time.

The potential overhaul of the nation's healthcare system, however, could mean that between 22 million and 24 million Americans lose health-insurance coverage by 2026. With the lost coverage, there would be a commensurate decreased demand for healthcare workers, among whom nurses are the largest group. This reduction would differ for metropolitan and rural regions. However, we estimate that 156,000 nursing jobs would be put at risk in 2019 alone if the Affordable Care Act is repealed and replaced.

To compound the issue, the nursing workforce is aging and baby boomer nurses will eventually retire. This will increase opportunities for more diverse, gender mixed, and more highly educated incoming cohorts.

2. Nursing Specialties: Education and Licensure

Registered nurses (RNs) are the core of the nursing profession. They are the largest category of nurses (84%) and are involved in all facets of healthcare delivery. RNs must complete a bachelor's degree (BSN), an associate's degree (ADN/ASN), or a diploma in nursing and obtain a test-based credential in the form of an RN license from their state's board of nursing. Each state board of nursing requires passing the NCLEX-RN exam. Also, advanced degrees and specific certifications, such as advanced cardiac life support and medical coding, are increasingly common credentials among RNs.

The most highly educated nurses with the greatest degree of autonomy are advanced practice registered nurses (APRNs), with postgraduate levels of education and training. These nurses start out as RNs and remain part of the RN workforce. By completing a postgraduate education program – either a Doctor of Nursing Practice (DNP) or Master of Science in Nursing (MSN) in advanced nursing specialties, such as nurse practitioner (NP), certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM), or clinical nurse specialist (CNS) – and

obtaining additional licensure or certification from their state’s board of nursing, APRNs attain more advanced positions and greater professional autonomy.

APRNs serve as leading primary or specialty care providers (similar to doctors, physician assistants, chiropractors, and physical therapists). The four main specialties among APRNs are nurse practitioner (NP), certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM), and clinical nurse specialist (CNS), who work with relative autonomy in a wide variety of inpatient and outpatient practice areas from emergency/trauma to home care.

Licensed practical nurses (LPNs) and licensed vocational nurses (LVNs) provide basic essential medical care under the supervision of RNs and have the lowest entry-level requirements. No substantive difference exists between LPNs and LVNs except for the occupational nomenclature, which depends on the state in which these nurses practice. LPNs/LVNs provide direct care to patients under the direction of RNs and physicians. At a minimum, LPNs/LVNs must obtain a postsecondary certificate, usually at a community college, and a test-based license credential, which requires passing the NCLEX-PN exam.

Table 1 Wages for nurses by education, training, certification, and levels of autonomy

Nursing occupational groups	Degree Required	Certifications/ Licenses Required	Share Nursing Workforce (%)	Average Earnings (2015 \$)
Registered Nurse (RN)	BSN, ADN, or Nursing diploma	State Licensure; NCLEX-RN exam	84	\$67,000 ¹
Licensed Practical Nurse/Licensed Vocational Nurse (LPN/LVN)	Postsecondary certificate, Associate’s degree	State Licensure; NCLEX-PN Exam	16	\$46,000

RN positions and specialties	Degree Required	Certifications/ Licenses Required	Share of RNs (%)	Average Earnings (2015 \$)
Predominant RN positions				
Staff Nurse	BSN, ADN, or Nursing diploma	State Licensure; NCLEX-RN exam	56	\$60,000*
Acute/Critical Care Nurse	BSN, ADN, or MSN	State Licensure; NCLEX-RN exam	6	\$70,000 ²
Advanced Practice RNs (APRNs)				
Nurse Practitioner (NP)	MSN, PhD, DNP, or DNS	APRN Certification	3	\$83,000* ³
Certified Nurse Midwife (CNM)	MSN, PhD, DNP, or DNS	APRN Certification		
Certified Registered Nurse Anesthetist (CRNA)	MSN, PhD, DNP, or DNS	APRN Certification		
Clinical Nurse Specialist (CNS)	MSN, PhD, DNP, or DNS	APRN Certification	1	\$153,000* ⁴
Other advanced RN specialties				
Nursing Instructor	MSN, PhD, DNP, or DNS	APRN Certification CNE [#]	3	\$62,000* ⁵
Nursing Researcher	MSN, PhD, DNP, or DNS	State Licensure	1	\$68,000*

Note: The percentages in the table do not sum to 100% because only major positions and specialties of RNs are presented in the table; omitted nursing positions include nurse consultant, management/administration, private duty nurse, and various other nursing positions with small concentrations of RNs.

* The wages for staff nurse, NP, CNM, CRNA, CNS, nursing instructor, and nursing researcher are from 2008 *National Sample Survey of Registered Nurses (NSSRN)*, updated for inflation to 2015\$.

#CNE – Certification for Nurse Educators.

3. Possible Impact of Repeal of ACA on Nursing Jobs

Demand for healthcare workers in general and the nursing workforce in particular remains fluid as legislative and regulatory efforts to repeal and replace the Affordable Care Act (ACA),⁶ commonly known as Obamacare, continue. The most contentious of the proposed adjustments to the healthcare bill involves removing substantial expansions of Medicaid services and subsidies for private insurance companies to create state exchanges and marketplaces. Nonpartisan analyses of the implications⁷ of this proposal suggest that repealing those pieces of the ACA would result in the loss of millions of jobs⁸ – both directly related to healthcare and downstream jobs. This would result in a significant contraction of state economies.⁹ The exact impact of any legislation will depend on specifics of the bill and is currently unknown. Nonetheless, in January 2017, the Commonwealth Fund released estimates of potential job loss from repeal of tax credits and Medicaid expansion by industry for each state.¹⁰

Based on those projections, we estimated that 156,000 nursing jobs will be put at risk if the Affordable Care Act is repealed and replaced (for numbers of nursing jobs at risk in 2019 alone from the proposal to repeal and replace the Affordable Care Act, see the Appendix).¹¹ These include 91,000 jobs in states that were won by Donald Trump and 65,000 jobs in states that were won by Hillary Clinton in the 2016 presidential election. These job losses would result from a lower demand for healthcare services due to a loss of health insurance coverage for millions of people.¹²

4. RNs: Typical Work Activities

Nurses are involved in nearly all aspects of healthcare delivery.¹³ They perform a variety of functions from documentation to direct patient care and education:

Documentation

- Record symptoms and medical histories
- Record administered treatment and medications
- Medication administration
- Administer medications and treatment

Care coordination

- Coordinate care
- Serve as managers and administrators
- Consult with doctors and other healthcare providers
- Participate in hospitals' continuous quality improvement and patient safety programs

Patient activities

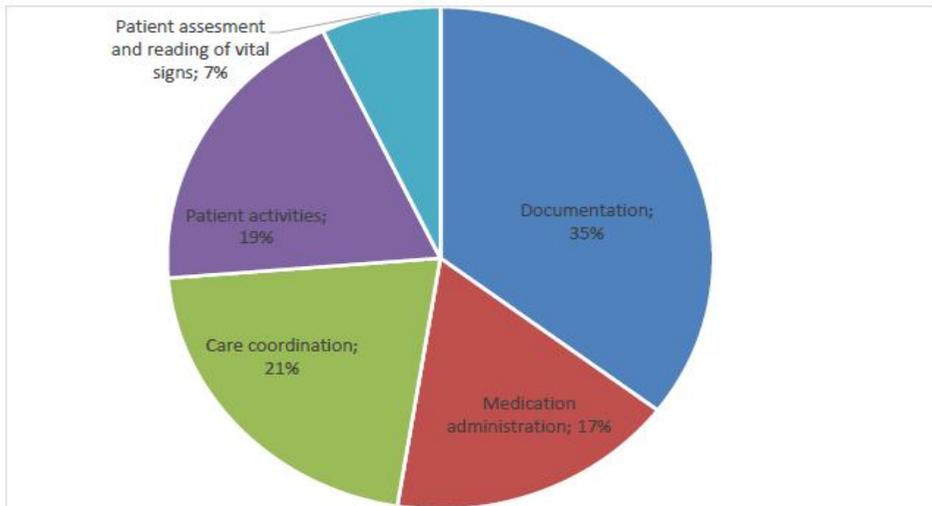
- Educate patients and their families about specific conditions and treatment as well as management plans for those conditions
- Act as patient advocates
- Provide public education on warning signs and symptoms of major illnesses

- Oversee immunization clinics and blood drives
- Direct local health department outreach programs

Patient assessment and reading of vital signs

- Perform physical exams
- Perform and analyze diagnostic tests.

Figure 1 Proportion of time spent in various work activities: RNs



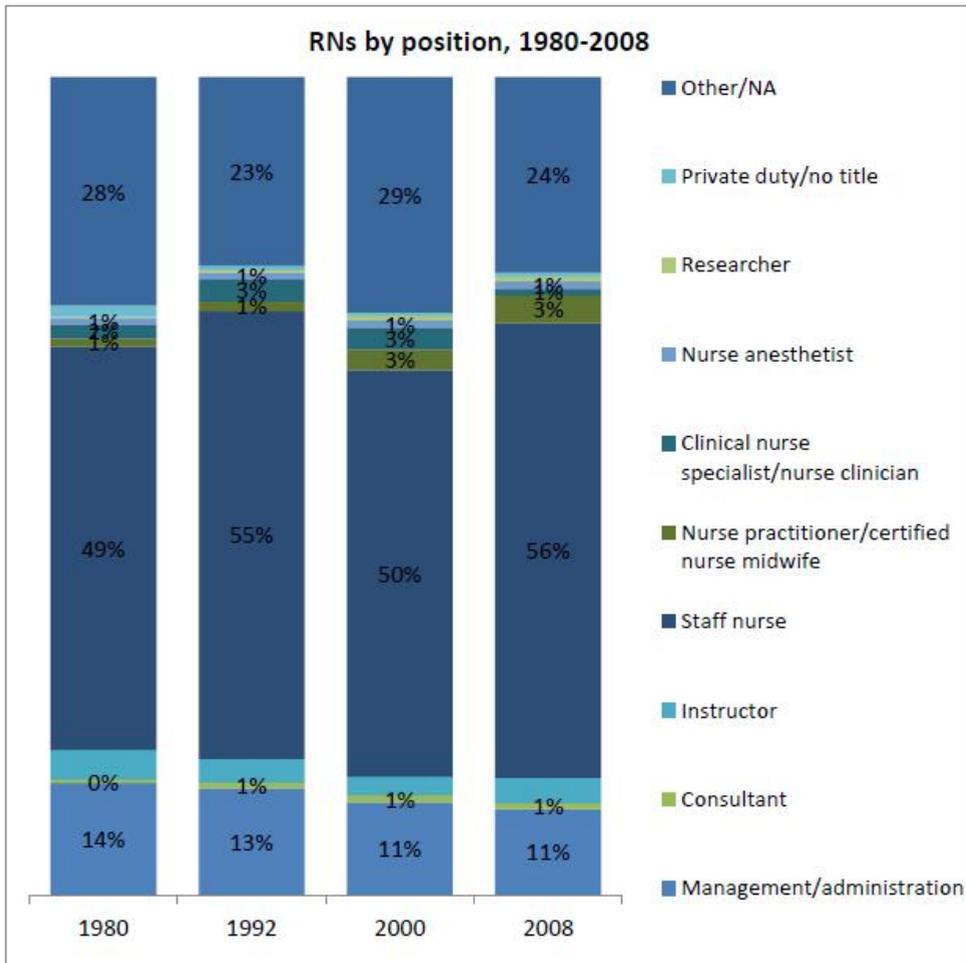
Source: Hendrich et al. (2008), “A 36-Hospital Time and Motion Study.”

Despite improvements in electronic recording of patient information, more than a third of nurses’ time is still spent on documentation.¹⁴ The administration of medications takes less than a fifth of nurses’ time, while patient assessment and reading of vital signs accounts for less than one-tenth of their time. The amount of time that a nurse spends with a patient decreases as the nurse’s seniority¹⁵ and autonomy increases. This means that an LPN/LVN has much more hands-on time administering care to patients than do RNs and APRNs.

4.1. RN specialties: 1980 to 2008

Since the 1980s, “staff nurse” has been the most widely held position among RNs. In the most recent survey available on the national distribution of nursing fields, 56% of RNs were staff nurses in 2008, up from 50% in 2000 (Figure 2). A staff nurse works in a hospital and can perform a variety of roles. The share of nurses in management and administration declined slowly from 14% in 1980 to 11% in 2008.

Figure 2 Distribution of nursing specialties: 1980 to 2008



Note: Percentages do not total 100 and the omission of value labels for some very small categories (1% or less of RNs in each) from the chart for better readability.

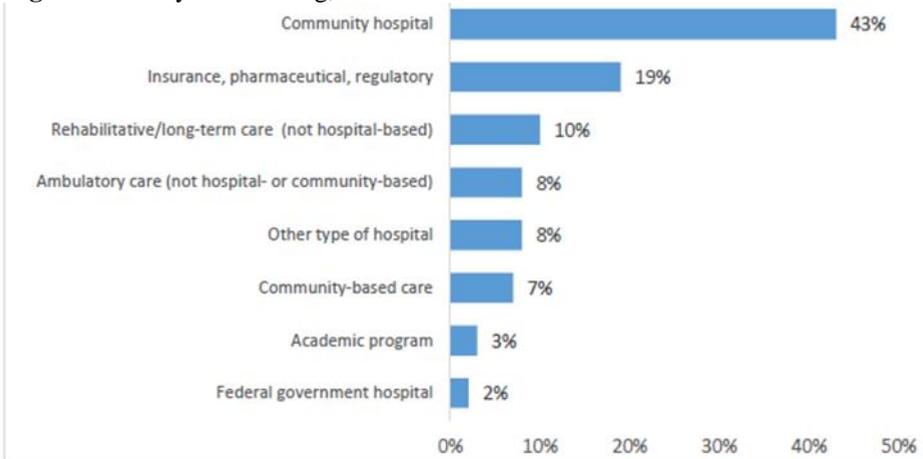
* A staff nurse is an RN who works in a hospital setting and can be assigned to any one of the following units: Emergency Department, Intensive Care, Labor and Delivery, Medical-Surgical, Operating Room/Recovery Room, Outpatient Services, and Pediatrics.

Source: Georgetown University Center on Education and the Workforce analysis of Health Resources and Services Administration (HRSA), *National Sample Survey of Registered Nurses (NSSRN)*, 1980–2008; 2008 was the last year this survey was administered.

4.2. Distribution of RNs by work setting

Registered nurses have many choices about where to work. Most often, they use their expertise in traditional settings, such as hospitals, nursing homes and rehabilitation centers, ambulatory care facilities, schools, and community and public healthcare facilities. They also can be employed in nontraditional settings, such as community-based centers, homeless shelters, and elderly care facilities.

Figure 3 RNs by work setting, 2008



Note:

- **Community hospitals** are general medical hospitals that provide emergency, inpatient, and ambulatory care for a wide range of patients.
- **Federal government hospitals** are hospitals operated by the federal government, including the military, Veteran’s Administration (VA), National Institutes of Health (NIH), and Indian Health Service (IHS).
- **Other types of hospitals** include specialty hospitals, long-term care hospitals, and psychiatric hospitals.
- **Ambulatory care** is care delivered in outpatient settings such as physicians’ offices, freestanding health centers, and outpatient wings in hospitals.
- **Community care** is care delivered in community settings, such as schools, community clinics, and local health departments.
- **The insurance, pharmaceutical, regulatory** category includes nurses who do not work in traditional care settings but rather apply their knowledge of healthcare and nursing to inform operation of insurance companies; pharmaceutical companies; government health benefit programs; policy, planning, regulatory, and licensing government agencies; private industry/employer-provided health benefit programs; medical device and medical software companies; and other organizations where such expertise is beneficial.

Source: Georgetown University Center on Education and the Workforce analysis of Health Resources and Services Administration (HRSA), *National Sample Survey of Registered Nurses (NSSRN)*, 2008; 2008 was the last year this survey was administered.

A majority of RNs (53%) work in hospitals, where they team up with physicians, respiratory therapists, pharmacists, and other healthcare professionals to care for patients, as well as contribute to the quality of care and effectiveness of hospital operations. About 19% of RNs apply their knowledge of healthcare and nursing outside of traditional care delivery, working for such organizations as insurance companies; government benefits departments; pharmaceutical, medical device, and medical software companies; consulting firms; occupational health companies; policy, planning, regulatory, and licensing agencies; telehealth, telenursing, and nursing call centers; and medical air transport and airlines.¹⁶ 10% of nurses work within rehabilitative/long-term care settings – such as nursing homes, assisted living facilities, and hospices – or in home health, which involves visiting patients

at their residences. About 8% of nurses work in ambulatory care, including those RNs who work in physicians’ offices, nursing practices, ambulatory surgical centers, urgent care centers, and medical offices or clinics as part of a team with other healthcare providers.

4.3. Nursing specialties by weekly hours worked

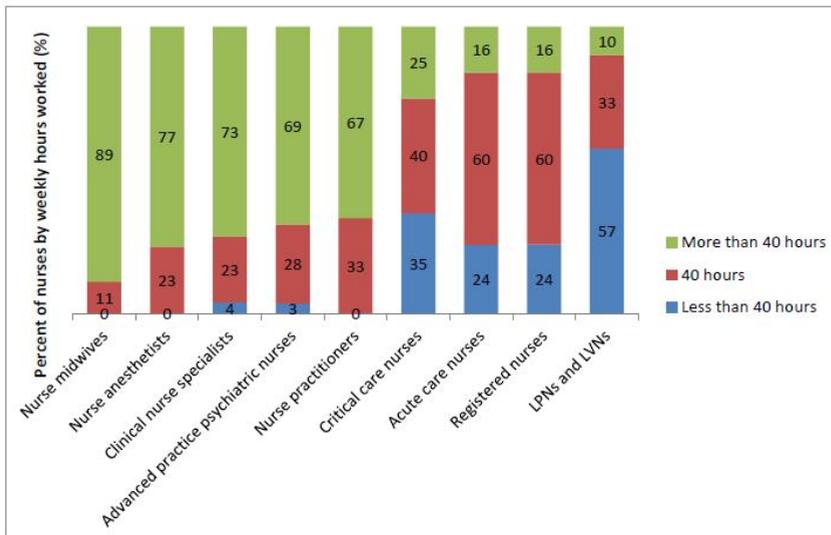
The nursing workweek has not changed substantially in recent decades and work schedules are fairly regular, but the number of hours worked per week varies widely with position and specialty.

Registered nurses on average work about 36 hours per week, a number that has not changed significantly over the past few decades.¹⁷ Also, nursing professionals generally have regular work schedules, with around 90% of RNs who are not in advanced positions and LPNs/LVNs reporting having regularly established schedules at work.¹⁸ However, the nature of nursing jobs, especially for those who work in inpatient hospital care, may require coming in to work to deal with emergencies outside of regular work hours.

The number of hours worked is directly correlated with the levels of seniority and autonomy, as well as earnings. APRNs, who hold graduate degrees and generally have a greater level of responsibilities, are more likely to report working more than 40 hours per week than are staff RNs and LPNs/LVNs (Figure 4).

Though nursing is fairly similar to other occupations in terms of the number of work hours, the amount of work nurses are expected to accomplish during those hours can be quite demanding, leading many nursing professionals, especially LPNs/LVNs and acute care RNs, to feel pressed for time during the work day.¹⁹

Figure 4 Hours worked by Nursing Specialty



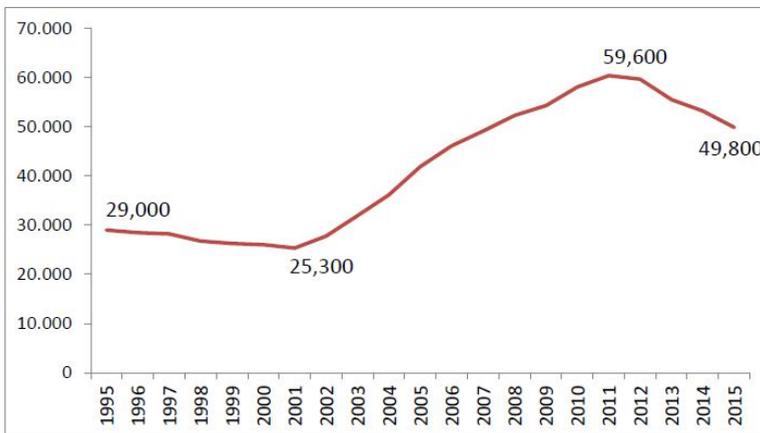
Source: Georgetown University Center on Education and the Workforce analysis of Occupational Information Network (O*NET) data, 2017.

4.4. LPN/LVN credentials and LPN/LVN to RN transition opportunities and challenges

LPNs/LVNs support RNs and doctors in delivering healthcare services to patients by monitoring patients' health conditions, administering basic care and comfort services, and reporting to RNs and doctors on patients' status and care.²⁰ Licensed practical nursing and licensed vocational nursing can be gateway occupations to registered nursing. In terms of education, these occupations require only a one-year certificate or diploma, and many nursing schools offer accelerated LPN/LVN-to-RN programs for individuals in these occupations.

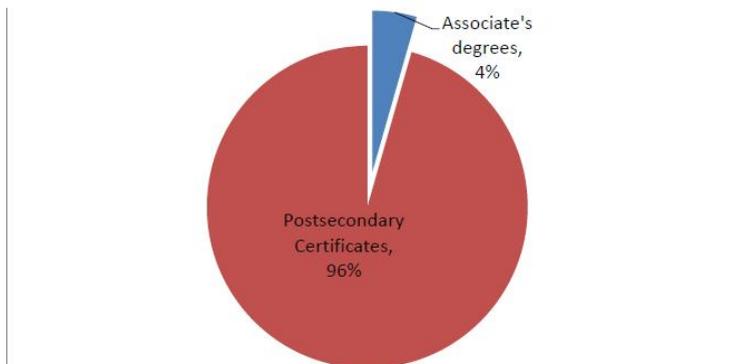
Between 1995 and 2015, the number of LPN/LVN credentials awarded by educational institutions grew from 29,000 a year to nearly 50,000 a year (Figures 5 and 6).

Figure 5 LPN/LVN credentials awarded, 1995–2015



Source: Georgetown University Center on Education and the Workforce analysis of National Center for Educational Statistics (NCES), *Integrated Postsecondary Education Data System (IPEDS) Completions Survey*, 1995–2015.

Figure 6 LVN/LPN credentials in nursing



Source: Georgetown University Center on Education and the Workforce analysis of National Center for Education Statistics (NCES), *Integrated Postsecondary Education Data System (IPEDS) Completions Survey*, 2015.

The attraction of LPN/LVN training programs is obvious – they can be completed in a shorter period of time than an ADN or BSN program, giving graduates direct entry into the labor force with the opportunity to later upgrade their skills to become an RN. Only about 18% of all RNs, however, start out as LPNs/ LVNs.²¹ To make it easier, transitional or bridge LPN/LVN-to-RN programs offer credits for prior learning and experience in the field. Students in these programs are able to build on knowledge and skills they have already acquired on the job. But ADN requirements are rigorous, including additional courses in general education, biology, chemistry, communication, sociology, and mathematics. LPNs/LVNs who are seeking to upgrade to become an RN face a number of significant nonacademic challenges:

Family responsibilities

Many LPNs/LVNs have familial responsibilities that make it difficult for them to find the time to complete coursework. Much of the responsibility for childcare and senior citizen care in families, for example, often falls on women. Moreover, a substantial number of LPNs/LVNs are single parents, which puts additional strain on their time.²²

Financial concerns

LPNs/LVNs who combine work and study, especially if they work full-time, may not qualify for financial aid because their income is too high. Without financial aid, some LPNs/LVNs cannot afford additional education. Also, LPNs/LVNs feel pressed to continue working full-time to cover the cost of tuition and health insurance.²³ They are often single parents or primary earners in their households, putting further limitations on their ability to cut back work hours.²⁴

The time of day classes are offered

Most classes are offered in the middle of the day, which include prime working hours. Accelerated and evening programs offer night and weekend classes, but clinical tasks still must be completed during the daytime.

Academic prerequisites

Even though transition programs give credit for students' prior learning and experience, they still have academic prerequisites. Unlike certificate programs that many LPNs/LVNs complete to get their initial credential, associate's and bachelor's degree programs have foundational academic requirements that have to be met. In many cases, the same work and family responsibilities that make it difficult for LPNs/LVNs to complete transition programs also make it difficult for them to complete the prerequisites necessary to enter these programs.²⁵

5. Nursing Competencies by RN Specialty

A nurse must wear many hats at once – caregiver, scientist, educator,²⁶ problem solver, medical professional, and customer service provider. To make an accurate assessment of a patient's condition and administer the appropriate treatment, nurses need to know medicine, dentistry, biology, chemistry, and mathematics – the scien-

tific expertise needed to understand the physical and chemical processes involved in disease. They also have to understand psychology, therapy, and counseling, as many illnesses have psychological components. Nurses have to find the most effective psychological approach to use with different personalities to get patients to cooperate with diagnostic tests and treatment and to take an active role in their own care.

Nurses also must possess social perceptiveness and strong interpersonal communication skills to be able to quickly and effectively obtain and convey information, while showing understanding and compassion appropriate to the situation. They must understand sociology and anthropology, as they may interact with patients from different cultures on a regular basis and need to show appropriate cultural sensitivity.

Registered nurses (RNs) must have knowledge of science, medicine, psychology, English, and personal service. Since RNs play a central role in educating patients about following the proper treatment and best approaches to staying well, they also must be effective educators. In addition, they often play a role in training LPNs/LVNs, nursing aides, home health aides, medical assistants, and other healthcare providers who assist or collaborate with RNs in delivering care to patients. Communication and coordination skills are also very important for RNs, as they interact with patients and their family members, doctors, pharmacists, technicians, therapists, and other healthcare providers.²⁷

The primary tasks and activities for RNs include the following:

- 1) Assisting and caring for others;
- 2) Documenting/recording information;
- 3) Making decisions and solving problems;
- 4) Updating and using relevant knowledge;
- 5) Getting information;
- 6) Communicating with supervisors, peers, or subordinates.

Licensed practical nurses (LPNs) and licensed vocational nurses (LVNs) work directly with patients, supporting RNs in delivering care. LPNs/LVNs need to have similar knowledge, skills, and abilities as RNs, but with greater focus on competencies involved in direct care. Specifically, LPNs/LVNs must possess good skills in personal service, communications skills, and being able to perform concrete care tasks – such as taking vital signs, assisting patients with physical activities, and administering medications. Speech clarity is also important because LPNs/LVNs communicate with a wide variety of patients.²⁸

Social interests are the key motivators and drivers for LPNs/LVNs. Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others. LPNs/LVNs also are likely to have realistic interests, which translates in the workplace to activities that involve practical, hands-on approaches to problems and solutions. LPNs/LVNs need to be responsible, considerate, and able to maintain emotional calm in a variety of circumstances that may arise in the course of a day.²⁹

The primary tasks and activities LPNs/LVNs are involved in include the following:

- 1) Assisting and caring for others;
- 2) Documenting/recording information;
- 3) Communicating with supervisors, peers, or subordinates;
- 4) Identifying objects, actions, and events;
- 5) Establishing and maintaining interpersonal relationships;
- 6) Getting information.

Advanced practice registered nurses (APRNs) are registered nurses with specialized graduate education and a higher-level license or certification. There are many specialties and subspecialties, but the four main areas in which APRNs specialize are nurse practitioners (NPs), certified registered nurse anesthetists (CRNAs), clinical nurse specialists (CNSs), and certified nurse midwives (CNMs):

- NPs are general and specialty nursing care providers who diagnose medical conditions, order treatment, prescribe medications, and make referrals in much the same way as physicians. In many states, NPs do not need to practice under the supervision of a physician.
- CRNAs administer anesthesia in hospitals.
- CNSs provide specialized care and are responsible for the diagnosis and treatment of health as well as the delivery of evidence-based nursing interventions.
- CNMs specialize in the care of pregnant women who are having low-risk pregnancies.

Due to their higher level of autonomy and specialization, APRNs need higher levels of scientific and medical knowledge and critical thinking skills than do other nursing professionals. APRNs must be able to diagnose and treat a variety of acute and chronic illnesses, both independently and as part of teams of healthcare professionals. In teams of nurses and other healthcare professionals, APRNs often play a leadership, expert, or managerial role. That means the ability to communicate and work with others is an especially crucial skill for APRNs.

Typically, less than half of all core and supplemental tasks performed by APRNs are administrative or managerial. Most tasks performed are procedural and directly related to patient care. This is likely due to the increased level of specialization that is required for performance of tasks and activities related to patient care. As is true for RNs overall, APRNs tend to be dependable, compassionate, and emotionally resilient individuals. Because APRNs are at the forefront of the nursing field and often manage other nursing and healthcare professionals, leadership is also an important trait for workers in this role.

The tasks and activities that are considered to be of primary importance to APRNs include the following:

- 1) Assisting and caring for others;
- 2) Documenting/recording information;
- 3) Getting information;
- 4) Making decisions and solving problems;

- 5) Updating and using relevant knowledge;
- 6) Communicating with supervisors, peers, or subordinates;
- 7) Identifying information.

Table 2 Knowledge competencies by nursing specialties

COMPETENCIES	LPNs and LVNs	RNs	APRNs
Customer and personal service	√	√	√
Education and training	√	√	√
English language	√	√	√
Mathematics	√	√	√
Medicine and dentistry	√	√	√
Psychology	√	√	√
Sociology and anthropology	√	√	√
Therapy and counseling	√	√	√
Administration and management	√		
Clerical	√		
Chemistry	√		√
Public safety and security	√		√
Law and government	√		√
Biology		√	√
Computers and electronics		√	√
Philosophy and theology			√

Source: Georgetown University Center on Education and the Workforce analysis of *Occupational Information Network (O*NET)* data, 2017.

Table 3 Skills competencies by nursing specialties

COMPETENCIES	LPNs and LVNs	RNs	APRNs
Active learning	√	√	√
Active listening	√	√	√
Complex problem solving	√	√	√
Coordination	√	√	√
Critical thinking	√	√	√
Instructing	√	√	√
Judgment and decision making	√	√	√
Learning strategies	√	√	√
Monitoring	√	√	√
Persuasion	√	√	√
Reading comprehension	√	√	√
Service orientation	√	√	√
Social perceptiveness	√	√	√
Speaking	√	√	√
Time management	√	√	√
Writing	√	√	√
Management of personnel resources	√		√
Negotiation	√		√
Operations analysis			√
System analysis			√

Source: Georgetown University Center on Education and the Workforce analysis of *Occupational Information Network (O*NET)* data, 2017.

Table 4 Abilities competencies by nursing specialties

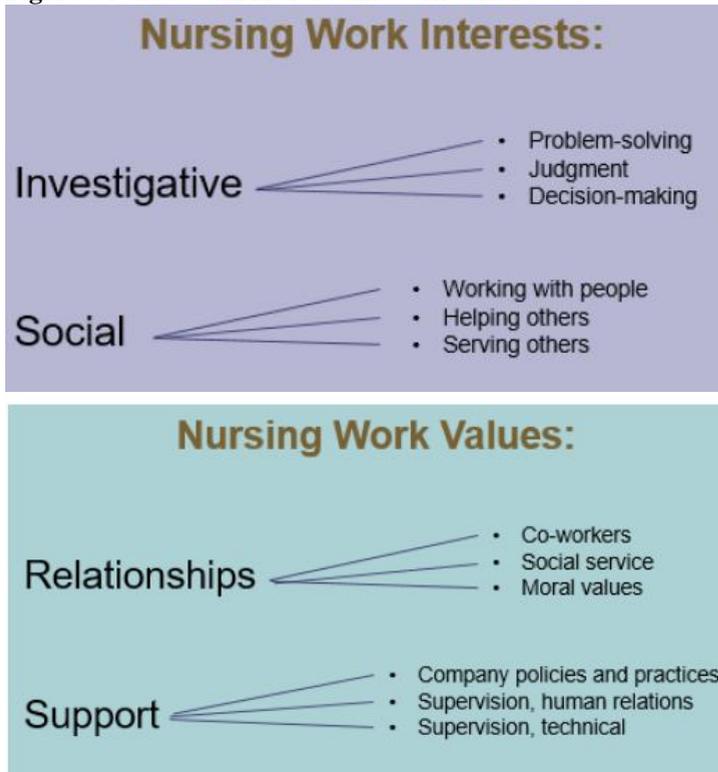
COMPETENCIES	LPNs and LVNs	RNs	APRNs
Arm-hand steadiness	√	√	√
Category flexibility	√	√	√
Deductive reasoning	√	√	√
Finger dexterity	√	√	√
Fluency of ideas	√	√	√
Inductive reasoning	√	√	√
Information ordering	√	√	√
Near vision	√	√	√
Oral comprehension	√	√	√
Oral expression	√	√	√
Problem sensitivity	√	√	√
Speech clarity	√	√	√
Speech recognition	√	√	√
Written comprehension	√	√	√
Written expression	√	√	√
Static strength	√		
Visual color discrimination	√		
Flexibility of closure	√	√	
Selective attention	√	√	
Time sharing	√	√	
Trunk strength	√	√	
Speed of closure	√		√
Far vision		√	
Manual dexterity		√	
Stamina		√	
Memorization		√	√
Perceptual speed		√	√
Mathematical reasoning			√
Originality			√

Source: Georgetown University Center on Education and the Workforce analysis of *Occupational Information Network (O*NET)* data, 2017.

Nursing combines investigative and social work interests. As healthcare professionals, nurses face a variety of scientific and medical problems. They have to make good decisions, sometimes at a moment's notice. But nurses do not solve problems from within the sanctity of a lab or from behind a computer. They work with people, who are often at their most vulnerable moments. Nursing is a challenging and rewarding profession that appeals to those who want to help others, who value relationships, and who are driven by strong moral values. But having adequate support to perform their jobs is important for nurses. While they are the face of healthcare to patients, many behind-the-scenes clinical and organizational efforts enable nurses to deliver care. Along with the care of nurses, those efforts determine the quality of care patients receive.

Using O*NET data, we find that relationships are generally the most important value for nurses, followed by achievement and support, although there are some exceptions to that order. For example, nurse midwives value relationships, achievement, and independence the most, while they value support the least. In contrast, certified registered nurse anesthetists and clinical nurse specialists value support the most.

Figure 7 Nurses work interests and work values



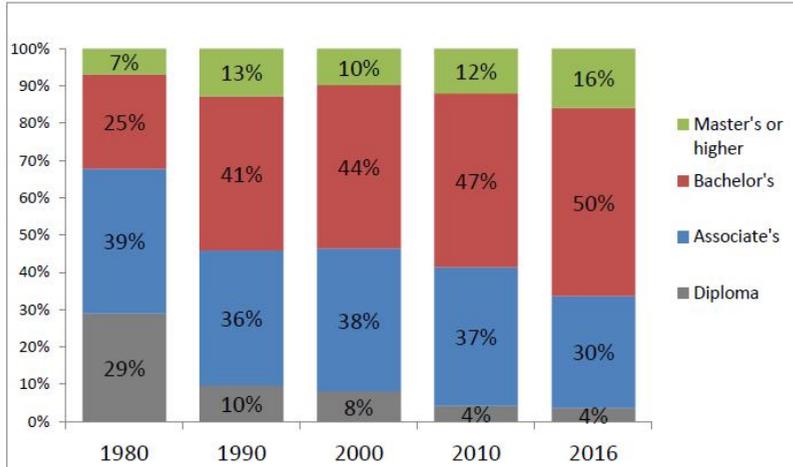
Source: Georgetown University Center on Education and the Workforce analysis of *Occupational Information Network (O*NET)* data, 2017.

6. Distribution of RNs by Degrees – BAs versus AAs

RNs with a bachelor’s degree or higher outnumber those with an associate’s degree or lower 66% to 34% (Figure 8). This reflects an ongoing upskilling trend and the increased demand by hospitals and outpatient facilities for more educated nurses. In another sign of this upskilling trend, new nursing graduates are twice as likely to enter the profession today with a bachelor’s degree than they were four decades ago.³⁰

As far back as the 1960s, nursing professional associations sought to standardize education and training practices for nurses across the country.³¹ The Comprehensive Nurse Training Act of 1964 led to extensive research by the American Nurses Association (ANA) Committee on Education into the appropriate levels of nursing education, practice, and responsibilities in an increasingly complex health-care practice environment. A year later, the ANA formally recommended that the “minimum preparation for beginning professional nursing practice should be a baccalaureate degree in nursing.”³²

Figure 8 Distribution of RNs by highest degree in nursing, 1980–2016



Note: Percentages may not total 100 due to rounding.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2016.

At that time, less than 20% of the nursing workforce held a bachelor's degree. The tremendous effort to upskill the nursing workforce was reaffirmed in 1978 by an ANA House of Delegates resolution that recommended that by 1985 the minimum credential for entering the professional practice of nursing be a bachelor's degree.³³ However, it was not until the last decade or so that the market specifically made a rapid switch toward the BSN, even for a growing number of entry-level positions, especially at leading hospital systems.³⁴ Most nurses hired without a BSN are given a grace period to acquire the baccalaureate credential. According to online job postings data from Burning Glass Technologies, one-third of online jobs postings for RNs demand the BSN degree as a minimum entry-qualifying credential.³⁵

7. Licensure and Career Pathways in Nursing

Registered nursing is a regulated, licensed profession with strict requirements for entry. RNs must be licensed by the board of nursing of the state in which they wish to practice.³⁶ In order to obtain a license, prospective RNs must fulfill several requirements, which vary by state. For example, RN license applicants in Maryland must undergo a criminal history background check and show that Maryland is their primary state of residence before being allowed to sit for the licensing exam.³⁷ The Texas Board of Nursing requires RN license applicants to pass a Texas nursing jurisprudence examination prior to being allowed to sit for the licensing exam.³⁸ The Nevada State Board of Nursing requires prospective applicants to go to a law enforcement agency and have their fingerprints taken. The card then must be submitted for use in a background check as part of the application process.³⁹

Typically, the initial licensure requirements for RNs comprise at least the completion of an approved RN program that includes some supervised hands-on practice and passing the NCLEX-RN exam.

Three primary types of programs fulfill the education requirements for the licensing exam:

- 1) a four-year program leading to a BSN;
- 2) a two- to three-year program that leads to an ADN or ASN; or
- 3) a three-year, hospital-based diploma program.⁴⁰

The first two are the primary pathways to a nursing career. Typically, RNs with a BSN can command higher earnings and have access to more job opportunities than those with an ADN/ASN or a hospital-based diploma. A small number of people also become RNs after completing an MSN or even a doctoral degree in nursing, but it is more common to enter the profession at the ADN/ASN or BSN level and later pursue more advanced degrees. Additionally, an increasing number of RNs are getting their nursing credentials at for-profit colleges. That sector's share of awarded registered nursing credentials grew from less than 1% in 1987 to 15% in 2015.⁴¹

LPN/LVN entry-level education requirements are less intensive, requiring only a one-year certificate or diploma program, typically offered by community colleges. LPNs/LVNs also must pass the National Council Licensure Examination for Practical Nurses (NCLEX-PN) before being licensed to work by their state's board of nursing.⁴²

Career pathways in nursing are well established. Someone can start as an LPN/LVN and later earn either an ADN/ASN or even a BSN by entering educational programs that are geared toward working professionals. Those wishing to pursue this route can move up the career ladder slowly, building their skills and education one step at a time. Those more confident of their academic abilities can earn higher-level credentials faster through LPN/LVN-to-BSN or RN-to-MSN programs.

Nursing career pathways

Nursing has one of the best developed career ladders of any profession. One important characteristic of a well-developed career ladder is that an individual can enter the field with relatively little education and experience and over time move up to positions with more responsibilities and higher earnings. One of the keys to making career ladders work that has gained additional traction recently is prior learning assessments – both in the classroom and on the job.

Nursing stands out in this regard by incorporating a number of transition programs specifically designed to allow nurses who are already working in the field to advance their careers by attaining higher levels of education. These include LPN/LVN-to-RN, RN-to-BSN, and RN-to-MSN programs.⁴³ The first two allow LPNs/LVNs to become RNs by taking additional courses, passing the NCLEX-RN licensing exam, and, if necessary, meeting other state-specific requirements. Though these pathways exist, completion rates for students who pursue LPN/LVN-to-RN programs still lag expectations. Only about 18% of RNs started out as LPNs or LVNs.⁴⁴

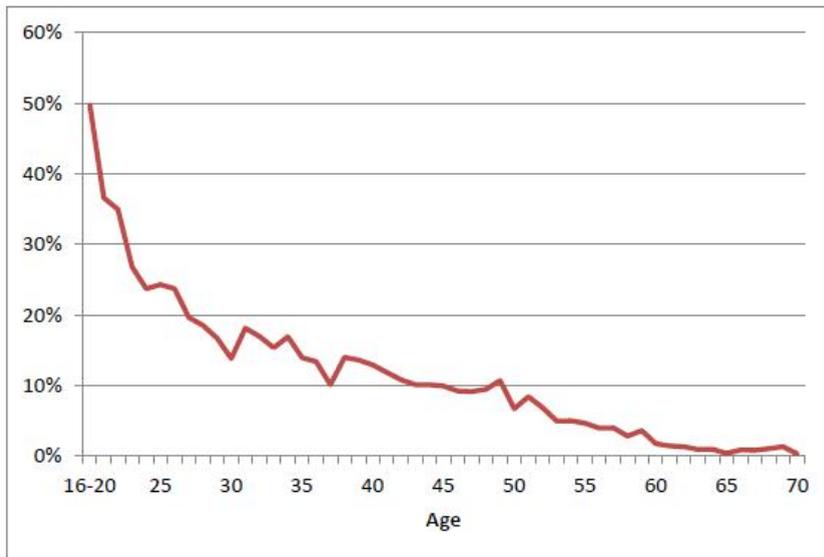
An LPN/LVN-to-RN program awards an associate’s degree; an RN-to-BSN results in a bachelor’s degree; an RN-MSN program results in a master’s degree. RN-to-BSN programs are for RNs who entered the field with an associate’s degree and who have work experience. After taking additional courses, they can move up to the BSN level and reap the benefits of higher earnings and more job opportunities. RN-to-MSN and BSN-to-MSN programs are for RNs with either an associate’s or a bachelor’s degree and work experience. These programs enable nurses to upgrade their skills to the master’s degree level, opening the door to advanced nursing positions with greater responsibility, more autonomy, and higher earnings.

Combining working and learning in nursing

Work is now a fundamental part of the lives of many American college students, just as returning to the classroom for retooling and skills acquisition is now a fundamental part of the lives of many American workers. Currently, almost half of all full-time students and more than 80% of part-time students work while enrolled in college.⁴⁵ Healthcare professions tend to have high percentages of learning workers, primarily because they require constant renewing of skills to maintain licenses and certifications. 10% of all nurses are working learners, although this varies by age. After age 45, enrollment levels for working nurses decline rapidly (Figure 9).

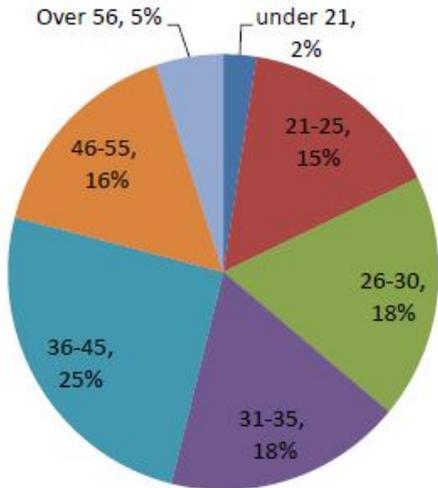
Older nurses are less likely to be enrolled in school – 53% of all nurses who are currently enrolled in school are age 35 or younger (Figure 10). Of this subset of working and learning nurses, four-fifths are working full-time.

Figure 9 Share nurses who are working learners, by age



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau, *American Community Survey (ACS)*, 2015.

Figure 10 Distribution of working learners by age



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau, *American Community Survey (ACS)*, 2015.

8. Trends and Dynamics of Earnings in Nursing⁴⁶

Nursing, an occupation chosen mostly by women,⁴⁷ offers relatively good earnings, occupational prestige, and growth potential. RNs earn an average of \$67,000 annually – \$7,000 higher than the average for all prime-age workers.⁴⁸ For women who are college graduates in particular, registered nursing generally offers higher-than-average earnings – the average earnings for an RN with a BSN are \$68,000–\$8,000 higher than the average earnings for all women with bachelor’s degrees (\$60,000). Nursing also offers higher earnings than teaching, the other major occupational field that historically has been dominated by women. For example, the average earnings for an RN with a BSN are more than \$19,000 higher than the average earnings for a secondary school teacher.⁴⁹ However, the earnings levels must be kept in perspective when comparing women to men. While registered nursing offers some of the highest earnings for a profession dominated by women, the average full-time, full-year earnings for a prime-age RN with a BSN degree is still \$20,000 less than the average full-time full-year earnings for prime-age men with a bachelor’s degree or higher.⁵⁰

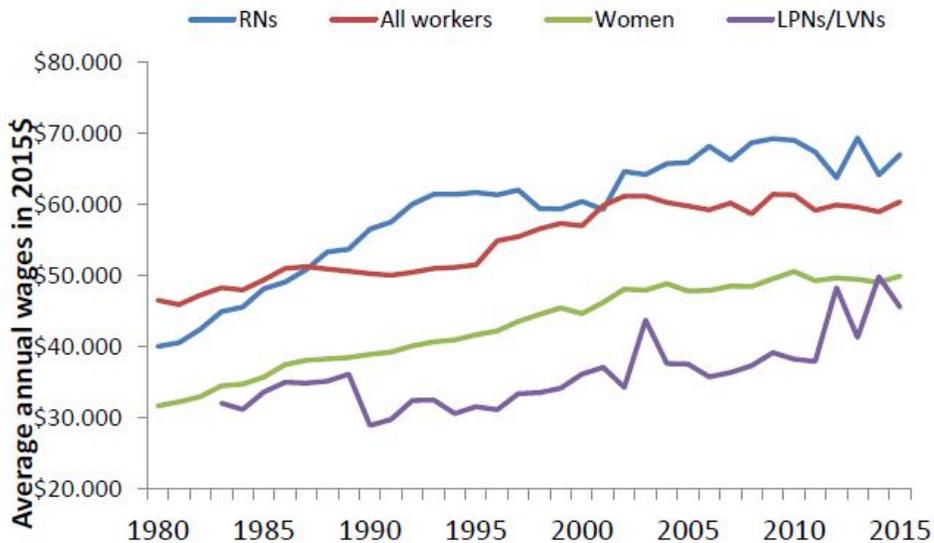
Before 1987, average annual nursing earnings (\$40,000–\$51,000) were lower than the average earnings for all prime-age workers (\$46,000–\$51,000), but higher than average earnings for women (\$32,000–\$38,000). Between 1980 and 1995, however, nursing earnings grew by 54%, a rise that was notable in the workforce because overall average earnings were fairly stagnant during that period. The average annual full-time, full-year salary for RNs has grown 67% since 1980. In comparison, the average earnings for all women (\$50,000) increased only 57%, and

the average earnings of for all prime-age workers (\$60,000) increased only 30% over the same time period (Figure 11).

The gap between nursing earnings and average earnings for all prime-age workers that emerged during the late 1980s and early 1990s started to close toward the end of the 1990s. In addition, nursing earnings declined in the late 1990s while average earnings for the economy as a whole grew. By 2001, and especially during the recession, nursing earnings once again dipped below the national average.

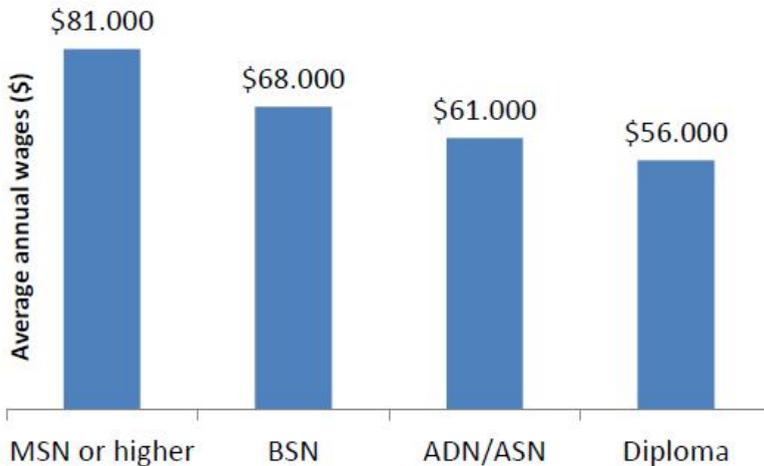
Though nursing earnings were falling, the demand for nurses in the workforce continued to rise, mostly due to an aging population and the commensurate increase in the demand for healthcare services. As the demand for nurses rose again, coinciding with aging demographics, nursing earnings again took off in the 2000s. That trend continued until the Great Recession, when the growth in earnings slowed for all workers.

Figure 11 Annual earnings of RNs, LPNs/LVNs, women, and all workers, 1980–2015



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2015.

Figure 12 Earnings by education, 2016



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016.

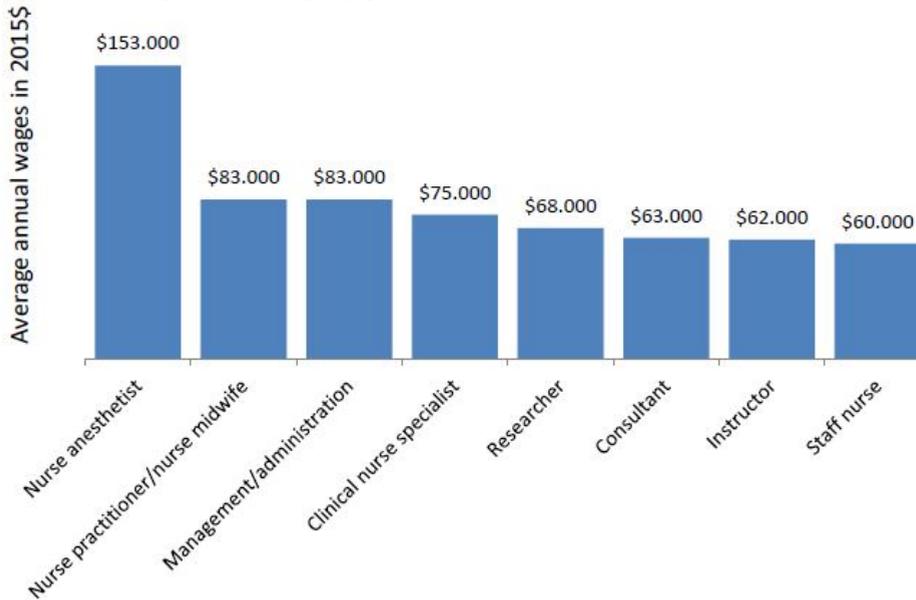
Despite overall decline, nursing earnings remain higher than the average earnings for all prime-age workers (mainly due to the fact that average earnings for all other workers have shown little growth since 2003).

The average earnings of \$46,000 for LPNs/LVNs in 2015 are considerably lower than the average earnings for RNs (\$67,000). In fact, LPN/LVN earnings are even lower than the average full-time, full-year earnings for all prime-age workers with some college (\$49,000). However, they are higher than the average full-time, full-year earnings for all working prime-age women with some college (\$41,000).

But despite the earnings advantage registered nurses have when compared to all prime-age workers, there are disparities in earnings within nurses' ranks (Figure 13):

1. The highest degree earned has a very clear relationship to earnings. RNs with a master's or a doctoral degree have the highest earnings (\$81,000), while those with only a hospital-based diploma have the lowest (\$56,000).
2. In general, nurses with BSNs make more than nurses with ADN/ASNs.
3. Specific specialty plays a major role in determining RNs' earnings.
4. Nurse anesthetists have the highest earnings (\$153,000). Nurse practitioners and nurse midwives⁵¹ (\$83,000), and RNs in management and administration roles (\$83,000) have the next highest earnings.
5. Job setting also affects salary. Hospitals often pay more than physician's offices or nursing homes, although this partly could reflect higher entry-level education requirements at hospitals.

Figure 13 Average RN earnings by position



Note: The earnings in this chart are from 2008, updated for inflation to 2015 dollars.

Source: Georgetown University Center on Education and the Workforce analysis of Health Resources and Services Administration (HRSA), *National Sample Survey of Registered Nurses (NSSRN)*, 2008.

9. Distribution of Nurses by Race/Ethnicity

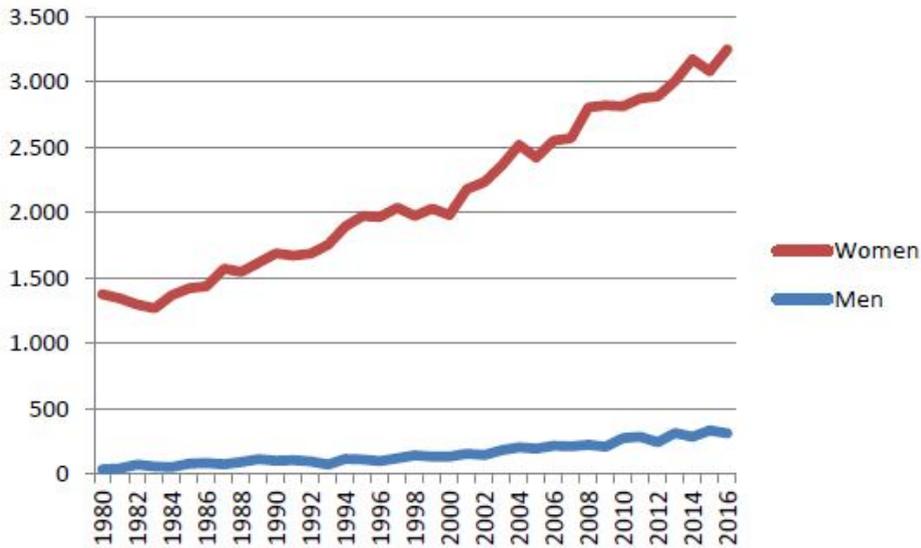
Nursing historically has been a profession dominated by women. About 90% of all nurses are women. Also, historically, the overwhelming majority of RNs have been White. About 65% of all RNs are White women.

As unbalanced as these numbers seem, they actually indicate progress:

- In recent years, men have been entering nursing in increasing numbers.
- While the RN ranks are dominated by White women, larger numbers of minority groups, particularly Blacks, have entered nursing, albeit primarily at the low-paying entry-level LPN/LVN occupations.⁵²

Participation by men in nursing is on the rise. Today, 10% of RNs (8% of LPNs/LVNs) are men – more than three times the percentage of nurses men made up in 1980 (Figure 14).

Figure 14 Growth of nursing workforce by sex, 1980–2016



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement*, 1980–2016.

Nonetheless, attracting men to the profession remains a challenge. The greatest barrier is simply the enduring public and cultural perception of the profession as a vocation for women, one reflected in the continued use of feminine pronouns in nursing texts and a lack of locker facilities for men in many nursing schools. That, in turn, leads to a scarcity of male role models, faculty, and mentors for nursing students and early careerists, along with uncertain acceptance by patients and female colleagues.⁵³

The historic association of women with the nursing profession may not be the only issue limiting the participation of men; other healthcare occupations have trouble attracting men, too. For example, 94% of dental hygienists are women, as are 93% of medical assistants.⁵⁴ In fact, 75% of workers in healthcare professional and technical occupations, and 90% of workers in healthcare support occupations, are women.⁵⁵

Earnings may be one reason why men avoid these healthcare occupations. Men can make higher earnings in other healthcare professions. In the best-paying healthcare professions – such as physicians and surgeons, optometrists, and chiropractors – men make up 70% or more of the workforce.⁵⁶ Even among nurses, men tend to gravitate toward the specialties with higher earnings and greater demand for physical strength, such as emergency room nurses and operating room nurses.

Similar to many other fields, male nurses command higher earnings at every educational attainment level (Table 5). The gender earnings gap is pronounced particularly at the BSN level, where male nurses make 19% more than female nurses.

Table 5 Wages for nurses by sex and education attained

	Men's earnings (\$)	Women's earnings (\$)	Percent gap (%)
Nursing diploma	63,000	55,000	15
Associate's degree in Nursing (ADN/ASN)	64,000	61,000	5
Bachelor's degree in Nursing (BSN)	79,000	66,000	19
Master's degree in Nursing (MSN) or higher	83,000	80,000	3

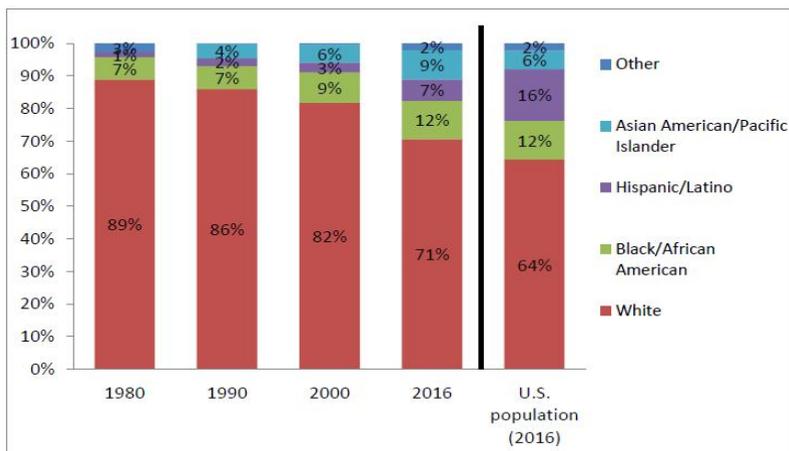
Note: The difference between earnings figures in the table may not exactly equal the percent gap, due to rounding of earnings figures.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau, US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement*, 2016.

Men are more likely to have graduate degrees, which are part of entry-level requirements for the best-paying advanced-practice registered nursing (APRN) positions, such as certified registered nurses, nurse practitioners (NPs), and clinical nurse specialists (CNSs).⁵⁷ RNs who earn a graduate degree – such as a Master's of Science in Nursing (MSN) – have the best outcomes in the labor market, particularly for CRNAs, NPs, CNMs, CNSs, and nurse managers.

Diversity is slowly increasing in the nursing field. RNs from diverse racial and ethnic backgrounds represented 29% of all RNs in 2016, up from 11% in 1980 (Figure 15). Still, diversity remains a challenge for the nursing profession. Latinos in particular have a low representation, accounting for just 7% of all RNs in 2016. While the share of Latino nurses has grown over the years, it has not kept up with the growth in the share of Latinos in the US population (16%).

Figure 15 Racial/ethnic diversity among RNs, 1980–2016, selected years



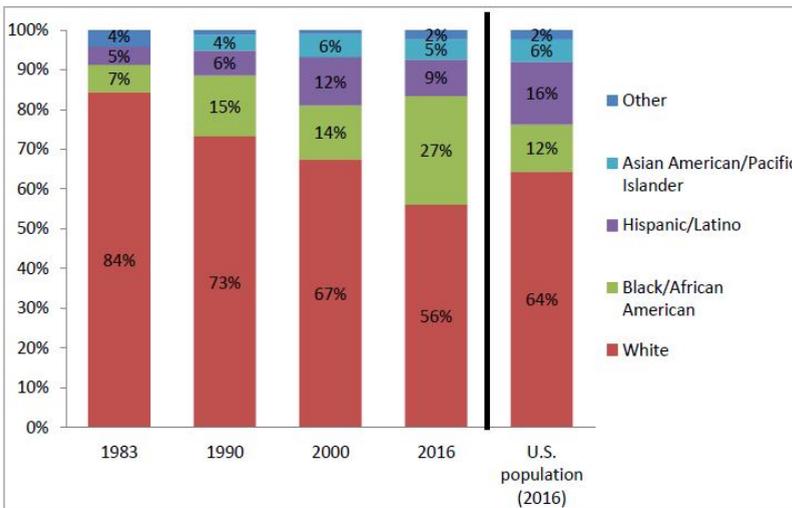
Note: Percentages may not total 100 due to rounding.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement*, 1980–2016.

Increasing racial diversity in nursing is important from several perspectives. First, as the largest licensed healthcare profession in the country and one that is expected to continue growing at a significant pace, nursing represents an important career option for many individuals. Yet, the lack of diversity in nursing reflects unequal opportunities in the labor market. Second, because nurses are the healthcare providers who interact most directly with patients, the lack of diversity in nursing can contribute to the lack of access to culturally competent care for an increasingly racially and ethnically diverse patient population.

Unlike the RN workforce, the LPN/LVN workforce has reached substantially greater diversity (Figure 16). The share of White LPNs/LVNs has declined from 84% in 1983 to 56% in 2016. Both Blacks and Latinos have made great strides in becoming LPNs/LVNs. In 1983, Blacks made up only 7% of all LPNs/ LVNs and Latinos made up only 5%. In 2016, Blacks made up 27% of LPNs/LVNs and Latinos made up 9%.

Figure 16 Racial/Ethnic Diversity among LPNs/LVNs, 1983–2016



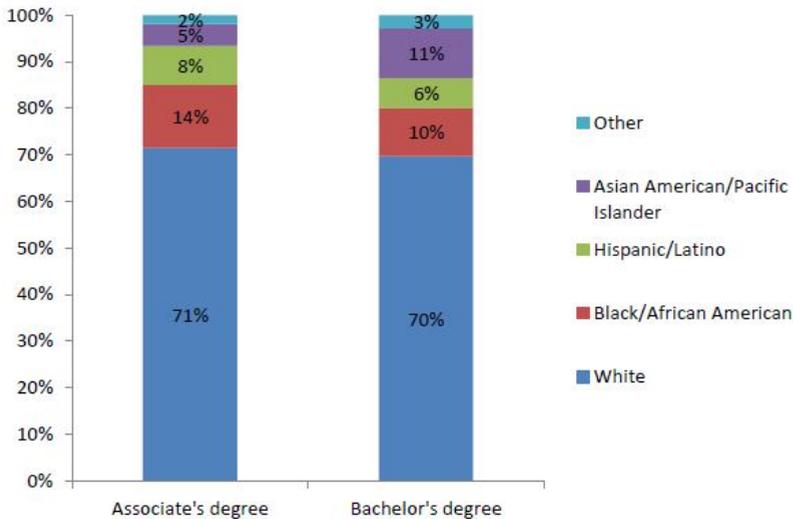
Note: Percentages may not total 100 due to rounding.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement data*, 1980–2016.

While this is encouraging, it also reflects the fact that minorities are increasingly overrepresented among LPNs/LVNs and increasingly underrepresented among RNs. This growing disproportionality begins with the reality that nurses from minority groups tend to have lower levels of educational attainment than White nurses and thus make lower earnings. More progress is needed in getting nurses, especially Black and Latino nurses, the education they need to advance to the higher-skilled, higher-paid RN level. Though there are well-established career pathways in the nursing field, the increased presence of minority nurses at the LPN/LVN level, but

not at the RN level, suggests that many minority nurses do not move up those career pathways. Latinos, for example, account for just 6% of RNs with a bachelor's degree (Figure 17).

Figure 17 Distribution of RNs with associate's and bachelor's degrees by race/ethnicity



Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016.

10. Baby Boom Retirement and Its Impact on the Nursing Workforce

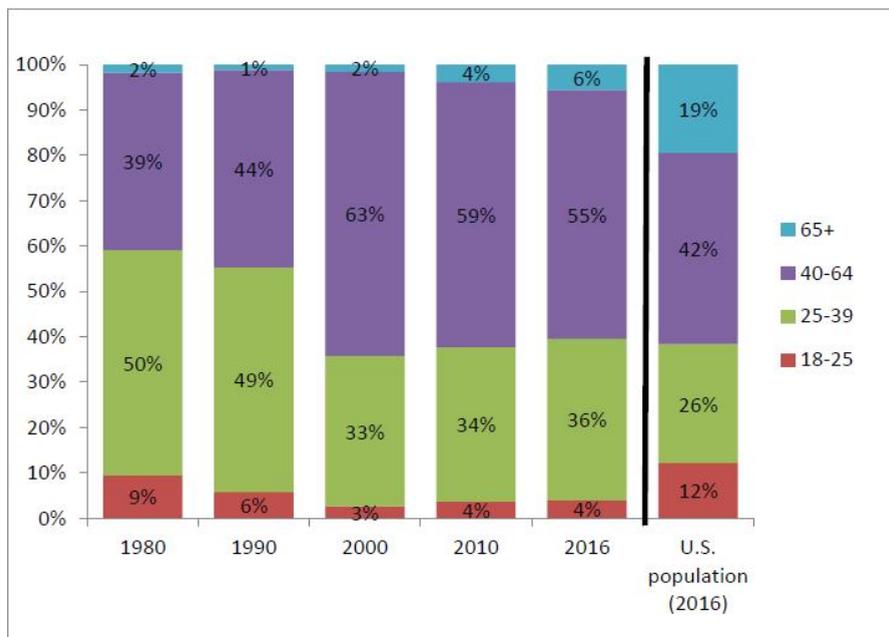
The nursing profession also has been aging significantly. The average age of an RN has increased by seven years, from 38 in 1980 to 45 in 2016,⁵⁸ with 61% of RNs now age 40 or older, and 39% age 50 or older. There are several reasons for the aging of the nursing workforce:

- The expansion of career opportunities and rising earnings for women across all skilled occupations has led younger women, who previously would have gone into nursing, to choose other careers.
- Workers are entering nursing later, with a growing popularity of the field as a second career choice by individuals in their late 20s and early 30s.
- The growth of ADN/ASN and accelerated baccalaureate programs for non-nursing college graduates attracts later entrants into the profession and delays retirement among older nurses.^{59,60}

Some evidence, however, suggests the situation is changing. Between 2000 and 2016, the number of RNs age 40 or older declined by 4% (Figure 18). The number of RNs under age 40 entering the field has also risen in recent years, with a 4% increase between 2000 and 2016.⁶¹

The LPN/LVN workforce, like the RN workforce, now has a relatively high concentration of older workers. The average age of an LPN/LVN in 2016 is 42, with 56% of LPNs/LVNs 40 years of age or older, and 36% 50 years of age or older.⁶²

Figure 18 Distribution of nurses by age, 1980–2016



Note: Percentages may not total 100 due to rounding.

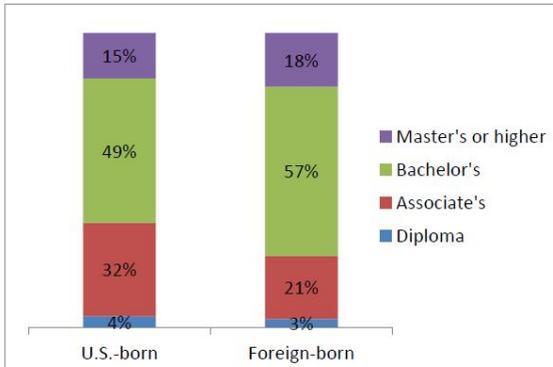
Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, Current Population Survey (CPS) March Supplement data, 1980–2016.

11. Distribution of US and Foreign-born Nurses by Education

As the demand for nurses continues to grow and the domestic supply of RNs is unable to meet the demand, employers have turned to RNs from other countries. About 543,000 nurses, or 19% of the US RN workforce, are foreign-born. Among RNs with a BSN or higher, 19% are foreign-born, and among Asian RNs with a BSN or higher, 80% are foreign-born.⁶³

When comparing foreign-born nurses with those born in the United States, foreign-born nurses tend to be more educated – 57% of foreign-born RNs have a BSN versus 49% of RNs born in the United States (Figure 19).

Figure 19 US v. foreign-born RNs by education, 2016



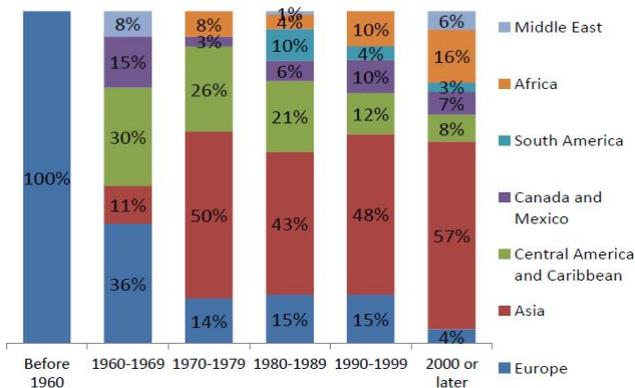
Note: Percentages may not total 100 due to rounding.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement data*, 2016.

12. Distribution of Nurses by Country/Region of Origin

Although foreign-born RNs come from a variety of places around the world, there is a discernable pattern between when foreign-born RNs came to the United States and the region of the world where those nurses were born. Nurses from Europe and the Americas are more likely to have immigrated prior to 1990. Nurses from Asia, the Middle East, and Africa, on the other hand, are more likely to have come during the last three decades. These trends, in part, are due to shifting immigration patterns, especially for RNs (Figure 20).

Figure 20 Foreign-born nurse immigration cohort and place of origin, 1960s to 2000s⁶⁴



Note: Percentages may not total 100 due to rounding.

Source: Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement data*, 2016.

13. Conclusion

For women, who comprise 90% of the nursing profession, nursing continues to be an oasis of opportunity – that is, if we temporarily set aside the high workload and significant consequences for errors, and focus on the earnings potential and upward mobility for those who continue to upskill and advance their education. RNs earn an average of \$67,000 annually – \$7,000 higher than the average for all prime-age workers – while those with a BSN can earn \$68,000 on average and upwards of \$83,000 as an experienced nurse manager with a graduate-level education. Many nurses continue to return to the education system at various points in their careers. Because of well-developed career pathways, many nurses and potential nurses continue to work in the healthcare professions as they seek to acquire the credentials necessary to practice and advance in nursing.

Over time, the percentage of male RNs has increased. Male RNs tend to have higher salaries, primarily because they often work in specialized fields that are more physically demanding or require more education, such as acute-care nursing. We expect to see a steady increase in the number of men who enter the nursing profession as long as nursing continues to offer competitive earnings. However, men are expected to remain a minority within the profession.

10% of all employed nurses are currently enrolled in an institution of higher learning.⁶⁵ This “working while learning” trend points toward the necessary upskilling required for nurses to remain current in the field. The education and training requirements for nursing are relatively demanding compared to other occupations held by workers with associate’s and bachelor’s degrees. The nursing profession now has an entrenched culture of pursuing additional education to remain current with new technology and procedures.

A growing share of nurses today are seeking the bachelor’s degree as an entry-level credential into the field, mostly because more entry-level nursing jobs, especially in hospitals, are requiring it. Nursing students have responded to changes in the market conditions by seeking out BSN degrees prior to entering the field or upgrading to a BSN once in the field.

As the growing cost of healthcare is getting increasing attention from policy makers and the general public, there has been a rise in the demand for more affordable care, similar to the kind that has traditionally been offered by physicians, to be provided by APRNs. This is likely to accelerate the upskilling trend, as nurses will have to upgrade their credentials to perform these new tasks.

The racial and ethnic distribution of nurses also is changing. The stereotype of the white woman in a white uniform, white hat, and sensible shoes is giving way to increasing levels of diversity – an especially important development as nurses try to meet the needs of an increasingly diverse patient population. Changing immigration policy in the United States has resulted in an increasing proportion of the nursing workforce coming from countries such as South Africa, the Philippines, and Mexico, as well as regions of Asia and South America. However, there are still distinct racial

and ethnic divisions regarding whether nurses complete BSNs or if they practice as LPNs/LVNs.

White women still make up a disproportionate majority of nurses with a BSN. The proportion of nurses from minority groups who hold a BSN as their highest degree is increasing, but slowly. At the same time, the nursing workforce as a whole is getting older. As aging nurses retire, new shortages could arise, particularly in medically underserved areas already facing significant challenges in attracting new nursing talent.

NOTES

1. The wages for RNs and LPNs/LVNs are for prime-age (25–54), full-time, full-year workers, based on Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2015. U.S. Bureau of Labor Statistics, *Occupational Employment Statistics (OES)*, 2015 annual mean wage estimate for RNs is \$71,000. *OES* wage estimates are based on survey of employer establishments, whereas *CPS* wage estimates are based on survey of households. *OES* excludes self-employed, household workers, unpaid family workers, and owners and partners within unincorporated firms. *OES* annual wage estimates are based on multiplying hourly mean wages by 2,080 hours (full-time, full-year). *OES* excludes nurse anesthetists, nurse practitioners, and nurse midwives from RN occupational category.

2. According to the Society of Critical Care Medicine, *Compensation of Critical Care Nurses Second Edition*, 2009, the more advanced CNSs in critical care earn on average \$81,000 a year.

3. The earnings for nursing specialties are from *2008 National Sample Survey of Registered Nurses (NSSRN)*, updated for inflation to 2015\$. The *OES* earning for nurse practitioners is \$101,000 and for nurse midwives is \$94,000 in 2015\$.

4. The earnings for nursing specialties are from *2008 National Sample Survey of Registered Nurses (NSSRN)*, updated for inflation to 2015\$. The *OES* mean annual wage for nurse anesthetists is \$160,000.

5. The earnings for nursing specialties are from *2008 National Sample Survey of Registered Nurses (NSSRN)*, updated for inflation to 2015\$. The *OES* wage for post-secondary nursing instructors and teachers is \$73,000 in 2015\$.

6. The Commonwealth Fund analysis is based on the repeal of the Affordable Care Act only.

7. Ku et al. (2017), “Repealing Federal Health Reform.”

8. The Congressional Budget Office estimates that 23 million people will lose health coverage under American Healthcare Act as passed by the House of Representatives. Congressional Budget Office, “H.R.1628, American Healthcare Act of 2017: Cost Estimate,” 2017.

9. Lucia and Jacobs (2016), *California’s Projected Economic Losses under ACA Repeal*.

10. Ku et al. (2017), “Repealing Federal Health Reform.”

11. Source: Georgetown University Center on Education and the Workforce analysis based on Ku et al. (2017), “Repealing Federal Health Reform,” and US Census Bureau, American Community Survey data, 2015.

12. The Congressional Budget Office estimated that 23 million people will lose health insurance coverage if the American Healthcare Act goes into effect. Congressional Budget Office, "H.R.1628, American Healthcare Act of 2017: Cost Estimate," 2017.
13. American Nurses Association (2012), "What Is Nursing?"
14. Hendrich et al. (2008), "A 36-Hospital Time and Motion Study."
15. The term "seniority" in this paper refers to seniority of position, not years of experience in nursing. For example, an APRN would have more seniority than an RN and an RN would have more seniority than an LPN/LVN, regardless of how many years of experience each has in nursing.
16. Less than 1% of registered nurses whose work setting is unknown are also included in this work setting category.
17. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2016.
18. Georgetown University Center on Education and the Workforce analysis of *Occupational Information Network (O*NET)* data, 2017.
19. Ibid.
20. Bureau of Labor Statistics, *Occupational Outlook Handbook: Licensed Practical and Licensed Vocational Nurses*, 2012.
21. Georgetown University Center on Education and the Workforce analysis of Health Resources and Services Administration (HRSA), *National Sample Survey of Registered Nurses (NSSRN)*, 2008.
22. Cook et al. (2010), "Returning to School."
23. Ibid.
24. Ibid.
25. Ibid.
26. As educators, nurses inform patients on following the proper treatment and the best approaches to staying well.
27. RNs value relationships, support, independence, and achievement. Achievement values are found most often in occupations that are results oriented and that allow employees to use their strongest abilities. Independence values draw employees to occupations that allow them to work on their own and make their own decisions. Registered nursing is an occupation that fits those whose personality traits include being considerate to others, compassionate, responsible, dependable, and social, and who have the ability to remain calm in trying circumstances.
28. *Occupational Information Network (O*NET)* data, 2017.
29. Ibid.
30. The nursing lobby has been clamoring for upskilling in the profession for a number of years with only modest success. Smith (2010), "A Policy Perspective on the Entry into Practice Issue."
31. Institute of Medicine (IOM), *The Future of Nursing: Leading Change, Advancing Health*, 2011.
32. American Nurses Association (1965), *Educational Preparation for Nurse Practitioners and Assistants to Nurses*.
33. Nelson (2002), "Education for Professional Nursing Practice."
34. The 80/20 mandate made by the American Association of Colleges of Nursing calls for 80% of hospital-employed nurses to hold a BSN by 2020.
35. Burning Glass Technologies, *Moving the Goalposts*, September 2014.

36. Bureau of Labor Statistics, *Occupational Outlook Handbook: Registered Nurses*, 2012.
37. Maryland Board of Nursing, NCLEX-RN Application Instructions.
38. Texas Board of Nursing, *Licensure-Examination Information*.
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40. Center to Champion Nursing in America, *Nursing Fact Sheet*, 2010.
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42. Bureau of Labor Statistics, *Occupational Outlook Handbook: Licensed Practical and Licensed Vocational Nurses*, 2012.
43. Center to Champion Nursing in America, “Pathways in Nursing Education,” 2009.
44. Bureau of Health Professions, Health Resources and Services Administration (HRSA), “The Registered Nurse Population,” 2008.
45. Perna and DuBois (2010), *Understanding the Working College Student*.
46. Though women dominate the nursing professions, on average, female nurses make \$65,000 per year while male nurses make \$75,800 per year (Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016).
47. 90% of nurses are women. Georgetown University Center on Education and the Workforce analysis of *Current Population Survey (CPS)* data, 2016.
48. Prime age workers are defined as those who are 25–54 years old.
49. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016.
50. The earnings presented in this section are mean earnings for full-time, full-year, prime-age (25–54) workers in real 2015 dollars. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2015, 2016.
51. Though nurse midwives and nurse practitioners are two distinct subcategories of APRNs, the Bureau of Labor Statistics treats them as a single occupational group.
52. In this article, we use the term Black to refer to people who identify as Black or African American and the term Latino to people who identify as Hispanic or Latino. Most of the Center’s research relies on surveys that do not differentiate between these groups. We use single terms – White, Black, Latino, and Asian – to alleviate ambiguity and enhance clarity. In charts and tables, we use White, Black/African American, Hispanic/Latino, and Asian/Pacific Islander.
53. Roth and Coleman (2008), “Perceived and Real Barriers for Men Entering Nursing.”
54. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2013.
55. Healthcare support occupations include jobs such as nurses’ aids, home health aides, physical therapist assistants, and medical assistants. Carnevale et al. (2012), *Healthcare*.
56. Carnevale et al. (2012), *Healthcare*.
57. Ibid.

58. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 1980–2016.
59. Buerhaus et al. (2000), “Implications of an Aging Registered Nurse Workforce.”
60. Auerbach et al. (2007), “Better Late Than Never.”
61. Auerbach et al. show a 62% increase in the number of full-time equivalent (FTE) nurses age 23–26 between 2002 and 2009; “Registered Nurse Supply Grows Faster Than Projected Amid Surge in New Entrants Ages 23–26,” 2011.
62. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016. Prior to 2003, CPS used 1990 Census occupational groups, which did not include LVNs in the same occupational group as LPNs. The average age of an LPN was 6 years younger than the average age of an RN. This difference, however, is not evident with the new LPN/LVN occupational category in the 2000 (and newer) Census occupational categories.
63. Georgetown University Center on Education and the Workforce analysis of US Census Bureau and Bureau of Labor Statistics, *Current Population Survey (CPS) March Supplement* data, 2016.
64. The Immigration and Naturalization Act of 1965 removed many race-based immigration restrictions, allowing Africans, Asians, Latin American, and Caribbean people to come to the United States.
65. This share of working learners is in line with all healthcare professional and technical occupations; Georgetown University Center on Education and the Workforce analysis of US Census Bureau, *American Community Survey* data, 2015.

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Glossary

The nursing profession has many levels, relevant degrees, and specialties. This is a guide to the terms used in this article.

DNP – Doctor of Nursing Practice is a professional doctoral degree intended to establish an individual's expertise as a clinical practitioner. The DNP prepares an RN to manage acute and chronic medical conditions as a primary care provider, usually independent from a medical doctor.

PhD/DNS – Doctor of Philosophy in Nursing or Doctor of Nursing Science is a terminal research-focused degree in nursing. These are academic degrees intended for individuals who plan to be involved in teaching and research.

MSN – Master of Science in Nursing is a postgraduate degree for RNs who have an interest in administration or management within the nursing field. It is also a requirement for many advanced practice registered nurse (APRN) specialties and in some cases is a prerequisite for the DNP.

BSN – Bachelor of Science in Nursing is a four-year baccalaureate degree that, together with a license after passing the National Council Licensure Examination-Registered Nurse (NCLEX-RN) exam, is the emerging entry-level requirement for RNs. Although not officially required, the BSN is highly favored over an Associate Degree in Nursing and as an entry-level requirement for a significant number of registered nursing opportunities.

ADN/ASN – Associate Degree in Nursing/Associate of Science in Nursing are nursing degrees that are completed at a two-year college or a university. Together with the NCLEX-RN exam, these degrees make a candidate eligible to apply for licensure as an RN.

Hospital-based diploma – This is an entry-level nursing credential that, together with the NCLEX-RN exam, allows one to apply for licensure as an RN. The diploma is awarded by hospital-based nursing programs. These programs are slowly being replaced by nursing programs at other institutions, such as community colleges and nursing schools within universities. Many of the existing hospital-based programs coordinate with nearby schools to teach classes that, together with the practicum/apprenticeship-based programs in hospitals, are required to complete the diploma.

OCCUPATIONS

Advanced practice registered nurses (APRNs) – Registered nurses (RNs) who completed a postgraduate degree such as a DNP or MSN and obtained additional license or certification from their state's board of nursing. APRNs have greater professional autonomy than RNs and serve as leading primary or specialty healthcare providers (similar to doctors, physician assistants, chiropractors, or physical therapists). The four main types of APRNs are nurse practitioner (NP), certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM), and clinical nurse specialist (CNS).

Nurse practitioner (NP) – An APRN who usually has completed a DNP program or a set of graduate coursework and clinical education beyond that of an RN, such as an MSN. NPs diagnose medical conditions, order treatment, prescribe drugs, and make referrals in much the same way as physicians. In many states, NPs do not need to practice under the supervision of a physician.

Certified registered nurse anesthetist (CRNA) – An APRN who usually has completed a DNP or MSN program and is board certified in anesthesia.

Certified nurse midwife (CNM) – An APRN who usually has completed a DNP or MSN program and is board certified in midwifery. CNMs specialize in the provision of care for women who are experiencing low-risk pregnancies.

Clinical nurse specialist (CNS) – An APRN who usually has completed a graduate DNP or MSN program in selected areas of nursing leading to board certification as a CNS. CNSs provide specialized care and are responsible for patient diagnosis and treatment as well as supervision of RNs and other medical staff in widely varied inpatient areas, including but not limited to medical – surgical, pediatric, perinatal, geriatric, psychiatric, rehabilitation, critical care, and emergency/trauma, as well as outpatient

areas such as home health, community health, public health, occupational health, and school healthcare.

Registered nurse (RN) – A nurse who has graduated from a nursing program and has passed the NCLEX-RN exam. To become an RN, one must complete a bachelor’s degree (BSN), an associate’s degree (ADN/ASN), or diploma in nursing and pass the NCLEX-RN. RNs are the center of gravity among the nursing professions – 84% of all nurses are RNs.

Licensed practical nurse (LPN)/licensed vocational nurse (LVN) – A nursing professional who cares for people under the direction of an RN or physician. Aspiring LPNs/LVNs study for one to two years at a community college or a vocational/technical school and also pass the NCLEX-PN exam. No substantive difference exists between LPNs and LVNs, except for the occupational name, which varies by state.

Appendix Nursing Jobs at Risk by State from Repeal of the Affordable Care Act

State	Nursing jobs at risk in 2019
Alabama	1,870
Alaska	290
Arizona	1,670
Arkansas	1,760
California	18,370
Colorado	1,810
Connecticut	2,420
Delaware	680
District of Columbia	260
Florida	12,270
Georgia	3,940
Hawaii	520
Idaho	710
Illinois	6,750
Indiana	3,910
Iowa	1,340
Kansas	1,080
Kentucky	3,460
Louisiana	2,390
Maine	790
Maryland	3,340
Massachusetts	3,150
Michigan	6,810
Minnesota	3,380
Mississippi	1,140
Missouri	2,670
Montana	530
Nebraska	750
Nevada	1,190
New Hampshire	890
New Jersey	5,280
New Mexico	1,060
New York	7,060
North Carolina	4,440
North Dakota	400
Ohio	9,500
Oklahoma	1,220
Oregon	2,550

Pennsylvania	9,720
Rhode Island	740
South Carolina	1,510
South Dakota	440
Tennessee	3,320
Texas	8,570
Utah	770
Vermont	260
Virginia	2,760
Washington	2,070
West Virginia	1,420
Wisconsin	2,750
Wyoming	90
Total	156,070

Source: Georgetown University Center on Education and the Workforce analysis based on Ku et al., “Repealing Federal Health Reform,” 2017; US Census Bureau, American Community Survey data, 2015.