

# 11

## The Future of Nursing: Recommendations and Research Priorities

The next 10 years will test the nation’s nearly 4 million nurses in new and complex ways. Nurses live and work at the intersection of health, education, and communities. In the decade since the prior *The Future of Nursing* report was published (IOM, 2011), the world has come to understand the critical importance of health to all aspects of life, particularly the relationship among social determinants of health (SDOH), health equity, and health outcomes. Consistent with this broader understanding, the National Advisory Council on Nurse Education and Practice (NACNEP) (2020) advanced an important set of recommendations that the committee endorses. The NACNEP report *Integration of Social Determinants of Health in Nursing Education, Practice, and Research* conveys the importance of investing in SDOH and research to strengthen the nursing workforce and help nurses provide more effective care, as well as design, implement, and assess new care models.

In a year that was designated to honor and uplift nursing (the International Year of the Nurse and the Midwife 2020<sup>1</sup>), nurses have been placed in unimaginable circumstances by the COVID-19 pandemic. The decade ahead will demand a stronger, more diversified workforce that is prepared to provide care; promote health and well-being among nurses, individuals, and communities; and address the systemic inequities that have fueled wide and persistent health disparities.

The COVID-19 pandemic has revealed in the starkest terms that illness and access to quality health care are unequally distributed across groups and commu-

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<sup>1</sup> See <https://www.who.int/campaigns/annual-theme/year-of-the-nurse-and-the-midwife-2020> (accessed April 12, 2021).

nities, and has spotlighted the reality that much of what affects health happens outside of medical care. The pandemic and continued calls for racial justice have illuminated the extent to which structural racism—from decades of neglect and disinvestment in neighborhoods, schools, communities, and health care to discrimination and bias—has placed communities of color at much higher risk for poor health and well-being.

The committee’s recommendations call for change at both the individual and system levels, constituting a call for action to the nation’s largest health care workforce, including nurses in all settings and at all levels, to listen, engage, deeply examine practices, collect evidence, and act to move the country toward greater health equity for all. The committee’s recommendations also are targeted to the actions required of policy makers, educators, health care system leaders, and payers to enable these crucial changes, supported by the research agenda with which this chapter concludes. With implementation of this report’s recommendations, the committee envisions 10 outcomes that position the nursing profession to contribute meaningfully to achieving health equity (see Box 11-1).

In this chapter, the committee provides its recommendations for charting a 10-year path forward to enable and support today’s and the next generation of nurses to create fair and just opportunities for health and well-being for

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**BOX 11-1**  
**Achieving Health Equity Through Nursing:  
Desired Outcomes**

- Nurses are prepared to act individually, through teams, and across sectors to meet challenges associated with an aging population, access to primary care, mental and behavioral health problems, structural racism, high maternal mortality and morbidity, and elimination of the disproportionate disease burden carried by specific segments of the U.S. population.
- Nurses are fully engaged in addressing the underlying causes of poor health. Individually and in partnership with other disciplines and sectors, nurses act on a wide range of factors that influence how well and long people live, helping to create individual- and community-targeted solutions, including a health in all policies orientation.
- Nurses reflect the people and communities served throughout the nation, helping to ensure that individuals receive culturally competent, equitable health care services.
- Health care systems enable and support nurses to tailor care to meet the specific medical and social needs of diverse patients to optimize their health.
- Nurses’ overarching contributions, especially those found beneficial during the COVID-19 pandemic, are quantified, extended, and strengthened, including the removal of institutional and regulatory barriers that have prevented nurses

everyone. These recommendations are aimed at all nurses, including those working in hospitals, schools, and health departments; policy makers; educators; health care system leaders; and payers. The chapter concludes with a research agenda to fill current and critical gaps that would support this future-oriented path.

### CREATING A SHARED AGENDA

In order for nurses to engage fully in efforts to achieve health equity, it will be necessary for nursing organizations to work together to identify priorities for education, practice, and policy, and to develop mechanisms for leveraging existing nursing expertise and resources. Creating a shared agenda will focus efforts and ensure that all nurses—no matter where they are educated or where they practice—are prepared, supported, and empowered to address SDOH and eliminate inequities in health and health care.

**Recommendation 1: In 2021, all national nursing organizations should initiate work to develop a shared agenda for addressing social determinants of health and achieving health equity. This agenda should include explicit priorities across nursing practice, education, leadership, and health policy**

from working to the full extent of their education and training. Practice settings that were historically undercompensated, such as public health and school nursing, are reimbursed for nursing services in a manner comparable to that of other settings.

- Nurses and other leaders in health care and public health create organizational structures and processes that facilitate the profession's expedited acquisition of relevant content expertise to serve flexibly in areas of greatest need in times of public health emergencies and disasters.
- Nurses consistently incorporate a health equity lens learned through revamped academic and continuing education.
- Nurses collaborate across their affiliated organizations to develop and deploy a shared agenda to contribute to substantial, measurable improvement in health equity. National nursing organizations reflect an orientation of diversity, equity, and inclusion within and across their organizations.
- Nurses focus on preventive person-centered care and have an orientation toward innovation, always seeking new opportunities for growth and development. They expand their roles, work in new settings and in new ways, and markedly expand their partnerships connecting health and health care with all individuals and communities.
- Nurses attend to their own self-care and help to ensure that nurse well-being is addressed in educational and employment settings through the implementation of evidence-based strategies.

**engagement. The Tri-Council for Nursing<sup>2</sup> and the Council of Public Health Nursing Organizations,<sup>3</sup> with their associated member organizations, should work collaboratively and leverage their respective expertise in leading this agenda-setting process. Relevant expertise should be identified and shared across national nursing organizations, including the Federal Nursing Service Council<sup>4</sup> and the National Coalition of Ethnic Minority Nurse Associations. With support from the government, payers, health and health care organizations, and foundations, the implementation of this agenda should include associated timelines and metrics for measuring impact.**

Specific actions should include the following:

- Within nursing organizations:
  - Assess diversity, equity, and inclusion, and eliminate policies, regulations, and systems that perpetuate structural racism, cultural racism, and discrimination with respect to identity (e.g., sexual orientation, gender), place (e.g., rural, inner city), and circumstances (e.g., disabilities, depression).
- Across nursing organizations:
  - Develop mechanisms for leveraging the expertise of public health nursing (e.g., in population health, SDOH, community-level assessment) as a resource for the broader nursing community, health plans, and health systems, as well as public policy makers.
  - Develop mechanisms for leveraging the expertise of relevant nursing organizations in care coordination and care management. Care coordination and care management principles, approaches, and evidence should be used to create new cross-sector models for meeting social needs and addressing SDOH.
  - Develop mechanisms for prioritizing and sharing continuing education and skill-training resources focused on nurses' health, well-being, resiliency, and self-care to ensure a healthy nursing workforce.

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<sup>2</sup> The Tri-Council for Nursing includes the following organizations as members: the American Association of Colleges of Nursing, the American Nurses Association, the American Organization for Nursing Leadership, the National Council of State Boards of Nursing, and the National League for Nursing.

<sup>3</sup> The Council of Public Health Nursing Organizations includes the following organizations as members: the Alliance of Nurses for Healthy Environments, the American Nurses Association, the American Public Health Association—Public Health Nursing Section, the Association of Community Health Nursing Educators, the Association of Public Health Nurses, and the Rural Nurse Organization.

<sup>4</sup> The Federal Nursing Service Council is a united federal nursing leadership team representing the U.S. Army, Air Force, Navy, National Guard and Reserves, Public Health Service Commissioned Corps, American Red Cross, U.S. Department of Veteran Affairs, and the Uniformed Services University of the Health Sciences Graduate School of Nursing.

These resources should be used by nurses and others in leadership positions.

- External to nursing organizations:
  - Develop and use communication strategies, including social media, to amplify for the public, policy makers, and the media nursing research and expertise on health equity–related issues.
  - Increase the number and diversity of nurses, especially those with expertise in health equity, population health, and SDOH, on boards and in other leadership positions within and outside of health care (e.g., community boards, housing authorities, school boards, technology-related positions).
  - Establish a joint annual award or series of awards recognizing the measurable and scalable contributions of nurses and their partners to achieving health equity through policy, education, research, and practice. Priority should be given to interprofessional and multisector collaboration.

### SUPPORTING NURSES TO ADVANCE HEALTH EQUITY

Promoting health and well-being for all should be a national priority, and a collective and sustained commitment is needed to achieve this priority. To chart this path, nurses should be fully supported with robust education, resources, and autonomy. Key stakeholders should commit to investing fully in strengthening and diversifying the nursing workforce so that it is sufficiently prepared to promote health and appropriately reflects the people and communities it serves. Nursing schools, health care institutions, and public health and community health organizations can do significantly more to empower nurses to raise their voices and use their considerable expertise to improve people’s lives, health, and well-being.

**Recommendation 2: By 2023, state and federal government agencies, health care and public health organizations, payers, and foundations should initiate substantive actions to enable the nursing workforce to address social determinants of health and health equity more comprehensively, regardless of practice setting.**

This can be accomplished through the following actions:

- Rapidly increase both the number of nurses with expertise in health equity and the number of nurses in specialties with significant shortages, including public and community health, behavioral health, primary care, long-term care, geriatrics, school health, and maternal health. The Health Resources and Services Administration (HRSA), the Substance

Abuse and Mental Health Services Administration (SAMHSA), the Centers for Disease Control and Prevention (CDC), and state governments should support this effort through workforce planning and funding.

- Provide major investments for nursing education and traineeships in public health, including through state-level workforce programs; foundations; and the U.S. Department of Health and Human Services' (HHS's) HRSA (including nursing workforce programs and Maternal and Child Health Bureau programs), CDC (including the National Center for Environmental Health), and the Office of Minority Health.
- State governments, foundations, employers, and HRSA should direct funds to nurses and nursing schools to sustain and increase the gender, geographic, and racial diversity of the licensed practical nurse (LPN), registered nurse (RN), and advanced practice registered nurse (APRN) workforce.
- HRSA and the Indian Health Service (IHS) should make substantial investments in nurse loan and scholarship programs to address nurse shortages, including in public health, in health professional shortage areas (HPSAs) for HRSA, and in IHS designated sites; and invest in technical assistance that focuses on nurse retention.
- In all relevant Title 8 programs, HRSA should prioritize longitudinal community-based learning opportunities that address social needs, population health, SDOH, and health equity. These experiences should be established through academic–community-based partnerships.
- Foundations, state government workforce programs, and the federal government should support the academic progression of socioeconomically disadvantaged students by encouraging partnerships among baccalaureate and higher-degree nursing programs and community colleges; tribal colleges; historically Black colleges and universities; Hispanic-serving colleges and universities; and nursing programs that serve a high percentage of Asian, Native Hawaiian, and Pacific Islander students.
- HHS should establish a National Nursing Workforce Commission or alternatively, significantly invest in and enhance the current capacity of HRSA's National Advisory Council on Nurse Education and Practice. The membership of this body should comprise public and private health care payers, employers, government agencies, nurses, representatives of other health professions, and consumers, all from diverse backgrounds and sectors. This entity would:
  - Report on and propose actions to fill critical gaps in the current nursing workforce and prepare the future workforce to address health equity.

- Use findings, including those from workforce centers, on the diversity, capacity, supply, and distribution of nurses; associated competencies; and organizational support for the nursing workforce in addressing social needs, SDOH, and health equity. Recommend actions to ensure nurses' continued engagement in these areas.
- Further develop recommendations for nursing education and practice with respect to addressing social needs, SDOH, and health equity, and assess the implications of these changes for nurse credentialing and regulatory actions.
- Identify and address gaps in evidence-based nursing and interprofessional and multisectoral approaches for addressing social needs, SDOH, and health equity.
- Provide information to the secretary of HHS regarding activities of federal agencies that relate to the nursing workforce and its impact on health equity.
- Public health and health care systems should quantify nursing expenditures related to health equity and SDOH. This includes providing support for nurses in activities that explicitly target social needs, SDOH, and health equity through health care organization policies, governance and related advisory structures, and collective bargaining agreements.
- Representatives of social sectors, consumer organizations, and government entities should include nursing expertise when health-related multisector policy reform is being advanced.
- State and federal governments should provide sustainable funding to prepare sufficient numbers of baccalaureate, APRN, and PhD-level nurses to address SDOH, advance health equity, and increase access to primary care.
- Employers should support nurses at all levels in all settings with the financial, technical, educational, and staffing resources to help them play a leading role in achieving health equity

### **PROMOTING NURSES' HEALTH AND WELL-BEING**

During the course of their work, nurses encounter physical, mental, emotional, and ethical challenges, and burnout is an increasingly prevalent problem. The COVID-19 pandemic has only exacerbated these issues. In order for nurses to help others be healthy and well, they must be healthy and well themselves; a lack of nurse well-being has consequences for nurses, patients, employers, and communities. As nurses are asked to take a more prominent role in advancing health equity, it will become even more imperative that all stakeholders—including educators, employers, leaders, and nurses themselves—take steps to ensure nurse well-being.

**Recommendation 3: By 2021, nursing education programs, employers, nursing leaders, licensing boards, and nursing organizations should initiate the implementation of structures, systems, and evidence-based interventions to promote nurses' health and well-being, especially as they take on new roles to advance health equity.**

This can be accomplished by taking the following steps:

- Nursing education programs:
  - Integrate content on nurses' health and well-being into their programs to raise nursing students' awareness of the importance of these concerns and provide them with associated skill training and support that can be used as they transition to practice.
  - Create mechanisms, including organizational policy and regulations, to protect students most at risk for behavioral health challenges, including those students who may be experiencing economic hardships or feel that they are unsafe; isolated; or targets of bias, discrimination, and injustice.
- Employers, including nurse leaders:
  - Provide sufficient human and material resources (including personal protective equipment) to enable nurses to provide high-quality person-, family-, and community-centered care effectively and safely. This effort should include redesigning processes and increasing staff capacity to improve workflow, promote transdisciplinary collaboration, reduce modifiable burden, and distribute responsibilities to reflect nurses' expertise and scope of practice.
  - Establish a culture of physical and psychological safety and ethical practice in the workplace, including dismantling structural racism; addressing bullying and incivility; using evidenced-informed approaches; investing in organizational infrastructure, such as resilience engineering;<sup>5</sup> and creating accountability for nurses' health and well-being outcomes.
  - Create mechanisms, including organizational policy and regulations, to protect nurses from retaliation when advocating on behalf of themselves and their patients and when reporting unsafe working conditions, biases, discrimination, and injustice.
  - Support diversity, equity, and inclusion across the nursing workforce, and identify and eliminate policies and systems that perpetuate structural racism, cultural racism, and discrimination in the nursing profession, recognizing that nurses are accountable for

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<sup>5</sup> Resilience engineering is focused on “understanding the nature of adaptations, learning from success and increasing adaptive capacity” (Anderson et al., 2016, p. 1).

- building an antiracist culture, and employers are responsible for establishing an antiracist, inclusive work environment.
- Prioritize and invest in evidence-based mental, physical, behavioral, social, and moral health interventions, including reward programs meaningful to nurses in diverse roles and specialties, to promote nurses' health, well-being, and resilience within work teams and organizations.
  - Establish and standardize institutional processes that strengthen nurses' contribution to improving the design and delivery of care and decision making, including the setting of institutional policies and benchmarks in health care organizations and in educational, public health, and other settings.
  - Evaluate and strengthen policies, programs, and structures within employing organizations and licensing boards to reduce stigma associated with mental and behavioral health treatment for nurses.
  - Collect systematic data at the employer, state (including state workforce centers and state nursing associations), and national levels to better understand the health and well-being of the nursing workforce. This enhanced understanding should be used to inform the development of evidence-based interventions for mitigating burn-out; fatigue; turnover; and the development of physical, behavioral, and mental health problems.

### CAPITALIZING ON NURSES' POTENTIAL

Nurses often have untapped potential to help people live their healthiest lives because their education and experience are grounded in caring for the whole person and whole family in a community context. However, this potential is too often underutilized. Nurses, particularly RNs, need environments that facilitate their ability to fully leverage their skills and expertise across all practice settings—in hospitals, primary care settings, rural and underserved areas, homes, community organizations, long-term care facilities, and schools. To engage fully in advancing health equity, all nurses need the autonomy to practice to the full extent of their education and training, even as they work collaboratively with other health professionals. They are, however, frequently hindered in this regard by restrictive laws and institutional policies. Policy makers and health care systems need to lift permanently all barriers that stand in the way of nurses in their efforts to address the root causes of poor health, expand access to care, and create more equitable communities.

**Recommendation 4: All organizations, including state and federal entities and employing organizations, should enable nurses to practice to the full extent of their education and training by removing barriers that prevent them from more fully addressing social needs and social determinants of**

**health and improving health care access, quality, and value. These barriers include regulatory and public and private payment limitations; restrictive policies and practices; and other legal, professional, and commercial<sup>6</sup> impediments.**

To this end, the following specific actions should be prioritized:

- By 2022, all changes to institutional policies and state and federal laws adopted in response to the COVID-19 pandemic that expand scope of practice, telehealth eligibility, insurance coverage, and payment parity for services provided by APRNs and RNs should be made permanent.
- Federal authority (e.g., Veterans Health Administration regulations, Centers for Medicare & Medicaid Services [CMS]) should be used where available to supersede restrictive state laws, including those addressing scope of practice, telehealth, and insurance coverage and payment, that decrease access to care and burden nursing practice, and to encourage nationwide adoption of the Nurse Licensure Compact.<sup>77</sup>
- The Health Care Regulator Collaborative should work to advance interstate compacts and the adoption of model legislation to improve access, standardize care quality, and build interprofessional collaboration and interstate cooperation.

### PAYING FOR NURSING CARE

Nurses are bridge builders, engaging and connecting with individuals, communities, public health and health care, and social services organizations to improve health for all. Without strong financial and institutional support, however, their reach and impact are limited. How care is paid for can determine one's access to and the quality of care. Thus, it is important to improve and strengthen the design of public and private payment models so nurses are supported, encouraged, and incentivized to bridge health and social needs for people, families, and communities. Nurses also can play a key role in helping to design those models. Important as well is for local, state, and federal governments to place more value

<sup>6</sup> The term “commercial” refers to contractual agreements and customary practices that make antiquated or unjustifiable assumptions about nursing.

<sup>7</sup> Under the Nurse Licensure Compact (NLC), “nurses can practice in other NLC states without having to obtain additional licenses. The current NLC allows for RNs and LPNs/licensed vocational nurses (LVNs) to have one multistate license in any one of the 25 member states” (see <https://www.ncsbn.org/nurse-licensure-compact.htm>). According to the National Council of State Boards of Nursing (NCSBN), “An APRN must hold an individual state license in each state of APRN practice” (see [https://www.ncsbn.org/2018\\_eNLC\\_FAQs.pdf](https://www.ncsbn.org/2018_eNLC_FAQs.pdf)). There is a movement, organized by the National Council of State Boards of Nursing, to have an APRN Compact (see <https://aprncompact.com/about.htm>) (all accessed April 12, 2021).

on the vital role of school and public health nurses in advancing health equity by adequately funding and deploying these nurses where they are needed to promote health in communities.

**Recommendation 5: Federal, tribal, state, local, and private payers and public health agencies should establish sustainable and flexible payment mechanisms to support nurses in both health care and public health, including school nurses, in addressing social needs, social determinants of health, and health equity.**

Specific payment reforms should include the following:

- Reform fee-for-service payment models by
  - ensuring that the Current Procedure Terminology (CPT) code set includes appropriate codes to describe and reimburse for such nurse-led services as case management, care coordination, and team-based care to address behavioral health, addiction, SDOH, and health equity, and that the relative value units (RVUs) attached to the CPT codes result in adequate and direct reimbursement for this work;
  - reimbursing for school nursing; and
  - enabling nurses to bill for telehealth services.
- Reform value-based payment by
  - using clinical performance measures stratified by such risk factors as race, ethnicity, and socioeconomic status;
  - supporting nursing interventions through clinical performance measures that incentivize reductions in health disparities between more and less advantaged populations, improvements in measures for at-risk populations, and attainment of absolute target levels of high-quality performance for at-risk populations; and
  - incorporating disparities-sensitive measures that support and incentivize nursing interventions that advance health equity (e.g., process measures such as care management and team-based care for chronic conditions; outcomes such as prevention of hospitalizations for ambulatory care-sensitive conditions).
- Reform alternative payment models by
  - providing flexible funding (capitated payments, global budgets, shared savings, per member per month payments, accountable health communities models) for nursing and infrastructure that address SDOH; and
  - incorporating value-based payment (VBP) metrics that enable nurses to address SDOH and advance health equity.

- Create a National Nurse Identifier to facilitate recognition and measurement of the value of services provided by RNs.
- Ensure adequate funding for school and public health nursing by
  - implementing state policies that allow school nurses to bill Medicaid and supporting schools, particularly rural schools, in meeting documentation requirements;
  - reimbursing school nursing services that include collaboration with clinical and community health care providers;
  - promoting new ways of financing public health to address SDOH in the community (e.g., having federal, state, and local leaders, along with public health departments and organizations, partner with payers, health systems, and accountable health communities, and blend or braid multiple funding sources);
  - creating funding mechanisms and joint accountability metrics for the efforts of the health, public health, and social sectors to address SDOH and advance health equity that align incentives and behavior across the various stakeholders, including school health;
  - leveraging nonprofit hospital community benefit requirements to create partnerships with and among school and public health nursing, primary care organizations and other social sectors; and
  - using pay scales for public health nurses that are competitive with those for nursing positions in other health care organizations and sectors, and that provide equal pay when the services provided (e.g., immunizations) are the same.

### **USING TECHNOLOGY TO INTEGRATE DATA ON SOCIAL DETERMINANTS OF HEALTH INTO NURSING PRACTICE**

The advent and adoption of new technologies have dramatically changed nursing practice over the last several decades, and will continue to do so into the future. Given the rapid acceleration of technical advances, nurses practicing in the coming decade will need to be adept at and comfortable with using emerging technology and have the skills to support others in doing the same. Nurses are well positioned to design, adopt, and adapt new technologies in practice and leverage data on SDOH to identify and address the needs of populations, individualize care, and reduce health disparities. With care expanding beyond the walls of traditional health care settings, including hospitals and clinics, the deployment of such advanced technologies as artificial intelligence and telehealth can assist nurses in connecting to health care networks, reaching individuals in their homes and other settings, and promoting health and well-being within communities. As key stakeholders in the design, adoption, and evaluation of new care tools, nurses also need to understand how to use new technologies to reduce rather than exacerbate inequities.

**Recommendation 6: All public and private health care systems should incorporate nursing expertise in designing, generating, analyzing and applying data to support initiatives focused on social determinants of health and health equity using diverse digital platforms, artificial intelligence, and other innovative technologies.**

This can be accomplished through the following actions:

- With leadership from CMS and The Office of the National Coordinator for Health Information Technology, accelerate interoperability projects that integrate data on SDOH from public health, social service organizations, and other community partners into electronic health records, and build a nationwide infrastructure to capture and share community-held knowledge, facilitate referrals for care (including by decreasing the “digital divide”), and facilitate coordination and connectivity among health care settings and the public and nonprofit sectors.
- Ensure that existing public/private health equity data collaboratives (e.g., the Gravity Project<sup>8</sup>) encompass nursing-specific care processes that improve visualization of data on SDOH and associated decision making by nurses.
- Employ nurses with requisite expertise in informatics to improve individual and population health through large-scale integration of data on SDOH into nursing practice, as well as expertise in the use of telehealth and advanced digital technologies.
- To personalize care based on person- and family-centered preferences and individual needs, give nurses in clinical settings responsibility and associated resources to innovate and use technology, including in the use of data on SDOH as context for planning and evaluating care; in the design of personal and mobile health tools; in coordination of community and public health portals across care settings; in methods for effective communication using technology; in evaluation of datasets and artificial intelligence algorithms (e.g., for racial bias); and in partnerships with corporate settings outside of health care delivery (e.g., large technology organizations, private insurers) that are addressing health equity in the nonclinical setting.
- Provide supportive resources to facilitate the provision of telehealth by nurses by
  - expanding the national strategy for a broadband/5G infrastructure to enable comprehensive community access to these services; and
  - increasing the availability of the necessary hardware, including smartphones, computers, and webcams, for high-risk populations.

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<sup>8</sup> See <https://sirenetwork.ucsf.edu/TheGravityProject> (accessed April 12, 2021).

## STRENGTHENING NURSING EDUCATION

Regardless of the setting in which they work or their level of education, nurses of the future will be expected to have a sophisticated understanding of social needs, SDOH, and health equity and to be capable of applying this knowledge in their practice. The World Health Organization has emphasized the importance of monitoring equitable service coverage across wealth and education gradients as part of achieving universal health coverage. Similarly, leading public health researchers have advocated for using markers of health equity to monitor health and health care as a first step in confronting inequities. Recognizing and meeting social needs could both lower health care spending and improve health outcomes.

Nursing schools need to prepare nurses to understand and identify the social, economic, and environmental factors that influence health by embedding content on SDOH throughout their curricula. Schools need to ensure that nurses have substantive, enduring, relevant community-based experiences and that they value diverse perspectives and cultures in order to help all people and families thrive. Nurses should have this content updated and reinforced throughout their careers through continuing education.

**Recommendation 7: Nursing education programs, including continuing education, and accreditors and the National Council of State Boards of Nursing should ensure that nurses are prepared to address social determinants of health and achieve health equity.**

To implement this recommendation, deans, administrative faculty leaders, faculty, course directors, and staff of nursing education programs should take the following steps:

- Integrate social needs, SDOH, population health, environmental health, trauma-informed care, and health equity as core concepts and competencies throughout coursework and clinical and experiential learning. These core concepts and competencies should be commensurate and seamless with academic level and included in continuing education.
- By the 2022–2023 school year, initiate an assessment of individual student access to technology, and ensure that all students can engage in virtual learning, including such opportunities as multisector simulation. Access to nursing education for geographically and socioeconomically disadvantaged students should be ensured through the development and expansion of the use of remote and virtual instructional capabilities. For rural areas, emphasis should be on baccalaureate preparation given the lower proportion of nurses educated at this level.
- To promote equity, inclusivity, and diversity grounded in social justice, identify and eliminate policies, procedures, curricular content, and clin-

- ical experiences that perpetuate structural racism, cultural racism, and discrimination among faculty, staff, and students.
- Increase academic progression for geographically and socioeconomically disadvantaged students through academic partnerships that include community and tribal colleges located in rural and urban underserved areas.
  - Recruit diverse faculty with expertise in SDOH, population health (including environmental health), and health equity and associated policy expertise, and, through evidence-based and other training, develop the skills of current faculty with the objective of ensuring that students have access across the curriculum to expertise in these areas. Faculty should also have the technical competencies for online teaching.
  - Ensure that students have learning opportunities with care coordination experiences that include working with health care teams to address individual and family social needs, as well as learning opportunities with multisector stakeholders that include a focus on health in all policies and SDOH. Learning experiences should include working with underserved populations in such settings as federally qualified health centers (FQHCs), rural health clinics, and IHS designated sites.
  - Incorporate in all nurse doctoral education content related to SDOH, population health, environmental health, trauma-informed care, health equity, and social justice. All graduates of doctoral programs should have competencies in the use of data on SDOH as context for planning, implementing, and evaluating care and for improving population health through the large-scale application of these data.
  - Ensure that PhD nursing graduates are competent to design and implement research that addresses issues of social justice and equity in education and/or health and health care and informs relevant policies. Increase the capacity of these graduates to apply research and scale interventions to address and improve social needs, SDOH, population health, environmental health, trauma-informed care, health equity, the well-being of nurses, and disaster preparedness and to inform relevant policies.
  - Prepare all nursing students to advocate for health equity through civic engagement, including engagement in health and health-related public policy and communication through traditional and nontraditional methods, including social media and multisector coalitions.

Accreditors should take the following actions:

- Incorporate standards and competencies for curriculum that reflect the application of knowledge and skills to improve social needs, SDOH, population health, environmental health, trauma-informed care, and health equity.

- Incorporate standards for increasing student and faculty diversity.
- Require nursing education programs to initiate curricular assessments in 2022–2023 and phase in curricular changes that integrate social needs, SDOH, population health, environmental health, trauma-informed care, and health equity throughout the curriculum and are assessed in subsequent midterm and accreditation reporting. These curricular changes and their impact should be subject to continuous accreditation review processes.
- Include standards for nurses' well-being and ethical practice in accreditation guidelines, and include such content on nurse licensing and certification exams.

The National Council of State Boards of Nursing and specialty certification organizations should take the following action:

- Incorporate test questions on meeting social needs through care coordination and on meeting population health needs, including addressing SDOH, through multisector coordination.

Continuing education providers should take the following action:

- Evaluate each offering for the inclusion of social needs, SDOH, population health, environmental health, trauma-informed care, and health equity and strategies for associated public- and private-sector policy engagement.

### **PREPARING NURSES TO RESPOND TO DISASTERS AND PUBLIC HEALTH EMERGENCIES**

The COVID-19 pandemic has magnified the vital role of nurses on the front lines of crises—whether in the hospital intensive care unit (ICU), a community testing site, or an emergency shelter—in keeping communities safe and healthy and helping people and families cope. They are reliable, trusted, experienced, and proven responders during both public health emergencies and natural disasters, such as hurricanes and wildfires. But fundamental reforms and a stronger disaster preparedness infrastructure are needed to improve nursing education, practice, and policy so nurses are fully protected during such events and can better protect and care for recovering populations.

**Recommendation 8: To enable nurses to address inequities within communities, federal agencies and other key stakeholders within and outside the nursing profession should strengthen and protect the nursing workforce during the response to such public health emergencies as the COVID-19 pandemic and natural disasters, including those related to climate change.**

To this end, the following steps should be taken:

- CDC should fund a National Center for Disaster Nursing and Public Health Emergency Response, along with additional strategically placed regional centers, to serve as the “hub” for providing leadership in education, training, and career development that will ensure a national nursing workforce prepared to respond to such events.
- CDC, in collaboration with the proposed National Center for Disaster Nursing and Public Health Emergency Response, should rapidly articulate a national action plan for addressing gaps in nursing education, support, and protection that have contributed to the lack of nurse preparedness and disparities during such events.
- The Office of the Assistant Secretary for Preparedness and Response (ASPR), CDC, HRSA, the Agency for Healthcare Research and Quality (AHRQ), CMS, the National Institute of Nursing Research (NINR), and other funders should develop and support the emergency preparedness and response knowledge base of the nursing workforce through regulations, programs, research, and sustainable funding targeted specifically to disaster and public health emergency nursing.
- The American Association of Colleges of Nursing (AACN), the National League for Nursing (NLN), and the Organization for Associate Degree Nursing (OADN) should lead transformational change in nursing education to address workforce development in disaster nursing and public health preparedness. NCSBN should expand content in licensing examinations to cover actual responsibilities of nurses in disaster and public health emergency response.
- Employers should incorporate the expertise of nurses to proactively develop and implement an emergency response plan for natural disasters and public health emergencies in coordination with local, state, national, and federal partners. They should also provide additional services throughout a disaster or public health emergency, such as support for families and behavioral health, to support and protect nurses’ health and well-being.

### **BUILDING THE EVIDENCE BASE**

Strengthening and diversifying the nursing workforce of the future, fostering nurse well-being, and developing strong and impactful nurse leaders so that nurses can fully address the wide and persistent health disparities in the United States will require a robust and rigorous evidence base. Below the committee prioritizes the research needs and identifies gaps in the knowledge base that if filled, would substantially move the nursing profession forward in the future.

**Recommendation 9: The National Institutes of Health, the Centers for Medicare & Medicaid Services, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the Agency for Healthcare Research and Quality, the Administration for Children and Families, the Administration for Community Living, and private associations and foundations should convene representatives from nursing, public health, and health care to develop and support a research agenda and evidence base describing the impact of nursing interventions, including multisector collaboration, on social determinants of health, environmental health, health equity, and nurses' health and well-being.**

These efforts should be focused on the following actions:

- Develop mechanisms for proposing, evaluating, and scaling evidence-based practice models that leverage collaboration among public health, social sectors, and health systems to advance health equity, including codesigning innovations with individuals and community representatives and responding to community health needs assessments. This effort should emphasize rapidly translating evidence-based interventions into real-world clinical practice and community-based settings to improve health equity and population health outcomes, and applying implementation science strategies in the process of scaling these interventions and strategies.
- Identify effective multisector team approaches to improving health equity and addressing social needs and SDOH, including clearly defining roles and assessing the value of nurses in these models. Specifically, performance and outcome measures should be delineated, and evaluation strategies for community-based models and multisector team functioning should be developed and implemented.
- Review and adapt evidenced-based approaches to increasing the number and diversity of students and faculty from disadvantaged and traditionally underrepresented groups to promote a diverse, inclusive learning environment and prepare a culturally competent workforce.
- Determine evidence-based education strategies for preparing nurses at all levels, including through continuing education, to eliminate structural racism and implicit bias and strengthen the delivery of culturally competent care.
- Augment the use of advanced information technology infrastructure, including virtual services and artificial intelligence, to identify and integrate health and social data, including data on SDOH, so as to improve

nurses' capacity to support individuals, families, and communities, including through care coordination.

Across all of these efforts, nurses should partner with key community stakeholders in research design; identification of the characteristics of new health models; and the development of related institutional and public policies at the health system, public health, and community levels. To expand the cohort of nurse researchers engaged in this research agenda, NINR should offer continuous summer intensive seminars to build expertise in population health, SDOH, and health equity. Table 11-1 summarizes gaps in the current research base that have been identified throughout this report.

**TABLE 11-1** Research Topics for the Future of Nursing, 2020–2030

Topic	Relevant Areas in Which More Research Is Needed
Addressing Health Equity	<p data-bbox="589 779 1308 898">Examine the roles of all nurses, particularly acute and long-term care, school, public health, and community-based nurses, in addressing health equity and reducing health disparities. This research would include nurses' roles in local contexts.</p> <p data-bbox="589 919 1308 978">Study interventions that target disadvantaged groups and whether and how they reduce disparities among groups.</p> <p data-bbox="589 999 1308 1083">Conduct longitudinal studies to observe the sustained health impacts and effectiveness over time of nurse-involved/nurse-led interventions to advance health equity.</p>
Disaster Preparedness and Public Health Emergency Response	<p data-bbox="589 1104 1308 1224">Assess gaps in nurses' preparedness for their roles in disaster preparedness and public health emergency response to improve the profession's capacity and ability to advocate for population health and health equity in the context of such events.</p> <p data-bbox="589 1245 1308 1398">Establish a research agenda regarding nurses' roles in these areas based on a thorough needs assessment and documentation of gaps in the research literature, nursing knowledge and skills, and available resources. This research would include an emphasis on intervention studies using mixed-methods designs.</p>
Paying for Health Care	<p data-bbox="589 1419 1308 1539">Assess how nurses contribute to producing high-value care in value-based payment and alternative payment models. Value would be measured by examining both the outcomes obtained by nurses and the costs of the resources used to produce those outcomes.</p> <p data-bbox="589 1560 1308 1677">Examine the role and value of school nurses—the most accessible providers for school-age children—particularly with respect to how they affect students in underresourced rural and urban school districts. This would include current and post-COVID-19 research.</p> <p data-bbox="589 1698 1308 1778">Study the effects of the COVID-19 pandemic on the organization, financing, and care quality of the nation's health systems and associated changes in demand for nurses.</p>

*continued*

**TABLE 11-1** Continued

Topic	Relevant Areas in Which More Research Is Needed
Nursing Workforce	<p>Assess the economic and noneconomic effects of COVID-19 on nurses currently in the workforce.</p> <p>Study and monitor entry into and exit from the workforce, and determine effects on the future supply of nurses.</p> <p>Examine efforts to increase nurses' ability to improve access to mental and behavioral health care, and ensure the effectiveness of related interventions and services; improve access to primary health care and ensure the effectiveness of primary care delivery systems; improve maternal health outcomes and the delivery of maternal health care; improve the care provided to the nation's aging population, particularly frail older adults; and control health care spending, reduce costs, and increase the value of nurses' contributions to improving health and health care delivery.</p> <p>Examine approaches that can effectively prepare faculty to teach content related to SDOH, health equity, and structural racism.</p> <p>Evaluate characteristics of pipeline programs for licensed practical nurses/licensed vocational nurses that are effective with respect to program graduates matriculating to the bachelor's in nursing/registered nurse level, with a particular focus on minority and rural nurses.</p> <p>Examine how more effectively to recruit nurses into underenrolled specialties, including long-term care and geriatrics, school nursing, public health, and rural nursing. This research would include identification of barriers and successful approaches to scaling these strategies.</p> <p>Investigate and evaluate the efficacy of technology-based innovations in nursing education, such as virtual teaching and virtual reality simulations, and their impact on accessibility among rural and minority nursing students.</p> <p>Develop, implement, and evaluate interventions to eliminate implicit bias and structural racism in nursing education for students, faculty, staff, and administrators.</p>

**TABLE 11-1** Continued

Topic	Relevant Areas in Which More Research Is Needed
Nurse Well-Being	<p data-bbox="589 323 1312 384">Include measures of physical, mental, social, and moral well-being in national surveys of the nursing workforce.</p> <p data-bbox="589 401 1239 462">Study the well-being of nurses outside of clinical care settings, including public health and school nursing.</p> <p data-bbox="589 478 1182 539">Develop, implement, and conduct rigorous evaluations of interventions to prevent compassion fatigue.</p> <p data-bbox="589 556 1312 617">Investigate the relevance of moral injury in nurses and its relationship to various measures of well-being and moral resilience.</p> <p data-bbox="589 634 1312 722">Implement and evaluate alternatives-to-discipline programs for addressing substance use disorders in nurses. This research would include an examination of the essential components of such programs.</p> <p data-bbox="589 739 1295 924">Consider differences among bullying, lateral violence, and incivility. Develop, implement, and conduct rigorous evaluations of interventions for addressing these phenomena, including simulations and other promising programs. Examine the relationship between bullying and workplace hierarchies, as well as factors within organizations that decrease bullying and incivility.</p> <p data-bbox="589 940 1312 1094">Investigate how to ameliorate workplace violence among nurses and other health care workers, and such violence stemming from family members, visitors, and patients. Replication and rigorous randomized controlled trials are needed for promising interventions, including hybrid in-person and online interventions.</p> <p data-bbox="589 1110 1239 1171">Investigate the effects of mobile health technologies on nurses' well-being.</p> <p data-bbox="589 1188 1287 1249">Design, implement, and rigorously evaluate interventions that build psychological safety among health care teams.</p>

## FINAL THOUGHTS

The nursing profession is vital to the nation's creation of a culture of health, reduction of health disparities, and improvement in the health and well-being of the population. The committee's nine recommendations provide a comprehensive path forward for policy makers, practicing nurses, educators, health care system leaders, researchers, and payers to enable and support the nurses of today and the future in creating fair and just opportunities for health and well-being for everyone. The social, political, and health care trends discussed in this report, while replete with myriad challenges, also offer nurses new opportunities for practice and collaboration. Nurses will need to continue to adapt and respond to new and developing health problems at both the individual and community levels, and to deepen their understanding of how social, economic, and environmental issues

and systemic barriers affect the health and well-being of the people and communities they serve. The rapidly deployed changes in community-based and clinical care, nursing education, nursing leadership, and nursing–community partnerships resulting from the COVID-19 pandemic have amplified those challenges. The deployment of all levels of nurses across the care continuum, including in collaborative practice models, will be necessary to address the challenges of building a more equitable and accessible health care system.

The United States is at an inflection point with respect to addressing disparities in health and well-being that have adversely impacted too many people for too long. The nation’s health care system is also at an inflection point in terms of meeting consumers’ health needs in ways and in places commensurate with their preferences. It is imperative that the nursing profession focus on the training and competency development needed to prepare nurses, including advanced practice nurses, to work competently in home and community-based as well as acute care settings and to lead efforts to build a culture of health and health equity. There is no time to waste. Over the next 10 years, nurses will assume even greater responsibility for helping to build an accessible, equitable, high-quality public health and health care system that works for everyone. The recommendations in this report are aimed at ensuring that nurses are inspired, supported, valued, and empowered in pursuing that goal so that by 2030, all individuals and communities will have the opportunities they need to live healthy lives.

## REFERENCES

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- NACNEP (National Advisory Council on Nurse Education and Practice). 2020. *Integration of social determinants of health in nursing education, practice, and research*. 16th Report to the Secretary of the U.S. Department of Health and Human Services and the U.S. Congress. Washington, DC: Health Resources and Services Administration.